

Hearing Well and Being Well
Frankfurt, November, 2019

sonova
HEAR THE WORLD

The Role of Emotion in Hearing Rehabilitation

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RYERSON
UNIVERSITY



What is Emotion?



“One of the most significant things ever said about emotion may be that everyone knows what it is until they are asked to define it”

Joseph LeDoux (1996)

"Eines der wichtigsten Dinge, die jemals über Emotionen gesagt wurden, ist, dass jeder weiß, was es ist, bis er gebeten wird, es zu definieren."

Joseph LeDoux (1996)

What is Emotion?

Four part process

- Physiological arousal
- Cognitive Interpretation
- Subjective feeling
- Behavioural expression

- Physiologische Erregung*
- Kognitive Interpretation*
- Subjektives Gefühl*
- Verhaltensa Ausdruck*



**google translations*

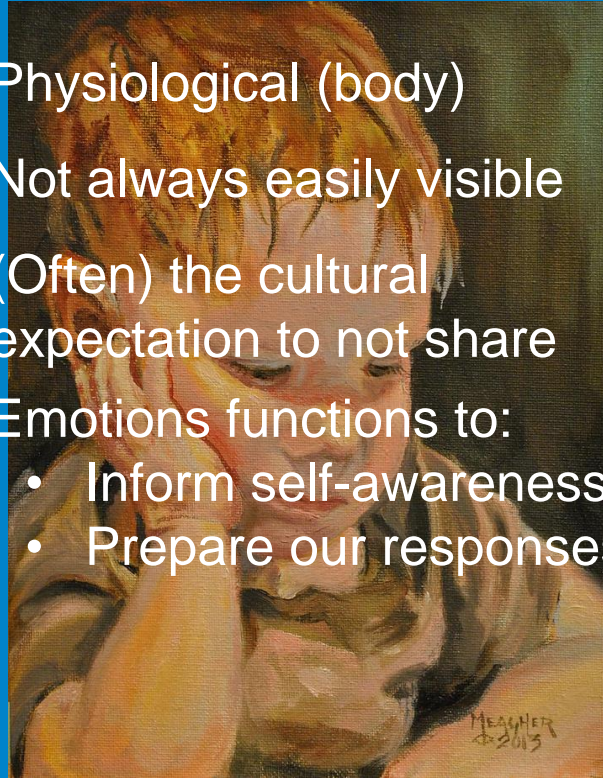
Emotions: Internal and Personal



Spencer Meagher, 2013

Emotions: Internal and Personal

- Physiological (body)
- Not always easily visible
- (Often) the cultural expectation to not share
- Emotions functions to:
 - Inform self-awareness
 - Prepare our responses



Spencer Meagher, 2013



Let's reconsider how else we can consider emotion.

Überlegen wir uns, wie wir Emotionen sonst noch betrachten können.*

**google translation*



Emotions: Internal and Personal

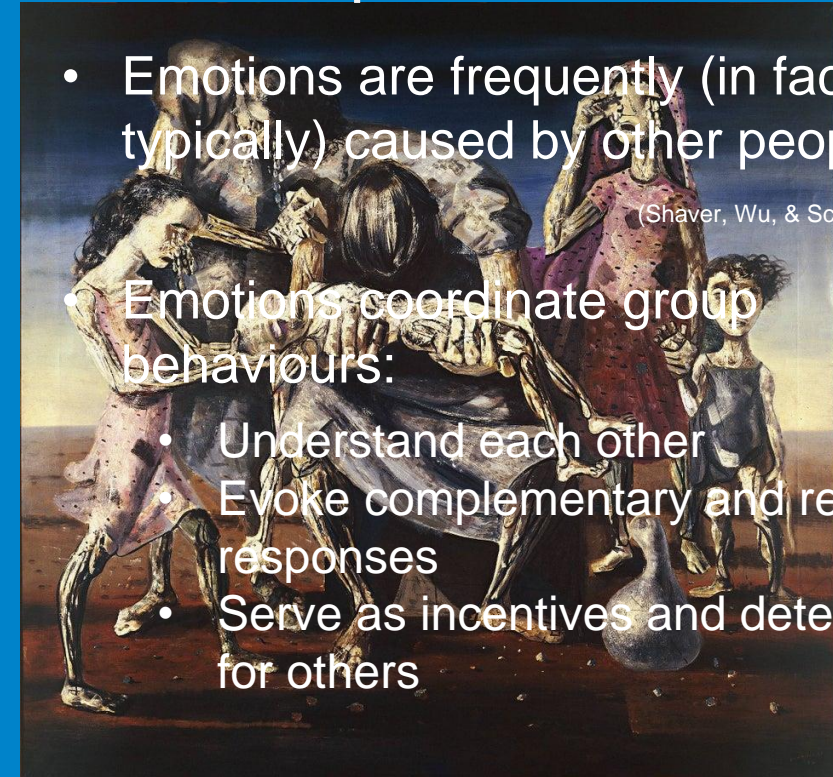
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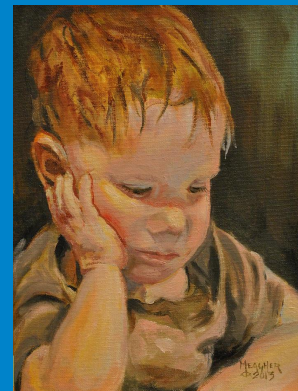
Emotions: Best viewed as Social phenomena

- Emotions are frequently (in fact, typically) caused by other people
- Emotions coordinate group behaviours:
 - Understand each other
 - Evoke complementary and reciprocal responses
 - Serve as incentives and deterrents for others

(Shaver, Wu, & Schwatz, 1992)



Candido Portinari, 1903-1962



Spencer
Meagher,

Emotion should also be considered through the lens of
Communication

Emotionen sollten auch durch die Linse der
Kommunikation betrachtet werden*

**google translation*

Still Face Video

Tronick, 1989





When we think about the role of emotion in audiology – the focus is often on the emotional consequences of hearing loss. Is this actually the case?

Wenn wir über die Rolle von Emotionen in der Audiologie nachdenken, liegt der Fokus oft auf den emotionalen Folgen von Hörverlust. Ist das tatsächlich der Fall?*

**google translation*

Effects of Hearing Loss on Emotional Well-Being

Weinstein et al., 1986; Scherer & Frisina, 1998; Lotfi et al., 2009; Lin et al., 2011; Ciorba et al., 2012; Dawes et al., 2014; Singh et al., 2017; Ferrari et al., 2019

- Sadness
- Depression
- Anxiety
- Anger
- Embarrassment
- Frustration
- Guilt
- Loneliness
- Isolation
- Dependence
- Fear
- Shame
- Traurigkeit
- Depression
- Angst
- Zorn
- Verlegenheit
- Frustration
- Schuld
- Einsamkeit
- Isolierung
- Abhängigkeit
- Angst
- Schande

**google translations*

Hearing Loss & Empathy

Definition: The ability to feel others' emotions and to respond effectively to those emotions

There are 2 components to empathy:

1. **Affective Empathy:** The ability to feel what others are feeling
2. **Cognitive Empathy:** The ability to take the *perspective* of the other

EMPIRICAL MANUSCRIPT

Concern for Others: A Study on Empathy in Toddlers with Moderate Hearing Loss

Evelien Dirks^{*1,2}, Lizet Ketelaar^{1,2}, Rosanne van der Zee¹, Anouk P. Netten³, Johan H.M. Frijns^{3,4}, and Carolien Rieffe^{1,2}

¹Dutch Foundation for the Deaf and Hard of Hearing Child, ²Leiden University, ³Leiden University Medical Center, and ⁴Leiden Institute for Brain and Cognition

*Correspondence should be sent to Evelien Dirks, Dutch Foundation for the Deaf and Hard of Hearing Child, Amsterdam, The Netherlands (e-mail: edirks@nsdsk.nl).

Journal of Deaf Studies and Deaf Education, 2017, 178–186

Table 3. Mean scores on empathy parent report, empathy observation, and intention observation as a function of group by task

		No. of items	Range	Mean scores (SD)		t	p
				MHL n = 19	nHL n = 17		
Affective Empathy Measures	Empathy parent report	7	0–2	1.23 (0.5)	1.41 (0.4)	–1.21	0.235
	Empathy observation			n = 23	n = 21		
	Empathy observation	20	0–2	0.82 (0.3)	0.96 (0.2)	–1.90	0.064
Cognitive Empathy Measures	Intention observation						
	<u>Intention understanding</u>	3	0–3	1.65 (1.1)	2.48 (0.6)	–3.11	0.003
	Imperative comprehension	1	0–3	2.74 (0.9)	2.81 (0.7)	–0.30	0.767
	<u>Declarative understanding</u>	1	0–3	1.83 (0.7)	2.70 (0.7)	–4.65	0.000

