Quebec-based Parents' Attitudes towards Childhood Multilingualism:

Evaluative Dimensions and Potential Predictors

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Abstract:

This is the first large-scale, quantitative study of the evaluative dimensions and potential predictors of Quebec-based parents' attitudes towards childhood multilingualism. Such attitudes are assumed to constitute a determinant of parental language choices, and thereby influence children's multilingual development. The newly-developed Attitudes towards Childhood Multilingualism Questionnaire was used to gather data from 826 participants raising an infant/toddler aged 0-4 years with multiple languages. The results reveal three separate dimensions: status and solidarity (the same dimensions found in attitudes towards individual languages) as well as cognitive development (not previously attested as a separate dimension). The study thus advances knowledge regarding the dimensionality of attitudes. Participants' approach to promoting multilingualism and the combination of languages transmitted – and specifically, whether this included a heritage language – correlated significantly with parental attitudes towards childhood multilingualism. Parents' linguistic background and location within Quebec were not significant predictors of attitudes. The paper discusses directions for further research.

Keywords:

language attitudes, multilingualism, multilingual development, intergenerational language transmission, heritage languages

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1. Introduction

Many children around the world grow up exposed to multiple languages from an early age – be it because they are born into multilingual societies, because their parents have different native languages (L1s) from each other, or because they are descendants of migrants who have moved to societies in which languages other than their L1s are spoken. In the current context of globalisation and high international mobility, it is likely that the number of children exposed to two or more languages from infancy will increase even further. Many parents are vocal in their desire to raise proficiently multilingual children¹ (Byers-Heinlein & Lew-Williams, 2013), and research has shown that children are born with the capability to acquire more than one language without confusion or delay (e.g. Byers-Heinlein et al., 2010; Curtin et al., 2011). Yet, the language acquisition achievements of children with exposure to multiple languages are highly variable, and only some of these children will grow up to successfully and fluently use all of their languages (De Houwer, 2007). So what determines whether children exposed to multiple languages will become active, proficient multilinguals?

Numerous studies have demonstrated that multilingual development is shaped by the quantity and quality of language input (e.g. Marchman et al., 2017; Unsworth et al., 2019). Providing high-quality, balanced input is not a guarantee of subsequent active and fluent multilingualism – other factors also play a role, including children's language socialisation through education as they grow older (De Houwer, 2007). Nevertheless, parental language choices in the early years are 'an important [...] determinant of children's future linguistic repertoires' (Caminal et al., 2018, p. 10). Research has shown that such language choices are, at least partly, determined by

parents' attitudes towards the specific languages involved in their children's upbringing (e.g. Kircher, 2019; Schüpbach, 2009). Less is known about the role of parental attitudes towards multilingualism as such, and towards childhood multilingualism in particular. Theoretical models have posited that attitudes towards childhood multilingualism do constitute an important factor in determining parental language choices, and thereby children's multilingual development (e.g. De Houwer, 1999, 2020; Pearson, 2007). Yet, there is a paucity of empirical research regarding this.

A more comprehensive understanding of parental attitudes towards childhood multilingualism is important for the advancement of theory, both with regard to multilingual development specifically and language attitudes more generally. Moreover, from a practical perspective, a better understanding of attitudes towards childhood multilingualism is fundamental to the development of appropriate measures to support families wishing to raise their children with multiple languages. Such support matters because children's multilingual development has micro- and macro-level implications. At an individual level, children's language outcomes can affect their well-being and healthy identity development as well as family dynamics and interpersonal relationships among family members (see De Houwer, 2021, for an overview of the literature). At a societal level, children who grow up to be active, proficient multilinguals and whose linguistic repertoires include minority languages can collectively contribute to the maintenance of these minority languages (King et al., 2008).

Here, we present a study aiming to do both: contribute to the advancement of theory and create knowledge that can inform measures to support multilingual families. The study investigates attitudes towards childhood multilingualism among parents in the Canadian province of Quebec.

Quebec constitutes a complex and diverse linguistic environment. While both English and French have official status at the Canadian federal level, in Quebec, French is the sole official language whereas English is granted official minority language status by Canadian law. Yet English

does not display the characteristics of a typical minority language: It is seen to hold high utilitarian value due to its international prestige and its role as the language of upward mobility in North America at large (e.g. Kircher, 2014, 2016). The province's public life is thus shaped by both the L1 French majority of the population and the L1 English minority (79.1% and 8.9%, respectively, including multiple responses; Statistics Canada [StatCan], 2019). Regardless of their official status, both French and English effectively function as societal languages, especially in the province's urban centre Montreal. Additionally, a growing percentage share of the province's population has L1s other than French and English (14.5%, including multiple responses; StatCan, 2019). These L1 speakers of *heritage languages* – that is, 'languages other than the dominant language (or languages) in a given social context' (Kelleher, 2010, p. 1) – include Indigenous peoples as well as immigrants and direct descendants of immigrants (2.3%, 13.7%, and 9.9% of the overall population, respectively; StatCan, 2016). Many Quebecers have different L1 combinations, and while not all parents in the province transmit their L1s (Kircher, 2019), almost 17% of Quebec children aged 0-4 years are being raised in multilingual homes (Schott et al., 2021).

