THE GERONTOLOGICAL SOCIETY OF AMERICA®

Innovation in Aging
cite as: *Innovation in Aging*, 2021, Vol. 5, No. 3, 1–18
https://doi.org/10.1093/geroni/igab023
Advance Access publication July 03, 2021

OXFORD

Scholarly Review

Understanding Elderspeak: An Evolutionary Concept Analysis

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Received: February 1, 2021; Editorial Decision Date: June 25, 2021

Decision Editor: Min-Ah Lee, PhD

Abstract

Background and Objectives: Elderspeak is an inappropriate simplified speech register that sounds like baby talk and is used with older adults, especially in health care settings. Understanding the concept of elderspeak is challenging due to varying views about which communicative components constitute elderspeak and whether elderspeak is beneficial or harmful for older adults.
Research Design and Methods: Rodgers' evolutionary concept analysis method was used to evaluate the concept of elderspeak through identification of elderspeak's attributes, antecedents, and consequences. A systematic search using the PubMed, CINAHL, PsycINFO, and Embase databases was completed.
Results: Eighty-three theoretical or research articles from 1981 to 2020 were identified. Elderspeak characteristics were categorized by semantic, syntactic, pragmatic, paralinguistic, and nonverbal attributes. The primary antecedent to elderspeak is implicit ageism, in which old age cues and signs of functional or cognitive impairment led to simplified communication, usually from a younger caregiver. Research studies varied in reporting whether elderspeak facilitated or interfered with comprehension by older adults, in part depending on the operational definition of elderspeak and experimental manipulations. Exaggerated prosody, a key feature of elderspeak, was found to reduce comprehension. Elderspeak was generally perceived as patronizing by older adults and speakers were perceived as less respectful. In persons with dementia, elderspeak also increases the probability of resistiveness to care, which is an important correlate of behavioral and psychological symptoms of dementia.
Discussion and Implications: Based on this concept analysis, a new definition of elderspeak is proposed, in which attributes that have been found to enhance comprehension are differentiated from those that do not. Recommendations for consistent operationalization of elderspeak in future research are made.

Translational significance: The concept of elderspeak has faced conceptual inconsistencies across four decades of research. This review generated a new definition of elderspeak: "Elderspeak is a form of communication overaccommodation used with older adults that: is evidenced by inappropriately juvenile lexical choices and/or exaggerated prosody; arises from implicit ageist stereotypes; carries goals of expressing care, exerting control, and/or facilitating comprehension; and may lead to negative self-perceptions in older adults and challenging behaviors in persons with dementia." This definition can be used to guide future research and practice in the prevention of elderspeak communication to combat the patronization and infantilization of older adults.

Keywords: Ageism, Communication, Dementia, Resistiveness to care, Systematic review

Elderspeak is a simplified speech register used with older adults which sounds like baby talk. It is characterized by a variety of linguistic adjustments in rhythm, sound, sentence structure, and meaning, such as a high-pitched and overnurturing voice, use of inappropriate terms of endearment (e.g., *sweetie*), and collective pronoun substitution (e.g., *we* instead of *you*). Elderspeak occurs frequently in health care settings (Caporael, 1981; Herman & Williams, 2009) and may be enacted by a variety of health care providers, including nurses and nursing assistants (Williams et al., 2009), physicians (Schroyen et al., 2018), occupational therapists (Alden & Toth-Cohen, 2015), chiropractors (Cockrell, 2020), and social workers (Österholm & Samuelsson, 2015). The linguistic adjustments of elderspeak are similar to those found in baby talk, also called "motherese" or "infant-directed speech" (Soderstrom, 2007). Thus, elderspeak involves the displacement of baby talk from an appropriate target, a child, to an inappropriate target, an adult (Whitmer & Whitbourne, 1997).

As will be elaborated in subsequent sections, elderspeak is expressed when speakers identify old age cues and interpret them as a need to accommodate communication—often subconsciously—to facilitate the comfort and comprehension of older adults (Draper, 2005; Ryan, Hummert et al., 1995). Due to how elderspeak emerges, it is conceptualized as an ageist behavior that leads to negative self-perceptions among older adults (Giles et al., 1992; Ryan et al., 1986). According to a systematic review of 24 studies (Brown & Draper, 2003), elderspeak tends to be perceived as patronizing by older adults, but in some cases has been interpreted as nurturing by older adults (Marsden & Holmes, 2014; Whitmer & Whitbourne, 1997). Despite the largely negative perceptions of elderspeak by older adults, it has been suggested that elderspeak can be beneficial by enhancing communication comprehension (Cohen & Faulkner, 1986; Gould et al., 2002; McGuire et al., 2000). Arguably the most significant consequence of elderspeak is its impact on the behavior of persons with dementia (Cunningham & Williams, 2007; Williams, Perkhounkova et al., 2017). The use of elderspeak during care encounters doubles the probability of resistiveness to care in persons with dementia in nursing homes (Williams et al., 2009).

Elderspeak is typically adopted by health care professionals caring for older adults with the positive intentions of conveying comfort, encouraging cooperation, and enhancing comprehension (Grimme et al., 2015). However, it is unclear if elderspeak actually accomplishes these goals. Based on perceptions that elderspeak is patronizing and findings that it can lead to negative behavioral responses for persons with dementia, it has been argued that preventing elderspeak in health care is critical when providing person-centered care (Bethea & Balazs, 1997; Rousseau, 2019; Savundranayagam, 2014; Wick & Zanni, 2007). Yet, understanding the concept of elderspeak is challenging due to varying views about what constitutes elderspeak and whether elderspeak should be considered beneficial or harmful to older adults.

Based on the proposed and potentially conflicting consequences of elderspeak discussed above and elaborated below—enhanced comprehension, feelings of nurturance, negative self-esteem, and resistance to care by persons with dementia—it is evident that this phenomenon has important implications in the care of older adults. However, inconsistencies in the concept lead to misunderstanding regarding which aspects of elderspeak are potentially beneficial or detrimental. The purpose of this review is to clarify the concept of elderspeak through Rodgers' evolutionary concept analysis method (Rodgers, 2000; Tofthagen & Fagerstrøm, 2010). We begin by outlining the theoretical underpinnings of the concept. Following this, we present an integrative review of the elderspeak literature by identifying the attributes, antecedents, and consequences of elderspeak. We end with recommendations for operationalizing and defining elderspeak for the consistency of future research.

Method

Design

Rodgers' method for evolutionary concept analysis (Rodgers, 2000; Tofthagen & Fagerstrøm, 2010) uses an inductive and iterative approach. First, the concept and surrogate terms are identified. Second, the setting and sample for data collection are identified. In the third and fourth steps, the literature is identified and analyzed according to attributes, antecedents, consequences, surrogate terms, and related concepts relevant to the concept. Throughout this process, examples of cases to support attributes are gathered. The analysis of the literature is similar to qualitative inquiry using a thematic analysis. The final step identifies the implications and directions for further inquiry related to the concept.

Systematic Search

A systematic search was completed in August 2019 and updated in August 2020 using the PubMed, CINAHL, PsycINFO, and Embase databases. Search terms included three categories of text word searches: (a) elderspeak and its synonyms (i.e., *infantiliz**, *patroniz**, "*baby talk*," *babytalk*, *superlative* OR *overaccommodation*), (b) communication and its synonyms (i.e., *discourse*, *talk*, OR *speech*), and (c) aging and related terms (i.e., *old**, *elder**, *aged*, *aging*, *dementia*, OR *Alzheimer's*). No preset database limiters were used, in order to maximize the sensitivity of the search.

Studies were included if they were in English, focused on older adults (mean age ≥65 years), and aimed to contribute to understanding the attributes, antecedents, and/or consequences of elderspeak. Both theoretical and research articles were included. Book chapters, dissertations, conference abstracts, review articles without a systematic search, and editorials were excluded. To determine whether the articles

represented the concept of elderspeak, all full-text articles were reviewed using the matrix method (Garrard, 2011) and if the attributes, antecedents, or consequences of elderspeak were not present in the article then it was excluded.

Results

Sample

A final sample of 83 articles was reviewed (Figure 1 and Supplementary Table 1). Publication years ranged from 1981 to 2020. Articles included six purely theoretical papers, 17 describing observational research in the naturalistic setting, 18 describing experimental research in the laboratory setting, 22 describing research using vignette or questionnaire approaches, 13 describing qualitative or ethnographic research, five describing intervention studies aimed at reducing elderspeak, and two describing methodologies used to measure elderspeak (Supplementary Table 1). The distinction between observational-naturalistic and experimental categories refers to the nature of how elderspeak was elicited, whereas qualitative/ethnographic studies are distinguished from observational-naturalistic studies based on the nature of the data analysis. Ethnographic analyses are further distinguished from other types of qualitative analyses because of the important role they have played in contextualizing elderspeak. Vignette/questionnaire studies were those that focused on the ratings or evaluations of elderspeak.

Defining Elderspeak Within Models of Patronizing Communication to Older Adults

To begin the literature review, we place the concept of elderspeak in its theoretical context. An influential

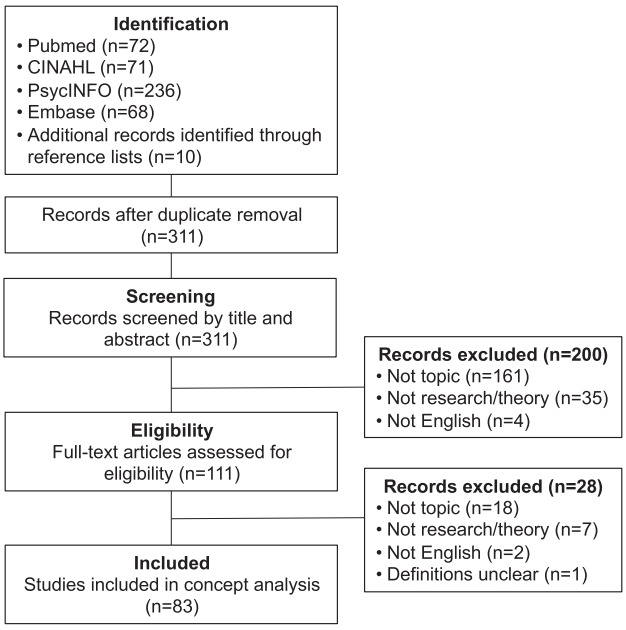

Figure 1. PRISMA flowchart for article selection.

model characterizing how elderspeak comes about is the Communication Predicament of Aging Model (CPAM; Ryan, Hummert et al., 1995). The CPAM was developed from the Communication (or Speech) Accommodation Theory, a classic behavioral theory proposing that a person will accommodate (i.e., modify) their speech based on their communication partner in order to achieve satisfactory interactions. Such accommodations are generally appropriate and enhance communication. However, in intergenerational communication, the speaker often overaccommodates their speech to an older adult due to a subjective assessment of the older adult's assumed communication needs (Coupland et al., 1988; Ryan et al., 1986). The CPAM commences with a speaker (typically younger) stereotyping an older adult based on old-age cues (e.g., white hair, a wheelchair) leading the speaker to believe that older adults are incompetent and dependent. These cues prompt the younger speaker to simplify their language and adopt exaggerated speech patterns. This is usually perceived negatively by the older adult, which may constrain future opportunities for communication and reinforce stereotypes held by both the older adult and their younger communication partner.

