This study explores the affective responses and beliefs school-aged heritage-language learners (HLLs) hold regarding learning their two languages. Sixty-three HLLs in grades 3 and 4 were presented with pictorial scenarios involving activities across five language and literacy domains in their HL and second language (English). Children were asked to indicate the affect they associated with the scenario and were queried about their chosen affect. They associated positive affect with listening and speaking the HL at home and with English across all domains regardless of context. Qualitative analysis of children’s attributions revealed skill in the domain or language as the most common rationale for their chosen affective responses. Other common themes in children’s rationales in descending order of frequency included children’s degree of interest in the domain or language, the perceived availability of assistance from others, their membership in language groups, and the influence of language environments on language-learning. Implications for further research with this population and recommendations for relevant parties are discussed.

Cette étude porte sur les réactions affectives et les croyances des apprenants d’une langue ancestrale d’âge scolaire par rapport à l’apprentissage de leurs deux langues. À soixante-trois apprenants d’une langue ancestrale en 3e et 4e année, nous avons présenté des scénarios illustrés impliquant des activités touchant cinq domaines liés à la langue et la littératie dans leur langue ancestrale et leur langue seconde (l’anglais). Nous avons demandé aux enfants d’indiquer leur réaction à un scénario pour ensuite leur poser des questions sur leur choix. Ils ont répondu qu’ils associaient au fait d’écouter et de parler leur langue ancestrale à la maison d’une part, et à l’anglais d’autre part, un effet positif et ce, pour tous les domaines et dans tous les contextes. Une analyse qualitative des attributs choisis par les enfants a révélé que leurs réponses affectives étaient le plus souvent basées sur leur compétence relative au domaine ou à la langue. Parmi les autres motifs sous-jacents leurs réponses, notons, en ordre décroissant de fréquence : l’intérêt que les enfants portaient au domaine ou à la langue; leur perception de la disponibilité de l’appui des autres; leur appartenance aux groupes linguistiques; et l’influence des milieux langagiers sur l’apprentissage de la langue. Nous présentons des incidences sur la recherche à l’avenir portant sur cette population, ainsi que des recommandations pour les intervenants impliqués.
In recent decades, researchers across several fields including education, linguistics, and psychology have reported a consistent pattern of heritage language (HL) loss among children following entry into schooling in the second language (L2) (Wong-Fillmore, 2000). This pattern of rapid HL loss among younger minority bilinguals has been widely documented in survey and demographic studies (for a review, see Krashen, 1996, as well as case studies, Kouritzin, 1999). The loss of minority languages is of concern given the advantages of multilingualism including positive effects on aspects of cognitive development (Bialystok & Feng, 2011), economic benefits such as broader employment opportunities (Krashen, 1998), and sociocultural benefits such as better relationships with family members and stronger links to the HL community (Wong-Fillmore, 1991).

In this research we use the terms HL and heritage-language learners (HLLs) based on the work of Valdés (2001), who identifies HLLs as learners (a) who have a historical or personal connection to a language; and (b) who appear in a foreign-language classroom, who originate from homes in which a non-English language is spoken, who speak or understand the heritage language and are to some extent bilingual in English and the HL.

In the study of language maintenance of HLLs, the influence of affective factors has been identified (Krashen, 1981). Positive perceptions of the HL have been shown to be related to HL skills in diverse HLLs (Hakuta & D’Andrea, 1992; Tonami, 2005). In the elementary and middle school years, children tend to hold positive attitudes toward their HL and recognize the importance of maintaining it (Cho, Shin, & Krashen, 2004; Lee, 2002; Nguyen, Shin, & Krashen, 2001; Rivera-Mills, 2001). Despite the positive attitudes toward the HL endorsed by children, many studies involving immigrant adolescents indicate a preference for English, with a shift in preference noted to occur within the first two to three years of schooling (Oller & Eilers, 2002; Veltman, 1983). Several studies have indicated an overwhelming preference for the second language among adolescent HLLs (Portes & Hao, 1998; Portes & Schauffler, 1994). Tse (1998) theorized that in early childhood, children lack awareness of their HL as a minority language. Beginning near the end of childhood (around age 8 years), HLLs begin to experience ambivalent feelings about their HL and may show apathy toward or avoidance of the HL stemming from their desire to integrate into the majority culture and recognition of their minority status. Krashen (1998) referred to anxiety about language use as language shyness.

There is evidence that negative feelings such as anxiety have an effect on language fluency by hindering word retrieval in bilingual individuals (Kenny, 1996). Emotions may influence academic achievement in learners (Pekrun et al., 2002). Positive emotions have been found to enhance academic motivation whereas negative emotions may have a detrimental and interfering effect on performance of cognitive tasks (Pekrun et al.).
Every day HLLs interact with diverse interlocutors and navigate through numerous linguistic contexts, encountering a range of linguistic experiences. Children’s perceptions of these environments may influence their attitudes toward the HL. Spanish-English high school students who resided in United States cities with significant presence of Hispanic culture and language tended to value Spanish more highly than those in cities with a weaker presence (Ramirez, 2000). Furthermore, HLLs’ attitudes toward HL may vary according to language or literacy domain. Smolicz, Nical, and Secombe (2000) found that Filipino-Australian high school students held positive attitudes toward speaking the HL, but less positive attitudes toward HL literacy.

The importance of exploring learners’ beliefs about learning has been emphasized. Wenden (1986) described these beliefs as “a sort of logic, determining—consciously or unconsciously—what they (do) to help themselves learn” (p. 4). Chan and Sachs (2001) recognized that for child learners, “if knowledge is actively constructed by the learners themselves, what they believe about the nature of learning will play a significant role in their learning outcomes” (p. 194). Among young children, Martello (1999) found significant variation in children’s metacognitive and metalinguistic awareness in their descriptions of how they learned to write, ranging from no explanation to identification of multiple strategies (e.g., practicing independently, learning from others). Williams and Burden’s (1999) research on children’s judgments of their success in learning French as an L2 indicated that 10-11-year-old children relied on feedback from teachers, whereas adolescents focused on their greater competence and confidence in their language skills.