It is in this context that we investigated attitudes towards childhood multilingualism among parents who were raising an infant or toddler aged 0-4 years with more than one language in the home. Data were collected by means of the Attitudes towards Childhood Multilingualism Questionnaire, which we had developed for this purpose. Our aims were two-fold. First, we aimed to investigate the nature of parents' attitudes towards childhood multilingualism. Specifically, we set out to ascertain whether such attitudes constitute a unitary construct or whether they have different evaluative dimensions, as attitudes towards individual languages do (for details, see below). Second, we aimed to determine variables that correlate with parental attitudes towards childhood multilingualism. The variables we investigated were: location within Quebec, linguistic

background, approach to promoting multilingualism, and languages transmitted (for details, see below). Our research questions (RQs) were:

RQ1: Do parents' attitudes towards childhood multilingualism constitute a unitary attitude factor or do they have different evaluative dimensions?

RQ2: What socio-demographic and linguistic variables correlate with parents' attitudes towards childhood multilingualism, thus constituting potential predictors?

This study is the first large-scale, quantitative investigation of the evaluative dimensions and potential predictors of Quebec-based parents' attitudes towards childhood multilingualism. To contextualise it, we begin by providing an account of relevant aspects of language attitude theory as well as related empirical research.

2. Language Attitudes

Attitudes are composed of three components: *affect* – the feelings elicited by an attitude object, *cognition* – the beliefs held about the attitude object, and *conation* – the behaviour directed at the attitude object (Bohner, 2001). The relationship between attitudes and behaviour is not a simple, direct one. Individuals' behaviour depends not only on their attitudes but also on a range of other variables, including the specific context and the immediate consequences that the behaviour can be expected to have (Banaji & Heiphetz, 2010). Hence, rather than being equated with behaviour, attitudes are considered to be dispositions to behave in certain ways. They influence (rather than fully determine) actions (Bohner, 2001).

Previous studies have shown that attitudes towards individual languages influence a wide range of linguistic behaviours, including what languages people decide to learn (e.g. Gardner & MacIntyre, 1993), the frequency with which they use their languages (e.g. Edwards & Fuchs, 2018), and whether they transmit these languages to their children (e.g. Kircher, 2019).

Language attitudes are traditionally defined as ‘any affective, cognitive or [conative] index of evaluative reactions towards different varieties and their speakers’ (Ryan et al., 1982, p. 7) – or, more inclusively, their users. While this classic definition only makes reference to attitudes towards different varieties (i.e. languages, dialects, accents), attitudes towards particular linguistic phenomena such as vocal fry (e.g. Yuasa, 2010) and code-switching (e.g. Dewaele & Wei, 2014) also fall under the remit of language attitudes. The same applies to attitudes towards multilingualism.

Attitudes towards multilingualism are conceptually distinct from attitudes towards the specific languages involved in a multilingual context (Baker, 1992). However, there is little work on attitudes towards multilingualism itself – and while insightful, the work that does exist is mostly of a qualitative and context-specific nature that does not allow for generalisations (e.g. Jaworska & Themistocleous, 2017; Schüpbach, 2009). There is even less previous research focusing specifically on attitudes towards childhood multilingualism. In what follows, we state our hypotheses regarding the dimensionality and predictors of such attitudes, and we provide an account of the literature that motivated these hypotheses.

3. The Dimensionality of Attitudes

Attitudes towards individual languages are generally considered to have two main evaluative dimensions: status and solidarity. A language with high *status* is associated with power, economic opportunity, and upward social mobility. Attitudes on the status dimension are thus linked to utilitarian value (Gardner & Lambert, 1972). By contrast, a language that is evaluated positively on the *solidarity* dimension elicits feelings of attachment and belonging – it holds ‘vital social meaning and [...] represent[s] the social group with which one identifies’ (Ryan et al., 1982, p. 9). Attitudes on the solidarity dimension are thus linked with social identity and ingroup loyalty. Studies conducted over several decades and in numerous parts of the world (see Giles & Watson, 2013, for

an overview) have yielded empirical support for the notion that status and solidarity are independent evaluative dimensions with ‘a universal importance for the understanding of attitudes’ (Ryan et al., 1988, p. 1073; see also Dragojevic & Giles, 2016).

Some studies have found there to be more than two dimensions, and some have labelled them differently. For instance, Lambert (1967) distinguished between one status-type factor, termed ‘competence’, and two solidarity-type factors, labelled ‘personal integrity’ and ‘social attractiveness’. Cargile (1997), on the other hand, distinguished between one solidarity-type factor, termed ‘attractiveness’, and two status-type factors, labelled ‘status/dynamism’ and ‘job suitability’. The dimensions of status and solidarity should thus not be seen as exhaustive. Nevertheless, factor analytic research has always shown status-type factors and solidarity-type factors to be distinct from one another.²

As noted above, there is little quantitative research regarding attitudes towards multilingualism. Baker’s (1992) and Surrain and Luk’s (2019) work are notable exceptions. Baker studied Welsh-English multilingualism in Wales via a questionnaire distributed to 797 adolescents; Surrain and Luk investigated Spanish-English multilingualism in the U.S. via a questionnaire distributed to 422 adults. Neither found attitudes towards multilingualism to have separate dimensions. Yet, it should be noted that neither included items that were explicitly phrased to tap status and solidarity as distinct dimensions. Moreover, some of their wording was context-specific, making reference to the languages involved in the research contexts rather than to multilingualism as such.