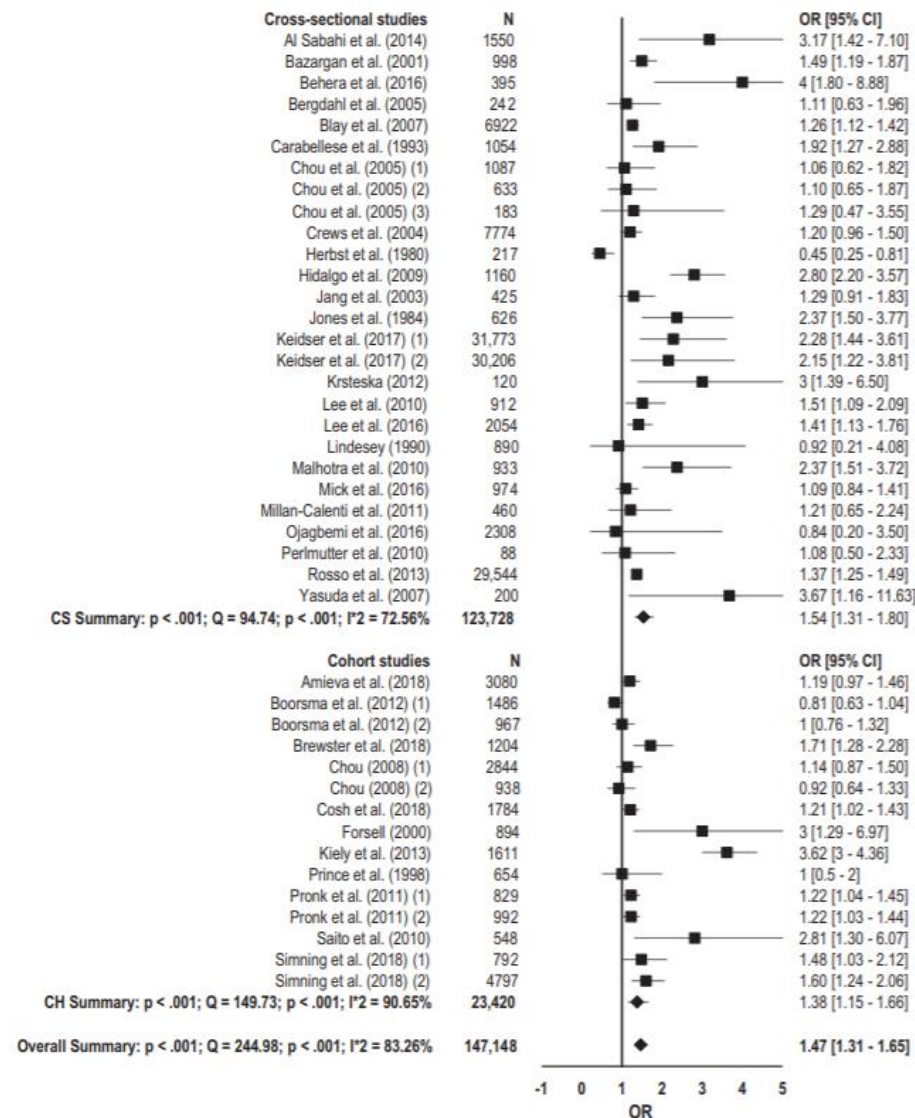
Review Article

Hearing Loss and Depression in Older Adults: A Systematic Review and Meta-analysis

Blake J. Lawrence, PhD,^{1,2,*} Dona M. P. Jayakody, PhD,^{1,2} Rebecca J. Bennett, PhD,^{1,2} Robert H. Eikelboom, PhD,^{1,2,3} Natalie Gasson, PhD,⁴ and Peter L. Friedland, MBBCh, FRACS^{1,2,5,6}

- 147,148 individuals across 35 studies
- **Hearing loss** is associated w/ greater incidence of **Depression** (OR = 1.47)
- **Hörverlust** ist mit einer höheren Inzidenz von **Depressionen** verbunden (OR = 1,47)*

*google translations



What is the effect of hearing aids on emotional well-being?

Welche Auswirkungen haben Hörgeräte auf das emotionale Wohlbefinden?*

**google translation...they are all google translations*

A Systematic Review of Health-Related Quality of Life and Hearing Aids: Final Report of the American Academy of Audiology Task Force on the Health-Related Quality of Life Benefits of Amplification in Adults

Theresa Hnath Chisolm*
Carole E. Johnson†
Jeffrey L. Danhauer‡
Laural J.P. Portz*
Harvey B. Abrams§
Sharon Lesner**
Patricia A. McCarthy††
Craig W. Newman‡‡

“This review concludes that hearing aids improve adults’ HRQoL by reducing **psychological, social, and emotional** effects of SNHL.” (p. 151)

“Diese Übersicht kommt zu dem Schluss, dass Hörgeräte die HRQoL von Erwachsenen verbessern, indem sie die **psychologischen, sozialen und emotionalen** Auswirkungen von SNHL verringern.” (p. 151)

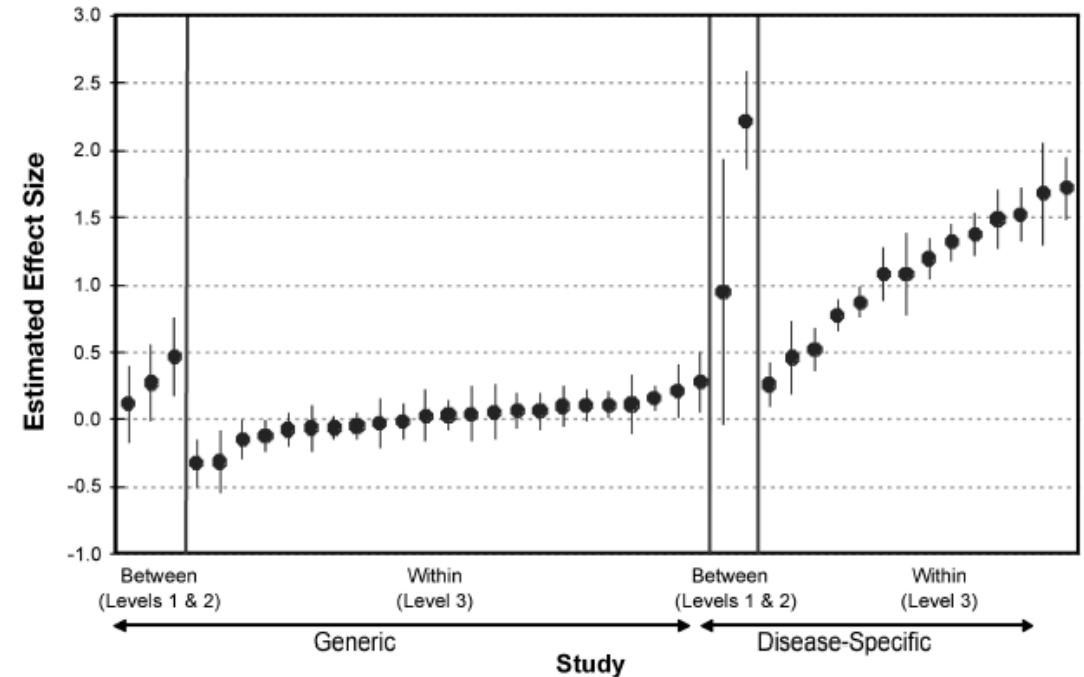


Figure 2. Estimated effect size and confidence intervals (vertical bars) for individual studies by design, level of evidence, and type of outcome measure.

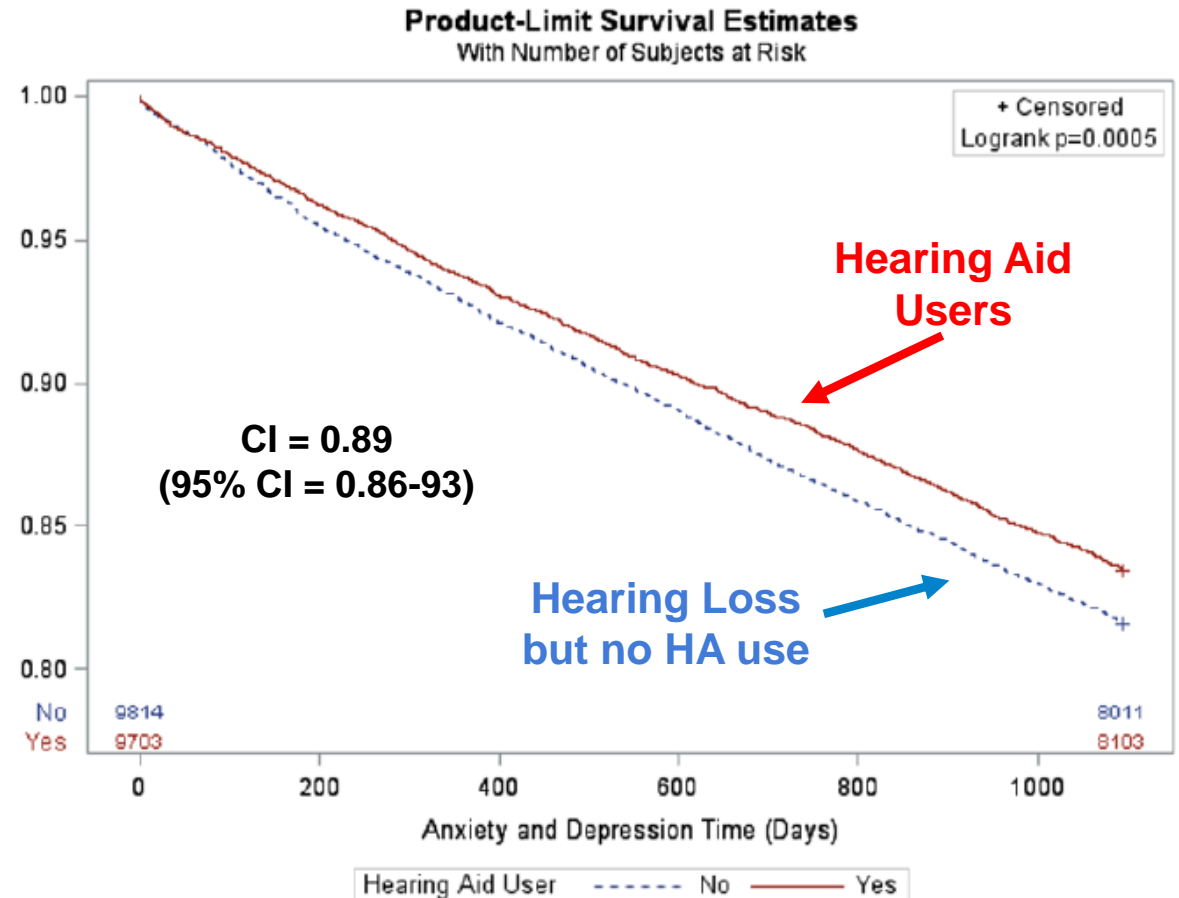
Can Hearing Aids Delay Time to Diagnosis of Dementia, Depression, or Falls in Older Adults?

