

Assessing Language Attitudes in Montréal Through a Dynamic Systems Approach

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Background

- Language use – especially bilingualism – is impacted by a variety of complex, dynamic and interrelated individual and socio-ecological systems.
- We recently developed a *Systems Framework of Bilingualism* (Tiv et al., under review) using social network and census demographic analysis to quantify and assess personal and ecological language dynamics among bilinguals.
- Here, we applied this framework to language attitudes, which may be especially responsive to these social-ecological influences (Kircher, 2014).

Takeaways

- Consistent with the *Systems Framework of Bilingualism* (Tiv et al., under review), Montréal bilinguals' language attitudes were influenced by individual characteristics and personal/ecological linguistic layers.
- Attitudes towards the solidarity of a language (i.e., the extent to which a language is associated with personal identity and belongingness) were related to one's first language.
- A larger, more interconnected and strongly influential French-speaking personal network was associated with more positive solidarity attitudes towards French.
- Higher neighborhood-level linguistic diversity and English use was associated with more positive attitudes towards the protection of minority languages and towards the prestige of both English and French.
- Taken together, our results could have important implications for planning future language policies in multicultural societies such as Montréal.

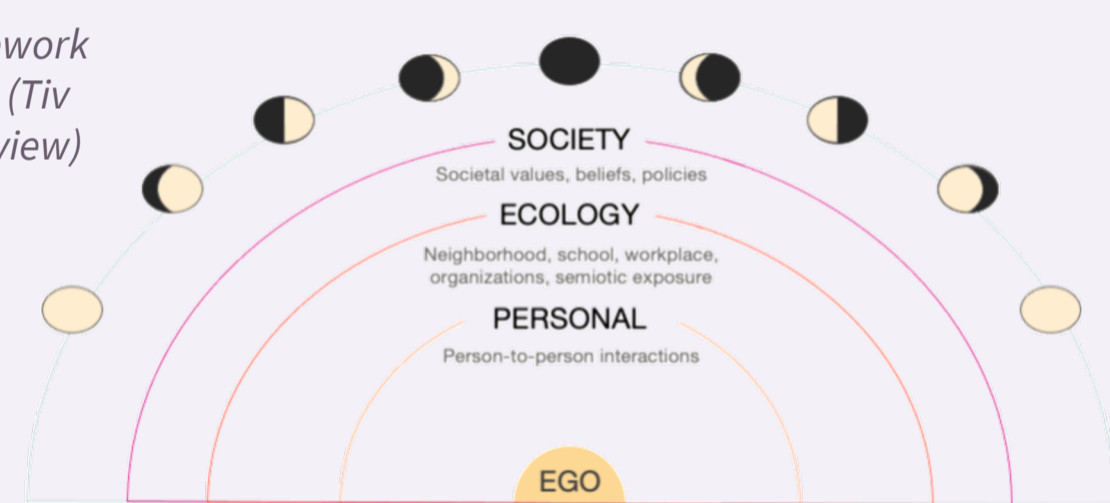
Methods

Participants

- $N = 123$ bilingual adults (Fre-Eng, Eng-Fre)
- Age: $M = 21.20$, $SD = 3.21$

Procedure & Measures

Systems Framework of Bilingualism (Tiv et al., under review)



At the lab, all participants ($n = 123$) completed a **Language History Questionnaire** (LHQ) that asked about their demographic information and language background. They also answered a series of 48 questions on their **attitudes** towards English, French, Indigenous/minority languages, and language protection laws (adapted from Kircher, 2014).

Characterizing Language Attitudes
A Principal Components Analysis was conducted on the 48 language attitudes questions in the LHQ with the full sample ($n = 123$).
Five components emerged: 1) French solidarity, 2) English general, 3) Minority language protection, 4) French/English prestige, 5) French language protection.

Assessing Personal Language Dynamics
A subset ($n = 75$, 60.98%) completed a **Social Network Survey** (SNS), in which participants nominated 8 to 12 individuals (alters) with whom they have regularly interacted over the past six months. 11 network measures were computed for each language-tagged subnetwork (English, French, Bilingual).