Surrain and Luk’s (2019) scale of perceptions of childhood multilingualism in the U.S. – which they distributed to 321 parents as part of their aforementioned questionnaire – constitutes the only known research instrument that focuses on eliciting quantitative data regarding multilingualism in children. Like attitudes towards Spanish-English multilingualism more generally,

the researchers found perceptions of childhood multilingualism in the U.S. to be a unidimensional construct. However, again, the researchers had not included items that were explicitly phrased to tap status and solidarity, and again, there was context-specific wording. Moreover, they found items concerning parental beliefs about children's developmental trajectories to be only weakly correlated with the other items. The researchers thus discuss the possibility that parental beliefs regarding children's developmental trajectories may constitute 'another dimension that requires a separate subscale' (Surrain & Luk, 2019, p. 33).

In the first phase of our research project about Quebec-based parents raising children multilingually, we conducted exploratory interviews and focus groups with 27 Montreal-based parents who were raising infants/toddlers aged 0-3 years with multiple languages in the home (Ballinger et al., 2020). The resulting qualitative data indicate that children's cognitive development was an important issue on parents' minds. Several participants expressed the belief that childhood multilingualism entails cognitive advantages. Additionally, parents discussed points relating, firstly, to the utilitarian value of childhood multilingualism, and secondly, to the perceived connection between childhood multilingualism and ingroup ties. These findings echo Surrain's results from a previous study of qualitative data, collected in interviews with 14 Spanish-speaking mothers in the U.S. These mothers viewed Spanish-English childhood multilingualism to be, firstly, 'essential for their child's future economic prospects', and secondly, crucial for their child's 'connections with family and cultural heritage' (Surrain, 2018, p. 6).

The existing literature thus suggests that parents distinguish between status-related and solidarity-related aspects of childhood multilingualism (Ballinger et al., 2020; Surrain, 2018) as well as aspects related to children's cognitive development (Ballinger et al., 2020; Surrain & Luk, 2019). In light of this, and taking account of the aforementioned dimensionality of attitudes towards specific languages, our hypotheses (Hs) were:

H1: Parents' attitudes towards childhood multilingualism have different evaluative dimensions.

H1a: *Status* and *solidarity* constitute separate evaluative dimensions of parents' attitudes towards childhood multilingualism.

H1b: Parents' attitudes towards childhood multilingualism have a further evaluative dimension, namely *cognitive development*.

4. Potential Predictors of Attitudes

The variables we investigated as potential predictors of attitudes towards childhood multilingualism were: location within Quebec, linguistic background, approach to promoting multilingualism, and languages transmitted.

4.1 Location within Quebec

Quebec's urban centre Montreal is even more linguistically diverse than the rest of the province. Most of Quebec's L1 English speakers live in Montreal, and while Indigenous peoples make up less than 1% of the city's population, over 23% of Montrealers are foreign-born (StatCan, 2016). Notably, at least 30% of children in the city have at least one first-generation immigrant parent (Institut de la statistique du Québec, 2018) and the occurrence of infants/toddlers aged 0-4 years who are being raised with multiple languages in the home is thus particularly high (24.1%, compared to 16.7% in the province overall; Schott et al., 2021). Previous research has attested attitudinal differences regarding French and English between inhabitants of the city of Montreal, its suburbs, and the rest of the province (Kircher, in preparation). No research exists regarding the relationship between location and attitudes towards childhood multilingualism.

4.2 Linguistic Background

Just like having a particular L1 has been found to affect individuals' attitudes towards that specific language (e.g. Kircher, 2014; Genesee & Holobow, 1989; Lambert et al., 1960), being multilingual

has been found to affect individuals' attitudes towards multilingualism. Surrain and Luk (2019) showed that in the U.S., multilingual parents perceived Spanish-English childhood multilingualism more favourably than monolingual parents. This was echoed in the findings from the first phase of our research project in Montreal. Participants mentioned that people 'who had little or no experience with simultaneous bilingualism' were often critical of the participants' decision to raise their children multilingually – but those who had grown up with multiple languages themselves dismissed such concerns, making reference to their own successful experiences with multilingualism (Ballinger et al., 2020, pp. 6-7). It remains to be ascertained whether the relationship between parents' own linguistic background and their attitudes towards childhood multilingualism is a systematic one.

4.3 Approach to Promoting Multilingualism

There are different strategies parents can employ to ensure their children receive approximately equal exposure to their languages in order to promote multilingual development. It is common for each parent to use multiple languages with the child, or for one parent to use multiple languages while the other only speaks one (De Houwer, 2021). In HL families, parents often use only the HL in the home, and they employ the societal language(s) outside their own four walls (Ballinger et al., 2020). Nevertheless, the so-called 'one-person-one-language' (OPOL) approach is the most '(in)famous' strategy (De Houwer, 2021, p. 8). As Byers-Heinlein and Lew-Williams (2013) explain, what matters is the quality and quantity of the input, not the approach used to provide it. Nevertheless, OPOL has much prominence in debates about raising multilingual children. No research exists regarding the relationship between parents' attitudes towards childhood multilingualism and their strategy for promoting it.