The Model of Patronizing Talk supplements the CPAM by proposing that patronizing talk varies along the orthogonal dimensions of control and care. The proposed purpose of controlling talk is to establish authority or direct the behavior of the older adult, while caring talk is hypothesized to arise from a desire to appear warm and nurturing during the interaction (Hummert & Ryan, 1996). Language that is high on the control dimension and low on the care dimension appears overly directive, such as imperative sentences (e.g., "Stand up now"). Conversely, language that is low on the control dimension and high on the care dimension is considered overly personal (e.g., excessive praise, minimizing terms). Baby talk may be high on both control and care in an attempt to reconcile the actions of control while appearing caring. For example, speakers may alter the tone of their voice to be high-pitched or sing-song and add terms of endearment in order to minimize the perception of control in messages (e.g., "Stand up a minute, would you, sweetie?"). These dimensions of care and control are particularly relevant to health care settings, which require staff to simultaneously care for older adults while controlling health-related interventions.

Other theories of infantilizing communication have been developed that address the challenges of care and control occurring in health care communication. Communication with older adults in residential settings has been theorized to be either nurturing, managerial, overly personal, or focused on the adult as sick/dependent (Grainger, 1993). These categories also reflect the care–control dimension, contrasting the control of managerial talk with the inappropriate intimacy of overly personal talk and the implication of dependence that comes with nurturing discourse and a focus on sickness.

The Communication Enhancement Model (CEM) was developed to address the need for accommodation without patronization in older adults with communication declines or disorders (Ryan, Meredith et al., 1995). As in the CPAM, an unfamiliar health care provider recognizes aging cues in the older interlocutor during a communicative encounter. However, in the CEM, accommodations are hypothesized to be made based on observed individual needs rather than stereotypes of aging. In the resulting feedback loop, accommodations adapt as communication needs are continually assessed.

Surrogate Terms and Evolutionary Overview

Before reviewing the findings of elderspeak research, we provide an overview of how research in this area has evolved methodologically. The elderspeak phenomenon was first reported in 1981 in U.S. nursing homes (Ashburn & Gordon, 1981; Caporael, 1981). Ashburn and Gordon (1981) identified that staff simplified their speech when talking to residents compared to when talking to their coworkers; this was substantiated in another U.S. nursing home shortly thereafter (Culbertson & Caporael, 1983). Caporael (1981) identified that 22% of utterances from long-term care staff to residents contained some form of "baby talk" and that 75% of the baby talk to the residents could not be distinguished from baby talk directed at 2-year olds. In these early studies, it was unclear if baby talk to older adults was positive or negative because some nursing home residents preferred baby talk to nonbaby talk, while others did not (Caporael, 1981; Caporael et al., 1983). Following these studies, theoretical propositions arose suggesting that baby talk to older adults was a patronizing overaccommodation that would lead to negative social and psychological outcomes for older adults (Coupland et al., 1988; Lanceley, 1985; Ryan et al., 1986).

Over the past 40 years of elderspeak research, the concept has been referred to as *baby talk* (Caporael, 1981), *secondary baby talk* (Sachweh, 1998), *infantilizing speech* (Whitbourne et al., 1995), *communication overaccommodation* (Ryan et al., 1986), and *patronizing talk* (Ryan et al., 1991). The term "elderspeak" was first coined by Cohen and Faulkner in 1986. The definition of elderspeak has taken different forms, in part because it is sometimes defined by its attributes (e.g., exaggerated speech characteristics), by its antecedents (e.g., enacted due to implicit ageism), or by its consequences (e.g., perceived as patronizing). The concept was first formulated by defining the attributes as similar to baby talk. The definition then progressed to include antecedents that focused on the ageist notion that older adults need simplified communication, as described above in the CPAM. As research continued, however, negative consequences began to be considered more frequently, particularly the idea that elderspeak is patronizing and/or inappropriate and the behavioral consequences that might arise from such perceptions.

To answer the complex questions related to the psychosocial impact of elderspeak and the impact of elderspeak on comprehension, research began to shift from naturalistic observations in nursing homes to experimental studies in more controlled laboratory settings (Figure 2). With this shift in study design, the focus of research also began to shift from the initial focus on health care encounters particularly in the nursing home setting, to more general intergenerational encounters (Supplementary Figure 1). Over a decade of experimental research concentrated on how elderspeak was perceived by older adults and its impact on comprehension (e.g., studies by Kemper et al., Hummert et al., and Ryan et al.). These experimental studies indicated that elderspeak is generally portrayed as patronizing but that some syntactic modifications are likely helpful for comprehension. However, the hallmark characteristics of elderspeak that were identified in the early nursing home studies, like exaggerated prosody and childish words, were rarely enacted in these experimental environments that were not focused on health care or caregiving settings. In the early 2000s, research once again shifted back to the naturalistic setting where health care including nursing homes and adult day centers was once again targeted.

Observational research in nursing homes aimed to identify the behavioral outcomes of elderspeak in persons with dementia and intervention research aimed to reduce elderspeak by long-term care staff (studies by Williams et al.). It is in this period that elderspeak research began to focus more on persons with dementia (Supplementary Figure 2). Prior to this period, older adults with cognitive impairment tended to be excluded from research, and implications for persons with dementia were mostly theoretical (Ryan, Meredith et al., 1995).

Within the past decade, ethnographic and observational elderspeak research has continued worldwide (Supplementary Figure 3) along with some new exploration of attributes. Intervention trials have continued to investigate whether training to reduce the use of elderspeak leads to a reduction in resistiveness to care (Williams, Perkhounkova et al., 2017) or changes in views on aging (Alden & Toth-Cohen, 2015). Elderspeak has also been explored in new media and with new populations, including analyzing tweets for infantilization and ageist language (Gendron et al., 2016) and analyzing elderspeak use in children (Flamion et al., 2020).

Attributes of Elderspeak

The communication characteristics of elderspeak fall into two primary domains: verbal and nonverbal. Within the verbal domain, attributes can be further categorized into *linguistic* and *paralinguistic* dimensions. Linguistic dimensions include *semantics*, the content or meaning of speech; *syntax* or grammatical form; and *pragmatics*, which refers to how language is used in a given discourse context. Paralinguistic dimensions include the manner in which the linguistic message is delivered, including the rate of speech and the

precision of articulation, variations in pronunciation (e.g., *wuv* for *love*), and intonational contours or stress patterns, which depends on variations in relative pitch, duration, and loudness. The nonverbal domain consists of *extralinguistic* dimensions, in which communication is encoded separately from the linguistic message (e.g., using body language or gestures) but is delivered alongside it or sometimes instead of it. Table 1 lists the attributes of elderspeak, categorized by these dimensions, as well as their hypothesized purpose (i.e., care, control, and comprehension). Nonverbal aspects of communication are generally not considered elderspeak per se, although nonverbal behaviors can—like elderspeak—convey attitudes of condescension, control, or care, and often accompany elderspeak. In this article, we touch on nonverbal aspects of communication briefly for the sake of completeness but focus primarily on verbal dimensions of elderspeak.

Semantic attributes

Semantics are largely encoded by lexical (i.e., word) choices. In elderspeak, lexical substitutions range from the more subtle uses, such as using a simplified vocabulary, to more egregious examples, such as using diminutive word-forms typical of child-directed speech (e.g., *boo-boo*, *owie*). Diminutives have been described as a highly reliable although infrequent index of elderspeak in experimental studies (Kemper, 1994). In observational studies in US nursing homes, diminutives were found in 53% of 80 staff–resident interactions (Williams, Shaw et al., 2017). Several extreme examples of diminutives (*cutie-pie*, *honey-bunny*, *tootsie*) were documented in ethnographic observations of various adult day centers in the United States (Salari, 2005; Salari & Rich, 2001).

Another commonly cited feature of elderspeak is the substitution of collective first-person pronouns (*we*, *us*) for second-person pronouns (*you*), such as: "It's important that *we* get out of *our* room for awhile, dear" (Ryan et al., 2000). The inappropriate use of the collective pronoun has been posited to illustrate the speaker's "refusal … to treat the patient as an individual" (Lanceley, 1985). The Model of Patronizing Talk (Hummert & Ryan, 1996) echoes this view, proposing that using first-person plural pronouns assert joint control over the care recipient (e.g., "*We* must wash *ourselves*," an example from Sachweh, 1998). In nursing home contexts, collective pronoun substitution is one of the most frequently occurring aspects of elderspeak; it was present in 66% of the conversations in German nursing homes (Sachweh, 1998) and in 69% of encounters in U.S. nursing homes (Williams, Shaw et al., 2017). It was also the most common elderspeak attribute in encounters between older adults and chiropractor students, averaging three occurrences per encounter (Cockrell, 2020). By contrast, Ashburn and Gordon (1981) noted that pronoun substitution was rare in their analysis of nursing home interactions, although when it did occur, it was only in staff–resident interactions, not in conversations between volunteers and residents. Young adult speakers were also more likely to use the inclusive *we* in giving instructions to simulated older adults living with dementia compared to those without dementia (Kemper, Finter-Urczyk et al., 1998).

Psycholinguistic analyses have also examined the semantic complexity of language spoken to older adults,

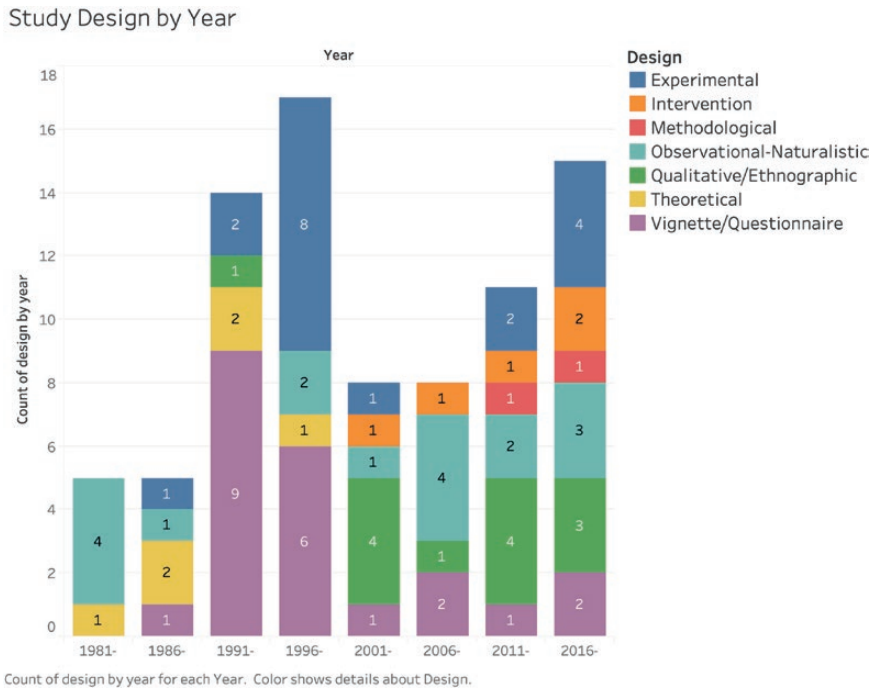

Figure 2. Study design by year.