Elham Mahmoudi, PhD,^{*†} Tanima Basu, MS,[†] Kenneth Langa, MD, PhD,^{†‡§¶}
Michael M. McKee, MD, MPH,^{*†} Philip Zazove, MD,^{*} Neil Alexander, MD,^{§||} and
Neil Kamdar, MA^{†**††‡‡}

JAGS 00:1-8, 2019
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- Investigation of 114,862 older adults with Hearing Loss making insurance claims in the US
- Untersuchung von 114.862 älteren Erwachsenen mit Hörverlust, die in den USA Versicherungsansprüche geltend machen

Increased occurrence of making a claim for anxiety or depression



Research on Vocal Emotion in Audiology

Forschung zu Stimmgefühlen in der Audiologie

Sentence from the Words in Noise (WIN) test

(Wilson, 2007)

Speech in a **Neutral Tone**



Sentence from the Toronto Emotional Speech Set (TESS)

(Dupuis & Pichora-Fuller, 2010)

Speech with **Emotion**



Do hearing-impaired listeners experience hearing handicap when listening to affective speech?

Lisa Liskovoi, Frank Russo | Ryerson University

Gurjit Singh, Stefan Launer | Sonova AG



Emotional Communication in Hearing Questionnaire (EMO-CHeQ): 17 -items

1. I have difficulty identifying the emotions expressed by people I interact with on a regular basis.

1. Es fällt mir schwer, die Emotionen zu identifizieren, die von Menschen ausgedrückt werden, mit denen ich regelmäßig interagiere.*

**google translation*

EMOTIONAL COMMUNICATION IN HEARING QUESTIONNAIRE (EMO-CHeQ)

Name: _____ Date of Birth: _____
Sex: _____ Date: _____

Please read the following items and indicate your level of agreement with each statement.

1. I have difficulty identifying the emotions expressed by people I interact with on a regular basis.

Strongly Disagree Slightly Disagree Neither Agree nor Disagree Slightly Agree Strongly Agree

2. I have difficulty understanding emotions expressed in speech by men.

Strongly Disagree Slightly Disagree Neither Agree nor Disagree Slightly Agree Strongly Agree

3. I have difficulty understanding emotions expressed in speech by women.

Strongly Disagree Slightly Disagree Neither Agree nor Disagree Slightly Agree Strongly Agree

4. I find it difficult to identify the emotions of people speaking on television.

Strongly Disagree Slightly Disagree Neither Agree nor Disagree Slightly Agree Strongly Agree

5. I have difficulty understanding emotions expressed in speech by young adults.

Strongly Disagree Slightly Disagree Neither Agree nor Disagree Slightly Agree Strongly Agree

6. I find that people misinterpret my emotions (e.g. others think I am angry when I am not angry).

Strongly Disagree Slightly Disagree Neither Agree nor Disagree Slightly Agree Strongly Agree

7. I find that it is difficult to monitor the way my emotions come across in my speech.

Strongly Disagree Slightly Disagree Neither Agree nor Disagree Slightly Agree Strongly Agree

8. I find it difficult to convey my emotions about a subject in a subtle manner using the tone of my voice.

Strongly Disagree Slightly Disagree Neither Agree nor Disagree Slightly Agree Strongly Agree

9. I find that it is difficult to express my emotions about a topic out loud using the tone of my voice.

Strongly Disagree Slightly Disagree Neither Agree nor Disagree Slightly Agree Strongly Agree

10. It is harder for me to identify the emotions expressed by others when I'm in a noisy environment.

Strongly Disagree Slightly Disagree Neither Agree nor Disagree Slightly Agree Strongly Agree

11. I find it challenging to identify emotions expressed by others when there is someone else talking at the same time.

Strongly Disagree Slightly Disagree Neither Agree nor Disagree Slightly Agree Strongly Agree

12. Difficulties identifying emotions in speech make me feel left out when in groups.

Strongly Disagree Slightly Disagree Neither Agree nor Disagree Slightly Agree Strongly Agree

13. Difficulty identifying emotions expressed in speech causes me to feel uncomfortable when talking to friends.

Strongly Disagree Slightly Disagree Neither Agree nor Disagree Slightly Agree Strongly Agree

14. Difficulties identifying emotions expressed in speech cause me to feel sad.

Strongly Disagree Slightly Disagree Neither Agree nor Disagree Slightly Agree Strongly Agree

15. Difficulties understanding emotions expressed in speech cause me to feel frustrated.

Strongly Disagree Slightly Disagree Neither Agree nor Disagree Slightly Agree Strongly Agree

16. My difficulty identifying emotions expressed in speech negatively affects my relationships with friends and family.

Strongly Disagree Slightly Disagree Neither Agree nor Disagree Slightly Agree Strongly Agree

17. I find myself reflecting on conversations in an attempt to understand the speaker's emotional intentions.

Strongly Disagree Slightly Disagree Neither Agree nor Disagree Slightly Agree Strongly Agree

The EMO-CHeQ is also available in German

Fragebogen zur emotionalen Kommunikation in Hörsituationen ("EMO-CHeQ")				
ID: _____				
Liebe Teilnehmerin, lieber Teilnehmer, die folgenden Fragen haben wir entwickelt, um ihre Fähigkeit zu erfassen, Emotionen aus der gehörten Sprache wahrzunehmen , wie zum Beispiel Angst, Freude, Kummer, Überraschung. Wir sind an Emotionen interessiert, welche über die Sprechweise/Stimme übertragen werden , anstatt der Emotionen, die durch Worte ausgedrückt werden. Bitte lesen Sie sich die folgenden Aussagen jetzt durch und geben Sie das Ausmaß der Übereinstimmung an. Sie können dabei nichts "falsch" machen.				
1. Ich habe Schwierigkeiten Emotionen zu erkennen, wenn Personen sprechen, mit denen ich regelmäßig zu tun habe.				
stimme überhaupt nicht zu <input type="checkbox"/>	stimme eher nicht zu <input type="checkbox"/>	stimme weder zu noch dagegen <input type="checkbox"/>	stimme eher zu <input type="checkbox"/>	stimme voll und ganz zu <input type="checkbox"/>
2. Ich habe Schwierigkeiten Emotionen zu verstehen, wenn ein Mann spricht.				
stimme überhaupt nicht zu <input type="checkbox"/>	stimme eher nicht zu <input type="checkbox"/>	stimme weder zu noch dagegen <input type="checkbox"/>	stimme eher zu <input type="checkbox"/>	stimme voll und ganz zu <input type="checkbox"/>