In Ro and Cheatham’s (2009) case study of a Korean-American HLL, the focal child compared his HL and L2 (English) when explaining his difficulties with writing in HL: “It’s easy to write in English … I can just write. But it is difficult when the sound and writing is different in Korean” (p. 300). A similar sentiment was expressed by an adolescent in Jia and Aaronson’s (2003) study of Chinese-American HLLs: “English is easier to write … because you just have to know ABCDEFG, the 26 letters. But in Chinese, you have to draw a lot of stuff to get it” (p. 144). These explanations provide a glimpse into children’s understandings of differences between their HL and English. On the whole, the available literature indicates variation in children’s beliefs and attributions about language-learning, with some possessing conscious awareness of their learning efforts and knowledge of their languages and others referring to external factors to measure their learning.

Rationale

As children’s perspectives on their heritage and second languages have yet to be explored comprehensively, we focused our research on HLLs’ affective responses and beliefs about their HL and their L2, English. We chose the middle childhood years due to evidence that a shift in preference from the HL to
Table 1
Demographic Characteristics of Participants by HL Group

<table>
<thead>
<tr>
<th>Demographic variable</th>
<th>N</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender Female: Male (%)</td>
<td>63</td>
<td>50.8 : 49.2</td>
</tr>
<tr>
<td>Age (SD) in years</td>
<td>63</td>
<td>9.38 (.58)</td>
</tr>
<tr>
<td>Country of birth Canada/HL country (%)</td>
<td>63</td>
<td>81.0 : 19.0</td>
</tr>
<tr>
<td>Age of arrival if not born in Canada</td>
<td>12</td>
<td>2.90 (1.37)</td>
</tr>
<tr>
<td>Current attendance at HL class Y/N (%)</td>
<td>63</td>
<td>76.2 : 23.8</td>
</tr>
<tr>
<td>Parents’ highest level of education (%)</td>
<td>55</td>
<td></td>
</tr>
<tr>
<td>Some elementary or high school</td>
<td></td>
<td>21.8</td>
</tr>
<tr>
<td>High school diploma</td>
<td></td>
<td>30.9</td>
</tr>
<tr>
<td>Some college or university</td>
<td></td>
<td>16.4</td>
</tr>
<tr>
<td>University degree</td>
<td></td>
<td>30.9</td>
</tr>
</tbody>
</table>

the L2 takes place during this time (Orellana, Ek, & Hernandez, 1999) and ambivalent feelings toward the HL emerge (Tse, 1998). The following research questions were addressed: (a) What affective responses do children associate with HL and L2 domains of language and literacy (i.e., listening, speaking, reading, spelling, and writing)? (b) To what do they attribute these affective responses? What beliefs and perceptions about HL and L2 domains do children hold?

Method

Participants

The participants (n=63) for this study were Spanish-English and Chinese-English HLLs in grades 3 and 4 enrolled in 13 schools from three school boards in a large metropolitan Canadian city. There were 19 Spanish, 30 Cantonese, and 14 Mandarin HLLs. The English-as-a-Second-Language status of participants was determined by the school board and confirmed by their teachers. The HL was also confirmed as the children’s first language by parental report. Demographic characteristics of the sample are detailed in Table 1.

Measures

Demographic Information

A Family Questionnaire, translated into the child’s HL, was used to provide demographic information (e.g., birthplace of children and their parents, dates of birth, and immigration).
Affective Responses and Beliefs Pictorial Measure

Children’s affective responses to their HL and English were assessed individually using an experimental pictorial measure. This was developed through extensive piloting testing with children in the target age group from several HL backgrounds. Results of the piloting supported the use of the pictorial style as it appeared to elicit children’s expression of their feelings and beliefs about language-learning via its visually appealing, nonthreatening, and developmentally appropriate design.

Children were shown a picture of a gender-matched protagonist described as similar to him or her with respect to age and HL and knowledge of English. Because the protagonist in all pictures was presented from the back with a generic hairstyle, the same picture stimuli could be used for all participants without risk of greater resemblance to any HL group. We asked the child to indicate the protagonist’s feelings in the situation by pointing to the corresponding facial expression on the visual stimuli (see Appendix A).

To ensure comprehension of task demands, two non-linguistic training scenarios were presented. Subsequently, 20 scenarios, each depicting an activity corresponding to one of the five domains of language and literacy (i.e., listening, speaking, reading, spelling, and writing) in each language (i.e., HL and English), were presented (see Appendix B).

For each of the five domains, the protagonist was depicted in the home context involved in the target activity in one item and in a public context (e.g., school, on the street) in a separate item. The picture stimuli that accompanied both HL and English items were identical except for the language shown in the picture. For each scenario, children were asked to explain the reasoning behind their chosen affect. For example, a child who labeled the protagonist’s affect as “bored” for a listening in HL scenario in a private scenario (e.g., at home) was asked, “What makes X feel bored while listening to someone speak HL at home?” To encourage children to elaborate on their responses, a number of standard prompts were used (“Tell me a bit more,” “What do you mean?”).

Procedure

Chi-square goodness-of-fit tests were used to analyze children’s affective responses to language and literacy tasks in their two languages. Their responses to the picture items were transcribed and checked for accuracy. Transcripts were coded using qualitative analysis procedures to allow salient themes to emerge (Strauss & Corbin, 1990). Responses to picture items were coded under a single theme; however, there were instances, particularly in lengthier or more semantically complex responses, when multiple themes were evident in the same response. The qualitative analysis software NVivo8 was used to manage and code the data.

To increase the dependability of the themes identified, transcripts of approximately 20% of the participants (n=15) were coded by an independent
second coder in addition to the primary researcher. Discrepancies were discussed and consensus was reached through further analysis and dialogue. The data were subsequently recoded by the primary researcher using the amended coding scheme. Detailed and thick descriptions of the research are provided to inform readers’ judgments of the transferability of the results. Interested readers are responsible for judging the applicability of the results to a new context (Marshall & Rossman, 1989).

Results

Children’s Affective Responses to HL and English

For each of the language- and literacy-related scenarios in HL and English, children assigned a positive, neutral, or negative facial expression to the protagonist. Their spontaneous labels for the stimuli were largely congruent with the facial expressions as illustrated in Figure 1.

Chi-square goodness-of-fit tests were used to determine whether children associated positive, neutral, or negative affective responses with language and literacy activities in their two languages in equal proportions across public and private contexts. A summary of the frequency of children’s affective responses to each of the scenarios is found in Table 2.