Table 1. Attributes of Elderspeak Communication

Domain	Goal	Attribute
Linguistic		
Semantics	Care	• Childish terms: Expressions commonly used in childhood • Diminutives: Terms of endearment or pet names inappropriate of the interlocutor relationship • Collectives: Plural forms of pronoun substituted for the individual singular form
	Comprehension	• Simple vocabulary • Short words
Syntax	Comprehension	• Simple clauses/sentences • Short utterances • Sentence fragments
Discourse	Care	• Minimizing words, expressions, and utterances • Exaggerated praise or politeness
	Control	• Tag questions: Question with a desired answer • Directives/imperatives • Reflectives: Phrases that requests action on behalf of someone else • Interruptions • Ignoring
	Comprehension	• Long pauses/extra fillers
Paralinguistic		
Prosodic	Care	• Raised pitch • Excessive pitch range or sing-song intonation • Excessively soft voice
	Comprehension	• Overly loud voice • Excessively slowed speech rate • Overly exaggerated pronunciation • Overly exaggerated stress
Nonverbal	Control	• Eye-rolling • Standing over • Laughing at
	Care	• Patting

using measures of lexical diversity (i.e., the proportion of different words used) such as type–token ratio (TTR), lexical frequency, and propositional density (i.e., the proportion of words that encode basic idea units; Kemper et al., 1995, 1996). Propositional density is generally found to be lower in a speech addressed to older versus younger listeners (Kemper et al., 1996), particularly by younger speakers (Kemper et al., 1995) and when addressing cognitively impaired versus cognitively intact listeners (Kemper, Ferrell et al., 1998; Kemper, Finter-Urczyk et al., 1998). Similar effects are rarely found for TTR, and when they are (Kemper et al., 1995), they are of questionable validity, given the well-known confound of TTR with sample length.

Syntactic attributes

The most common syntactic modifications in elderspeak involve shortening and/or simplifying utterances, which are measured by calculating the mean length of utterances in words and/or the mean number of clauses per utterance, respectively. More sophisticated measures of grammatical complexity have also been implemented by counting the number of certain complex syntactic structures, such as left-branching and right-branching sentences (Kemper, Othick et al., 1998). Utterances to older listeners are often found to be shorter and/or less complex than utterances to younger listeners (Culbertson & Caporael, 1983; Kemper, 1994; Kemper et al., 1995, 1996; Samuelsson et al., 2013; Schroyen et al., 2018) and shorter and less complex still when the older adult had, or was believed to have, dementia (Ashburn & Gordon, 1981; Hummert & Shaner, 1994; Kemper, Ferrell et al., 1998; Kemper, Finter-Urczyk et al., 1998). Caregivers produced fewer mazes (i.e., repetitions, revisions, filled pauses, abandoned utterances) when speaking to older adult residents compared to speaking to each other, which was proposed to be a conscious attempt by the speaker to reduce the burden on the working memory of older adults (Samuelsson et al., 2013).

Pragmatic/discourse attributes

At the discourse level, elderspeak is most likely to arise as a byproduct of the interaction between care and control inherent to the caregiver–patient relationship (Grainger, 1993; Hummert & Ryan, 1996; Marsden & Holmes, 2014). Directive speech, usually in the form of imperative sentences (e.g., "Take your dress off"), is a frequent speech act that exerts control in caregiving contexts (Grainger,

1993; Hummert & Ryan, 1996; Hummert & Shaner, 1994). Staff–resident interactions have more imperatives and interrogatives than staff–staff interactions (Ashburn & Gordon, 1981). To soften commands, softening phrases are often added to mitigate the act being commanded, as in "We're *just* going to put your legs in over the bath" (Grainger, 1993); "Here comes some *little* pills … and then a *little* water" (Samuelsson et al., 2013). Tag questions, questions attached to the end of a statement providing the illusion of choice, may also serve this mitigating function. Examples include "You're ready for breakfast now, aren't you?" (Williams, Shaw et al., 2017) and "You wouldn't want the grey shirt, would you?"(Samuelsson et al., 2013). Tag questions occurred in almost half of the interactions between nursing home staff and residents (Williams, Shaw et al., 2017), particularly when younger speakers spoke to older listeners (Kemper et al., 1995). Another example is when the listener is beseeched to carry out a command to appease the speaker, such as "Bess, stand up *for me*" (Caporael & Culbertson, 1986, p. 104). Williams, Shaw et al. (2017) documented such *reflective forms* in 14% of nursing home staff–resident interactions.

In structured experimental studies, wherein the choice of speech acts is more constrained than in naturalistic studies, other aspects of discourse illustrate the pragmatic characteristics of language directed at older adults. For example, Kemper et al. conducted a series of studies using referential communication tasks in which the listener followed instructions to reproduce a pattern or follow a map (Kemper et al., 1995, 1996; Kemper, Ferrell et al., 1998; Kemper, Finter-Urczyk et al., 1998; Kemper, Othick et al., 1998). Results across these and other studies were fairly consistent, showing that younger speakers produced more instructions, location checks, and repetitions when speaking to older rather than younger listeners (Kemper et al., 1995, 1996; Schroyen et al., 2018) and when speaking to listeners who were assumed to be, or simulated to be, living with dementia (Ashburn & Gordon, 1981; Kemper, Ferrell et al., 1998; Kemper, Finter-Urczyk et al., 1998). When older speakers were included (Kemper et al., 1995, 1996; Kemper, Ferrell et al., 1998), they generally maintained consistent communication patterns with younger and older listeners, indicating that old-age cues did not lead to overaccommodations by older speakers.

Paralinguistic attributes

Prosodic characteristics are considered hallmark attributes of elderspeak (Caporael & Culbertson, 1986; Cohen & Faulkner, 1986; O'Connor & Rigby, 1996; Sachweh, 1998). A high-pitched register may be adopted, vocal volume may be inappropriately loud, and speech may be overarticulated. Intonation patterns (i.e., the melody and rhythm) of utterances are often exaggerated. Altered prosody has been identified in a variety of settings and activities. Exaggerated intonation patterns occurred in almost a quarter of utterances directed to residents in long-term care facilities (Caporael, 1981; Caporael & Culbertson, 1986) and were found to be indistinguishable from teaching assistants at nursery schools in the United States (Caporael, 1981). Young adults were judged to speak at a higher pitch and to sound more babyish when speaking with their grandparents than with their parents (Montepare et al., 1992). In written scripts, patronizing communication was rated as likely being more shrill, high-pitched, and exaggerated compared to nonpatronizing communication (Ryan et al., 1991; Ryan, Maclean et al., 1994; Ryan, Meredith et al., 1994).

Prosodic changes have also been identified across cultures within both formal and informal caregiving encounters (Cavallaro et al., 2016; Plejert et al., 2014; Sachweh, 1998; Samuelsson et al., 2013; Small et al., 2009). High pitch and exaggerated intonation were found in approximately half of the conversations observed between nurses and residents in German nursing homes (Sachweh, 1998). Changes in prosody were the most common form of elderspeak in interactions between social workers and persons with dementia in Sweden (Österholm & Samuelsson, 2015) and were found to be a key component of expressions that were intended to be soothing (Plejert et al., 2014).

A limitation to studies evaluating the paralinguistic qualities of elderspeak is that ratings of vocal qualities can be unreliable. For example, interrater reliability on aspects of vocal quality has ranged as low as 29% (Caporael, 1981). However, with extensive training, the coding of prosody can be maintained at above 90% (Williams et al., 2018). To address this, some researchers have made use of acoustic analysis to provide objective measures of prosody, such as comparing the mean pitch and pitch variability of speech to younger and older listeners or cognitively intact and impaired listeners (Kemper, Ferrell et al., 1998; Kemper, Finter-Urczyk et al., 1998; Kemper, Othick et al., 1998; Kemper et al., 1995, 1996; Samuelsson et al., 2013; Schroyen et al., 2018; Yazdanpanah et al., 2019). Such studies have rarely demonstrated prosodic accommodations to older adults, regardless of cognitive status (Kemper, Ferrell et al., 1998; Kemper, Finter-Urczyk et al., 1998; Kemper, Othick et al., 1998; Kemper et al., 1995, 1996; Schroyen et al., 2018), so do not appear to reflect the subjective impression of altered intonation patterns. However, a more recent experimental study using acoustic analysis did show that younger adults spoke with a higher pitch to simulated older adults than to younger adults (Hehman et al., 2012). A small, naturalistic study in a Swedish nursing home (Samuelsson et al., 2013) also demonstrated differences in mean pitch and pitch range between staff–resident and staff–staff dyads.

This variability may be accounted for, in part, by methodological differences. Studies in controlled laboratory settings often evaluate conversations between strangers about predefined and superficial topics (e.g., the giving of directions). By contrast, in naturalistic long-term care settings, speakers are usually familiar caregivers who perform intimate care. Thus, experimental studies may not

reflect the prosodic variation that occurs in naturalistic conversation in health care settings.

Nonverbal attributes

Relatively little research has investigated nonverbal attributes of communicative interactions with older adults. One experimental study focused on nonverbal behaviors in interactions between caregivers and older adults by providing written scripts of elderspeak and asking participants to *infer* nonverbal behaviors (Ryan, Maclean et al., 1994). Scripts categorized as patronizing were associated with negative nonverbal behaviors such as rolling the eyes, shaking the head, crossing arms, and standing over the older adult. By contrast, scripts categorized as neutral were associated with positive nonverbal characteristics such as making eye contact, smiling, and crouching to the level of the older adult. Nevertheless, the natural occurrence of nonverbal features of elderspeak communication remains relatively unattested in research.

Additional attributes

A number of other linguistic and paralinguistic features that cannot be unambiguously attributed to semantic, syntactic, or pragmatic domains have been measured to characterize elderspeak at the discourse level. In speaking to older adults, Kemper et al. have found that more words and/or utterances are produced overall (Kemper, Ferrell et al., 1998; Kemper, Othick et al., 1998; Kemper et al., 1995, 1996), and this was likely a consequence of providing more instructions and repetitions to help them complete the task. Similarly, the rate of speech has generally been shown to be slower for speech directed to older rather than younger listeners (Hehman et al., 2012; Kemper et al., 1995, 1996; Samuelsson et al., 2013; Schroyen et al., 2018).

The "emotional tone" of interactions embodies the relationship between care, respect, and control (Schnabel et al., 2020; Williams, 2006; Williams & Herman, 2011; Williams et al., 2003, 2012, 2018). Emotional tone includes controlling communication (i.e., being directive, bossy, patronizing, dominating, and controlling) and person-centered communication (i.e., being nurturing, affirming, respectful, supportive, polite, caring, and warm; Williams et al., 2012). Changes in emotional tone generally occur in conjunction with other semantic, pragmatic, and paralinguistic attributes of elderspeak (Williams, 2006; Williams et al., 2003, 2018).

Antecedents to Elderspeak

The antecedent to virtually all occurrences of elderspeak is the perception—likely subconscious—that accommodation is needed during a communication encounter with an older adult. Younger speakers are more likely to alter their communication when speaking to older adults (Thimm et al., 1998), whereas older adults tend to maintain consistent communication whether talking to older adult peers or younger adults (Hummert et al., 1998; Kemper, 1994; Kemper et al., 1995, 1996; Small et al., 2009). According to the CPAM, it is the perception of old-age cues that prompts alteration of communication. Recent research indicates that this implicit ageism is a pervasive problem in that children learn elderspeak as a form of communication with older adults at a young age (Flamion et al., 2020). However, overaccommodation is not solely due to an age differential; there are individual characteristics of both the older adult and the younger communication partner that, along with contextual conditions, make elderspeak more likely.

Older adult characteristics

Beyond old-age cues, the next greatest antecedent to overaccommodation is the perception that the older adult has a cognitive and/or function impairment. Both younger and older adult raters agreed that overaccommodation would be more likely to occur with frail, cognitively impaired, functionally dependent, or "less competent" rather than healthy older adults (Balsis & Carpenter, 2005; Chen et al., 2017; Hummert & Shaner, 1994; Hummert et al., 1998; Savundranayagam et al., 2007; Thimm et al., 1998). Long-term care nursing assistants reported elderspeak to be more appropriate with older or cognitively impaired residents (Lombardi et al., 2014).

