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# Emotion Communication by the Aging Face and Body

As our society ages, questions concerning the relations between generations gain importance. The quality of human relations depends on the quality of emotion communication, which is a significant part of our daily interactions. Emotion expressions serve not only to communicate how the expresser feels, but also to communicate intentions (whether to approach or retreat) and personality traits (such as dominance, trustworthiness, or friendliness) that influence our decisions regarding whether and how to interact with a person. *Emotion Communication by the Aging Face and Body* delineates how aging affects emotion communication and person perception by bringing together research across multiple disciplines. Scholars and graduate students in the psychology of aging, affective science, and social gerontology will benefit from this overview and theoretical framework.

URSULA HESS is Professor of Psychology at Humboldt-University zu Berlin, Germany and President of the International Society for Research on Emotion. Her research focuses on emotion communication, particularly nonverbal synchronization (mimicry) and the role of emotion expressions on impression formation. She has more than 200 scholarly publications, including five books.

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ROBERT E. KLECK is Emeritus Professor at Dartmouth College, USA. His research has focused on the social psychological implications of physical appearance, particularly those that are stigmatizing, and more recently the interaction of facial appearance and facial expression in determining both emotional attribution and person perception outcomes.

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# Emotion Communication by the Aging Face and Body

*A Multidisciplinary View*

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# Preface: Communicating Emotion with an Aging Face and Body

## Critical Issues and Theoretical Considerations

As the elderly are the fastest growing demographic in the United States and worldwide, age-related negative stereotypes are also on the rise, as can be seen in the healthcare industry, where nearly a third of older adults self-report experiencing medical discrimination (Hooker et al., 2019). Despite increasing negative biases and their potential consequences for detrimental health outcomes, surprisingly little research has been done to tease apart the stereotypical and perceptual origins of such biases, or to examine their dynamic interplay, particularly in the domain of emotion communication (see Fölster et al., 2014 for a review).

Yet, there has been considerable research on the emotion perception skills of the elderly. This work has focused primarily on the influence of aging on the brain of the perceiver, and thus on the question of whether the elderly experience emotion recognition deficits (Calder et al., 2003; Isaacowitz et al., 2007; Orgeta & Phillips, 2008; Ruffman et al., 2008). Far less, however, has been done on the influence of aging on the face and body of the expressor (but see e.g., Adams et al., 2016, Hess et al., 2012; Kunz, 2008; Magai et al., 2006). We know that communication is a two-way street (see Brunswik, 1955). Thus, in order for communication to be efficient, it is not only necessary that older individuals understand and express emotions successfully but younger people must also be able to understand the emotion displays of older people. Recent research suggests that the ability to accurately perceive others is undermined as the target of such perceptions ages. For instance, age-related changes to facial morphology may introduce perceptual biases and reduce signal clarity (Hess et al., 2012; Malatesta et al., 1987; Matheson, 1997). Likewise, studies suggest that age-related changes in facial appearance can directly resemble negative emotional displays, thereby helping establish, perpetuate, and maintain negative biases (Albohn & Adams, 2020). Extending this work, it is likely that changes in posture and mobility due to age would also influence the clarity of emotion expression.



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As our society ages, questions concerning how these influences impact generational communication gain importance. The quality of human relations depends fundamentally on the quality of emotion communication, which is an important part of our daily interactions with friends, family, and colleagues. Emotion communication impacts can be relatively mundane, but sometimes these are critically important exchanges, such as a nurse smiling to express sympathy to patients. Importantly, emotion expressions not only serve to communicate how the expresser feels but communicate intentions – whether to approach or retreat – and in turn personality traits, such as perceptions of trustworthiness or friendliness, which influence interpersonal decisions, and can influence feelings of rapport (see, e.g., Scarantino, 2019).

Advancing age dramatically changes facial appearance, movement behaviors, posture, gait, and vocal characteristics. We know relatively little concerning the social consequences of these changes in physical status on everyday interactions. At the most basic level, these changes can even determine whether one wishes to interact with an aging person. Changes related to aging can serve as cues to emotional state, general dispositions, and can influence decisions about health status. Facial cues play a central role in this inferential process in that they are the focus of our social interactions and are perhaps the most important indicators of these characteristics. Body cues also serve these purposes, but arguably to a lesser degree. Research over the last several decades has indicated just how important these immediately processed appearance cues are to the nature and course of our social interactions.

This book was inspired by the fact that, to date, there is no definitive body of literature that examines these important issues. This may be in part due to the still scarce literature on the aging face and body being distributed over a variety of subdisciplines in psychology, medicine, computer science, ethology, and so on, with relevant studies being published in equally diverse outlets associated with these disciplines. As a consequence, the limited literature that exists on this topic also remains theoretically disjointed. Thus, the goal of this volume is (1) to review what we currently know concerning how the aging face and body actually do change, (2) to consider how these changes, in conjunction with known age stereotypes, influences the sorts of inferences others make about the emotional states, dispositions, and personalities of the elderly, and (3) to consider downstream influences on health outcomes and successful social interaction.

