

- » Language Negotiations Bilingual individuals work together to decide which lang to use.
- » Receptive Bilingualism Ability to understand a second lang without being able to speak it.
- » Lang as integral part of person's identity
 - (1) First generation immi typically maintain heritage lang & culture
 - (2) Second generation typically identifies with societal lang & culture

[Childhood experiences recalled more vividly and with greater emotion in first language]
- » Bilingual psychotherapy
Clients may find it easier to discuss early + traumatic events in second language.

Links b/w the 2 languages (I)

- ① Translation equivalents → words in two languages that refer to same concept
Dog in English, chien in French
- ② Mutual exclusivity → young children assume new word must refer to novel concept.
→ But they don't assume this when learning a new word in another lang
→ Children growing up bilingual have some awareness that separate linguistic sys are in use.

(II)

- Cognates → words in two lang that have similar form & meaning
→ ~~English & German~~ English & German have many cognates because of common origin.
→ English & French have many cognates because of massive borrowing from French to English

Interlingual Homographs → words in two languages that have similar form but different meanings - "false friends"

In German, Chef means "boss", Gift means "poison"
Latin ~~cat~~ means cat temporarily activated, as measured by N400

(3) lexical decision task → Monolinguals discriminate words from nonwords by considering whether the string looks familiar & bilinguals do so by considering whether the string is meaningful.

Bilinguals already
(1)

meanings in both languages; however, interlingual homographs are "false friends" in that their forms are similar but their meanings are different.

Bilinguals have smaller vocabularies in each of their languages and more difficulty retrieving words compared with monolinguals; while this bilingual disadvantage is measurable in the laboratory. It has no discernible impact on the day-to-day activities of the bilingual person.

- The weaker links hypothesis explains the bilingual disadvantage by suggesting that bilinguals are less practiced at using the words they know since they need to split their time between two languages; the interference hypothesis proposes that translation equivalents create interference that slows down lexical access.
- The revised hierarchical model proposes a separate lexicon for each language with links to a common conceptual level; translation occurs either by passing through the conceptual level or via direct links between the two languages.
→ Balanced Bilinguals → All links equally strong, cross-linguistic priming in either direction
- The sense model takes into account the fact that most words have multiple meanings that do not fully overlap across languages; extensions of this model also take into account cultural differences in the imagery evoked by words.

(4) tip-of-the-tongue → temporary difficulty in lexical retrieval, mainly for common words
→ Compared with monolinguals, bilinguals experience more TOT states

COGNITIVE BENEFITS OF BILINGUALISM

- Bilingual's ability to quickly and accurately switch from one language to another carries over to other nonverbal cognitive tasks; living with two languages also lead to a better understanding about the nature of language (metalinguistic awareness), and this has a positive impact on creative thought processes as well. → understanding about how lang works
- The bilingual advantage in nonverbal tasks is based on three cognitive skills: interference inhibition, selective attention, and mental flexibility; these three processes work together to produce executive control, which manages cognitive resources to yield efficient performance.
- Lifelong bilinguals generally outperform monolinguals on tests of executive control, but the bilingual advantage is more robust in early childhood and also in later adulthood; those who learn a second language later in life tend to perform more like monolinguals on these tasks.
- Structural brain differences between lifelong bilinguals and monolinguals account for the bilingual advantage; these include increased activity in the executive control centers in the prefrontal and inferior parietal regions, greater white matter integrity, and

managing cognitive resources to perform tests efficiently

Unbalanced bilingual → Easier to translate L2 → L1

Priming • L1 → L2 but not L2 → L1

→ Translation equivalents rarely mean exactly the same thing.

- (1) Intrinsic Inhibition → Ability to ignore distracting or misleads information.
- (2) Selective Attention → Ability to direct / focus attention on current task.
- (3) Mental flexibility → Ability to rapidly switch from one cognitive task to another.

Flanker Task → is a common test of executive control

* Measure of executive control → Participants respond to direction of central arrow, regardless of direction other arrows are pointing

Bilinguals exhibit greater executive control than age-matched monolinguals.

* Monolinguals → FC low in childhood, peaks in young adulthood, declines in later adulthood.

The participant responds by pressing the left or right button, according to the direction of the middle arrow.

The Bilingual Brain

Dorsolateral prefrontal cortex

(1) Area of brain involved in executive control

(2) Greater Activation in bilinguals during executive control tasks.

Heschl's gyrus

→ Auditory cortex, located deep in lateral fissure.

→ Larger in lifelong bilinguals.

Bilingualism & Lang Disorders

Special language impairment (SLI) / autism spectrum disorder (ASD)

→ Lead to development delays in both lang. and cognition

→ But NO development differences b/w bilingual & monolingual children with these disorders

→ Fear that learning 2 lang. may be detrimental are unfounded.

increased gray matter volume in the classical language areas as well as in the auditory cortex.

- The term cognitive reserve refers to the ability to resist the debilitating effects of dementia in old age; regularly engaging in stimulating mental or physical activity throughout the lifespan helps develop cognitive reserve, as does lifelong bilingualism.
 - Despite the concerns of many practitioners, raising children with language disorders as bilinguals cause no additional delays in development; furthermore, the social isolation that results from denying these children access to the heritage language can lead to cognitive and behavioural problems.
- After Puberty → Native speaker mastery
virtually impossible
Before Puberty → AoA, LOR good predictors of ultimate attainment.

SECOND-LANGUAGE ACQUISITION / Acquisition ultimate Attainment

- Ultimate attainment in a second language acquired before puberty is largely predicted by two factors, age of arrival and length of residence in the country where the second language is spoken; after puberty, other factors better account for ultimate attainment.
- The critical period hypothesis explains the effect that age of arrival has on ultimate attainment in second language acquisition by proposing that children have a biological predisposition to learn languages, which they lose after puberty due to a reduction in cerebral plasticity.
- The speech learning model explains ultimate attainment in a second language in terms of the time spent using the two languages in communicative contexts; under the right conditions, a near native speaker accent can be acquired at any age.
- Some bilingual children grow up in homes where each parent speaks a different language. Others grow up with one language at home and a different language outside. And still others grow up in a bilingual environment where both languages are mixed freely. The key to success in raising bilingual children is to make both languages meaningful.
- There are two approaches to bilingual education. Transitional programs aim to assimilate heritage language students into the mainstream language and culture, while two-way immersion programs aim to develop fully bilingual and biliterate individuals.
① Transitional programs run the risk of first-language attrition
② Two-way immersion programs aim to develop fully bilingual and biliterate individuals.
③ While children are better than adults at acquiring native-like skill at pronunciation and grammar, adults are faster at learning vocabulary. In the early stages of second-

② Cerebral Plasticity → Brain's ability to modify its structure in response to new experiences.

③ Sensitivity periods → The early in life when language learning is more likely to be successful.

Motivational factors may be more imp than cerebral plasticity.