Children’s responses were equally distributed among the three facial expressions for language- and literacy-related activities in public contexts. However, children were more likely to associate listening and speaking HL in private contexts with the positive facial expression than the neutral or negative facial expressions. In literacy domains, children’s responses were divided equally across positive, neutral, and negative responses for private and public scenarios. For all scenarios in which the activity depicted involved English, children tended to select the positive facial expression. Across all domains in private and public contexts, most children selected the positive facial expression for the protagonist in English-language situations.

Children’s Beliefs and Perceptions about Language and Literacy in HL and English

Qualitative analysis of children’s attributions for their chosen affects provided important information about why children associated certain affects with specific scenarios in their two languages. From most frequent to least frequent, the five primary themes that emerged among children’s rationales
### Table 2
Affective Responses Assigned to Scenarios by Language and Domain

<table>
<thead>
<tr>
<th>Language Setting</th>
<th>Setting</th>
<th>Affective response reported by children (%)</th>
<th>$\chi^2$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>HL</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Listening</td>
<td>Public</td>
<td>41.3</td>
<td>39.7</td>
<td>19.0</td>
</tr>
<tr>
<td></td>
<td>Private</td>
<td>58.7</td>
<td>36.5</td>
<td>4.8</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>27.81</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Speaking</td>
<td>Public</td>
<td>38.1</td>
<td>20.6</td>
<td>41.3</td>
</tr>
<tr>
<td></td>
<td>Private</td>
<td>66.7</td>
<td>17.5</td>
<td>15.9</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>31.52</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Reading</td>
<td>Public</td>
<td>30.2</td>
<td>28.6</td>
<td>41.3</td>
</tr>
<tr>
<td></td>
<td>Private</td>
<td>46.0</td>
<td>30.2</td>
<td>23.8</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>4.95</td>
<td>.084</td>
</tr>
<tr>
<td>Spelling</td>
<td>Public</td>
<td>39.7</td>
<td>19.0</td>
<td>41.3</td>
</tr>
<tr>
<td></td>
<td>Private</td>
<td>48.4</td>
<td>21.0</td>
<td>30.6</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>7.19</td>
<td>.027</td>
</tr>
<tr>
<td>Writing</td>
<td>Public</td>
<td>46.0</td>
<td>20.6</td>
<td>33.3</td>
</tr>
<tr>
<td></td>
<td>Private</td>
<td>50.8</td>
<td>17.5</td>
<td>31.7</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>10.57</td>
<td>.005</td>
</tr>
<tr>
<td><strong>English</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Listening</td>
<td>Public</td>
<td>49.2</td>
<td>36.5</td>
<td>14.3</td>
</tr>
<tr>
<td></td>
<td>Private</td>
<td>57.1</td>
<td>30.2</td>
<td>12.7</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>18.95</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Speaking</td>
<td>Public</td>
<td>57.1</td>
<td>28.6</td>
<td>14.3</td>
</tr>
<tr>
<td></td>
<td>Private</td>
<td>77.8</td>
<td>17.5</td>
<td>4.8</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>57.52</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Reading</td>
<td>Public</td>
<td>73.0</td>
<td>15.9</td>
<td>11.1</td>
</tr>
<tr>
<td></td>
<td>Private</td>
<td>69.4</td>
<td>14.5</td>
<td>16.1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>36.23</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Spelling</td>
<td>Public</td>
<td>66.7</td>
<td>14.3</td>
<td>19.0</td>
</tr>
<tr>
<td></td>
<td>Private</td>
<td>46.0</td>
<td>20.6</td>
<td>33.3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>31.52</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Writing</td>
<td>Public</td>
<td>72.6</td>
<td>14.5</td>
<td>12.9</td>
</tr>
<tr>
<td></td>
<td>Private</td>
<td>68.3</td>
<td>14.3</td>
<td>17.5</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>34.67</td>
<td>&lt;.001</td>
</tr>
</tbody>
</table>

**Note.** All analyses based on $N=63$ unless otherwise indicated.

*based on $N=62$.

*not significant after Bonferroni correction.

for their chosen affective response were: (a) Skill, (b) Interest and Preference, (c) Assistance, (d) Group Membership, and (e) Language Environment. The presentation of findings includes descriptions and illustrative examples. Appendix C provides a representation of the raw frequency of themes.

**Skill**
The most frequent theme, Skill, was broadly defined as including any reference to knowledge or ability in the target language. References to the protagonist’s
command of the language as a whole were common across listening, reading, and spelling domains in both languages. For example, one child remarked on the protagonist’s happiness about using “a language he’s really strong at.” Feelings of competence in the target language in specific domains were also evident. For example, a child who assigned a negative expression to the protagonist explained her feelings by stating, “Um, because she is really bad at speaking Chinese.” In an HL reading scenario, one child labeled the protagonist’s feeling as “happy” because, “She knows lots of Spanish, just like me.”

In their explanations, some children demonstrated their belief that language is either known or not, and individuals can be “good” or “bad” at a language in general or in a given domain. Other children used terms such as “a lot” or “not much” to quantify their language knowledge. For both HL and English scenarios, amount of knowledge was correlated with positive feelings (“Happy. She knows a lot in English”). Children also quantified overall command of the language by referring to word knowledge:

I think she might be a little bit frustrated because she doesn’t know lots of words in Spanish. And maybe, um, let’s see, maybe she, knows a lot of the words, but some of the words she does not know, so she feels like skipping them.

Happy because he knows all the Chinese words.

To convey the protagonist’s skill level, children described the ease with which the protagonist carried out the task or by his or her tendency to make mistakes. Positive affect was related to how quickly the task was completed (“He wants to write it quickly, and get it done. Know much of the English, so he can write fast”). Negative affect was often assigned to the protagonist when the task was deemed to be challenging. For example, one child expressed the protagonist’s struggle while writing in English: “Having a difficult time since it’s her second language. So maybe some words she won’t know, she hadn’t learned.” Children associated making mistakes with negative affect, and conversely, the absence of mistakes with positive affect: “Happy. Because he can’t make mistakes because he is really good in English.” “Pretty angry, because he might get all of them wrong, because he doesn’t know how to spell that well in Spanish.”