More directly, elderspeak has been observed to occur more frequently with residents who had greater functional and cognitive impairments (Caporael et al., 1983; Sachweh, 1998; Williams, 2006; Williams et al., 2009). Emotional tone has also been rated as less person-centered for hospitalized patients with greater functional decline (Schnabel et al., 2020), suggesting that tone was based on more stereotyped perceptions of these patients. Diminutives (Kemper, 1994) and collectives (Kemper, Finter-Urczyk et al., 1998) were used more frequently with older adults with simulated dementia, although this was not the case in all studies (Thimm et al., 1998). Older adults are also more likely to overaccommodate their communication when speaking with persons with dementia or persons with functional declines (Kemper, Ferrell et al., 1998), even though they tend not to alter their communication to other cognitively intact older adults (Hummert et al., 1998; Kemper et al., 1995, 1996).

In naturalistic studies conducted in Germany and Singapore, it was observed that elderspeak was almost exclusively directed at female nursing home residents (Cavallaro et al., 2016; Sachweh, 1998), although it should be noted that these studies primarily included female residents. This differs from studies in the United States, where males and females reported receiving similar amounts of baby talk in both residential and community settings (O'Connor & Rigby, 1996). However, older females and those reporting higher levels of succorance (dependence on others for protection and sympathy) also reported receiving more

elderspeak, suggesting that age and dependence may matter more than gender (O'Connor & Rigby, 1996). Male older adults were coded to receive more tag questions than female older adults in simulated encounters with chiropractic students, but these differences were not demonstrated with diminutives, collective pronoun substitution, or reflectives (Cockrell, 2020). Race has only been directly analyzed in one experimental study, which demonstrated no differences in the amount of patronizing communication to African Americans and European Americans (Atkinson & Sloan, 2017).

Speaker characteristics

The roles of the speaker's age and gender have also shown effects on the occurrence of elderspeak, although findings have been inconsistent. As noted above, older adults are less likely than younger adults to use elderspeak (Hummert et al., 1998; Kemper, 1994; Kemper et al., 1995, 1996). By contrast, studies tend to show that elderspeak may be enacted regardless of the speaker's gender (Edwards & Noller, 1998; Kemper, 1994; Thimm et al., 1998), although one study in German nursing homes found that elderspeak was perpetrated more often by female staff (Sachweh, 1998). By contrast, a different study using German speakers demonstrated that males use more elderspeak with older adults with cognitive impairments, while females use elderspeak equally between older adults with and without cognitive impairment (Thimm et al., 1998). The identification of the gender differences of the speaker in observational settings is limited by highly skewed distributions; that is, the samples of caregivers observed have been primarily female.

Care staff tend to fall on either end of the elderspeak usage spectrum, as frequent users or rare users. For example, elderspeak from formal caregivers to nursing home residents with dementia varied from 4% to 99% of the communication used in bathing care (Herman & Williams, 2009). Alongside age and gender, there may be a variety of personal and cultural factors contributing to this variable use of elderspeak. In one study, baby talk to residents was used more frequently by nursing home staff than by volunteers (Ashburn & Gordon, 1981). The authors concluded that elderspeak arises because caregivers take on a parental role to residents. A similar conclusion was drawn when middle-aged caregivers used the most elderspeak, suggesting that elderspeak arises when staff also have personal experience as parents (Sachweh, 1998). Psychological factors may also contribute. For example, informal spousal caregivers reporting lower life satisfaction were found to be more likely to enact patronizing communication than caregivers with a higher life satisfaction (Edwards & Noller, 1998). Such individual factors should be explored further in future research.

Contextual and dyadic characteristics

Contextual factors, including environmental factors and dyadic characteristics, may also serve as antecedents to elderspeak. For example, convents were found to have extremely low rates of elderspeak, leading to the hypothesis that elderspeak depends on the culture of the community (Corwin, 2017). Somewhat unexpectedly, however, nursing home residents did not report receiving more elderspeak than cognitively intact older adults residing in the community (O'Connor & Rigby, 1996). A possible explanation for this is the role of familiarity. Elderspeak was perceived to be more appropriate within familiar communication dyads (Lombardi et al., 2014) and with residents who were either very well liked or disliked, although the nature of the elderspeak differed in each case (Sachweh, 1998). Young adults who did not regularly interact with older adults exhibited more patronizing speech and used a higher pitch than young adults who regularly interacted with older adults, which may be related to views that all older adults need overaccommodative communication (Hehman et al., 2012). Older adults also reported that speakers were more likely to produce elderspeak if they had little knowledge of or experience with older adults, if they were ignorant of or indifferent to older adults, and if they held little respect for older adults (Giles et al., 1993). Similarly, assisted living residents believed that they were spoken to with infantilizing communication because they were looked down upon and thought to be like children (Williams & Warren, 2009).

Even if it arises from implicit ageism, elderspeak is likely used by the speaker in the hope of creating a positive dyadic encounter. Elderspeak tends to be enacted with good or practical intentions, not from a place of patronization or malevolence. In long-term care, nursing assistants reported that they used elderspeak to make residents feel comfortable, enhance comprehension, and enhance cooperation (Grimme et al., 2015). Despite these positive intentions, cognitively intact older adults usually perceive elderspeak as patronizing (see Perceptions below), even though they acknowledge that younger speakers are trying to be helpful (Giles et al., 1993).

Consequences

Although elderspeak is typically well-intentioned and thought to enhance comprehension and demonstrate caring, it is unclear whether it actually achieves these goals. Understanding the consequences of elderspeak is critical to deciding whether it is appropriate to use with older adults. The consequences of elderspeak are explored below based on three outcomes for older adults: comprehension, perception, and behavior (Supplementary Table 1).

Impact of elderspeak on comprehension

Kemper et al. conducted a series of studies designed to identify whether and which attributes of elderspeak spontaneously adopted by speakers aided comprehension in older adults as they followed map directions (Kemper et al., 1995, 1996). Across studies, comprehension was

generally optimized by a combination of *decreases* in the rate of speech, sentence length, and sentence complexity and *increases* in the number of words and utterances, redundancy, and semantic content. However, there was a limit to the effectiveness of these accommodations. In repeated communication interactions with older adults, younger adults' speech became more simplified, slower, and more repetitious, but comprehension was not enhanced (Kemper, Othick et al., 1998). The major limitation of these experiments was that improved comprehension was associated with a cluster of spontaneous modifications, making it difficult to identify which specific characteristics enhanced comprehension.

To meet this limitation, a follow-up series of wayfinding experiments were completed in which individual attributes were manipulated (Kemper & Harden, 1999). The first experiment compared neutral speech to speech with syntactic simplifications (i.e., reduced length and complexity of utterances) and semantic elaborations (i.e., repeated/expanded instructions and comprehension checks). Each of these alone resulted in improved comprehension for older adults but combining syntactic and semantic manipulations did not aid comprehension further. The next experiment compared neutral speech to speech with either syntactic simplifications, exaggerated prosody (i.e., high pitch, pauses before key directions, slow speaking rate, prolonged vowels), or both. Comprehension in older adults improved with syntactic simplifications but not exaggerated prosody. When syntactic simplifications were combined with exaggerated prosody, the comprehension gains were lost, suggesting that the use of exaggerated prosody negates any benefits of syntactic simplification.

In contrast to these results, some studies suggest that prosodic aspects of elderspeak (i.e., enhanced focal stress and slowed speech rate) may enhance comprehension (Cohen & Faulkner, 1986; Gould et al., 2002). After listening to scripts read aloud with or without focal stress, older adults were able to recall more information with added focal stress (Cohen & Faulkner, 1986; Gould et al., 2002). However, the so-called "elderspeak" in these studies did not necessarily constitute the concept of elderspeak. There is a range of normal variation of parameters such as stress pattern and rate of speech, which are routinely modified in a variety of contexts (e.g., in noisy environments) to enhance comprehension. For example, communication was described as "careful," so it probably did not exemplify the exaggerated intonation that is typically considered characteristic of elderspeak (Gould et al., 2002). Such studies illustrate the conceptual confusion surrounding elderspeak, assuming that any speech style modifications (i.e., accommodation) intended to facilitate comprehension in older adults constitute elderspeak (i.e., overaccommodation).

Other experimental studies evaluated the impact of *exaggerated* prosodic aspects of elderspeak on comprehension (Hehman & Bugental, 2015). Specifically, the effects of high pitch, loudness, and slowness on the completion of a block design task were examined. Older adults receiving the elderspeak condition not only performed worse on the task; they were also the only group to experience an increase in cortisol levels following the task. Therefore, not only did exaggerating prosody worsen comprehension, but it also created a systemic stress response for the older adults. A decrement in comprehension related to greater caregiver pitch range has also been found for persons with dementia (Small et al., 2009). It can thus be inferred that when prosody veers outside the normal range, its impact is generally negative.

In experiments that evaluated both comprehension and the perception of comprehension, older adults perceived a decline in comprehension with elderspeak even if comprehension was actually improved (Kemper & Harden, 1999; Kemper et al., 1995, 1996). In the wayfinding experiments, older adults did not report communication challenges when receiving directions from other older adults (who did not produce elderspeak), but did report challenges when receiving directions from young adults (who did produce elderspeak). This was despite improvements in comprehension when speaking with younger adults (Kemper et al., 1995, 1996). Additionally, as communication was increasingly simplified by younger adults, older adults' ratings of communication also worsened, even though their performance did not decline (Kemper, Othick et al., 1998). Perceived reception was best when neutral prosody was used relative to exaggerated prosody (Kemper & Harden, 1999). Even though performance did not decline, the perception of lower performance could lead to reduced future performance, due to stereotype threat, in which older adults tend to perform more poorly when age-related stereotypes are triggered. In support of this, older adults with better attitudes toward aging and more positive personal intergenerational interactions seem to be somewhat protected from the harmful effects of patronizing communication on comprehension during intergenerational interactions (Hehman & Bugental, 2015).

Perception of elderspeak

A series of early studies evaluated perceptions of elderspeak primarily using written vignettes of interactions. In such studies, elderspeak is enacted using lexical and syntactic modifications, such as pet names (e.g., *sweetie*), plural pronouns (e.g., *let's stop being fussy*), and patronizing phrases (e.g., *now*, *now*). Caregivers communicating with elderspeak were rated as *less* respectful, competent, nurturing, considerate, warm, supportive, intelligent, confident, helpful, and trustworthy and *more* dominant, patronizing, incompetent, and unfriendly (Balsis & Carpenter, 2005; Giles et al., 1993; Harwood & Giles, 1996; Harwood et al., 1993; La Tourette & Meeks, 2000; O'Connor & Rigby, 1996; O'Connor & St Pierre, 2004; Ryan et al., 1991; Ryan, Hamilton et al., 1994; Ryan, Meredith et al., 1994). Although these studies demonstrated that elderspeak is perceived negatively, some ratings were

completed by naïve young adult raters rather than older adults (Ryan et al., 1991; Ryan, Maclean et al., 1994; Ryan, Meredith et al., 1994). Interestingly, in experiments that included both young and older adult raters, the young adults generally rated elderspeak as more patronizing than older adults did (Edwards & Noller, 1993; Giles et al., 1993; Whitmer & Whitbourne, 1997). Nonnaïve script raters (i.e., formal caregivers) have similarly reported that staff persons using patronizing communication are less respectful, helpful, and competent (Savundranayagam et al., 2007). A drawback of these studies is that it is unclear the extent to which perceptions of written scripts align with perceptions of spoken speech.

