Cross-linguistic and cross-cultural effects of communicating in multilingual and multicultural groups: An evidence-based approach to relationship management

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The Communication Process

Encoder

Information/input

What I mean

Coding

The Channel:
- Speaking
- Writing
- Graphics
- Video, etc.

At least some code in common

The Channel:
- Speaking
- Writing
- Graphics
- Video, etc.

Decoding

Behaviour/output

What I understand

The messenger

Encoder

The recipient

Decoder
Communication breakdowns

ετε σεν!

What?
Communication breakdowns

You go come.

Huh?
Communication breakdowns

Awkward!

Nice to meet you!
Communication breakdowns

Please professor, can you prepare a letter of recommendation for me?

I’m sorry, I don’t really have the time, and I’m not sure if I can speak well about your specific skills.

That’s OK, take your time, I don’t need it right away, and anything general is fine.

OK, but you’ll regret this!

Idiot! Doesn’t he get it?
My research: Broad Question

What aspects of language and communication develop because of innate factors and what aspects are due to environmental factors?

How does age affect the development of language and communication?

Innate factors: cognition (general & specific), biological maturation/aging, personality traits

Environmental factors: Socioeconomic (SE) status (incl. education, income, neighbourhood), collective bias/attitudes (culture), gender (as cultural variable), etc.
Starting assumptions

• Language is a type of communication
• Human communication is arbitrary & symbolic
• Verbal or linguistic communication = language sounds, words, structure
• Non-verbal or non-linguistic communication = gestures, posture, pitch, appearance, etc.
• Linguistic communication is unique to humans
Question #1: Linguistic Code

1) To better understand age-related phenomena re: language and communication.

What knowledge do fluent adult language speakers who acquired language(s) at different ages exhibit on hard and soft linguistic constraints?
Study 1 (Thomas, 2012)

Language: Spanish

Construction:

(1a) Peter wants to not eat it.

(hard) (1b) Pedro quiere no comerlo.

(1c) *Pedro lo quiere no comer.

> rarely used construction

(2a) Peter wants to eat it.

(soft) (2b) Pedro quiere comerlo.

(2c) Pedro lo quiere comer.

Pre-V (2c): ir a > poder > querer > necesitar > preferir > *gustar

Participants: Monolingual Spanish speakers (n=14), Early bilinguals Spa-Eng (<3 yrs, n=16), Late bilinguals Eng-Spa (> 15 yrs, n=22)
Task 1: Acceptability Judgment

-aural prompts (playback, no visual language)

1) Embedded negation (hard constraints)

*Peter just got a letter from his ex-girlfriend.*

*He prefers to not read it. / He it prefers not to read.*

☐ Acceptable  ☐ Unacceptable  ☐ Don’t know
1) Results: Embedded Negation > hard constraint
Task 1: Acceptability Judgment
-aural prompts (playback, no visual language)

2) Range of verb types (soft constraints)
ir a > poder > querer > necesitar > preferir > evitar > *gustar

*Peter just got a letter from his mother.*

*Tomorrow he is going to open it.* / *...he it is going to open.*

☐ Acceptable   ☐ Unacceptable   ☐ Don’t know
2) Results: Verb Types, PreV > soft constraint

- Ir a
- Poder
- Querer
- Necesitar
- Preferir
- ?Evitar
- *Gustar

Graph showing the distribution of verb types with PreV > soft constraint:

- MonoSpa
- Early Spa-Eng
- Late Eng-Spa
Pedro quiere comer lo. / Pedro lo quiere comer.

Peter wants to eat it.

What is each person X to do with the window?

going to > want > prefer
Results: Picture Production, *Peter it X to eat*

**PreV, more informal contexts vs. PostV, more formal contexts**

Monolinguals, with post-sec education: use knowledge of formal register

Early bilingual exposure: informal contexts at home, especially in youth

Late bilingual exposure: formal contexts, incl classroom and writing
Summary: Study 1

1) acquiring hard constraints late in life: easy, perform like those who learned them early in life
   - Innate mechanisms there to acquire the hard stuff!

2) acquiring soft constraints late in life: easy-ish, may continue to generalize & use analogy for language purposes if hard constraints not in place
   - Innate mechanisms there to sort through input and process it, but late speakers may process in a slightly different way than early speakers

3) using variable structures that “mean the same thing”: easy-ish BUT age-related factors like “source of exposure” (ie. who provided learning input) may have lasting effects

AND SO
Here, age appears to matter subtly for innate mechanisms, and more significantly for environmental influences
2) To better understand the nature of bilingual/multilingual language and communication vis a vis monolingual explaining variation in normal populations.

What areas of general cognition exhibit enhancements when speakers are “more bilingual”? Are these enhancements consistent in populations from a low SE background?

**General Cognitive Processes of interest:**

- **Executive Function (EF)**
  - working memory, monitoring-attention, inhibition control, conflict resolution, etc.
Study 2 (Thomas, Bialystok & Hakuta, under review)

Languages: Spanish and English

Participants: 3rd and 4th grade students (n=83) from Spanish-speaking homes, Jurupa Valley, California, parents: recent Hispanic immigrants, no post-sec educ.