In both language and literacy scenarios, children identified the tendency to “mix up” their two languages. Using the non-target language was associated with negative affect and negative consequences: “I never know, sometimes I get my words mixed up in English, and I talk Spanish. And she felt, a little shy.”

Whereas many children defined skill in terms of word knowledge, a subset of children demonstrated in their responses an awareness that words varied in their difficulty level. Children viewed the protagonist as displaying
negative affect due to the presence of words described as “difficult” and “hard” (“she might not understand some complicated words”).

Children identified comprehension of spoken and written forms of language as an important skill. In listening and speaking domains, they seemed to measure skill in language domains in terms of the speaker’s ability to convey meaning through words and the listener’s receipt of the message being communicated. For example,

Happy. Because, like, maybe the waiter is asking what she wanted, and she under- and she understood, so she tries to speak Spa- … English. So … so then he will understand what she’s saying. She knows what she’s saying and the other person knows what she’s saying.

Children also recognized that words in written form communicate meaning. They were able to demonstrate their understanding of the importance of reading comprehension and identify the role of vocabulary knowledge in deriving meaning from written language. For example, “Because maybe contain words that he understands … may like the story.” For English reading scenarios, children also connected the emotion with comprehension of the words in the book, as in the following response.

I think she’s um, enjoying herself because reading is pretty fun, it’s very fun and um, I guess she understands a lot what the book is trying to say, maybe a couple of words she can’t understand, but I think she’s feeling great.

In addition to their recognition of the importance of reading for meaning, children demonstrated awareness of the components of written language, for example, “Worried … nervous because she doesn’t know how to put the words in sentences.” Beyond the structural components of written language, children offered their insights into the objectives of writing. One objective articulated by a number of children was emotional expression, illustrated well by one child’s response: “Because she can express most of her feelings in English. In Chinese, there are hardly any words I know.”

Children tended to reflect spontaneously on their skills in two languages, something that bilingual learners do uniquely. Many children perceived the protagonist as having stronger skills in one of his or her languages. Possessing greater knowledge in the language was associated with positive feelings. Similarly, when the protagonist was involved in an activity in the weaker language, children perceived the protagonist as unhappy and made reference to his or her relative lack of skill in the target language: “He’s going to be not very happy because he doesn’t understand Chinese but mostly understands English.”

A small number of children indicated that the protagonist’s skills were equal in both languages and tended to associate positive affect with their
skills: “Good. She knows how to spell English and Chinese the same.” For most children, knowing both languages was seen in a positive light. However, one child expressed concern that engaging in “too much English” could result in HL loss: “Worried. She’s feels like, she knows how to speak Spanish and English now but she might seem a little bit worried too, because if she reads too much English, she might forget how to speak, like read, Spanish.”

Children revealed feelings of confidence in their skills and self-consciousness in their performances. This category was particularly common in responses to scenarios that involved public settings, suggesting an influence of the presence of others on children’s perceptions of their skills. Feelings of pride were ascribed to protagonists who were identified as competent in the target language: “I think she feels proud because she can speak both languages and she’s speaking English to someone else and they’re understanding her.” “Someone is listening. He talks louder in Chinese than English. Louder because he knows more.”

Some children perceived the protagonists as simultaneously experiencing positive and negative feelings about their skills in the target domain, especially with less familiar interlocutors, as exemplified in the following quote related to speaking HL.

I think she feels like … uh … uh happy, but at the same time, in the middle because … so she can understand a lot of Spanish but only she doesn’t know as much Spanish so she probably feels kind of proud that she knows how to speak but a little bit embarrassed if … if they don’t understand what she’s saying.

However, the private atmosphere of the home environment was perceived as permitting students to learn without fear of negative evaluation, for example, “Happy. More comfortable at home so he can study.” When the protagonists were perceived as skilled, children described no risk of social consequences such as teasing. This was especially evident in their responses to activities in English: “Uh, more more happier. ‘Cause he-, ’cause the people won’t make fun of him that, he’s speaking a language that he can, uh, understand or like, speak well.” However, the children anticipated negative reactions from others in public scenarios in response to weak performance, most frequently in scenarios involving HL. As one child said, “She’s just like me and she doesn’t know Chinese that well. She doesn’t like reading in front of the whole group.” Unfavorable comparisons between the protagonist’s skills and those of peers were associated with negative feelings: “Sad. Everyone knows more Chinese than her”; “Worried she can’t write it as good as her friends.”

In summary, children provided ample descriptions of their perception that emotions evoked by language and literacy activities in HL and English were associated with the skill or ability of the protagonist.
Interest and Preference

Children expressed beliefs about the protagonist’s interest in the domain-related activity or the language depicted in the scenarios. They viewed interest in the task depicted as reason for the protagonist’s affect. Some gave their impressions of the protagonist’s interest or enjoyment of the language or literacy activity without making reference to the specific language being used. For example, one child stated, “She’s probably enjoying herself ’cause she’s just, writing a story and when I write a story, she-, uh I feel enjoyable, ’cause it’s very fun. And, I guess, she’s feeling great.”

In their descriptions of the presented scenarios, children expressed positive attitudes such as “Jane likes Chinese” as well as negative-toned remarks such as “She doesn’t want to speak Chinese and wants to go somewhere else.” In literacy domains, children articulated positive and negative sentiments toward HL (“Happy ’cause she likes reading in Spanish,” “Not happy. Because he hates reading in Chinese.”) However, fewer children referred to degree of interest as the reason for the protagonist’s affect in English scenarios.

Although children were asked to respond to scenarios involving only one of their languages, in some instances, they reported positive feelings toward the use of both of their languages: “Because maybe she likes people talking to her in both languages.” “That it’s cool. (What is cool?) English and Spanish. It’s like to me it’s like cool because, to me it’s cool because like Spanish and English, it feels like a nice language, mixed together.”

Others espoused clear language preferences. Preference for English over HL was commonly expressed: “He likes English more than other languages.” Often children responded to the scenarios by referencing their own beliefs about the differences between the languages, for example, “I’m also English and Chinese and I get bored when people speak English and Chinese. English is much easier except ‘antidisestablishmentarianism’!”