Dr. Markus Meis

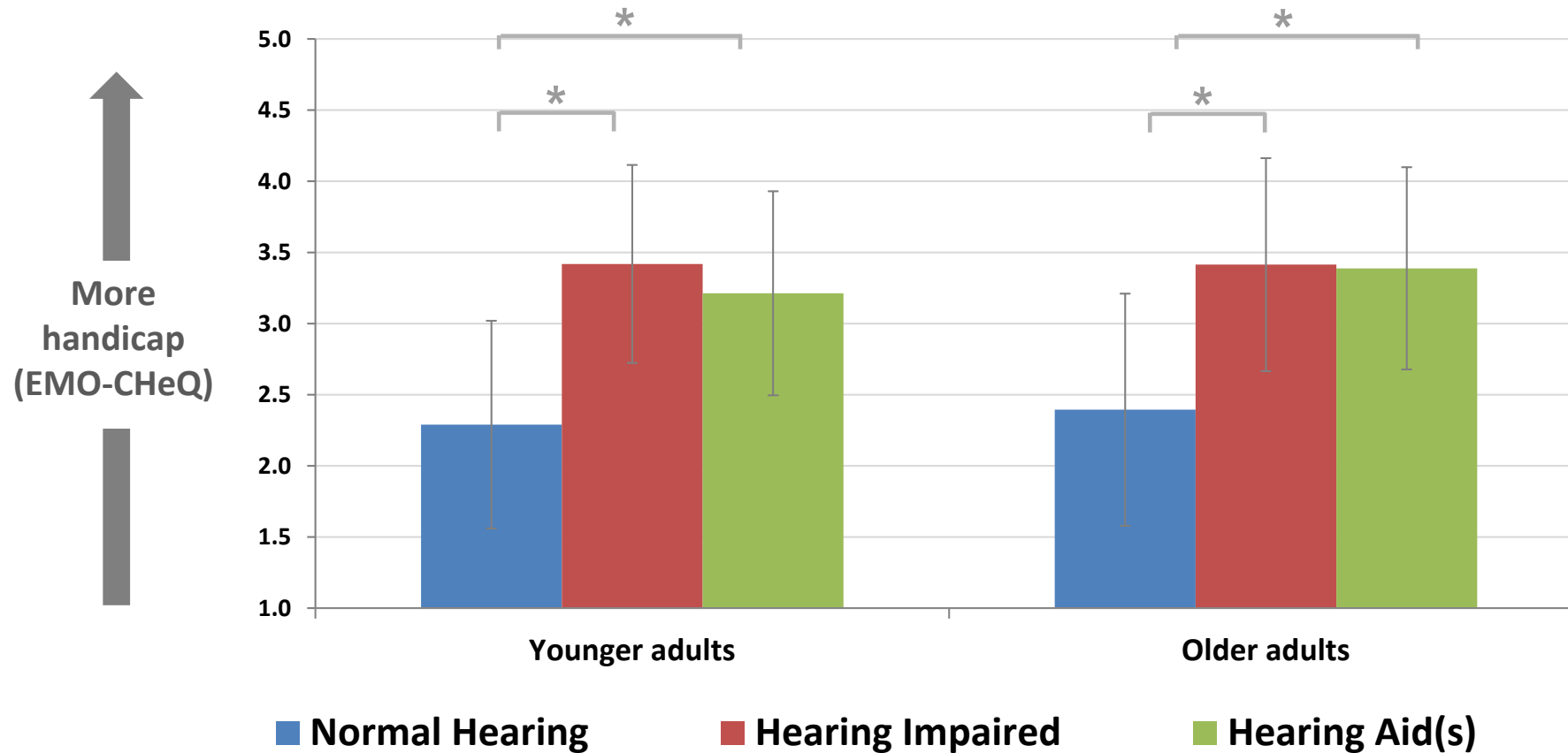


Melanie Krueger

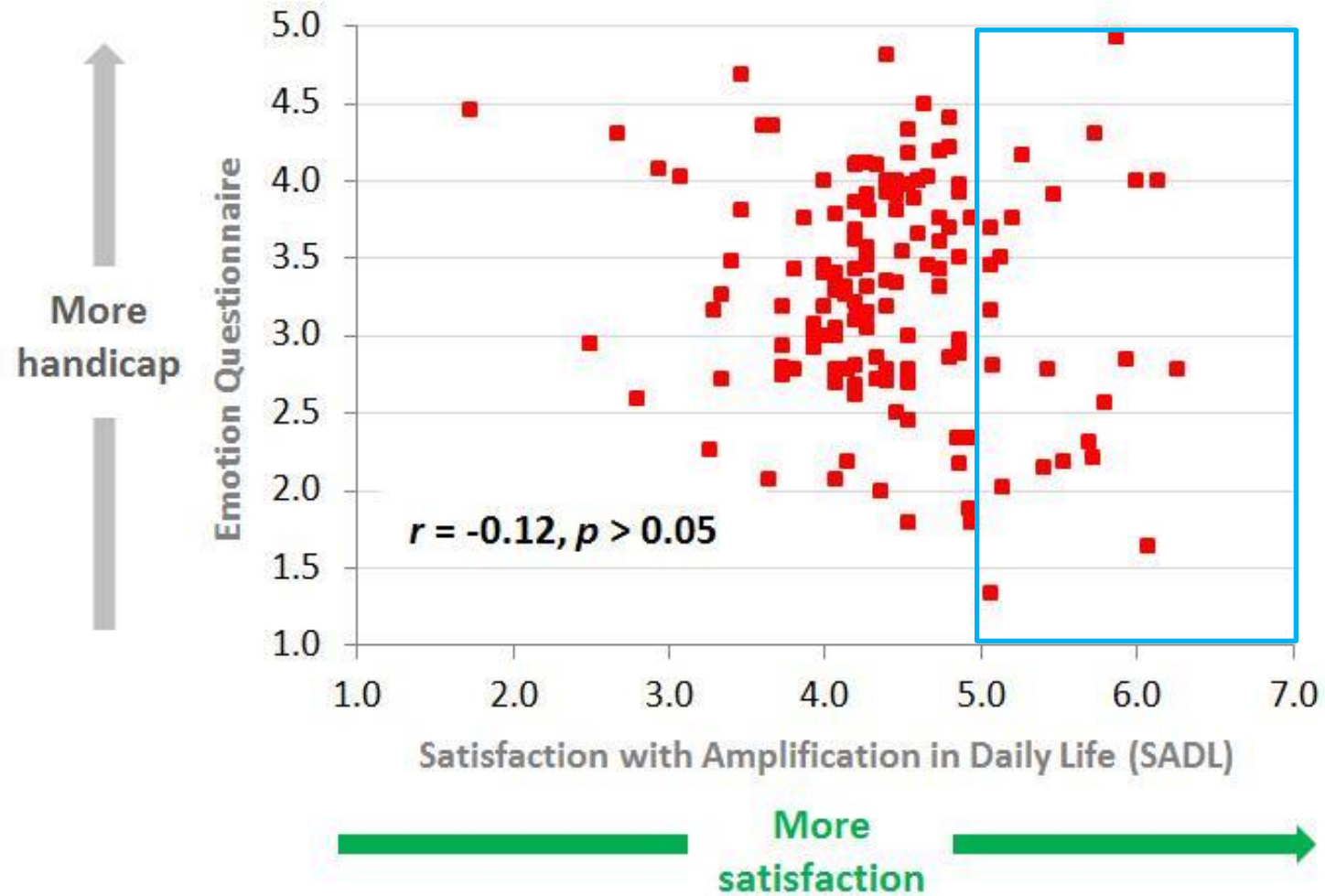
EMO-CHeQ: Assessed in an Crowdsourcing Study

Total N = 586	Normal Hearing (NH)	Hearing-impaired (HI); do not own/wear HAs	Hearing aid(s) (HA)
Younger adults (18-59 years old)	n = 142 Mean age = 33.9 yrs	n = 115 Mean age = 32.9 yrs	n = 67 Mean age = 29.8 yrs
Older adults (60+ years old)	n = 101 Mean age = 63.7 yrs	n = 78 Mean age = 64.4 yrs	n = 83 Mean age = 64.8 yrs

Results: Do hearing-impaired listeners experience hearing handicap when listening to affective speech?



Hearing Aid Satisfaction (SADL) & Performance on the Emo-CHeQ



Can you really trust data that is crowdsourced? (collected anonymously on the internet?)

Können Sie wirklich Crowdsourcing-Daten vertrauen? (anonym im Internet gesammelt?)*