The majority of the chapters that follow focus on age-related changes to facial appearance, as the literature is most developed in this area, but age-related bodily changes are also considered. This book (1) reviews the existing literature, highlighting issues that have been faced in the past,

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(2) shines a light on critical gaps in the literature, (3) considers theoretical framing for related work, and (4) offers an overview of the state of the art in this domain that can help researchers as they continue research in this area.

The main body of the book is divided into five parts. The first part covers the basic processes relevant to the overall topic. The second part focuses on old age as a social identity, changes in age-related appearance, and the impact of age-related stereotypes on the perceptions of and interactions with the elderly. The third part focuses on the implications of age-related changes for first impressions and emotion communication. The fourth part then examines the effects of age-related expressive impairments and their intra- and interpersonal consequences. Finally, the last part introduces cutting-edge methodologies useful for the study of age effects on human interaction that can help address limitations to the prior work. The book concludes with a summary that lays out a proposal for future research in this domain.

Part I begins with a chapter by Hess, Hareli, and Kleck that reviews prevailing conceptual frameworks guiding contemporary work in emotion and person perception derived from the face and body, and considers issues related to extending these frameworks to research on the elderly. Schwartzman and Rule, Chapter 2, then draw on work suggesting that expressive behavior and environmental influences can alter facial appearance over time (e.g., Adams et al., 2016; Malatesta et al., 1987). They examine the various social, emotional, and motivational factors that likely influence appearance in old age, in a way that systematically biases emotion and person perception, in some cases revealing accurate information to perceivers. Finally, Chapter 3, by MacCormack, Feldman, Bonar, and Lindquist, reviews work on the aging brain, taking a constructionist approach to understanding its impact on emotional experience and communication.

Part II opens with Chapter 4 by Franklin, detailing an ecological approach to understanding how age-related changes in the face can directly impact perception through innate and learned behavioral affordances, as well as indirectly through perceptual attunements that can be shaped by experience. Unlike Chapter 2, which offers an accuracy-oriented framework, this chapter highlights biases in emotion and person perception due to age-related perceptual influences. This sets the stage for the next chapter, which further extends the ecological approach to a consideration of compound social cues. Specifically, Chapter 5, by Hedgecoth, Strand, and Adams, addresses issues of intersecting identities in emotion perception from faces and bodies. They review twenty years of compound social cue literature, exploring how the intersection of gender, race, and age influence emotion perception. They then introduce

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a feminist perspective on intersectionality, highlighting the importance of considering it in future work in this domain. Finally, Hummert's Chapter 6 explores prevailing age-related stereotypes, which can exert top-down influences on how we process and perceive emotion communicated by the elderly and lead to dysfunctional communicative behaviors.

Part III starts with Chapter 7 by Sutherland and Young, taking a data-driven approach utilizing facial metrics associated with youthful and aging facial cues, to explore the core-dimensions of age-related person perceptions. They find that perceived aging and beauty are confounded, and this confound plays an important role in person perception. They couch their findings in both social learning and evolutionary perspectives. Chapter 8 by Hess then examines how age-related changes to the face directly influence emotion recognition and in turn emotion mimicry, highlighting social consequences in understanding and rapport building among younger and older adults, which could have important consequences for social interaction, particularly in healthcare interactions.

The chapters in Part IV extend this work to considering the consequences of age-related facial impairment in emotion expression. Chapter 9, by Han, Gade, Ceci, Dunn, and Nestor, highlights a clear anti-aging movement in the billion-dollar industry of aesthetic plastic surgery and Botox treatments. Their chapter explores the impact of Botox on the emotional experiences of patients, and draws on facial mimicry, facial feedback, and emotion contagion as likely drivers of these effects. Their chapter highlights both positive and negative influences on the emotional experience of patients, with particular focus on negative social consequences in emotion communication, particularly during widespread mask wearing. Next, Chapter 10 by Gunery and Hemmesch explores how age-related disorders that affect the ability to express emotion, in particular Parkinson's disease, negatively impact smooth social interaction by disrupting emotion recognition and mimicry. They highlight consequences both in everyday life and in interactions with healthcare workers.

Finally, Part V introduces new technologies that offer the promise of breaking new ground in the study of age-related influences on emotion communication. Chapter 11, by Albohn, Brandenburg, and Adams, reviews computer vision techniques for examining age-related emotion-resembling cues in the face that can bias perception. They also review new technologies for generating and manipulating stimuli that offer superior control over various factors at play, and that yield hyperrealistic stimuli compared to prior methods. They review the leading, free technologies available to researchers, and offer a table at the end of the chapter with links for easy access. Finally, Chapter 12 by Gossetti and Jack further extends the review of data-driven approaches to the study of

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aging and emotion communication, with special focus on one approach that precisely models, and thus isolates, specific facial features driving emotion and person perception.

Taken as a whole, these chapters shed light on the still fledgling science examining age-related changes in the face and body and their impact on emotion communication with the elderly. They underscore the importance of this work, offer theoretical approaches for conceptualizing it, and present new tools that researchers can use as they embark upon new research in this domain. In our Conclusion to the book, we present a novel theoretical framework to help guide future work in this domain.

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