She feels a little happy ’cause in Spanish you don’t get to color that much. And then in English, you get to do more, since you’re with your teacher instead of with another teacher. You get to do more things. You get more hours to do things and sometimes maybe you don’t wanna end English, you wanna keep going with English, ’cause English is fun, instead of Spanish ’cause you only get a little bit hours.

Similarly, in the writing domain, a preference for writing in English over writing in HL was assigned to the protagonist in the scenarios: “She likes to write things in English, instead of Spanish.” “Happy because writing stories in English than Chinese, he likes writing stories in English than Chinese.”

Some children welcomed the opportunity to learn an additional language. As one child noted, “She might feel happy because she’s learning how to
read English because maybe she’s known how to speak, I mean, read Spanish all her life. Now, she’s knows how to speak English.” Across the two languages and in each domain, children viewed engaging in activities involving language and literacy as opportunities to learn the language by acquiring new words: “Happy he can learn more Spanish from what people are telling to him.” “Happy. Because now, I think she was reading, I think she’s may be reading books um, now, she’s picked up the words and now she’s starting to write English.”

Other children identified being able to communicate with other people as the motivation of learning language: “Because she learn how to say Chinese and how to communicate with other people.” “Learning English therefore can communicate. Other people know English.”

Children connected affective responses to their degree of interest in the depicted domain or language or their overall preference for HL or English. Many children viewed engaging in these activities as associated with enhanced language and literacy development.

**Assistance**

Children drew linkages between the feelings they ascribed to the protagonist and access to assistance during language and literacy activities across all five domains and in both languages. In scenarios based in the home setting, children connected the feelings they identified for the protagonist with efforts initiated by family members to support their language comprehension. Positive feelings such as happiness or comfort were ascribed to the protagonist and related to accommodations made by family members to facilitate their understanding of the language, as in the following quotes.

I think she will feel, um, the same, happy … because, um, like I said, they’re, they’re relatives and, if, if um, if your relatives, the relatives probably knows, the-, the level she’s at to understand Spanish … you’re speaking the level I understand, you’re not saying words that completely I don’t know.

She’s feeling comfortable and great because um, I guess it’s her brother or sister … and I guess they know um, the way she speaks, because they’re her relatives so they’re speaking the way she can understand.

In addition to accommodations made spontaneously by others, many children assigned positive feelings to HL scenarios in the home setting because of potential for receiving or accessing assistance from parents, for example,

She could feel happy because she could tell her mum everything what someone was telling her in Spanish. So … her … maybe her
mum and dad are … because they’re Spanish too … they are born in a Spanish country, they can teach her more Spanish.

She can ask her parents … grandparents for help.

Because of the perceived lack of support available, scenarios where the protagonist was engaged in literacy tasks in private contexts were associated with feelings of sadness by some children. The following responses link feelings of sadness due to the absence of support in HL literacy tasks: “Sad. No one to help.” “Pretty sad. Because some of the words, he don’t know. He can’t ask anyone.”

Children expressed the belief that the parents of the protagonist would be unable to assist him or her with literacy tasks in English. One child described the protagonist’s parents’ difficulty with comprehending an English book as follows.

She has to like do reading, they’re-, they’re reading her a book, or something. And maybe their dad or mum is reading her a book, and, the dad, the mum can’t understand. Can’t understand the book that she wants to read in English.

Children viewed peers as valuable sources of assistance with language-learning. They referred to the utility of being able to get help from peers as follows: “I think she’s uh, feel a lot better, and not so frustrated because, um, because she’s with peers and, maybe her peers are from Spanish countries. So they know a lot about Spanish and they can help her.” “Maybe she’ll, be really quite nervous because she might need some help from … from her friends. ‘Cause it’s her second language, so she might not be sure of what to write.”

Overall, children tended to choose positive affect when assistance was available and negative affect when assistance was perceived to be absent. In the home context, parents were identified as important HL resources. In addition, the role of siblings and peers in bilingual and biliteracy development was highlighted in children’s descriptions of assistance.

Group Membership

Children’s beliefs about the role of language in facilitating or limiting membership in groups were conveyed in their interpretations of the scenarios. They described the implications of using the HL and English in their relationships with friends, family members, and with other language-users.

They often referred to language in a way that communicated their personal sense of identification with the target language. Positive feelings such as comfort and enjoyment were often associated with the protagonist’s or others’ use of the HL: “Maybe he’s com-, more comfortable in his lan-, own language.” “Writing his own country’s language.”
Moreover, a number of children seemed to define themselves or their families as members of the HL group and described the related responsibility to use their HL. For example, one explained the protagonist’s sadness when hearing English spoken at home: “Sad. She thinks that why doesn’t her dad speak English, I mean Spanish to her? Like, ‘cause like they’re a Spanish family, and, she may feel, sad again, but just a tiny tiny bit.”

When describing an HL reading scenario, another child described her identification with her Spanish-language heritage and explained her desire to visit her parents’ country of origin.

I’m more Spanish-cultured but I haven’t had the chance to go to Colombia. I’m planning on when I go to Colombia, I’m going to learn about birds because I researched that Colombia has the most birds in the world. I’m going to get a bird book and do descriptions.

Across various domains of language and literacy and in both languages, children expressed the belief that language has the ability to create bonds between persons. Children associated knowing HL and engaging in HL activities with a sense of unity with other HL-users, for example, “Happy. Um, because, maybe like she doesn’t feel like she’s not connected to other people, but since he’s speaking the same language, maybe she feels, like, um, attached.”

Children perceived the act of learning a language as a marker for membership in a language group. This belief is illustrated in one child’s explanation for the positive affect she described the protagonist as experiencing while spelling in the HL: “Other people are Chinese and he’s a Chinese because he’s learning his own language even though he’s not in his country.” Another response highlighted the sense of membership associated with sharing a common language: “They know Chinese and they’re writing Chinese too, these are Chinese people just like him.” Some children perceived the protagonist as wishing to demonstrate HL skills to others, including family members. In addition, they expressed positive feelings about being able to communicate in HL with native HL-speakers, as in: “Happy. Writing a Spanish story so he could show his family about how he knows Spanish, then, some words, that they could see … that like he could write uh Spanish … uh to someone from his country or something.”