Assessing Ecological Language Dynamics
We used the **2016 Canadian Census** to compute three measures based on respondents' mother tongue(s) and Forward Sortation Area (e.g., H4R): 1) English Index, 2) French Index, and 3) Language Diversity using Wilcox's (1973) IQV
$$1 - \frac{\sum_{i=1}^k (f_m - f_i)}{N(K-1)}$$

Examining Relationships Between Personal and Ecological Layers

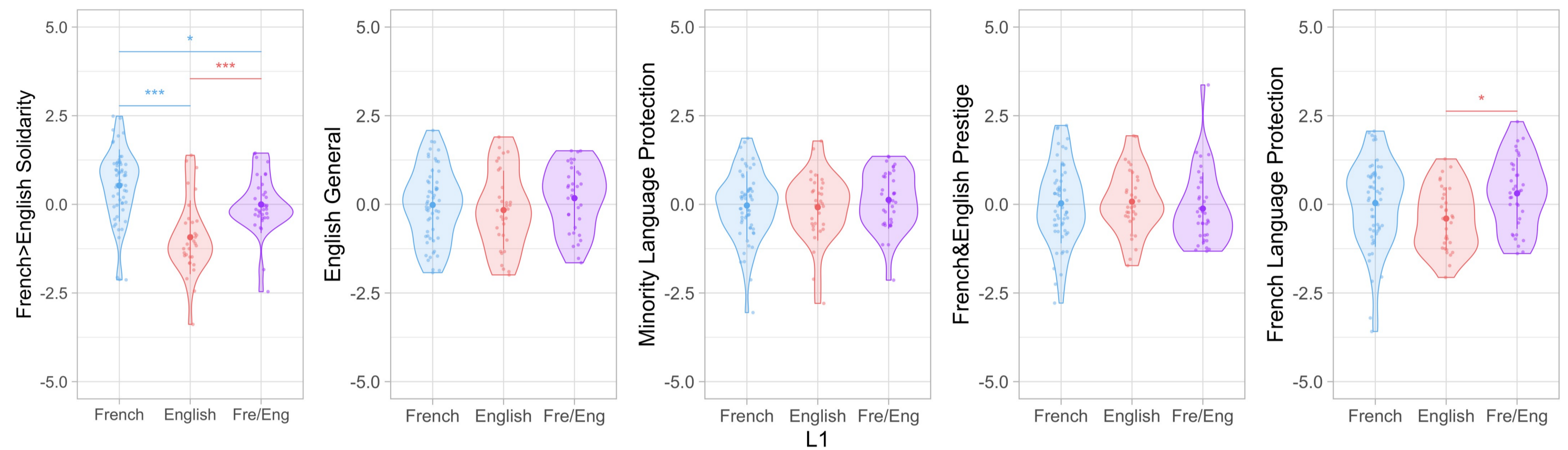
We included 18 variables in an Exploratory Factor Analysis: 5 social network variables (network size, density, number of components, Eigencentality, strength) for each subnetwork and the 3 census measures.

Four factors emerged: 1) **French**, all French network measures; 2) **English**, all English network measures; 3) **Bilingual**, all Bilingual network measures; 4) **Ecology**, language diversity and English Index

How do individual characteristics predict bilinguals' attitudes towards languages?

The role of first language (L1)