4.4 Languages Transmitted

The qualitative data from the first phase of our research project Ballinger et al. (2020) revealed clear differences between parents who were raising their children with French and English (non-HL parents) compared to parents who were transmitting one or more HLs in addition to French and/or English (HL parents). The non-HL parents expressed almost unequivocal optimism regarding their children's multilingual development. By contrast, the HL parents were much less optimistic. The differences were so pronounced that they motivated our second hypothesis:

H2: The combination of languages transmitted – and specifically, whether a HL is being transmitted or not – constitutes the main predictor of parents' attitudes towards childhood multilingualism.

HLs themselves do not tend to hold much utilitarian value in the Quebec context. However, multilingualism which includes French and/or English opens many doors in the province. The participant sample of Ballinger et al. (2020) did not include any parents who were solely transmitting HLs, and in fact, previous research suggests that it is rather rare for HL speakers in Quebec to raise their children without French and/or English (Kircher, 2019). Consequently, we hypothesised as follows:

H2a: Regarding the *status* dimension, HL parents and non-HL parents hold equally positive attitudes towards childhood multilingualism (provided that the HL parents' children are also growing up with French and/or English).

Raising a child with languages other than French and/or English in Quebec requires extra effort. For instance, parents need to ensure sufficient input and obtain resources such as children's books in the HLs, which are often not readily available (Ahooja et al., in preparation). Several HL parents in Ballinger et al. (2020) felt that it was difficult to be the only one responsible for passing on their HL. They noted that the transmission of HLs is different from that of French and English, to which children can easily receive exposure not only from their parents but also outside the home, and where there is a prospect of future language socialisation through education. Going to great

lengths to raise children with HLs is likely to be the result of a strong conviction that acquiring these HLs entails a fundamental benefit for the children – a benefit that is linked to the importance of the HLs to the social group(s) one identifies with (rather than with the HLs' utilitarian value). Parents who lack this conviction will probably not transmit their HLs at all, or at least not beyond a symbolic level. Since our participant sample only included parents who were raising their children multilingually, we thus hypothesised:

H2b: Regarding the *solidarity* dimension, HL parents hold more positive attitudes towards childhood multilingualism than non-HL-parents.

Children's cognitive development was at the forefront of many parents' minds in Ballinger et al. (2020), with HL parents expressing more worry about potentially negative consequences of childhood multilingualism than non-HL parents. Amongst other things, the HL parents voiced more worries about their children mixing languages, about overloading their children with too many languages at once, and about multilingualism causing delays to their children's language development. Therefore, we hypothesised as follows:

H2c: Regarding the *cognitive development* dimension, non-HL parents hold more positive attitudes towards childhood multilingualism than HL-parents.

5. Methodology

5.1 Method

The data for this study were collected by means of the Attitudes towards Childhood Multilingualism Questionnaire (ACMQ), which, prior to the main data collection, was piloted amongst 24 Quebec-based parents to test the items and instructions. The ACMQ was part of a larger research project that also investigated Quebec-based parents' concerns about raising children multilingually (Quirk et al., in preparation), their language practices (Phillips et al., in preparation), and their use of

resources to promote multilingual development (Ahooja et al., in preparation). Here, we focus only on those aspects of the project that pertain to parents' attitudes. Our hypotheses and data analysis plan were pre-registered prior to examination of the data. This pre-registration, the ACMQ, raw data, and R analysis code will be made available at: <https://osf.io/qcvse/>.

Attitudes towards childhood multilingualism. Attitudes were elicited by means of twelve items whose response options were five-point Likert scales (1 meaning *don't agree at all*, 5 meaning *agree completely*). There were four items each that were designed to tap status (29, 31, 34, and 36), solidarity (30, 33, 35, and 38), and cognitive development (27, 28, 32, and 37; see Table 2) – that is, our hypothesised dimensions. In the absence of existing (non-context specific, non-language-specific) scales for the elicitation of attitudes towards childhood multilingualism, we developed the ACMQ items based on the findings from Ballinger et al. (2020) and existing knowledge regarding the dimensions of attitudes towards individual languages (see above). Three of our items (29, 34, and 37) tapped similar points as Surrain and Luk's (2019) items developed for the U.S. context. The other nine were different since we set out to tap status, solidarity, and cognitive development – and we included several items to tap each hypothesised dimension to ensure validity. The ACMQ items purposely did not make explicit reference to either the research context or to specific languages.

Location within Quebec. We used an open-ended item asking participants where they lived. In line with the findings of the aforementioned study by Kircher (in preparation), the data were initially coded into three categories: participants living (1) on the island of Montreal, (2) in the suburbs of Montreal, and (3) in the rest of Quebec. As the attitudinal differences between the first two categories turned out not to be significant, their data were combined. The resulting categories used for the final analyses were: participants living (1) in Montreal, and (2) in the rest of Quebec.

Linguistic background. We used an open-ended item asking participants what language(s) they considered to be their mother tongue(s), specifying that we meant the language(s) they had learned at home, as a child, and that they still understood. This was based on StatCan's (2009) definition of L1 as 'the first language learned at home in childhood and still understood', acknowledging that individuals can have more than one L1. We coded the data into two categories: participants who had grown up (1) with only one L1, and (2) with multiple L1s.