Being able to use the HL was perceived as a way to connect with HL-speaking peers, as noted in children’s responses to various scenarios: “Happy. Maybe because she knows a lot of Spanish. And um, maybe her friends … some of her friends are Spanish. And she can just feel like um, happy that she can talk and connect with them.”

Some children believed that skills in the HL facilitated connections, whereas others believed that they were inadequate and hindered the development of friendships with other HL-speakers. In one child’s interpretation
of an HL listening scenario, the protagonist is described as left out because of her limited HL knowledge.

She’ll be a little sad ’cause her best friend knows Spanish more than her, maybe she was teasing her, “You don’t know that much Spanish than me, and you’re not-, and maybe I should not be your friend ’cause you don’t know Spanish. My other friends are better than you.”

In the company of non-HL speakers, several children described the protagonists as pleased to share their HL with others. Use of the HL was perceived by these children as providing opportunities to serve as representatives and teachers of their HL as illustrated in the words of two respondents.

“Oh can you tell us what does the Spanish meaning mean?” And uh … then, then … uh … (His friends are asking what the Spanish meaning is?) Yeah, the meaning to his story, so we could write a Spanish meaning too, and we could l-, we could, learn Spanish. (How does he feel about his friends asking about the Spanish meaning?) Happy ’cause sharing.

A little bit worried. Because you know, like she’s speaking her own language, and she’s happy about that, so she can like represent her culture and all that, but she might be worried because the other people, she might think that they’re Spanish but they’re not, and they might not understand her.

In the latter quote, the child simultaneously felt pleased to represent her culture and trepidation about speaking her HL in front of people who might not understand it. In addition, concerns that HL use could limit connections between individuals were expressed. This dilemma is illustrated in the following response in which the protagonist apologizes for her use of the HL in front of her non-HL-speaking friends.

She feels happy, ’cause now she has some friends. She maybe had like, a project, and she had to read with her friends, and do things with her friends. And maybe her friends wanted to be with her, if she-, she’ll be able to talk in English, or maybe they’re gonna beat her because she was talking Spanish at the mall with the cool people. Oh she’s like, “I’m really sorry, because I never knew they were gonna be there, and I never know, sometimes I get my words mixed up in English, and I talk Spanish.” And she felt a little shy.

In an effort to gain acceptance from her English-speaking friends, the protagonist seems to excuse her use of the HL due to their preference for English use. Another child indicated a negative reaction to comments by peers about his HL use.
Embarrassed. Because he ... he might get embarrassed about spelling in Spanish, and his friends are like “What, what are you writing?” And yeah, he will get embarrassed. (Tell me a bit more. Why would they say, ‘what are you writing’?) Because they might not understand Spanish.

In the following response, being required to learn the HL and being unable to use English at home were seen as preventing the protagonist from having friends.

She uh got sad because she thought that no one really talks in English in the family (No one talks in English? Tell me a bit more.) Yeah. No one talks in English, so she had to learn Spanish, and just because of that, don’t-, she doesn’t have no friends, and everything.

Children described a sense of isolation from others, which they related to HL use. In situations depicted in public settings, children often perceived the other people in the scenario as unable to understand the HL. Protagonists were frequently ascribed feelings of sadness, worry, and fear as a result of the negative reactions of the other people in the environment. Others’ suspicions about the content of the protagonist’s speech were regularly cited as the reason for the protagonist’s negative feelings. “They might not understand so they are suspicious.” “Worried. Those two people might make fun of her. ‘Cause they don’t know what she’s talking about. Thinking that she’s talking about them.”

Feelings of isolation from non-HL speakers in the environment are conveyed in this description of a HL reading scenario:

Sad. Because, you know, like the other people are staring at her, like “what are you saying?” You know, like “we don’t understand you.” She might feel like, a little bit sad. (A little bit sad because the other people don’t actually understand?) Yeah. I-, see they’re not even trying to read along with her, they’re just, staring at her.

Similarly, another child described the perceived sense of separateness created by speaking the HL among non-HL speakers, stating,

A little scared. Because her friends, the ones that are at the mall, maybe don’t know Spanish. And maybe the guy that’s right beside maybe was a friend, kind of like a boyfriend or something. Maybe he didn’t know Spanish, and uh, he was laughing maybe at her. And with the-, the other friends that maybe he has. And she was all by herself, or something.

In contrast to the HL, children tended to associate English use with facilitating connections with English-speaking friends. By learning English and develop-
oping proficiency, children perceived the protagonist as better able to relate to friends by using a common language, as in the following examples. “Happy. Still happy because, just some happy, because she knows how to speak English now, and, she, sh- could actually like blend in with her friends.” “Happy. Um, because, maybe she’s starting to get the hang of learning English. Um … so she can, talk with her friends better.”

To summarize, children demonstrated sophisticated beliefs about the social value of language. Their descriptions of the protagonist’s feelings illustrated their recognition of language as a way of defining one’s identity, facilitating connections with others, and having the potential to limit relationships with other language-users.

**Language Environment**

Children expressed the belief that the language environment can affect language-learning. This theme was apparent in their interpretations of English and HL activities primarily for oral-language domains (i.e., listening, speaking). Their interpretations tended to emphasize the predominant presence of the English language in Canada. In the following quote, a child provided his reasoning for the protagonist’s lack of emotional response to being spoken to in English: “Well, it’s regular because um, because he-, because the national language is English and almost everyone in Canada knows how to speak English. So I don’t think he would be surprised.” “Okay because that’s the main language in Canada and most people understand.”

Another child expressed her recognition of the value of English in the community and noted the protagonist’s concerns about being able to learn English, stating, “Worried a little. Maybe because like a lot of people in, the, like, that in the-, that are in her community, they speak a lot of English. And she’s worried that she will never learn English.”

Furthermore, children expressed their beliefs about the absence of HL in their environment. When presented with a situation in which the protagonist is speaking the HL in a public context, one child assigned negative affect to the protagonist and explained, “No one understands Chinese at the mall.” Another described the protagonist as “Sad. Because they don’t know Chinese because not that many people know Chinese.” These remarks suggest that children view the HL as a minority language in Canada that is known to few in the community at large.