Tasks: Linguistic Measure: Vocab Size in Spa and Eng (Peabody) > to measure bilingual “balance”

Cognitive Measures: Frog Matrix (working memory)
Stop-Signal (inhibition control)
Flankers (monitoring, conflict res.)
Ravens (non-verbal IQ)
Results: Study 2

• 5 variables entered for regression models for Cog tests: child’s age, mother’s education, Raven matrices standard score, English vocab score, and bilingualism score

1) Stop-Signal (attention, inhibition control): all factors account for 15.2% of variance, no significant effect of model or individual factors

2) Flankers (monitoring-attention; conflict resolution): all factors account for 25.6% of variance, significant effect for bilingualism

3) Frog’s Matrix (monitoring; working memory): all factors account for 22.7% of variance, significant effects for bilingualism and child’s age

With more “balanced” bilingual skills, school-aged children from low SE backgrounds perform better on tests requiring skills to resolve conflict and quickly monitor real time changes.
Summary: Study 2

- more language stimulation > more balanced bilingualism ~ enhanced cognition

- children from low SE backgrounds are not necessarily at a disadvantage for the enhancing effects of bilingualism

- the EF skills associated with short-term processing, monitoring & attentional resources and conflict resolution appear to be needed for effective management of bi/multilingualism

SO... functioning of these “innate” cognitive areas may explain some of the variation in language/communication abilities in general population

BUT as seen, environmental stimuli can influence their relative functioning—innate aspects of cognition are not necessarily “stuck”
Question #3: “Getting” it

3) To better understand the relationship between environmental influences and innate mechanisms to explain variation in language learning in the general population.

What external & internal factors influence the way people achieve subtle communicative goals?
Study 3, Review: How important are motivation, attitudes, and empathy in language learning and effective communication (at different ages)?

• types of external motivation: instrumental & integrative

Perez-Leroux, Cuza & Thomas (2009)
- language use & maintenance: instrumental > integrative
  ➢ individuals from middle & low SE backgrounds are more likely to be interested in enhancing language skills for instrumental purposes

• Attitudes to language & communication: group affiliations, sociocultural preferences, etc.

Perez-Leroux, Cuza & Thomas (2009)
Toronto: Spanish-speaking immigrants from middle SE status with very strongly positive attitudes to Hispanic culture & bilingualism BUT low transmission of Spanish to children and low use in home/community

Toronto: immigrants of low SE status with neutral attitudes BUT high transmission of Spanish to children and high use in home/community

➢ Attitudes towards language use and communicative preferences don’t necessarily always match practice
• Innate mechanisms:
  monitoring, attentional skills, theory of mind
  > picking up on cues, effective use of feedback (direct & indirect), attributing/understanding thoughts of another (>empathy), developing an EQ (EQ: Emotional Quotient)
  > becoming aware of needs/motivations of others, and developing communicative strategies

Bachara et al (1980): deaf children to hearing parents > association between onset of deafness & deficits in empathy

S. Baron-Cohen & colleagues > high-functioning autism
1997: high-functioning adults can “read” basic emotions, deficits in subtle “mindreading”
1997: children > no significant improvements to communicative abilities through explicit teaching re: understanding mental states
Summary, Study 3-Review

• Regardless of attitudes towards linguistic and sociocultural aspects of language use and communication, instrumental factors are good motivators in language & communication

• associations among communicative development (turn-taking, “reading” a speech partner), and functions associated to EF/theory of mind

> difficult to “teach” to an individual with EF/theory of mind deficits
Successful Relationship Management
An Evidence-based Approach

Study 1: bilingual/multilinguals able to develop strong linguistic skills, may generalize to “neutral” strategies with a late-acquired language & all bilinguals may have limited knowledge of variety of registers, based on experience

Know your audience (AND yourself as speaker) > formal/informal registers, word choice, tone/pitch, etc. mono-/bi-/multilingual group

Become aware of, and select from among a neutral set of linguistic and non-linguistic traits that are cross-culturally appropriate
Successful Relationship Management
An Evidence-based Approach

Study 2: bilingual individuals, regardless of SE status, appear to have enhanced monitoring-attentional skills. Such skills are used to a greater degree in those who are required to monitor communication in different codes.

- Develop monitoring-attentional skills
- Pay attention to behavioural cues, feedback and monitor the communicative context for competing codes. E.g. Do words match gestures?
Successful Relationship Management
An Evidence-based Approach

Study 3, Review: instrumental motivations matter more than sociocultural attitudes to language & communication; strong associations among EF, “theory of mind” and communication abilities

Enhance communicative context by establishing a set of motivating factors, especially instrumental ones

Develop an EQ (Emotional Quotient)
-don’t be an “egocentric” communicator
eg. limit interruptions, use silences, enhance turn-taking, use feedback tools, maintain eye contact
-become aware of subtle psychoemotional cues & be aware others may lack the ability to “read” psychoemotional cues
The Communication Process

- Information / input
- What I mean
- The messenger Encoder

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The message

- The Channel:
  - Speaking
  - Writing
  - Graphics
  - Video, etc
- At least some code in common

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The recipient Decoder
- Behaviour / output
- What I understand

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The Communication Process