Approach to promoting multilingualism. We used five-point Likert scales (1 meaning *never*, 5 meaning *all the time*) to elicit the frequency with which participants used French, English, and other languages with their child. Additionally, we employed a multiple-choice item to find out what language(s) the child's other caregiver(s) – if applicable – used with the child. The data were coded into two categories: participants using (1) OPOL, and (2) any other approach. We applied the OPOL category not only for participants who followed this approach very strictly (reporting use of one language with their child as 5, and 1 for other languages) but also for those who followed it slightly more flexibly. This decision was based on the fact that, in a multilingual environment like Quebec, even parents who have adopted the OPOL approach may occasionally employ another language in situations where they and their child are in the presence of someone who does not understand their habitual language. Participants who did this only very rarely (reporting use of a non-habitual language as 2 on the scale) were thus also included in the OPOL category.

Languages transmitted. To determine the languages transmitted to a participant's child, we used the same five-point Likert scales used to elicit the frequency with which each participant used French, English, and other languages with their child (1 meaning *never*, 5 meaning *all the time*). If a parent reported using a language with their child at a frequency greater than 2, this was coded as the language being transmitted. Additionally, the aforementioned multiple-choice item was used to establish what language(s) were being transmitted by a second caregiver – if applicable. Based on

these data, participants were classified into two categories: those whose children were being raised (1) with at least one HL, and (2) without any HLs.³

5.2 Procedure

The ACMQ was distributed online via the mailing lists of the Concordia Infant Research Lab and the McGill Infant Speech Perception Lab, which include all Quebec-based parents from the government birth lists who have agreed to be contacted for research purposes. In order to further encourage parents – and especially those in the more remote regions of Quebec – to participate, we also shared the ACMQ via other mailing lists as well as traditional and social media, including targeted ads for the more remote regions. The ACMQ was available in both English and French, and participants could respond in the language of their choice. Participants were also encouraged to share the questionnaire with further potential participants (snowball sampling). Data collection took place over a period of six months, from September 2020 until February 2021.

5.3 Participants

The participant sample consists of 826 parents who, at the time of data collection, lived in Quebec, were over the age of 18, and were raising a typically-developing infant or toddler aged 0-4 years with multiple languages in the home.⁴ 71.9% of the participants lived in Montreal and 28.1% lived elsewhere in Quebec. Their ages ranged from 23 to 56, with a mean age of 35 years. 92.9% of participants identified as female, 6.4% identified as male, 0.5% indicated a gender other than female or male, and 0.2% did not provide information concerning their gender. 77.7% had grown up monolingually while the remaining 22.3% had been raised multilingually themselves. 38.4% had French as their L1 / one of their L1s, 34.5% had English as their L1 / one of their L1s, and 46.4% had a language other than French or English as their L1 / one of their L1s. As for the child-rearing constellations: 2.7% were raising their children alone, 1.9% with partner(s)/parent(s) living in a different household, 94.9% with partner(s)/parent(s) living in the same household, and 0.1% were

raising their children in other constellations. Only 11.6% were using OPOL to promote their children's multilingualism while the majority of 88.4% used different approaches. 60.2% of the participants were transmitting HLs to their children (HL parents) while 39.8% were passing on English and French only (non-HL parents). The specific language combinations with which the participants' children were being raised are shown in Figure 1. The children's ages ranged from 3 weeks to 48 months, with a mean age of 23.5 months. 49.9% participants described their children as female, 50.0% as male, and 0.1% as having a sex other than female or male.

5.4 Statistical Analyses

As noted above, our first research aim was to determine whether parents' attitudes towards childhood multilingualism constitute a unitary construct or whether they have different evaluative dimensions. Conway and Huffcott (2003, p. 150) state that '[i]f a researcher's purpose is to understand the [underlying] structure of a set of variables [...], then use of a common factor model such as [...] maximum likelihood factoring represents a high-quality decision'. Therefore, exploratory factor analysis with maximum likelihood factoring was performed. An oblique rotation method (direct oblimin) was chosen since 'most factors related to human cognition [...] can be assumed to be related in some way' (Plonsky & Gonulal 2015, p. 22). Subsequently, multiple regressions were performed to meet our second research aim – that is, to ascertain which of the aforementioned variables correlated with parental attitudes towards childhood multilingualism, thus constituting potential predictors.

6. Results

6.1 The Dimensionality of Attitudes

The Kaiser-Meyer-Olkin index (.83) and Bartlett's Test of Sphericity (sig. <.001) indicated that the

data are suited for factor analysis. Parallel analysis revealed three components, and the factor correlation matrix (Table 1) demonstrates that the three extracted factors were indeed interrelated and that the obliquely rotated solution was thus adequate.

The factor matrix (Table 2) shows that the factor loadings support a division into our three hypothesised dimensions of attitudes towards childhood multilingualism – that is, status, solidarity, and cognitive development. Items 27, 28, 29, 32, and 37 loaded onto factor 1,⁵ indicating that they all tapped the same dimension – namely cognitive development; items 31, 34, and 36 loaded onto factor 2, indicating that they all tapped the same dimension – namely status; and items 30, 33, 35, and 38 loaded onto factor 3, indicating that they all tapped the same dimension – namely solidarity. The items that loaded onto each factor had high internal consistency: $\alpha = .81$ for the cognitive development factor, $\alpha = .79$ for the status factor, and $\alpha = .67$ for the solidarity factor. Together, these three factors accounted for much of the variance: cognitive development for 22.6%, status for 19.0%, and solidarity for 16.8% – together 58.4%. Notably, the three factors we found were correlated: Participants who reported more positive attitudes on one dimension were also more likely to report positive attitudes on the other dimensions.