**google translation*

Laboratory Evaluation of the EMO-CHeQ

Singh, Liskovoi, Launer, & Russo, Ear & Hearing, 2018

12 Normal Hearing

Mean Age = 66.8 years; SD = 4.8

Mean B4PTA = 23.1 dB HL; SD = 6.5

10 Hearing Impaired

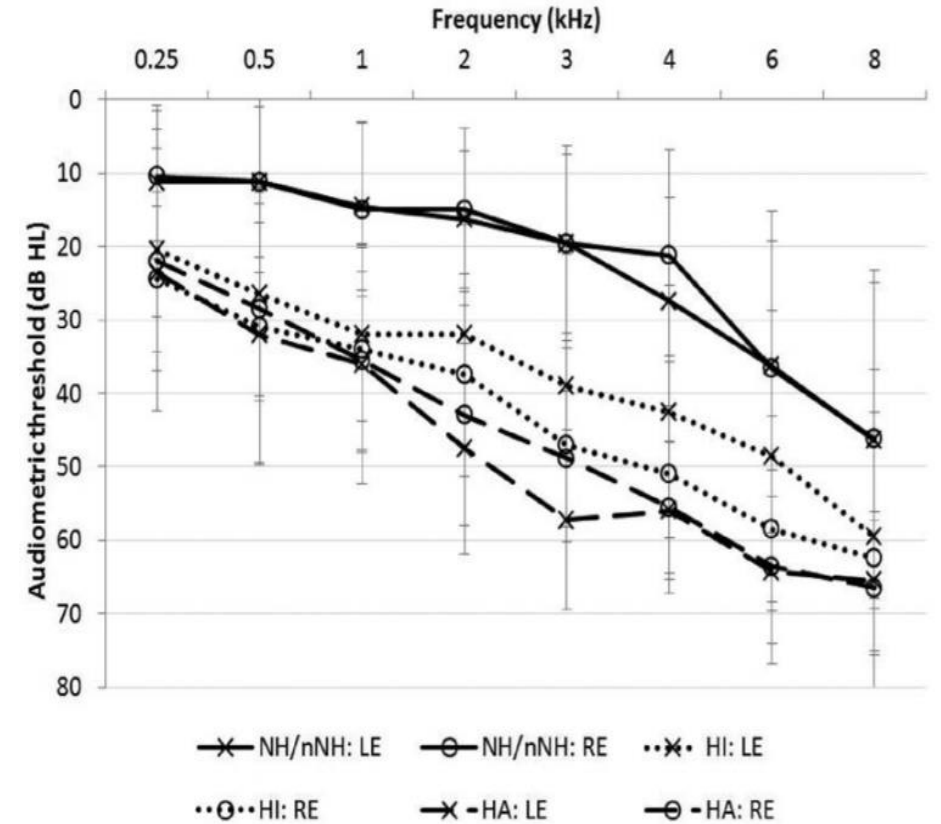
Mean Age = 73.5 years; SD = 7.5

Mean B4PTA = 31.6 dB HL; SD = 10.8

12 Hearing Aids

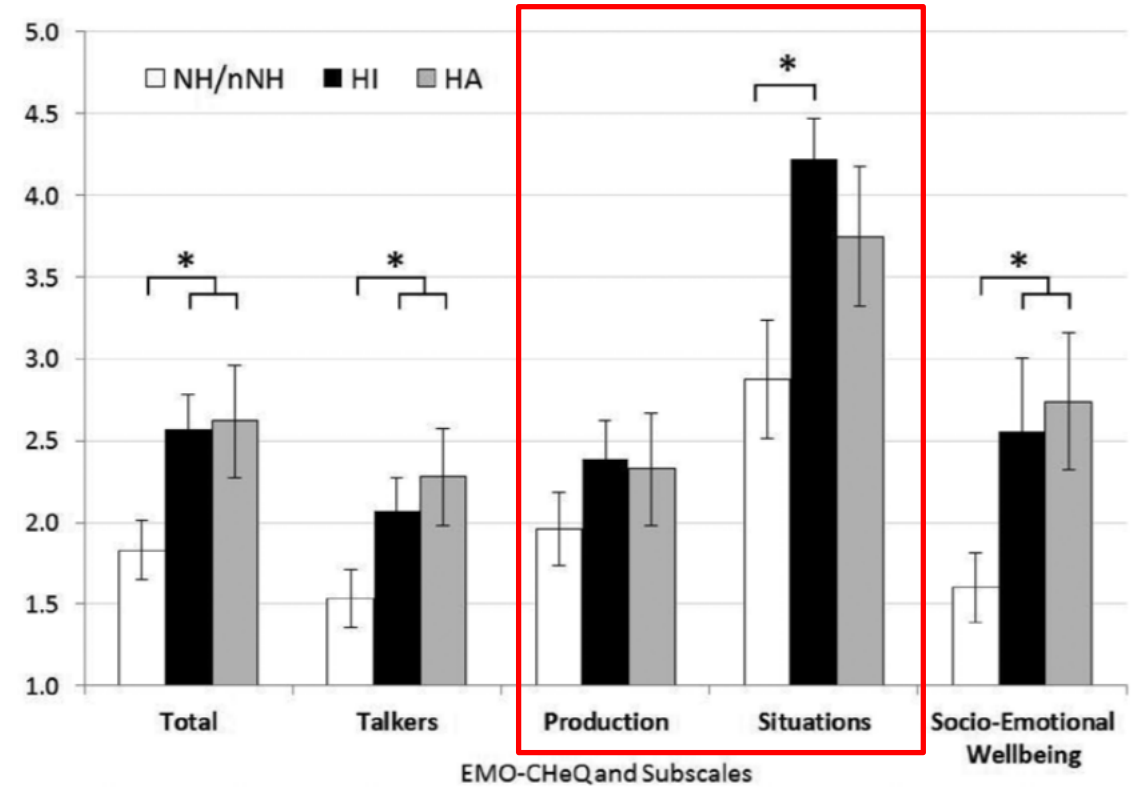
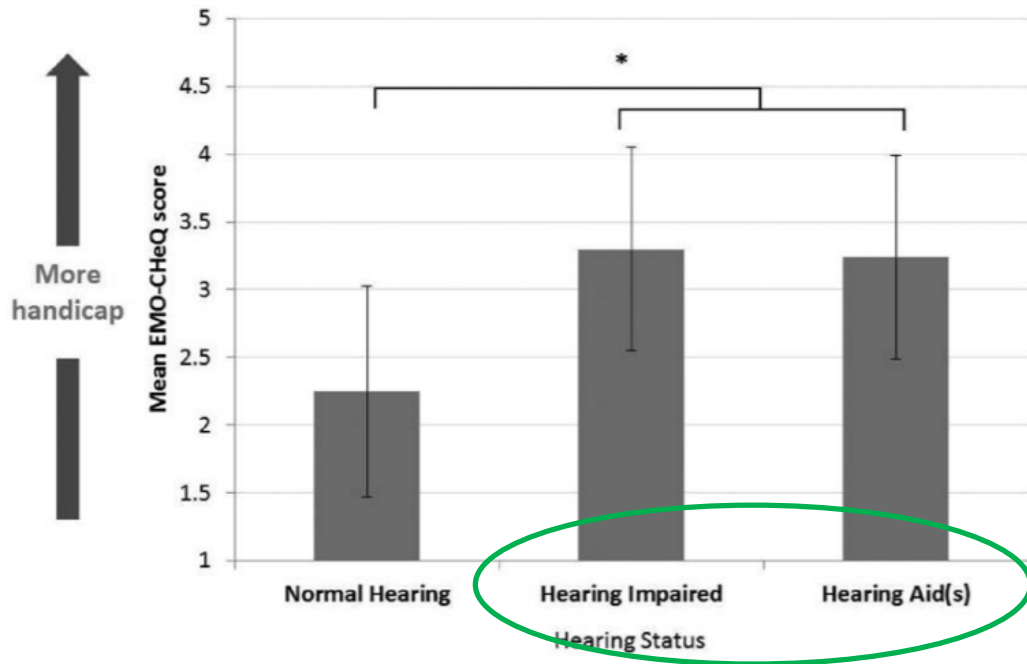
Mean Age = 69.8 years; SD = 4.3

Mean B4PTA = 41.5 dB HL; SD = 10.6



Laboratory Evaluation of the EMO-CHeQ

Singh, Liskovoi, Launer, & Russo, Ear & Hearing, 2018



But do Hearing Aids improve Emotion Identification?

Aber verbessern Hörgeräte die Identifikation von Emotionen?*

**google translation*

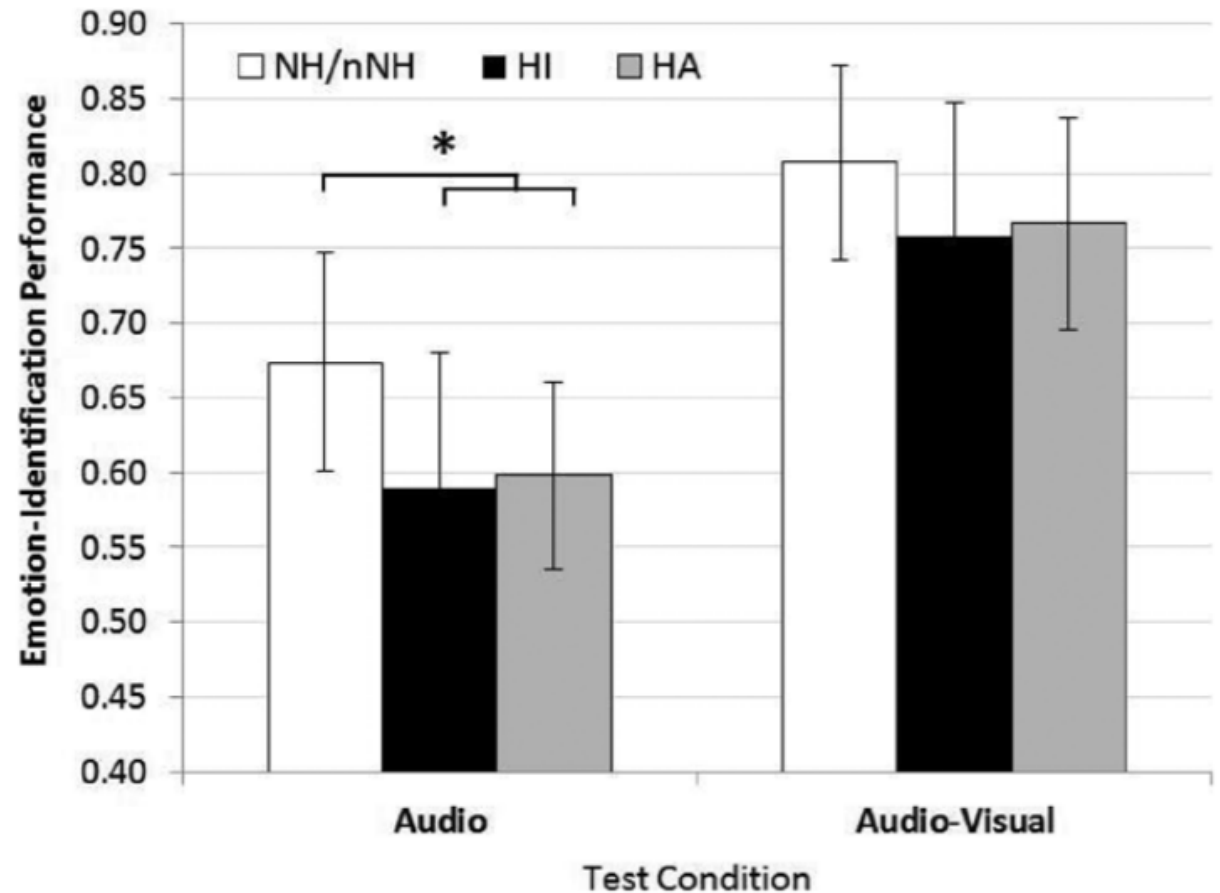
Ryerson University: Laboratory Evaluation of the EMO-CHeQ

Singh, Liskovoi, Launer, & Russo, Ear & Hearing, 2018

Participants (NH, HI, HA) completed an **Emotion Identification Task**:



Happy Sad Fearful Disgusted
Angry Calm Neutral Surprised



► Hearing Aids do not improve emotion identification

U. of Toronto: Laboratory Evaluation of the EMO-CHeQ

Goy, Pichora-Fuller, Singh, & Russo, Trends in Hearing, 2018

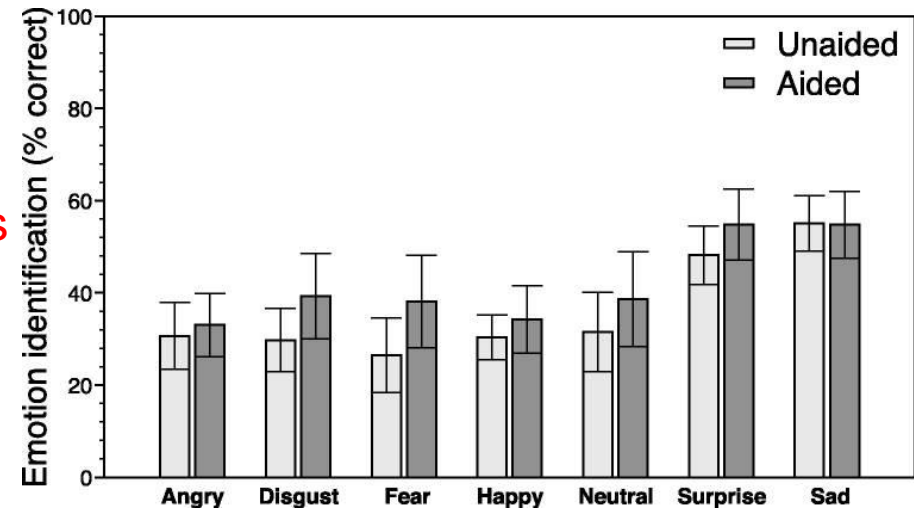
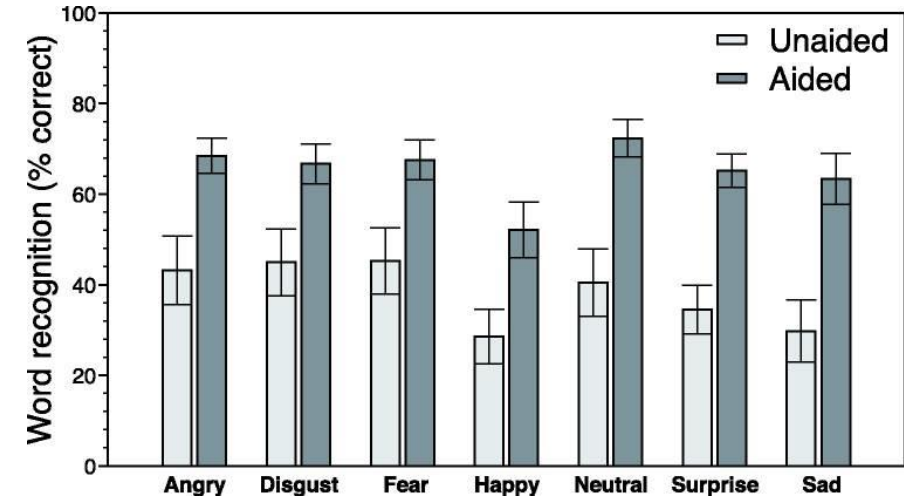
14 HI participants completed a **word identification** and **emotion identification** task in unaided and hearing aided conditions.



Word
identification
Improves

Happy Sad Angry Neutral
Disgusted Surprised Fearful

Emotion
identification does
NOT improve



► See also: Christensen et al., 2019, E&H

Is Subjective Handicap on the EMO-CHeQ related to Objective Deficits in Emotion Identification?

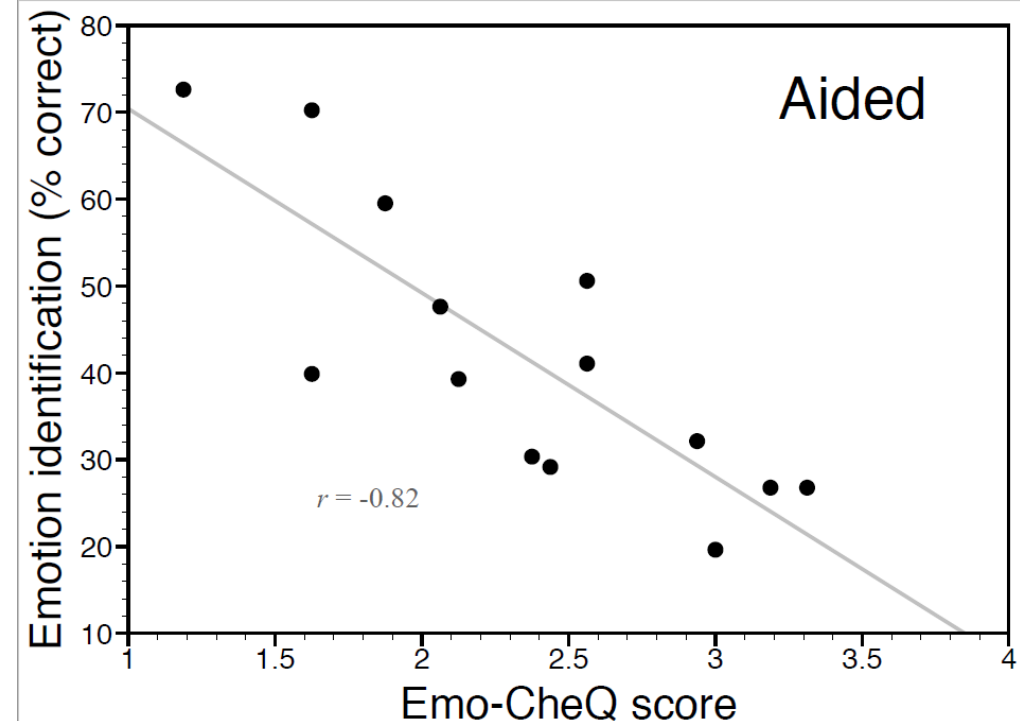
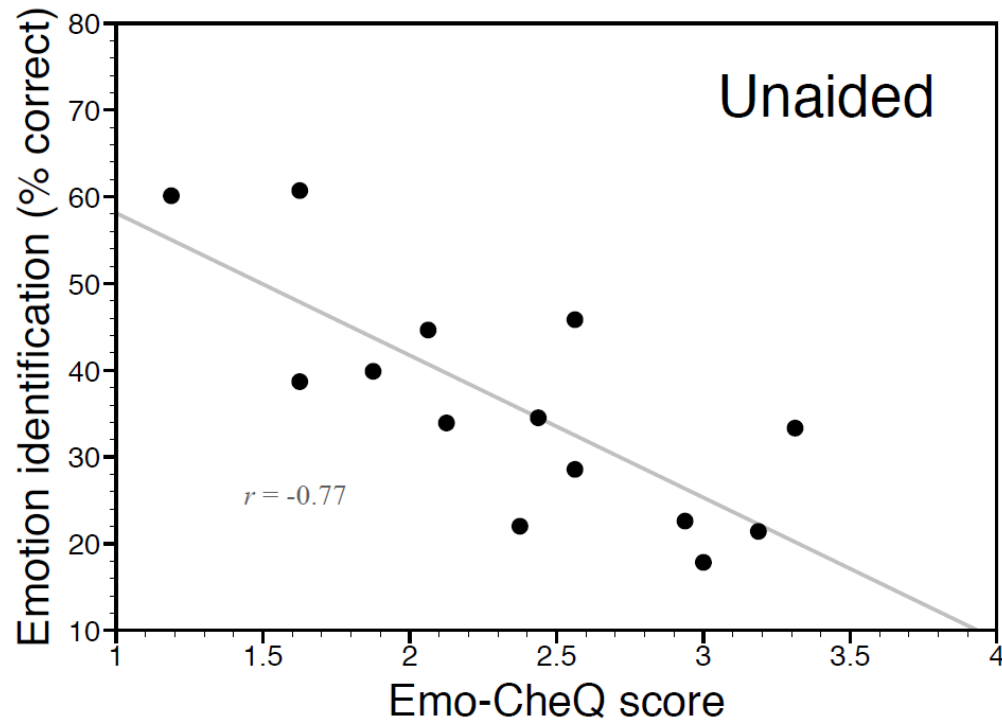
Hat das subjektive Handicap des EMO-CHeQ mit objektiven Defiziten bei der Emotionsidentifikation zu tun?*

**google translation*

U. of Toronto: Laboratory Evaluation of the EMO-CHeQ

Goy, Pichora-Fuller, Singh, & Russo, Trends in Hearing, 2018



Assessed by correlating scores on the EMO-CHeQ and emotion-identification performance



More Vocal Emotion Handicap

Review

Hearing, Emotion, Amplification, Research, and Training Workshop: Current Understanding of Hearing Loss and Emotion Perception and Priorities for Future Research

Erin M. Picou¹ , Gurjit Singh^{2,3,4}, Huiwen Goy⁴ , Frank Russo⁴, Louise Hickson⁵, Andrew J. Oxenham⁶, Gabrielle H. Buono¹, Todd A. Ricketts¹, and Stefan Launer⁷

Trends in Hearing

Volume 22: 1–24

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DOI: 10.1177/2331216518803215

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Research

Practice



The Role of Emotion in Hearing Rehabilitation

Die Rolle von Emotionen in der Hörrehabilitation *

**google translation*

Why Study Emotion in Hearing Rehabilitation?

- Core mechanism by which we interpret experience
- Critical to social communication
- Motivates behavior

The Role of Emotion in Hearing Rehabilitation

Findings

Mental health outcomes are poorer in patients with HL & SOs

Recordings of clinician-patient interactions suggests that few (<5%) emotionally-focused utterances are observed

(Grenness et al., 2015)

Suggests that emotional relationship-building may not always take place

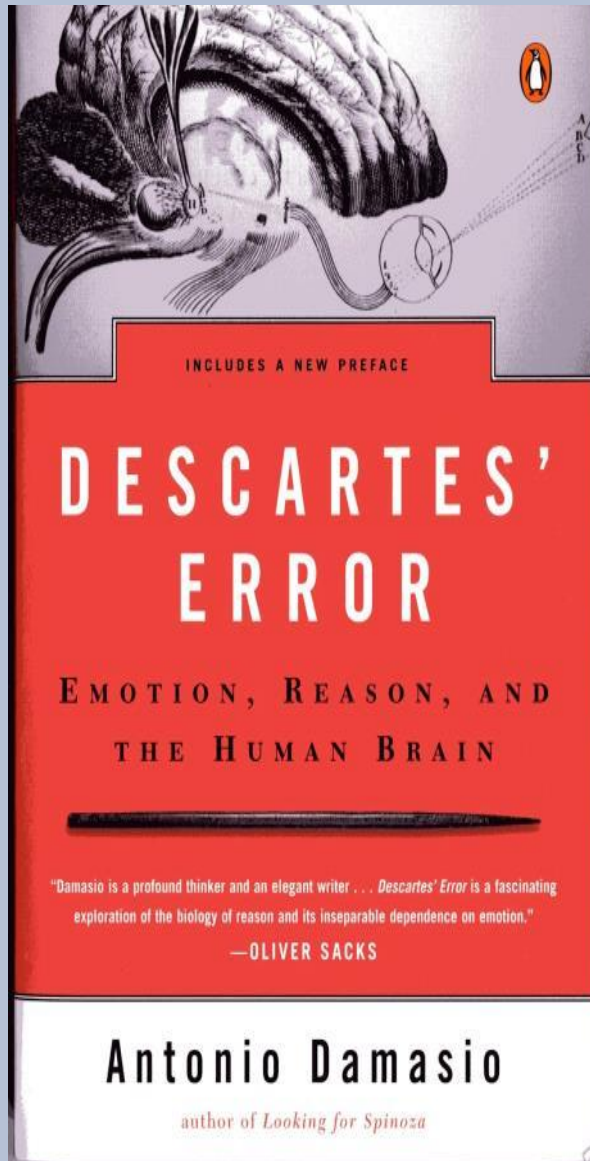
EMOTIONAL COMMUNICATION IN HEARING QUESTIONNAIRE (EMO-CHEQ)

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Sex: _____ Date: _____

Please read the following items and indicate your level of agreement with each statement.