More importantly, studies evaluating the perception of older adults themselves confirm that elderspeak is viewed as patronizing (Hummert & Mazloff, 2001). For example, grandparents reported being less satisfied with and less close to grandchildren who overaccommodate communication (Harwood, 2000). Both community-dwelling older adults and nursing home residents reported disliking infantilizing communication (Whitbourne et al., 1995) and rated nurses who used such speech as less respectful, nurturing, benevolent, and competent, even when they were talking to individuals with dementia (La Tourette & Meeks, 2000). Community-dwelling older adults had more negative views of elderspeak than did older adults residing in long-term care (O'Connor & St Pierre, 2004). Older adults have also reported more positive views of elderspeak when used in the hospital setting compared to the community setting (Hummert & Mazloff, 2001).

By contrast, some studies have reported positive perceptions of elderspeak by older adults. Cognitively intact older adults in a rehabilitation hospital perceived exaggerated intonation more positively than normal communication (Whitmer & Whitbourne, 1997). Elderspeak may be rated more positively by older adults who value high succorance (O'Connor & Rigby, 1996), when the communication partners are more familiar (Hummert & Mazloff, 2001), and may be appreciated more as residents' functional ability declines (Caporael et al., 1983). An ethnographic study in New Zealand nursing homes reported that residents found elderspeak to be positive and to lead to meaningful social relationships between caregivers and residents (Marsden & Holmes, 2014). Another ethnographic study from South Africa proposed that infantilization is a form of posturing that makes intimate care practices acceptable (Makoni & Grainger, 2002). However, in other ethnographic work from Singapore and the United States, elderspeak was viewed as patronizing by older adults (Cavallaro et al., 2016; Salari, 2005). Both American and Thai older adults reported lower self-esteem when overaccommodation was used by younger adults, although the relationship was only significant for Americans (Keaton et al., 2017). Such inconsistencies may arise from cultural differences, but the cultural impact of elderspeak has been relatively unexplored, particularly in the setting of multilingual environments (Yazdanpanah et al., 2019).

Impact of elderspeak on behavior

Behavior was first studied as a consequence of elderspeak by evaluating audio recordings of dyadic care interactions in German nursing homes (Sachweh, 1998). The majority of residents involved in the interactions showed no discernable behavioral reaction to elderspeak, either positive or negative. However, the clearest reactions—both positive and negative—came from residents with dementia. Ethnographic research has reported that elderspeak to persons with dementia often results in fighting, withdrawal, and subsequent poor health (Salari, 2005), or in crying and silence from residents (Cavallaro et al., 2016). Recent research has focused on identifying the impact of specific elderspeak attributes on resistiveness to care in nursing homes (Yazdanpanah et al., 2019).

The impact of elderspeak on the behavior of persons with dementia has been more systematically evaluated in a series of studies by Williams et al. A single-subject case study of dyadic care interactions in a nursing home (Cunningham & Williams, 2007) demonstrated a strong correlation between instances of elderspeak and resistiveness to care (Cunningham & Williams, 2007) and between a controlling emotional tone and resistiveness to care (Williams & Herman, 2011). A subsequent larger study found that elderspeak by nursing home staff doubled the probability of resistiveness to care by persons with dementia (Williams et al., 2009). Next, a randomized cross-over trial was conducted to further understand the causal relationship between elderspeak and resistiveness to care by comparing caregivers who received training to those who did not (Williams, Perkhounkova et al., 2017). Following training, elderspeak by formal caregivers declined by 13.6 percentage points and resistiveness to care by residents with dementia declined by 15.3 percentage points. In a follow-up analysis, nursing homes that received training demonstrated a reduction in antipsychotic medication administration relative to statewide medication rates (Shaw et al., 2018). These findings reflect the negative impact that elderspeak can have on the well-being of persons with dementia and the potential for training to ameliorate this effect.

Related Concepts

An essential component of an evolutionary concept analysis is the identification of related concepts, as this helps define the boundaries of the construct (Rodgers, 2000; Tofthagen & Fagerstrøm, 2010). Elderspeak shares some attributes with communication accommodations for other populations, notably infants and individuals with communication impairments. Other related concepts include behaviors beyond the spoken message that are patronizing to older adults.

Infant-directed speech

Elderspeak communication was first identified by comparing it to speech directed to children (Caporael, 1981), also

known as "motherese" or, more recently, "infant/child-directed speech" (Golinkoff et al., 2015; Soderstrom, 2007). Infant-directed speech shares with elderspeak the features of raised and variable pitch contours, as well as a variety of simplifications, such as limited vocabulary and shortened utterances (Golinkoff et al., 2015). Similar to the evolution of elderspeak research, early research on child-directed speech focused on the distinction between modifications intended to enhance clarity and capture attention (i.e., facilitate comprehension) and modifications intended to express affection and establish intimacy (i.e., care). However, unlike elderspeak, it is not posited that infant-directed speech is intended to exert control. Similar patterns of speech may occur in communicative interactions with romantic partners (Bombar & Littig, 1996) or pets (Burnham, 2002; Mitchell, 2001).

Clear speech

Clear speech is a speech style in which speakers overarticulate to maximize the intelligibility of their speech for listeners with hearing loss (Smiljanić & Bradlow, 2009) for example, or by speakers with motor speech disorders such as dysarthria (Hustad & Weismer, 2007). Clear speech shares many properties with elderspeak, such as speaking more slowly, pausing, and prolonging vowels (Lam et al., 2012; Uchanski, 2005), but does not generally involve the semantic or pragmatic aspects of elderspeak. Its singular goal is to enhance comprehension.

Infantilization with older adults and other vulnerable populations

Aside from elderspeak, older adults can be made to feel patronized by other interactional behaviors that would be considered nonperson-centered. Person-centered communication focuses on recognition, negotiation, facilitation, and validation which elderspeak violates along with other common communication behaviors with older adults (Savundranayagam, 2014; Savundranayagam & Moore-Nielsen, 2015). For example, the use of praise, politeness, cheering, tricking, and restricting choices have been identified in contexts with elderspeak and similarly represent unequal power dynamics between the older adults and their conversation partners (Backhaus, 2009; Jansson, 2016; Nilsson et al., 2018). Older adults and persons with dementia can be positioned as inferior not only through elderspeak but also when caregivers and health care providers ignore and speak for them (Österholm & Samuelsson, 2015). Topics may be restricted for older adults compared to nonolder adults such as with discussions of sexual side effects of cancer treatments that were limited for older adults but not for younger adult patients (Schroyen et al., 2018). Written materials can also trigger stereotype threat (Barber & Mather, 2014), resulting in the perception of a patronizing and authoritarian tone (Yardley et al., 2006).

Lastly, attributes of elderspeak are not necessarily unique to encounters with older adults. Similar attributes have been found in communication with persons speaking a foreign language (DePaulo & Coleman, 1986; Rothermich et al., 2019), persons with intellectual or physical disabilities (Fox & Giles, 1996), and in painful health care encounters with nonolder adults (Borders et al., 2013). However, these are not considered elderspeak because the attributes arise outside of the CPAM and not due to implicit ageism. More research is needed to determine the effects of infantilization on these other populations.

Discussion

The most important antecedents of elderspeak have been well defined and operationalized. Elderspeak occurs in interactions with older adults and is enacted based on old-age cues, evidenced by how younger adults simplify communication when speaking to older adults but not to their peers. As the CPAM posits, this form of overaccommodation arises from ageist stereotypes that older adults are incompetent and dependent (Ryan et al., 1986; Ryan, Hummert et al., 1995). Although it is based on ageist views, elderspeak typically does not come from a place of malevolence; instead, it is an implicit strategy that is often intended to convey care to older adults (Grimme et al., 2015; Hummert & Shaner, 1994; Lombardi et al., 2014). Although the antecedents are clear, the concept of elderspeak has been characterized by inconsistencies in its attributes and the consequences of these attributes.

The specific attributes used to operationalize elderspeak depend to some degree on the purpose of the study. Experimental studies have mostly focused on the impact of syntactic simplifications and semantic elaborations on comprehension in older adults. However, research on the psychosocial and behavioral consequences of elderspeak has focused on childish vocabulary and exaggerated prosody. The attributes that appear also depend on the contexts in which elderspeak is elicited. In simulated or experimental environments, lexical and pragmatic aspects of elderspeak seem to occur less spontaneously than changes in syntax. However, more naturalistic studies that have been conducted worldwide across the past four decades confirm the presence of childish words and exaggerated prosody during care encounters.

Similarly, studies focusing on intergenerational communication alone tend to find mostly changes in syntactic attributes, whereas studies in health care contexts demonstrate more prosodic and semantic attributes of elderspeak. This provides evidence that a caring context, especially where intimate care is provided, elicits different aspects of elderspeak than experimental contexts. Each method has advantages and disadvantages. Experimental studies can isolate attributes of elderspeak, contributing to our understanding of the impacts of different characteristics. Data captured in more naturalistic settings may offer a greater

understanding of the most commonly occurring attributes and consequences of elderspeak.

There have also been diverse findings regarding the impact of elderspeak on comprehension, which have largely arisen from differences in how it is defined. There is evidence that simplification—specifically reducing syntactic and semantic complexity—enhances comprehension but that other modifications (e.g., shortening utterances without reducing complexity) have little or no impact. Perhaps the most important finding is that exaggerated prosody may reduce both actual and perceived comprehension, eradicating the benefits of more helpful attributes like reducing complexity (Kemper & Harden, 1999). These findings provide further support for the CPAM by identifying that an infantilizing prosodic pattern diminishes perceived competence even when comprehension is not reduced. It is thus important to distinguish between normal variations in intonational contour that serve to provide emphasis and thus tend to enhance comprehension (Ashburn & Gordon, 1981) and prosodic contours that are so exaggerated that they are perceived as patronizing. That such accommodations are a matter of degree with no clear cutoff between what is helpful and what is perceived to be patronizing contributes to the lack of clarity surrounding elderspeak. Additional research is needed on this important relationship between perception and comprehension to help disentangle how personal views of elderspeak affect comprehension.

Operationalizing Elderspeak

In operationalizing attributes of elderspeak, we propose to remove (or consider separately) attributes that are within the range of normal variation in adult-to-adult speech. Many of these have been repeatedly noted to enhance comprehension, including reduced syntactic complexity, repetitions, verifications, and focal stress. Among the attributes to retain are those that are exaggerated—this is the essence of *over*accommodation—and thus give rise to perceptions of patronization. These include pragmatic, paralinguistic, and semantic attributes, such as vocabulary choice and exaggerated prosodic contours (see Table 1 for examples). Prosodic attributes have not only been shown to worsen comprehension but have also been key attributes evaluated in the studies concluding that elderspeak increases the probability of resistiveness to care in persons with dementia. Studies measuring elderspeak that have only evaluated syntactic attributes and have concluded that elderspeak is helpful for comprehension in health care environments may be misleading, because the implication is that all aspects of elderspeak must be facilitative. Accommodation itself is not harmful, but overaccommodation can be detrimental to the self-esteem of the older adult and the success of the communicative interaction.

Taking these findings into account, we propose the following definition of elderspeak: "Elderspeak is a form of communication overaccommodation used with older adults that: is evidenced by inappropriately juvenile lexical choices and/or exaggerated prosody; arises from implicit ageist stereotypes; carries goals of expressing care, exerting control, and/or facilitating comprehension; and may lead to negative self-perceptions in older adults and challenging behaviors in persons with dementia." This definition includes, but distinguishes among, the attributes, antecedents, and consequences of elderspeak. Note that elderspeak may be accompanied by other verbal modifications, such as syntactic and semantic simplifications, but our definition clearly identifies *inappropriate* modifications (i.e., overaccommodations) as its core attributes.