All items loaded onto the factor pertaining to the dimension they were designed to tap (see above) – with the exception of item 29, *Knowing more than one language will, in the long term, help my child do well in school*. This item had been designed to tap attitudes on the status dimension but, in fact, it loaded onto the cognitive development factor. This was likely due to the (unintentionally ambiguous) phrasing of the item. It had been designed to refer to ‘doing well’ in the sense of achieving good grades, which allow for subsequent economic opportunities and social mobility (i.e. status). However, it can also be interpreted as referring to ‘doing well’ in the sense of learning easily and understanding subject matters (i.e. cognitive development). It appears that participants mainly interpreted the item to mean the latter. The item could be reworded in future

iterations of the ACMQ, in a way that unequivocally pertains to attitudes on the status dimension. Yet, this has no bearing on the overall results of the factor analysis.

6.2 Potential Predictors of Attitudes

Following the factor analysis, the items that loaded onto each factor were combined and their mean was calculated to create an overall value for attitudes on the status dimension, an overall value for attitudes on the solidarity dimension, and an overall value for attitudes on the cognitive development dimension.⁶ Attitudes on all three dimensions were very positive, with an overall mean of 4.74 (SD = .51) for status, 4.55 (SD = .62) for solidarity, and 4.43 (SD = .65) for cognitive development (recall that 5 was *agree completely* for all attitude items).⁷ Multiple regressions were then performed to investigate which of the aforementioned variables correlated with parental attitudes towards childhood multilingualism on each dimension, thus constituting potential predictors. The reference levels were: *inside of Montreal* for location within Quebec, *monolingual* for linguistic background, *an approach other than OPOL* for approach to promoting multilingualism, and *no HL included* for languages transmitted.

The initial regression results showed that two variables had a significant association with attitudes on the status dimension (Table 3): parents' approach to promoting multilingualism, with the adoption of OPOL being associated with *less positive* status-related attitudes (Figure 2); and the languages transmitted, with the presence of a HL also being associated with *less positive* status-related attitudes (Figure 3). For attitudes on the solidarity dimension, the languages transmitted constituted the only variable that had a significant association (Table 4) – this time with the presence of a HL being associated with *more positive* solidarity-related attitudes (Figure 4). For attitudes on the cognitive development dimension, no significant effects were found (Table 5).

Notably, the correlation matrix for all variables shows that parents in Montreal were more likely to transmit a HL than those elsewhere in the province; multilingual parents were more likely

to follow OPOL than monolingual parents; and OPOL was more common amongst non-HL parents than amongst HL parents (Table 6). However, when additional exploratory models were run for each of the three dimensions including interaction terms, none of these were significant, and thus they were not included in the models.

As planned in the pre-registration, we then repeated the regressions with only those variables that had been found to be statistically significant in the initial rounds of analysis – that is, approach to promoting multilingualism (for attitudes on the status dimension) and languages transmitted (for attitudes on the status and the solidarity dimension). In these pruned models, the same variables remained significant.⁸ However, both full and pruned models accounted for only a very small share of the variance: 2% for each dimension (Tables 3 and 4).

7. Discussion

7.1 The Dimensionality of Attitudes

RQ1 was: Do parents' attitudes towards childhood multilingualism constitute a unitary attitude factor or do they have different evaluative dimensions? The factor analysis results revealed three distinct factors, proving H1 to be true: The participants' attitudes did indeed have different evaluative dimensions. Our study is thus the first to confirm the multi-dimensionality of attitudes towards childhood multilingualism. As hypothesised, two of the factors we found corresponded to the evaluative dimensions present in attitudes towards individual languages, namely *status* and *solidarity* (H1a). Our findings therefore show that the 'universal importance' that status and solidarity have for the understanding of attitudes (Ryan et al., 1988, p. 1073) applies not only to attitudes towards individual languages – it also extends to attitudes towards childhood multilingualism. Moreover, as hypothesised, the third factor we found corresponded to an evaluative dimension pertaining to children's *cognitive development* (H1b). Attitudes on the

cognitive development dimension manifested in parents' belief that knowing multiple languages entails cognitive benefits for their child, such as making them a better learner and a more flexible thinker, improving their reasoning abilities, and facilitating the acquisition of further languages later in life. Our study is the first to attest cognitive development as a separate dimension of attitudes towards childhood multilingualism.

As noted above, the few previous factor analytic studies of attitudes towards (childhood) multilingualism – namely Baker (1992) and Surrain and Luk (2019) – had found a single latent construct. Yet, Surrain and Luk's factor loadings did lead them to speculate about beliefs regarding children's developmental trajectories being a separate dimension. Unlike Baker (1992) and Surrain and Luk (2019), we employed items that were explicitly phrased to tap status, solidarity, and cognitive development as distinct dimensions. Moreover, unlike these previous studies, we avoided phrasing our items in a context-specific manner (i.e. no reference was made to Quebec or Canada), and we made reference to multilingualism as such rather than to the specific languages involved in the research context (i.e. English, French, and HLs). It seems likely that the design of the ACMQ items is what allowed us to provide evidence for status, solidarity, and cognitive development as separate evaluative dimensions of parental attitudes towards childhood multilingualism.