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2.	I have difficulty understanding emotions expressed in speech by men.	Strongly Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Strongly Agree
3.	I have difficulty understanding emotions expressed in speech by women.	Strongly Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Strongly Agree
4.	I find it difficult to identify the emotions of people speaking on television.	Strongly Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Strongly Agree
5.	I have difficulty understanding emotions expressed in speech by young adults.	Strongly Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Strongly Agree
6.	I find that people misinterpret my emotions (e.g. others think I am angry when I am not angry).	Strongly Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Strongly Agree
7.	I find that it is difficult to monitor the way my emotions come across in my speech.	Strongly Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Strongly Agree
8.	I find it difficult to convey my emotions about a subject in a subtle manner using the tone of my voice.	Strongly Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Strongly Agree

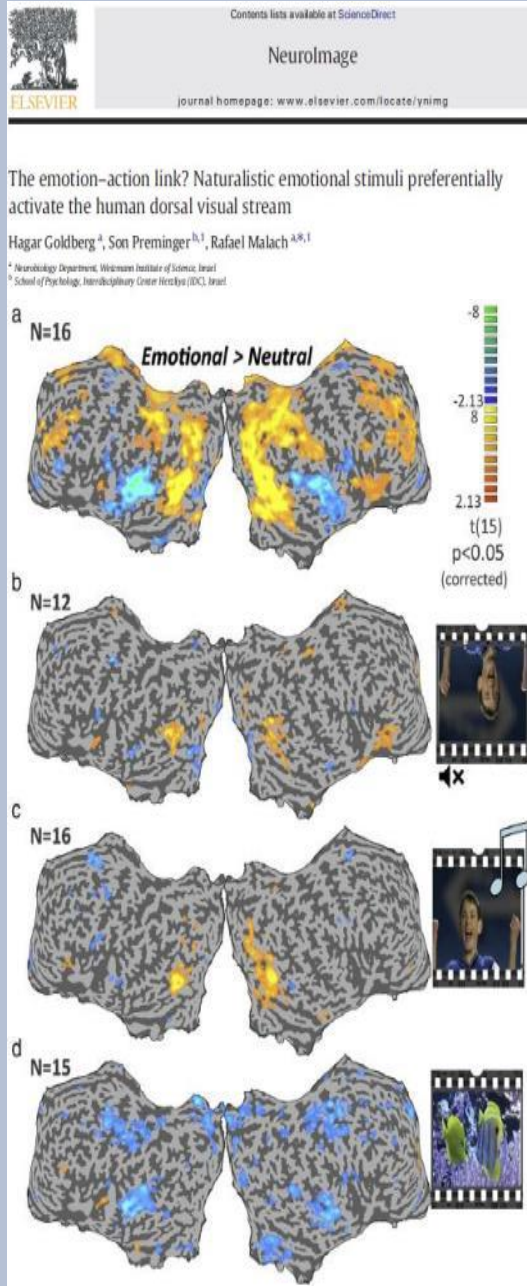
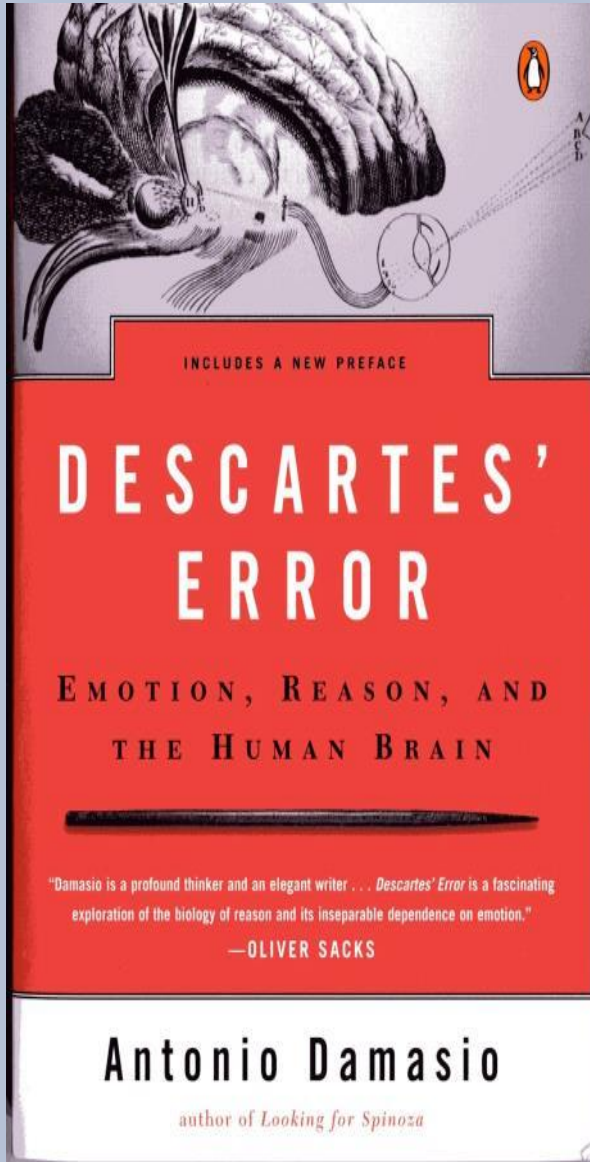
9.	I find that it is difficult to express my emotions about a topic out loud using the tone of my voice.	Strongly Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Strongly Agree
10.	It is harder for me to identify the emotions expressed by others when I'm in a noisy environment.	Strongly Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Strongly Agree
11.	I find it challenging to identify emotions expressed by others when there is someone else talking at the same time.	Strongly Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Strongly Agree
12.	Difficulties identifying emotions in speech make me feel left out when in groups.	Strongly Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Strongly Agree
13.	Difficulty identifying emotions expressed in speech causes me to feel uncomfortable when talking to friends.	Strongly Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Strongly Agree
14.	Difficulties identifying emotions expressed in speech cause me to feel sad.	Strongly Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Strongly Agree
15.	Difficulties understanding emotions expressed in speech cause me to feel frustrated.	Strongly Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Strongly Agree
16.	My difficulty identifying emotions expressed in speech negatively affects my relationships with friends and family.	Strongly Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Strongly Agree
17.	I find myself reflecting on conversations in an attempt to understand the speaker's emotional intentions.	Strongly Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Strongly Agree



Decision making requires input from emotion networks

Entscheidungsfindung erfordert Input von Emotionsnetzwerken*

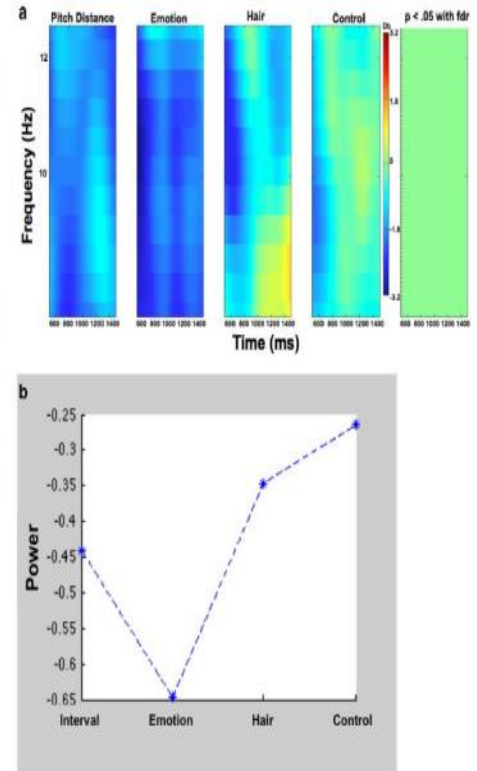
**Google translation*



The role of the extended MNS in emotional and nonemotional judgments of human song

Lucy M. McGarry · Jaime A. Pineda · Frank A. Russo

Fig. 6 (a) Event-related frequency perturbations originating from the right PCG cluster, for each condition, across the 8- to 13-Hz alpha frequency band, a component of mu. Visual examination of these ERSPs indicates greater desynchronization during the emotional task condition, followed by the nonemotional action intention task condition, followed by the two control conditions. Although these differences are not significant, they suggest a trend in the predicted direction that might originate in the classical MNS. (b) Mu ERD collapsed across the 8- to 13-Hz frequency band and the 500- to 1,500-ms time band of interest. This simpler graph illustrates marginally greatest mu ERD in the emotion judgment condition (indicated by a lower mean value), followed by the nonemotional intention judgment condition and the control conditions; this is a nonsignificant pattern that is consistent with our predictions



Emotion & Hearing Aid Adoption

Question: Do conversations about emotion facilitate hearing aid adoption?