Limitations

This review provides a comprehensive overview of elderspeak research from the past 40 years. Although 83 studies were identified and analyzed, weaknesses in the research were noted. First, the conceptual inconsistencies noted in elderspeak research that led to this review may arise in part from limitations of the reviewed studies, as we have discussed in the review above. Many of the naturalistic studies drew conclusions from small samples with uncontrolled potential confounds. The ecological validity of some of the experimental studies may be questioned. Nevertheless, it was important for the purpose of the evolutionary concept analysis to represent as completely as possible the range of research that has contributed to our current understanding of elderspeak.

Another shortcoming is that much of the research on elderspeak has been completed by a few research groups using relatively nondiverse samples. The understanding of elderspeak would be strengthened with replication in other samples, including a targeted focus on diverse populations. Finally, with this being an evolutionary review, conflicting findings may arise due to cohort effects. Perceptions on language and aging have likely changed over the past 40 years, which reinforces the need for early research to be replicated.

Future Directions for Research and Education

Based on the limitations outlined above, there is clearly a need for replication and greater systematicity in future research. Our new definition is a proposed step in that direction. Future research needs to continue to investigate which aspects of communication are patronizing to older adults. However, this needs to be done in the context of consequences. Simply identifying elderspeak is fruitless without understanding what impact it has on older adults, including the negative outcomes of elderspeak on cognitively intact older adults as well as persons with dementia outside of the long-term care setting. In cognitively intact older adults, there is a critical need for updated research on the nature of elderspeak and its consequences such as the impact on psychosocial well-being.

The majority of research on elderspeak and older adults has focused on general intergenerational encounters with either the experimental or survey designs. This highlights the need for naturalistic studies on health care encounters between older adults and formal care providers on important psychosocial outcomes like depression. In addition, as baby boomers age, the nature of older adulthood is changing both quantitatively and qualitatively. Increasing numbers of older adults may "normalize" primary age-related changes, and baby boomers are more assertive in their approach to health care, which may have implications for communication (Kahana & Kahana, 2014). For individuals with dementia, there continues to be a critical need for research to understand the ramifications of elderspeak on important outcomes like behavioral and psychological symptoms of dementia.

Identifying the attributes of elderspeak also needs to be completed in the context of identifying the antecedents to elderspeak. As discussed above, attributes traditionally called elderspeak but that have positive outcomes should no longer be considered elderspeak. Similarly, attributes that do not arise as part of the CPAM model should not be considered elderspeak. For example, tag questions have recently been identified as having multiple functions and may not always meet the definition of elderspeak (Basque et al., 2020). Thus, as specified in the definition above, attributes should be considered based on their context within the CPAM (i.e., arising from implicit ageism) and within the context of the Model of Patronizing Talk (i.e., arising due to the interplay of care and control).

Beyond ageism, the antecedents to elderspeak have remained relatively unstudied. Research has generally focused on young college-aged adults communicating with real or simulated older adults in laboratory settings or on formal caregivers in the long-term care setting. Elderspeak and its consequences should be continued to be explored in a variety of settings (e.g., hospital, community) with a variety of speakers (e.g., informal caregivers, volunteers), so that important antecedents such as familiarity and gender can further be analyzed because there has been a lack of exploration on these important relationships to date. This is important for targeted intervention and education development. Currently, the only evidence-based intervention for elderspeak reduction is targeted toward long-term care facilities in the United States (Williams, 2006; Williams, Perkhounkova et al., 2017). Educational programs on elderspeak reduction are needed for a variety of settings as research expands.

Enhancing awareness of age-related stereotypes and their relationship to elderspeak can help reduce the impact of this implicit bias. Cost-effective educational interventions focused on elderspeak reduction have not only increased knowledge of elderspeak among health care providers, but also demonstrated subsequent reductions in resistiveness to care by persons with dementia and facility-wide antipsychotic medication administration (Shaw et al., 2018; Williams, Abd-Hamid et al., 2017; Williams, Ayyagari et al., 2017; Williams, Perkhounkova et al., 2017). However, not all educational interventions have demonstrated success and some have actually exacerbated ageist views of older adults, indicating that an evidence-based approach to education about elderspeak is needed to change attitudes and improve care (Alden & Toth-Cohen, 2015). Furthermore, the use of elderspeak is highly individualized, with some care providers rarely enacting its attributes and others doing so repeatedly (Herman & Williams, 2009). Educational interventions thus may need to be targeted specifically to those who use elderspeak.

Conclusions

Consistent with the CEM and alongside person-centered care, we advocate for an individualized approach to communication accommodation based on specific needs. Affirming communication is the goal (Williams et al., 2005), and elderspeak is not considered respectful by many older adults and may lead to harmful behaviors in persons with dementia. However, not *all* older adults find elderspeak to be patronizing and some aspects of speech accommodation may facilitate comprehension in certain circumstances; therefore, individual communication preferences as well as needs should be assessed (Hummert & Mazloff, 2001; Yazdanpanah et al., 2019). Interventions should thus not only educate formal caregivers on avoiding elderspeak, but more importantly, target person-centered communication techniques based on individual preferences (Williams et al., 2004).

Although speakers should be careful not to overaccommodate, it is also important to avoid *under*accommodation, as a lack of attention to communication needs can also have detrimental effects on comprehension and well-being (Gasiorek & Giles, 2012; Scott & Caughlin, 2015). More research is needed on how speakers can achieve appropriate and individualized levels of accommodation and best to train the appropriate use of accommodation; however, this review has identified that avoiding elderspeak is a beneficial strategy for communicating with older adults. Communication is a crucial component of person-centered care to older adults, and care providers must thus be aware that their implicit biases may inadvertently lead to patronizing communication patterns, such as elderspeak.

Supplementary Material

Supplementary data are available at *Innovation in Aging* online.

Funding

This work is supported by the National Institute of Nursing Research (F31NR018580). The content is solely the responsibility of

the authors and does not necessarily represent the official views of the National Institutes of Health.

Conflict of Interest

None declared.

Acknowledgments

The authors thank Kristine Williams, PhD, RN, FNP-BC, FGSA, FAAN for her guidance and feedback on this manuscript.

References

Alden, J., & Toth-Cohen, S. (2015). Impact of an educational module on occupational therapists' use of elderspeak and attitudes toward older adults. *Physical & Occupational Therapy in Geriatrics*, **33**(1), 1–16. doi:10.3109/02703181.2014.975884

Ashburn, G., & Gordon, A. (1981). Features of simplified register in speech to elderly conversationalists. *International Journal of Psycholinguistics*, **8**(3), 7–31.

Atkinson, J. L., & Sloan, R. G. (2017). Exploring the impact of age, race, and stereotypes on perceptions of language performance and patronizing speech. *Journal of Language and Social Psychology*, **36**(3), 287–305. doi:10.1177/0261927X16662967

Backhaus, P. (2009). Politeness in institutional elderly care in Japan: A cross-cultural comparison. *Journal of Politeness Research*, **5**(1), 53–71. doi:10.1515/jplr.2009.004

Balsis, S., & Carpenter, B. D. (2005). Evaluations of elderspeak in a caregiving context. *Clinical Gerontologist*, **29**(1), 79–96. doi:10.1300/J018v29n01_07

Barber, S. J., & Mather, M. (2014). Stereotype threat in older adults: When and why does it occur and who is most affected? In P. Verhaeghen & C. Hertzog (Eds.), *The Oxford handbook of emotion, social cognition, and problem solving in adulthood* (pp. 302–319). Oxford University Press.

Basque, S., Savundranayagam, M., Kimura, M., & Williams, K. (2020). The use of tag questions in person-centered communication. *Innovations in Aging*, **4**(S1), 899–900. doi:10.1093/geroni/igaa057.3313

Bethea, L. S., & Balazs, A. L. (1997). Improving intergenerational health care communication. *Journal of Health Communication*, **2**(2), 129–137. doi:10.1080/108107397127833

Bombar, M. L., & Littig, L. W. (1996). Babytalk as a communication of intimate attachment: An initial study in adult romances and friendships. *Personal Relationships*, **3**(2), 137–158. doi:10.1111/j.1475-6811.1996.tb00108.x

Borders, N., Wendland, C., Haozous, E., Leeman, L., & Rogers, R. (2013). Midwives' verbal support of nulliparous women in second-stage labor. *Journal of Obstetric, Gynecologic, & Neonatal Nursing*, **42**(3), 311–320. doi:10.1111/1552-6909.12028

Brown, A., & Draper, P. (2003). Accommodative speech and terms of endearment: Elements of a language mode often experienced by older adults. *Journal of Advanced Nursing*, **41**(1), 15–21. doi:10.1046/j.1365-2648.2003.02500.x

Burnham, D. (2002). What's new, Pussycat? On talking to babies and animals. *Science*, **296**(5572), 1435. doi:10.1126/science.1069587

Caporael, L. R. (1981). The paralanguage of caregiving: Baby talk to the institutionalized aged. *Journal of Personality and Social Psychology*, **40**(5), 876–884. doi:10.1037//0022-3514.40.5.876

Caporael, L. R., & Culbertson, G. H. (1986). Verbal response-modes of baby talk and other speech at institutions for the aged. *Language & Communication*, **6**(1–2), 99–112. doi:10.1016/0271-5309(86)90009-1

Caporael, L. R., Lukaszewski, M. P., & Culbertson, G. H. (1983). Secondary baby talk: Judgments by institutionalized elderly and their caregivers. *Journal of Personality and Social Psychology*, **44**(4), 746–754. doi:10.1037//0022-3514.44.4.746

Cavallaro, F., Seilhamer, M. F., Chee, Y. T. F., & Ng, B. C. (2016). Overaccommodation in a Singapore eldercare facility. *Journal of Multilingual and Multicultural Development*, **37**(8), 817–831. doi:10.1080/01434632.2016.1142553

Chen, C.-Y., Joyce, N., Harwood, J., & Xiang, J. (2017). Stereotype reduction through humor and accommodation during imagined communication with older adults. *Communication Monographs*, **84**(1), 94–109. doi:10.1080/03637751.2016.1149737

Cockrell, M. D. (2020). Provider–patient interaction: Exploring elderspeak in simulated preclinical chiropractic student encounters. *Gerontology and Geriatric Medicine*, **6**, 1–6. doi:10.1177/2333721420923453

Cohen, G., & Faulkner, D. (1986). Does elderspeak work: The effect of intonation and stress on comprehension and recall of spoken discourse in old-age. *Language & Communication*, **6**(1–2), 91–98. doi:10.1016/0271-5309(86)90008-x

Corwin, A. I. (2017). Overcoming elderspeak: A qualitative study of three alternatives. *The Gerontologist*, **58**(4), 724–729. doi:10.1093/geront/gnx009

Coupland, N., Coupland, J., Giles, H., & Henwood, K. (1988). Accommodating the elderly: Invoking and extending a theory. *Language in Society*, **17**(1), 1–41. doi:10.1017/S0047404500012574

Culbertson, G. H., & Caporael, L. R. (1983). Baby talk speech to the elderly: Complexity and content of messages. *Personality and Social Psychology Bulletin*, **9**(2), 305–312. doi:10.1177/0146167283092016

Cunningham, J., & Williams, K. N. (2007). A case study of resistiveness to care and elderspeak. *Research and Theory for Nursing Practice*, **21**(1), 45–56. doi:10.1891/rtnpij-v21i1a006

DePaulo, B. M., & Coleman, L. M. (1986). Talking to children, foreigners, and retarded adults. *Journal of Personality and Social Psychology*, **51**(5), 945–959. doi:10.1037//0022-3514.51.5.945

Draper, P. (2005). Patronizing speech to older patients: A literature review. *Reviews in Clinical Gerontology*, **15**(3–4), 273–279. doi:10.1017/S0959259806001869

Edwards, H., & Noller, P. (1993). Perceptions of overaccommodation used by nurses in communication with the elderly. *Journal of Language and Social Psychology*, **12**, 207–223. doi:10.1177/0261927x93123003

Edwards, H., & Noller, P. (1998). Factors influencing caregiver–care receiver communication and its impact on the well-being older care receivers. *Health Communication*, **10**(4), 317–341. doi:10.1207/s15327027hc1004_2

Flamion, A., Missotten, P., Goffinet, A., Kukor, L., Nagy, N., & Adam, S. (2020). Speech accommodation toward older people in 7- to 12-year-old children. *Developmental Science*, **23**(6), e12958. doi:10.1111/desc.12958

Fox, S. A., & Giles, H. (1996). Interability communication: Evaluating patronizing encounters. *Journal of Language and Social Psychology*, **15**(3), 265–290. doi:10.1177/0261927X960153004

Garrard, J. (2011). *Health sciences literature review made easy: The matrix method/Judith Garrard* (3rd ed.). Jones and Bartlett Publishers.