The finding that the three factors were correlated could be due to the fact that 'most factors related to human cognition [...] can be assumed to be related in some way' (Plonsky & Gonulal 2015, p. 22) – or it could indicate that there is one underlying macro-factor for attitudes towards childhood multilingualism, which has several sub-factors. Further research is necessary to ascertain this. Notably, together, the three factors we found accounted for much of the variance in our data: 58.4%. This indicates their importance. However, the fact that they did not account for all of the variance suggests that further dimensions of parental attitudes towards childhood multilingualism may exist. More research is needed to investigate this. Nonetheless, our study

makes an important contribution to attitude theory by advancing knowledge regarding the dimensionality of attitudes.

7.2 Potential Predictors of Attitudes

RQ2 was: What socio-demographic and linguistic variables correlate with parents' attitudes towards childhood multilingualism, thus constituting potential predictors? The regression results revealed H2 to be true: The combination of languages transmitted – and specifically, the inclusion of a HL – constituted the main predictor of participants' attitudes towards childhood multilingualism. This is in line with the findings from the first phase of our research project (Ballinger et al., 2020). However, for two of the dimensions (status and cognitive development) the combination of languages transmitted did not correlate with attitudes in the manner we had hypothesised.

Regarding the status dimension, we had hypothesised that HL parents and non-HL parents would hold equally positive attitudes towards childhood multilingualism (H2a). Yet, the regression results revealed a significant difference: The presence of a HL was associated with *less positive* status-related attitudes. As noted above, the items in the ACMQ were phrased in a non-context-specific manner, and without reference to specific languages. Nevertheless, it is possible that the participants interpreted the status items as pertaining to the Quebec context, and as referring to multilingualism involving the specific languages with which their children were being raised. This would explain why the non-HL parents (whose children were growing up with two languages that hold high utilitarian value in Quebec society) expressed more positive attitudes towards childhood multilingualism than the HL parents (whose children were growing up with at least one language that holds little utilitarian value in Quebec). However, further research is necessary to confirm the underlying reason for the status-related results.

Regarding the solidarity dimension, we had hypothesised that HL parents would hold more positive attitudes towards childhood multilingualism than non-HL-parents (H2b). The regression results revealed this to be true: The presence of a HL was associated with *more positive* solidarity-related attitudes. As explained above, raising children with languages other than the main societal languages of a community requires extra effort and is not always easy. We thus assumed that parents who transmit their HLs despite the added effort and difficulty hold a strong conviction that acquiring these HLs will entail a fundamental benefit for their children – a benefit linked to the importance of the HLs to the social group(s) they identify with. This serves as a likely explanation for the fact that the HL parents in this study did hold more positive solidarity-related attitudes towards childhood multilingualism than the non-HL parents.

Regarding the cognitive development dimension, we had hypothesised that non-HL parents would hold more positive attitudes towards childhood multilingualism than HL-parents (H2c). However, this was not borne out by our data. In fact, the presence of a HL did not covary with attitudes on the cognitive development dimension in a significant way at all. H2c had been based on the HL parents' more vocal expression of their worries about potentially negative cognitive consequences of childhood multilingualism in the first phase of our project (Ballinger et al., 2020). Yet, the regression results indicated that this does not constitute a systematic and significant trend. It seems that our participants were, after all, at least implicitly aware that the specific languages with which children are raised do not entail differences to the cognitive processes involved in growing up multilingually.

It is unclear why the adoption of OPOL was associated with *less positive* attitudes towards childhood multilingualism on the status dimension. One possibility is that proficiency in the languages transmitted affects parental attitudes towards childhood multilingualism, and that those participants who had adopted OPOL were less multilingual themselves. This remains to be

ascertained. Moreover, for both the status and the solidarity dimension, the variables we found to correlate with attitudes in a significant manner – that is, approach to promoting multilingualism (for status) and languages transmitted (for status and solidarity) – accounted for only a small share of the variance: 2% for each dimension. More research is thus needed to investigate what other variables also constitute predictors of parental attitudes towards childhood multilingualism.

Nonetheless, by providing an initial understanding of such predictors, our study makes an important contribution: It lays the groundwork for the development of appropriate measures to support families who wish to raise their children multilingually. As noted above, this support matters because children's multilingual development not only has macro-level implications for the maintenance of minority languages (King et al., 2008) but also crucial micro-level implications for children's well-being and healthy identity development, as well as family dynamics and interpersonal relationships among family members (see De Houwer, 2021).

7.3 Limitations

Certainly, there are limitations to the study presented here. For instance, the aim of the ACMQ was clearly recognisable, which might have caused responses to be affected by social desirability bias (Baker, 1992). However, due to the anonymity offered by online questionnaires, the likelihood of this is comparatively low (Dewaele, 2018). Had data been gathered by means of other direct methods, such as face-to-face interviews or focus groups, the risk of social desirability bias would certainly have been higher (Oppenheim, 2000). Indirect, experimental methods to elicit attitudes towards multilingualism as a linguistic phenomenon (rather than attitudes towards specific languages) are yet to be developed. Consequently, despite its inherent limitation, a questionnaire constituted the most appropriate choice of research instrument for this study.