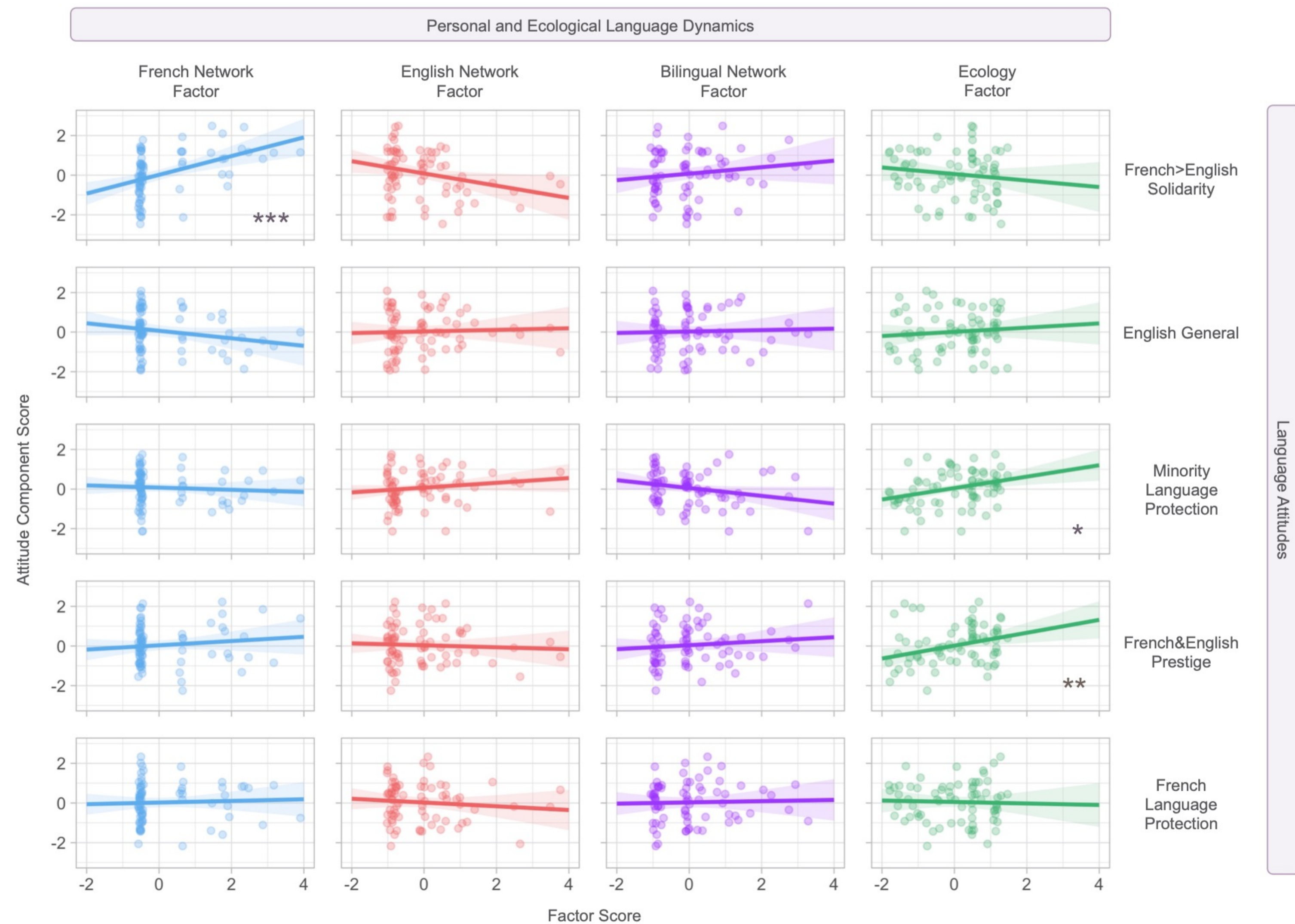
Simple linear regressions revealed that L1 was a significant predictor of scores on **French>English Solidarity** ($F(2) = 23.10$, $p < 0.001$) and **French Language Protection** ($F(2) = 3.62$, $p = 0.03$). Tukey HSD post-hoc tests revealed that the L1 English group ($M = -0.93$, $SE = 0.18$) expressed significantly more positive attitudes related to personal identity and belongingness towards English than other L1 groups, while the L1 French group ($M = 0.53$, $SE = 0.14$) expressed significantly more positive solidarity attitudes towards French than other L1 groups. For **French Language Protection**, the L1 English & French group ($M = 0.31$, $SE = 0.17$) had significantly higher scores than the L1 English group ($M = -0.40$, $SE = 0.16$).



How do personal and ecological influences predict bilinguals' attitudes towards languages?

The roles of social networks and neighborhood language diversity

Robust multiple linear regressions showed that having a larger, more interconnected and strongly influential French-speaking personal network was associated with higher scores on **French>English Solidarity** ($B = 0.48$, $SE = 0.14$, $p < 0.001$). Additionally, the Ecology factor (i.e., higher neighborhood-level linguistic diversity and English use) significantly predicted scores on **Minority Language Protection** ($B = 0.24$, $SE = 0.10$, $p = 0.02$) and **French/English prestige** ($B = 0.40$, $SE = 0.12$, $p = 0.001$).



Note. *** = $p < 0.001$, ** = $p < 0.01$, * = $p < 0.05$. Error bars indicate plus or minus one standard error of the mean.

References

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