Gasiorek, J., & Giles, H. (2012). Effects of inferred motive on evaluations of nonaccommodative communication. *Human Communication Research*, **38**(3), 309–331. doi:10.1111/j.1468-2958.2012.01426.x

Gendron, T. L., Welleford, E. A., Inker, J., & White, J. T. (2016). The language of ageism: Why we need to use words carefully. *The Gerontologist*, **56**(6), 997–1006. doi:10.1093/geront/gnv066

Giles, H., Coupland, N., Coupland, J., Williams, A., & Nussbaum, J. (1992). Intergenerational talk and communication with older people. *International Journal of Aging & Human Development*, **34**(4), 271–297. doi:10.2190/TCMU-0U65-XTEH-B950

Giles, H., Fox, S., & Smith, E. (1993). Patronizing the elderly: Intergenerational evaluations. *Research in Language and Social Interactions*, **26**, 129–149. doi:10.1207/s15327973rlsi2602_1

Golinkoff, R. M., Can, D. D., Soderstrom, M., & Hirsh-Pasek, K. (2015). (Baby)talk to me: The social context of infant-directed speech and its effects on early language acquisition. *Current Directions in Psychological Science*, **24**(5), 339–344. doi:10.1177/0963721415595345

Gould, O. N., Saum, C., & Belter, J. (2002). Recall and subjective reactions to speaking styles: Does age matter? *Experimental Aging Research*, **28**(2), 199–213. doi:10.1080/03610730252800201

Grainger, K. (1993). "That's a lovely bath dear": Reality construction in the discourse of elderly care. *Journal of Aging Studies*, **7**(3), 247–262. doi:10.1016/0890-4065(93)90014-b

Grimme, T. M., Buchanan, J., & Afflerbach, S. (2015). Understanding elderspeak from the perspective of certified nursing assistants. *Journal of Gerontological Nursing*, **41**(11), 42–49. doi:10.3928/00989134-20151015-05

Harwood, J. (2000). Communicative predictors of solidarity in the grandparent–grandchild relationship. *Journal of Social and Personal Relationships*, **17**(6), 743–766. doi:10.1177/0265407500176003

Harwood, J., & Giles, H. (1996). Reactions to older people being patronized: The roles of response strategies and attributed thoughts. *Journal of Language and Social Psychology*, **15**(4), 395–421. doi:10.1177/0261927X960154001

Harwood, J., Giles, H., Fox, S., Ryan, E. B., & Williams, A. (1993). Patronizing young and elderly adults: Response strategies in a community setting. *Journal of Applied Communication Research*, **21**(3), 211–226. doi:10.1080/00909889309365368

Hehman, J. A., & Bugental, D. B. (2015). Responses to patronizing communication and factors that attenuate those responses. *Psychology and Aging*, **30**(3), 552–560. doi:10.1037/pag0000041

Hehman, J., Corpuz, R., & Bugental, D. (2012). Patronizing speech to older adults. *Journal of Nonverbal Behavior*, **36**(4), 249–261. doi:10.1007/s10919-012-0135-8

Herman, R. E., & Williams, K. N. (2009). Elderspeak's influence on resistiveness to care: Focus on behavioral events. *American Journal of Alzheimer's Disease and Other Dementias*, **24**(5), 417–423. doi:10.1177/1533317509341949

Hummert, M. L., & Mazloff, D. C. (2001). Older adults' responses to patronizing advice: Balancing politeness and identity in context. *Journal of Language and Social Psychology*, **20**(1–2), 168–196. doi:10.1177/0261927x01020001008

Hummert, M. L., & Ryan, E. B. (1996). Toward understanding variations in patronizing talk addressed to older adults: Psycholinguistic features of care and control. *International Journal of Psycholinguistics*, **12**, 149–169.

Hummert, M. L., & Shaner, J. L. (1994). Patronizing speech to the elderly as a function of stereotyping. *Communication Studies*, **45**, 145–158. doi:10.1080/10510979409368419

Hummert, M. L., Shaner, J. L., Garstka, T. A., & Henry, C. (1998). Communication with older adults: The influence of age stereotypes, context, and communicator age. *Human Communication Research*, **25**(1), 124–151. doi:10.1111/j.1468-2958.1998.tb00439.x

Hustad, K., & Weismer, G. (2007). Interventions to improve intelligibility and communicative success for speakers with dysarthria. In G. Weismer (Ed.), *Motor speech disorders* (pp. 217–228). Plural Publishing.

Jansson, G. (2016). 'You're doing everything just fine': Praise in residential care settings. *Discourse Studies*, **18**(1), 64–86. doi:10.1177/1461445615613186

Kahana, E., & Kahana, B. (2014). Baby boomers' expectations of health and medicine. *The Virtual Mentor*, **16**(5), 380–384. doi:10.1001/virtualmentor.2014.16.05.msoc2-1405

Keaton, S. A., McCann, R. M., & Giles, H. (2017). The role of communication perceptions in the mental health of older adults: Views from Thailand and the United States. *Health Communication*, **32**(1), 92–102. doi:10.1080/10410236.2015.1099507

Kemper, S. (1994). Elderspeak: Speech accommodations to older adults. *Aging, Neuropsychology, and Cognition*, **1**(1), 17–28. doi:10.1080/09289919408251447

Kemper, S., Ferrell, P., Harden, T., Finter-Urczyk, A., & Billington, C. (1998). Use of elderspeak by young and older adults to impaired and unimpaired listeners. *Aging Neuropsychology and Cognition*, **5**(1), 43–55. doi:10.1076/anec.5.1.43.22

Kemper, S., Finter-Urczyk, A., Ferrell, P., Harden, T., & Billington, C. (1998). Using elderspeak with older adults. *Discourse Processes*, **25**(1), 55–73. doi:10.1080/01638539809545020

Kemper, S., & Harden, T. (1999). Experimentally disentangling what's beneficial about elderspeak from what's not. *Psychology and Aging*, **14**(4), 656–670. doi:10.1037//0882-7974.14.4.656

Kemper, S., Othick, M., Gerhing, H., Gubarchuk, J., & Billington, C. (1998). The effects of practicing speech accommodations to older adults. *Applied Psycholinguistics*, **19**(2), 175–192. doi:10.1017/s014271640001002x

Kemper, S., Othick, M., Warren, J., Gubarchuk, J., & Gerhing, H. (1996). Facilitating older adults' performance on a referential communication task through speech accommodations. *Aging Neuropsychology and Cognition*, **3**(1), 37–55. doi:10.1080/13825589608256611

Kemper, S., Vandeputte, D., Rice, K., Cheung, H., & Gubarchuk, J. (1995). Speech adjustments to aging during a referential communication task. *Journal of Language and Social Psychology*, **14**(1–2), 40–59. doi:10.1177/0261927x95141003

Lam, J., Tjaden, K., & Wilding, G. (2012). Acoustics of clear speech: Effect of instruction. *Journal of Speech, Language, and Hearing Research*, **55**(6), 1807–1821. doi:10.1044/1092-4388(2012/11-0154)

Lanceley, A. (1985). Use of controlling language in the rehabilitation of the elderly. *Journal of Advanced Nursing*, **10**(2), 125–135. doi:10.1111/j.1365-2648.1985.tb00502.x

La Tourette, T. R., & Meeks, S. (2000). Perceptions of patronizing speech by older women in nursing homes and in the community: Impact of cognitive ability and place of residence. *Journal of Language and Social Psychology*, **19**(4), 463–473. doi:10.1177/0261927x00019004004

Lombardi, N. J., Buchanan, J. A., Afierbach, S., Campana, K., Sattler, A., & Lai, D. (2014). Is elderspeak appropriate? A survey of certified nursing assistants. *Journal of Gerontological Nursing*, **40**(11), 44–52. doi:10.3928/00989134-20140407-02

Makoni, S., & Grainger, K. (2002). Comparative gerontolinguistics: Characterizing discourses in caring institutions in South Africa and the United Kingdom. *Journal of Social Issues*, **58**(4), 805–824. doi:10.1111/1540-4560.00291

Marsden, S., & Holmes, J. (2014). Talking to the elderly in New Zealand residential care settings. *Journal of Pragmatics*, **64**, 17–34. doi:10.1016/j.pragma.2014.01.006

McGuire, L. C., Morian, A., Codding, R., & Smyer, M. A. (2000). Older adults' memory for medical information: Influence of elderspeak and note taking. *International Journal of Rehabilitation & Health*, **5**(2), 117–128. doi:10.1023/A:1012906222395

Mitchell, R. W. (2001). Americans' talk to dogs: Similarities and differences with talk to infants. *Research on Language and Social Interaction*, **34**(2), 183–210. doi:10.1207/S15327973RLSI34-2_2

Montepare, J. M., Steinberg, J., & Rosenberg, B. (1992). Characteristics of vocal communication between young-adults and their parents and grandparents. *Communication Research*, **19**(4), 479–492. doi:10.1177/009365092019004005

Nilsson, G., Ekstam, L., & Andersson, J. (2018). Pushing for miracles, pulling away from risk: An ethnographic analysis of the force dynamics at Senior Summer Camps in Sweden. *Journal of Aging Studies*, **47**, 96–103. doi:10.1016/j.jaging.2018.03.004

O'Connor, B. P., & Rigby, H. (1996). Perceptions of baby talk, frequency of receiving baby talk, and self-esteem among community and nursing home residents. *Psychology and Aging*, **11**(1), 147–154. doi:10.1037//0882-7974.11.1.147

O'Connor, B. P., & St Pierre, E. S. (2004). Older persons' perceptions of the frequency and meaning of elderspeak from family, friends, and service workers. *International Journal of Aging & Human Development*, **58**(3), 197–221. doi:10.2190/LY83-KPXD-H2F2-JRQ5

Österholm, J. H., & Samuelsson, C. (2015). Orally positioning persons with dementia in assessment meetings. *Ageing & Society*, **35**(2), 367–388. doi:10.1017/S0144686X13000755

Plejert, C., Jansson, G., & Yazdanpanah, M. (2014). Response practices in multilingual interaction with an older Persian woman in a Swedish residential home. *Journal of Cross-Cultural Gerontology*, **29**(1), 1–23. doi:10.1007/s10823-013-9217-2

Rodgers, B. L. (2000). Concept analysis: An evolutionary view. In B. L. Rodgers & K. A. Knafl (Eds.), *Concept development in nursing: Foundations, techniques, and applications* (2nd ed., pp. 77–102). Saunders.