A further limitation is that we only collected data from parents who had already made the decision to raise their children multilingually – because their attitudes are likely to be different from

those of parents raising their children monolingually. Moreover, while we reached out to all Quebec-based parents from the government birth lists who have agreed to be contacted for research purposes, and we made use of targeted campaigns (and snowball sampling) to further encourage participation among parents especially in the more remote regions of the province, our participant sample is not representative. We thus make no claims regarding the generalisation of our findings to the Quebec population at large.

Finally, the correlational nature of the study needs to be acknowledged: The findings allow us to conclude which predictor is related to parental attitudes towards childhood multilingualism, but not whether this relationship is in fact causal – even though causality does seem probable. Notwithstanding these limitations, the study's findings provide meaningful insights into the attitudes towards childhood multilingualism held by Quebec-based parents raising an infant or toddler aged 0-4 years with multiple languages in the home. Should these findings hold true, they would have important implications for both theory and practice.

7.4 Directions for Further Research

The participants in this study, who were all raising their children with more than one language, held very positive attitudes towards childhood multilingualism. Their attitudes were thus consistent with their behaviour. Based on the findings of this study, the next step of our work will be to ascertain whether, and to what extent, attitudes towards childhood multilingualism – on each of the three dimensions we found – in fact determine parental language choices (Phillips et al., in preparation). As noted above, theoretical models have long posited that attitudes towards childhood multilingualism constitute an important determinant of parental language choices, and thereby children's multilingual development (e.g. De Houwer, 1999, 2020; Pearson, 2007). Yet, to date, there is little empirical research directly testing this hypothesis. The knowledge of the dimensionality of attitudes towards childhood multilingualism that is provided by the present study

will allow for a much more nuanced analysis of the relationship between parents' language attitudes and their language choices in future research. Our findings will therefore also contribute to models of intergenerational language transmission.

Subsequently, more research is necessary not only to ascertain whether our findings can be generalised, but also to further investigate the dimensionality of attitudes towards childhood multilingualism as well as additional predictors. In addition to focusing on the parents of infants/toddlers who are growing up in multilingual homes, future attitudinal research should also consider caregivers of infants/toddlers whose primary exposure to their LXs takes place in contexts outside the home, such as daycare. Moreover, moving forward, research building on the study presented here should extend to parents raising children older than 0-4 years as well. Previous studies have found parents' language practices in the home to shift in response to changing life circumstances, such as altered family compositions and children's exposure to new language environments in daycare or school (Prevoo et al., 2011; Schechter et al., 1996; see also Surrain, 2018). Longitudinal research and studies with parents raising children from a range of age groups will show whether these shifting language practices are linked with changing attitudes, thereby providing insights into the trajectories of parental attitudes towards childhood multilingualism.

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Footnotes

¹ We use the term *multilingual* to refer to speakers of multiple languages, regardless of whether there are two or more.

² See Kircher & Fox (2019) for an overview and a discussion of why multiethnolects in early stages of their development may constitute an exception.

³ In the pre-registration, we had planned to determine the languages transmitted by means of a checklist whose answer options were (a) English, (b) French, (c) one language other than English and French, and (d) several languages other than English and French. Participants were asked to select all options that applied. However, we subsequently realised that the data from this item did not always reveal the same details as the data from the frequency scales. We decided to base our categorisation on the latter as they provided more nuanced insights.

⁴ The pre-registered target sample size was 1000 participants, and ultimately, data were collected from 1189 participants. However, 363 participants were excluded because they did not fit one or more of our inclusion criteria or because they had responded to less than 75% of the relevant items.

⁵ Opinions vary regarding the point at which loadings become important to a factor, but most researchers accept Comrey's (1973) notion that anything above .44 can be considered salient. We thus used .44 as a cut-off point as well.

⁶ These new variables were calculated for all participants who had responded to at least 75% of the items loading onto each factor (n=821).

⁷ As noted above, the majority of participants identified as female. To ascertain that this did not skew the findings, we compared the means for female-identifying and non-female-identifying participants' attitudes. On the status dimension, their means were 4.73 (SD = 0.51) and 4.84 (SD = 0.39), respectively; on the solidarity dimension, their means were 4.55 (SD = 0.62) and 4.59 (SD = 0.61), respectively; and on the cognitive development dimension, their means were 4.42 (SD = 0.65) and 4.56 (SD = 0.59), respectively. Since a Shapiro test indicated that the data were not normally distributed, a Wilcoxon test was used to compare the means. This showed that none of the differences were significant, and there was thus no significant gender-based variation.

⁸ H2a was that, on the status dimension, HL parents and non-HL parents would hold equally positive attitudes towards childhood multilingualism – provided that the HL parents' children are also growing up with French and/or English. Unexpectedly, our participant sample included 6 parents who were raising their children with HLs only. We thus re-ran the regressions after removing these participants from the dataset. The effect of languages transmitted remained significant: The presence of a HL was associated with *less positive* attitudes on the status dimension ($B = -.13, p < .001$).