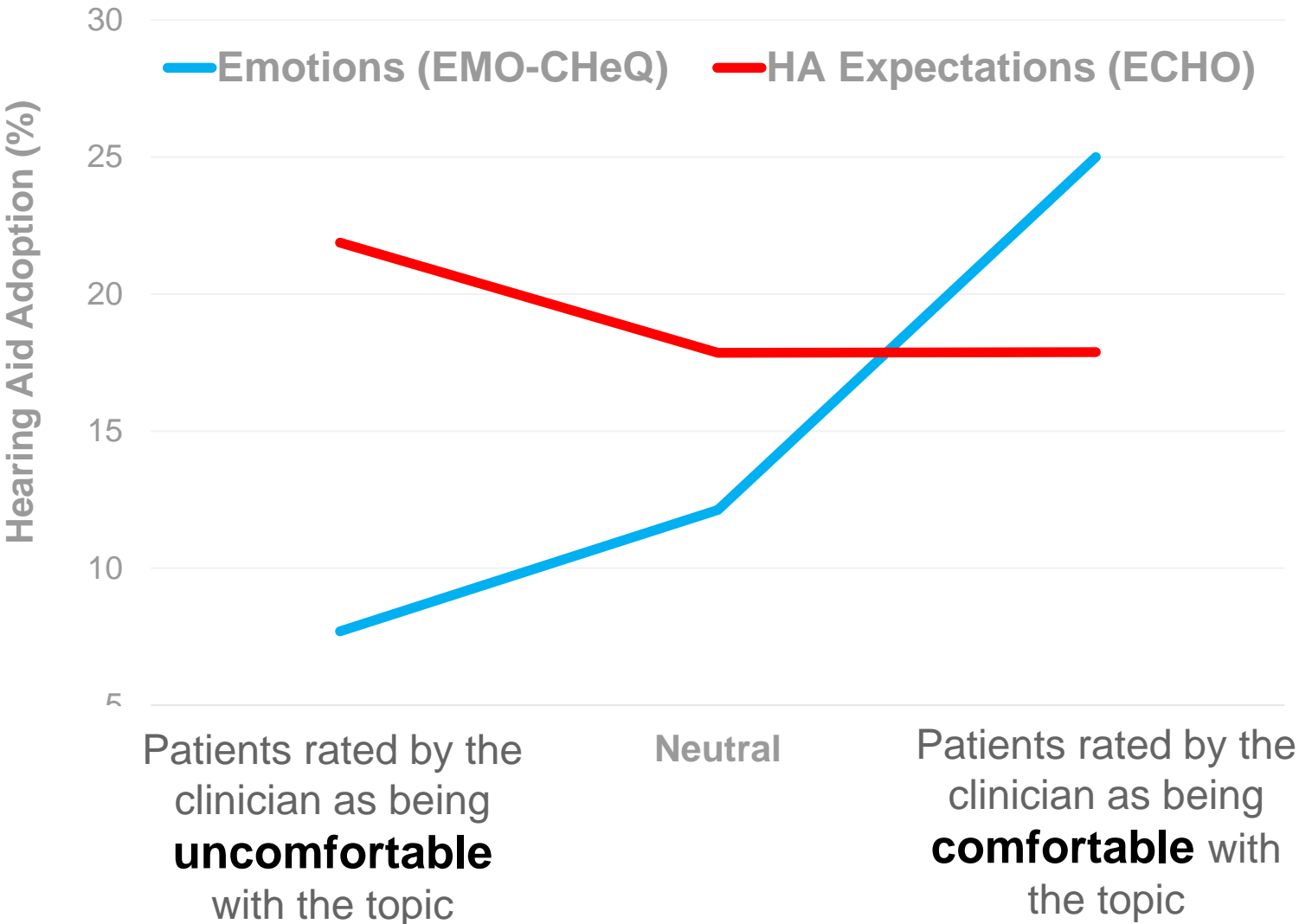
Method:

- 439 adults who attended audiology clinics in Canada
- Participants were randomly assigned to complete 1 of 2 questionnaire in the waiting room
 - **EMO-CHeQ**: The patient's responses were used as a prompt to discuss the emotional experience of hearing loss with the clinician
 - **Expected Consequences of Hearing Aid Ownership (ECHO)**: The patient's responses were used to as a prompt to discuss potential hearing aid ownership (if appropriate for the patient)

New Research: Emotion & Hearing Aid Adoption

Participant Group	No. of persons with HL	Mean Age (SD)	Sex	Mean Better Ear PTA _{0.5-4kHz} (SD)
ECHO	220	68.47 (8.62)	103 M 112 F 5 Unknown	28.40 (11.73)
EMO-CheQ	219	68.98 (8.69)	106 M 111 F 2 Unknown	27.49 (10.10)

Results: Emotion & Hearing Aid Adoption

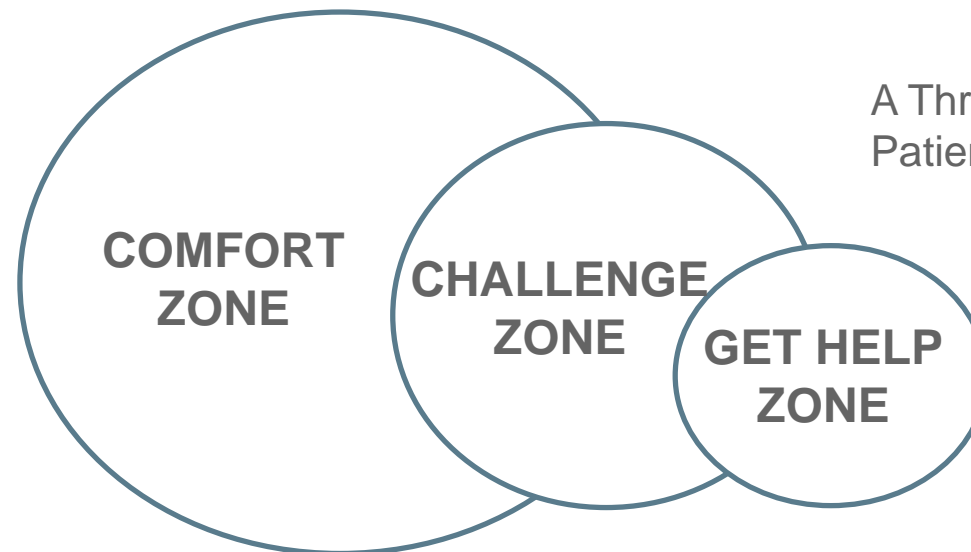


Interpretation: Emotion & Hearing Aid Adoption

Finding: Discussions about emotion were associated with Hearing Aid adoption, depending on the patient's comfort with emotion

Suggests: The need for attunement with sensitive topics (i.e., emotional consequences assoc. with HL)

These findings relate to the Three Zone Model of patient-clinician relationship (White & Keller, 1998).



A Three-Zone Model of Clinician-Patient Relationships

(adapted from White & Keller, 1998)

RESEARCH

Family-Centered Audiology Care: Emotion and Reason in Hearing Healthcare

Published on May 26, 2017

Research | May 2017 Hearing Review

The impact of engaging in emotion-based conversations with patients and their families

By Gurjit Singh, PhD; Caitlinn Barr, PhD; Joseph Montano, EdD; Kris English, PhD; Frank Russo, PhD, and Stefan Launer, PhD

Family-Centered Audiology Care: Emotion and Reason in Hearing Healthcare

The impact of engaging in emotion-based conversations with patients and their families

By GURJIT SINGH, PhD; CAITLINN BARR, PhD; JOSEPH MONTANO, EdD; KRIS ENGLISH, PhD; FRANK RUSSO, PhD, and STEFAN LAUNER, PhD

Exploration of domains related to the emotional experiences of the patient and family will act to sensitize our clientele to the topic of emotion, and possibly address underlying motivations for their visit. At a minimum, the evidence suggests that conversations about the emotional impact of hearing loss will provide a better understanding of the patient's and family's disability experience, foster a stronger therapeutic alliance, and likely lead to more positive practice outcomes, such as greater treatment adherence, more open and honest communication with patients, and greater patient satisfaction.

As reported in *The Hearing Review*, Phonak has convened a select group of hearing healthcare experts to provide evidence-based recommendations to hearing care providers on how to better engage family members. Chaired by Louise Hickson, PhD, the objective of this group is to facilitate family involvement throughout the hearing remediation process.

Emotions are central to the experience of being human and are inherent to communication. Accordingly, there has been a long-standing effort to understand the impact of hearing loss and problematic communication on the emotional well-being of patients and their significant others. Critically, there has been a lack of research investigating the connection between emotion processing and its role in motivating behavior and action. Indeed, a growing body of research from social and cognitive neuroscience is adopting the position that emotions contribute significantly to the processes that govern behavior and action generation and execution. In other words, behavior is often influenced by emotion.

Modern healthcare, and audiology, is no exception, and is in the midst of a transformation of service delivery.¹ We are witnessing a change in care rooted in biological determinants of pathology with hierarchical power structures between patients and care provid-

ers (ie, medical model) to one that assumes that healthcare outcomes are optimized when patients and their significant others actively participate in the care they receive (ie, Family-Centered Care). Family-Centered Care (FCC) is supported by four pillars of clinical practice:

- 1) To explore both the disease and illness experience;
- 2) To understand the whole person and their context;
- 3) To develop a therapeutic alliance with patients and their significant others, and
- 4) To share power and decision-making responsibilities.

These practices take many hearing care professionals into new territory. The purpose of this article is to draw attention to the central role of emotions to understand the patient and their family, develop a strong therapeutic alliance, and reinforce motivation to address communication difficulties.

Emotion and the First and Second Pillars

To date, much of the academic literature on emotion in audiology has investigated topics related to the first and second pillars of FCC. Research typically observes that mental health outcomes and subjective wellbeing in those that experience hearing loss are poorer than indi-



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Vielen Dank!

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