Rothermich, K., Harris, H. L., Sewell, K., & Bobb, S. C. (2019). Listener impressions of foreigner-directed speech: A systematic review. *Speech Communication*, **112**, 22–29. doi:10.1016/j.specom.2019.07.002

Rousseau, P. C. (2019). Baby talk is for babies. *Journal of Palliative Medicine*, **22**(9), 1018–1019. doi:10.1089/jpm.2019.0356

Ryan, E. B., Bourhis, R. Y., & Knops, U. (1991). Evaluative perceptions of patronizing speech addressed to elders. *Psychology and Aging*, **6**(3), 442–450. doi:10.1037//0882-7974.6.3.442

Ryan, E. B., Giles, H., Bartolucci, G., & Henwood, K. (1986). Psycholinguistic and social psychological components of communication by and with the elderly. *Language & Communication*, **6**(1), 1–24. doi:10.1016/0271-5309(86)90002-9

Ryan, E. B., Hamilton, J. M., & See, S. K. (1994). Patronizing the old: How do younger and older adults respond to baby talk in the nursing home. *International Journal of Aging and Human Development*, **39**(1), 21–32. doi:10.2190/m52c-m2d2-r6c2-3pbm

Ryan, E. B., Hummert, M. L., & Boich, L. H. (1995). Communication predicaments of aging: Patronizing behavior toward older adults. *Journal of Language and Social Psychology*, **14**(1–2), 144–166. doi:10.1177/0261927x95141008

Ryan, E. B., Kennaley, D. E., Pratt, M. W., & Shumovich, M. A. (2000). Evaluations by staff, residents, and community seniors of patronizing speech in the nursing home: Impact of passive, assertive, or humorous responses. *Psychology and Aging*, **15**(2), 272–285. doi:10.1037//0882-7974.15.2.272

Ryan, E. B., Maclean, M., & Orange, J. B. (1994). Inappropriate accommodation in communication to elders: Inferences about nonverbal correlates. *International Journal of Aging and Human Development*, **39**(4), 273–291. doi:10.2190/npwx-3gdv-ng4b-kca3

Ryan, E. B., Meredith, S. D., MacLean, M. J., & Orange, J. B. (1995). Changing the way we talk with elders: Promoting health using the communication enhancement model. *International Journal of Aging & Human Development*, **41**(2), 89–107. doi:10.2190/FP05-FM8V-0Y9F-53FX

Ryan, E. B., Meredith, S. D., & Shantz, G. B. (1994). Evaluative perceptions of patronizing speech addressed to institutionalized elders in contrasting conversational contexts. *Canadian Journal on Aging*, **13**(2), 236–248. doi:10.1017/s0714980800006048

Sachweh, S. (1998). Granny darling's nappies: Secondary babytalk in German nursing homes for the aged. *Journal of Applied Communication Research*, **26**(1), 52–65. doi:10.1080/00909889809365491

Salari, S. M. (2005). Infantilization as elder mistreatment: Evidence from five adult day centers. *Journal of Elder Abuse and Neglect*, **17**(4), 53–91. doi:10.1300/j084v17n04_04

Salari, S. M., & Rich, M. (2001). Social and environmental infantilization of aged persons: Observations in two adult day care centers. *International Journal of Aging & Human Development*, **52**(2), 115–134. doi:10.2190/1219-B2GW-Y5G1-JFEG

Samuelsson, C., Adolfsson, E., & Persson, H. (2013). The use and characteristics of elderspeak in Swedish geriatric institutions. *Clinical Linguistics & Phonetics*, **27**(8), 616–631. doi:10.3109/02699206.2013.773382

Savundranayagam, M. Y. (2014). Missed opportunities for person-centered communication: Implications for staff–resident interactions in long-term care. *International Psychogeriatrics*, **26**(4), 645–655. doi:10.1017/S1041610213002093

Savundranayagam, M. Y., & Moore-Nielsen, K. (2015). Language-based communication strategies that support person-centered communication with persons with dementia. *International Psychogeriatrics*, **27**(10), 1707–1718. doi:10.1017/S1041610215000903

Savundranayagam, M. Y., Ryan, E. B., Anas, A. P., & Orange, J. B. (2007). Communication and dementia: Staff perceptions of conversational strategies. *Clinical Gerontologist*, **31**(2), 47–63. doi:10.1300/J018v31n02_04

Schnabel, E. L., Wahl, H. W., Schönstein, A., Frey, L., & Draeger, L. (2020). Nurses' emotional tone toward older inpatients: Do cognitive impairment and acute hospital setting matter? *European Journal of Ageing*, **17**(3), 371–381. doi:10.1007/s10433-019-00531-z

Schroyen, S., Adam, S., Marquet, M., Jerusalem, G., Thiel, S., Giraudet, A. L., & Missotten, P. (2018). Communication of healthcare professionals: Is there ageism? *European Journal of Cancer Care*, **27**(1), 1–10. doi:10.1111/ecc.12780

Scott, A. M., & Caughlin, J. P. (2015). Communication nonaccommodation in family conversations about end-of-life health decisions. *Health Communication*, **30**(2), 144–153. doi:10.1080/10410236.2014.974128

Shaw, C., Williams, K. N., & Perkhounkova, Y. (2018). Educating nursing home staff in dementia sensitive communication: Impact on antipsychotic medication use. *Journal of the American Medical Directors Association*, **19**(12), 1129–1132. doi:10.1016/j.jamda.2018.09.030

Small, J. A., Huxtable, A., & Walsh, M. (2009). The role of caregiver prosody in conversations with persons who have Alzheimer's disease. *American Journal of Alzheimer's Disease and Other Dementias*, **24**(6), 469–475. doi:10.1177/1533317509342981

Smiljanić, R., & Bradlow, A. R. (2009). Speaking and hearing clearly: Talker and listener factors in speaking style changes. *Language and Linguistics Compass*, **3**(1), 236–264. doi:10.1111/j.1749-818X.2008.00112.x

Soderstrom, M. (2007). Beyond babytalk: Re-evaluating the nature and content of speech input to preverbal infants. *Developmental Review*, **27**(4), 501–532. doi:10.1016/j.dr.2007.06.002

Thimm, C., Rademacher, U., & Kruse, L. (1998). Age stereotypes and patronizing messages: Features of age-adapted speech in technical instructions to the elderly. *Journal of Applied Communication Research*, **26**(1), 66–82. doi:10.1080/00909889809365492

Tofthagen, R., & Fagerstrøm, L. M. (2010). Rodgers' evolutionary concept analysis—A valid method for developing knowledge in nursing science. *Scandinavian Journal of Caring Sciences*, **24**(Suppl. 1), 21–31. doi:10.1111/j.1471-6712.2010.00845.x

Uchanski, R. M. (2005). Clear speech. In D. B. Pisoni & R. E. Remez (Eds.), *The handbook of speech perception* (pp. 207–235). Blackwell Publishing Ltd. doi:10.1002/9780470757024.ch9

Whitbourne, S. K., Culgin, S., & Cassidy, E. (1995). Evaluation of infantilizing intonation and content of speech directed at the aged. *International Journal of Aging & Human Development*, **41**(2), 109–116. doi:10.2190/J9XE-2GB6-H49G-MR7V

Whitmer, R. A., & Whitbourne, S. K. (1997). Evaluation of infantilizing speech in a rehabilitation setting: Relation to age. *International Journal of Aging & Human Development*, **44**(2), 129–136. doi:10.2190/RUJ0-LHQU-FW6W-GVYD

Wick, J. Y., & Zanni, G. R. (2007). The irony of elderspeak: Effective but condescending. *The Consultant Pharmacist*, **22**(2), 175–178. doi:10.4140/tcp.n.2007.175

Williams, K. N. (2006). Improving outcomes of nursing home interactions. *Research in Nursing & Health*, **29**(2), 121–133. doi:10.1002/nur.20117

Williams, K., Abd-Hamid, N. H., & Perkhounkova, Y. (2017). Transitioning communication education to an interactive online module format. *Journal of Continuing Education in Nursing*, **48**(7), 320–328. doi:10.3928/00220124-20170616-09

Williams, K. N., Ayyagari, P., Perkhounkova, Y., Bott, M. J., Herman, R., & Bossen, A. (2017). Costs of a staff communication intervention to reduce dementia behaviors in nursing home care. *The Journal of Nursing Home Research Sciences*, **3**, 22–27. doi:10.14283/jnhrs.2017.4

Williams, K. N., Boyle, D. K., Herman, R. E., Coleman, C. K., & Hummert, M. L. (2012). Psychometric analysis of the emotional tone rating scale: A measure of person-centered communication. *Clinical Gerontologist*, **35**(5), 376–389. doi:10.1080/07317115.2012.702648

Williams, K. N., & Herman, R. E. (2011). Linking resident behavior to dementia care communication: Effects of emotional tone. *Behavior Therapy*, **42**(1), 42–46. doi:10.1016/j.beth.2010.03.003

Williams, K. N., Herman, R., Gajewski, B., & Wilson, K. (2009). Elderspeak communication: Impact on dementia care. *American Journal of Alzheimer's Disease and Other Dementias*, **24**(1), 11–20. doi:10.1177/1533317508318472

Williams, K., Kemper, S., & Hummert, M. L. (2003). Improving nursing home communication: An intervention to reduce elderspeak. *The Gerontologist*, **43**(2), 242–247. doi:10.1093/geront/43.2.242

Williams, K., Kemper, S., & Hummert, M. L. (2004). Enhancing communication with older adults: Overcoming elderspeak. *Journal of Gerontological Nursing*, **30**(10), 17–25. doi:10.3928/0098-9134-20041001-08

Williams, K., Kemper, S., & Hummert, M. L. (2005). Enhancing communication with older adults: Overcoming elderspeak. *Journal of Psychosocial Nursing and Mental Health Services*, **43**(5), 12–16. doi:10.3928/02793695-20050501-02

Williams, K. N., Perkhounkova, Y., Herman, R., & Bossen, A. (2017). A communication intervention to reduce resistiveness in dementia care: A cluster randomized controlled trial. *The Gerontologist*, **57**(4), 707–718. doi:10.1093/geront/gnw047

Williams, K. N., Perkhounkova, Y., Jao, Y. L., Bossen, A., Hein, M., Chung, S., Starykowicz, A., & Turk, M. (2018). Person-centered communication for nursing home residents with dementia: Four communication analysis methods. *Western Journal of Nursing Research*, **40**(7), 1012–1031. doi:10.1177/0193945917697226

Williams, K., Shaw, C., Lee, A., Kim, S., Dinneen, E., Turk, M., Jao, Y. L., & Liu, W. (2017). Voicing ageism in nursing home dementia care. *Journal of Gerontological Nursing*, **43**(9), 16–20. doi:10.3928/00989134-20170523-02

Williams, K. N., & Warren, C. A. (2009). Communication in assisted living. *Journal of Aging Studies*, **23**(1), 24–36. doi:10.1016/j.jaging.2007.09.003

Yardley, L., Donovan-Hall, M., Francis, K., & Todd, C. (2006). Older people's views of advice about falls prevention: A qualitative study. *Health Education Research*, **21**(4), 508–517. doi:10.1093/her/cyh077

Yazdanpanah, M., Plejert, C., Samuelsson, C., & Jansson, G. (2019). An interactional perspective on sound prolongation in multilingual encounters in residential care. *Clinical Linguistics & Phonetics*, **33**(12), 1103–1124. doi:10.1080/02699206.2019.1584914