In the light of their observations on the prominence of English in Canada and the minority presence of their HL, it is noteworthy that many children viewed HL learning in Canada as a demanding task. For example, one child said that the challenge lay in more frequent exposure to language-learning in English: “Because Chinese is, Chinese is very hard to learn in Canada. Because we learn English more than Chinese. Chinese class is not every day.”
Furthermore, children also perceived HL materials as less accessible in Canada than English materials. For example, one child remarked on the greater access to “English stories” in Canada: “Umm, I think happy. Because, um, um, I think there’s more, lots of English stories than Chinese stories here. I think there’s more English stories than Chinese stories in Canada.”

In fact, several children cited living in Canada as the reason for poor HL skills, for example: “Because since she lives in Canada, since she lives in Canada, she might not know that Spanish for-, that much Spanish that the person’s talking about.”

In summary, this theme captures children’s beliefs about the effects of the language environment on their acquisition of their HL and English. Canada was described by many children as an English-dominant environment. The effect of English use by others and the limited availability of HL materials were perceived by children as compromising their HL learning.

**Discussion**

This study explored children’s affective responses to language and literacy domains in their two languages and attributions for their chosen emotions. Their affective responses were found to differ for language and literacy domains in the heritage and second languages. In their HL, children tended to associate positive affect with oral language activities that took place in the home context. These results suggest that most children viewed communicating in the HL in the private, and perhaps protected, setting of the home in a positive light. In contrast, children appeared to hold disparate views about listening and speaking the HL in public. This may be due to greater variability in their individual perceptions of how the HL would be received in their communities.

Children’s views of literacy activities in the HL were also varied, with no clear trend in the affects that they chose for these domains across public and private contexts. Although the same proportions of children chose each of the three affects, positive, neutral, or negative, for activities in public and in private, it was unclear if individual children chose the same affect for literacy activities in the HL in different contexts such as positive affect toward scenarios involving reading in public and in private. These results suggest the presence of greater diversity in children’s affects toward reading, spelling, and writing in their HL than in English. It could be speculated that the selection of the neutral affect for the protagonist may reflect some degree of ambivalence toward literacy in the HL. Consistent with Tse’s (1998) ethnic ambivalence stage of identity development, children may be in the process of developing their views toward the HL by working through their ambivalent feelings. Another consideration is that unlike oral language activities in HL, which may have emotional or familial significance, children’s experiences of HL literacy activities may originate primarily from formal instruc-
tion in HL class. In this case, young HLLs may have had limited opportunities for pleasurable and meaningful literacy experiences such as reading a funny book or writing letters to friends.

Children’s affective responses to English-language and literacy scenarios were more uniform. Irrespective of the language or literacy activity or the context in which it was shown, children tended to associate positive affect with English scenarios, which is consistent with research involving older HLLs. A comparison of children’s primarily positive responses to English-language scenarios to the more varied affects with which they associate HL activities suggested that children differentiated between their two languages.

The second objective of the study was to explore HLLs’ beliefs and perceptions about their two languages. Analysis of children’s explanations for the affects chosen revealed five main themes, of which skill was the most frequent. Affective responses, whether positive, neutral, or negative, were explained in relation to the skills attained in a given domain. Children’s overall linguistic knowledge was evident in their intuitive theories on language development. Their descriptions of their skill level seemed to reflect varied levels of awareness of the complexity of language. Some demonstrated their understanding that language in spoken or written form conveyed meaning and allowed for the communication of ideas. However, these insights were not found by Williams and Burden (1999) in their study of children learning French as an L2. Although most of the children in Williams and Burden’s study were older than our participants, the projective format of the pictorial measure used may have facilitated these younger children’s visualization of the scenarios or evoked their memories of similar experiences.

Another unique aspect of children’s naïve theory was their spontaneous comparisons of their skills in both languages. Unlike monolinguals, HLLs have substantial exposure to two languages. HLLs in this research seemed to step back and reflect on their bilingualism and biliteracy. This finding suggests that experience with input from two languages may encourage children’s analysis of the relative strength of their abilities in various domains across both languages.

Some children emphasized the emotional effect of having or lacking confidence in their command of the language. Although some children described pride in their well-developed skills in the HL and English, many others expressed worries about others’ reactions to their lack of language skill, which contradicts the notion that young children may not be self-conscious or inhibited in their use of language. As Snow and Hakuta (1992) stated about the costs of monolingualism for HLLs, “Young children, as much as older ones, feel the ‘cost’ of personal discomfort, social isolation, and lowered self-esteem associated with speaking the language of their interactants poorly” (p. 389). The worries expressed by the young HLLs in this study exemplify the “language shyness” of HLLs described by Krashen (1998) and the thoroughly
documented concept of language anxiety among adult foreign-language learners (Horwitz, Horwitz, & Cope, 1986). Unlike adult foreign-language learners who face anxiety in situations involving L2 use, young HLLs faced performance fears when attempting to communicate in the HL as well as in their L2 English. These insecurities about their skills in one or both languages and the resulting anxiety in performance situations may interfere with their investment in language-learning.

A second theme in children’s responses to language and literacy scenarios was Interest and Preference. Children associated their affective response with degree of interest in the target activity and language. They also attributed their affective response to their preference for one language over the other. Expressions of lack of interest or specific preference for one language among HLLs have also been reported in other studies (Ro & Cheatham, 2009). Children’s enthusiasm for learning the target language and viewing scenarios as opportunities to increase language knowledge were evident. This finding is promising with respect to language maintenance as among adult HLLs, viewing the HL learning as enjoyable has been associated with greater engagement in the learning process (Comanaru & Noels, 2009).

Assistance was a common theme in children’s attributions for their affective responses. They often explained their emotional reactions to the scenarios by citing the availability of assistance. They seemed to value the home setting as a place where they could access support with the HL. However, the perceived absence of support with English literacy, particularly from older family members, seemed to be one reason for children’s negative responses to English literacy activities in the home setting. The positive affective valence that children linked with access to assistance from their peers for both HL and English linguistic tasks reflects the significant influence that peer-to-peer support can have on children’s engagement in language-learning. This finding underscores Oller et al.’s (2011) description of the critical role that peers play in HL maintenance.

The theme Language Environment demonstrated children’s awareness that proficiency results from exposure to language in the environment. They described the prevalence of English in Canada and attributed their feelings toward the HL and English to being born in an “English country” if they were born in Canada. These attributions demonstrate children’s apparent intuitive sense of the influence of demographic factors such as degree of exposure to the L2 on HL maintenance (Harrison, 2000).

Finally, Group Membership included references to children’s personal identification with the target language and group, and their recognition of the influence of language on social relationships. Children demonstrated their understanding that language is, as described by Tsunoda (2005), a conveyor of culture, determiner of identity, source of pride and self-esteem, and source of solidarity. Instances of this theme were consistent with Pearson’s
description of strong affective value of the language (pride in culture), a factor posited to contribute to HL maintenance. Children’s recognition of the HL’s ability to promote cultural and community affiliation mirrors the findings of earlier research with older HLLs (Mills, 2001). Side by side with their beliefs about the bonding effect of HL use, children believed that being seen using the HL separated them from non-HL speakers. As speculated in earlier research with young HLLs (Chumak-Horbatsch, 1999), children’s negative responses to HL use in the scenarios appear to be associated with concerns about isolation from peers. On the contrary, children viewed English use as promoting the formation of friendships with English-speakers. Their perception of the importance of English in forming friendships lends support to Wong-Fillmore’s (1991) claim that for HLLs, “the only way to gain access to [the] social world of the school is to learn English” (p. 207). Taken together, these findings provide confirmation for Oller et al.’s (2011) assertion that children take into account peers’ reactions to HL or L2 use in order to develop and/or maintain friendships.

Implications and Recommendations
The findings of this study have relevance for many parties. One major group is HLLs and their families. Parents of HLLs may find it promising that children seem to believe that “HLs function as emotive and emotional ties” that connect them to their heritage, family, and community (Mills, 2001, p. 399). The findings suggest that children are sensitive to the reactions and appraisals of others regarding their language proficiency and may be discouraged by criticism or teasing.

As children identified the influence of language in their environments, parents may wish to preserve the HL by promoting its use at home and highlighting its importance in the broader community. Their experiences with learning HL and exposure to the HL via enjoyable home literacy practices and literacy materials may facilitate children’s interest and use of their HL (Guardado, 2002; Pearson, 2006). Children also made the connection between accessing help from parents, relatives, and siblings and their language and literacy development in both languages. In addition to providing more opportunities for HL exposure, HL education may contribute to children’s sense of identity and facilitate contact with HL-speaking peers. Opportunities to interact with HL users (siblings, cousins, relatives) facilitates children’s HL use and enhances their awareness of its social value.

A consistent finding of our research was the relationship between affect and perceived skill level. Therefore, educators may increase children’s motivation to learn a language by recognizing their achievements and highlighting their awareness of gains made over time. Furthermore, in the light of children’s perceptions of their environment as English only, educators might encourage them to share aspects of their culture or language with their class-
mates (Cheatham, Santos, & Ro, 2007). Providing access to literacy materials in various HLs attests to the school’s support of language diversity. Educators can facilitate children’s awareness of the benefits of being multilingual through learning units with global or multicultural themes or by inviting guest speakers who use their HL or multiple languages in their employment.

Connecting children to youth culture of the HL and enjoyable sources of HL literacy (pop music, online videos, TV shows) might enhance their motivation to maintain their HL (Hayashi, 2006). The current findings suggest that peers have a substantial influence on children’s affective responses and use of the HL. Therefore, through mentoring, tutoring, or reading-buddy programs between children with varied levels of proficiency, students may contribute to positive attitudes toward their HL. Children recognize the complexity of language-learning and are cognizant of the indicators of skill. Awareness of this complexity can make learning the HL appear daunting to young learners, and so children may be encouraged by the successes of older and more proficient children. Educators can stress the cumulative nature of learning and encourage children to recognize their successes. School administrators have a role in promoting children’s bilingualism by providing professional development opportunities to educators that promote language diversity and understanding of bilingual language acquisition.

**Future Research Directions**

Despite the contributions of this study to our knowledge of HLLs’ experiences, it is not without limitations. In this research, children of diverse HL backgrounds were regarded as a single group. Future studies may consider examining HL groups separately to explore any differences in their affects and beliefs of their HL and English given the higher rates of maintenance found among Spanish-speaking HL groups shown in earlier research (Lopez, 1996). In addition, longitudinal exploration of children’s bilingualism from early childhood through adolescence is needed to provide insight into the evolution of children’s beliefs about their languages in the light of the “ongoing interaction between two languages in younger bilinguals” (Hakuta & D’Andrea, 1992, p. 73). As adolescence is a period characterized by increased separation from family life, alignment with peers, and ethnic identity development (Tse, 2001), further exploration of adolescents’ beliefs about their languages is warranted.

Further research is needed to explore how closely children’s responses to scenarios presented in the third person align with commonly used self-report measures of language attitudes. It is interesting to note that many children in this research confused pronouns and shifted to the first person when explaining the protagonist’s reactions to the scenarios. This finding suggests that children’s attributions may be similar to their own perceptions. However, further investigation will be needed to clarify if such a relationship
exists. A noted benefit pictorial measure and its administration was the use of follow-up queries. These yielded richer information about children’s beliefs and perceptions about their two languages. Future studies may consider using an interview format in combination with visual stimuli, perhaps with other data-collection procedures (observation, focus groups) to permit triangulation of data to represent HLLs’ perceptions of language and literacy learning optimally. There remains a dearth of knowledge about the experiences of this population of Canadian children, and so the potential for further research is nearly limitless.

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References


Appendix A: Facial Expression Visual Stimulus

[Three drawings of faces: one smiling, one neutral, one frowning]
Appendix B: Pictorial Measure Picture Items

Private Listening Picture Item for Male Participants

Private Listening Picture Item for Female Participants

Public Listening Picture Item for Male Participants

Public Listening Picture Item for Female Participants
Private Speaking Picture Item for Male Participants

Private Speaking Picture Item for Female Participants

Public Speaking Picture Item for Male Participants

Public Speaking Picture Item for Female Participants
Private Reading Picture Item for Male Participants

Private Reading Picture Item for Female Participants

Public Reading Picture Item for Male Participants

Public Reading Picture Item for Female Participants
### Appendix C. Raw Frequencies for Beliefs Themes

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Few | Number of items coded | Many