

## **Crosslinguistic Influence and Exposure Effects in Child Second Language Acquisition**

**Nadine Kolb**\*

This study investigates crosslinguistic influence (CLI) at the syntax-semantics interface and L2 exposure effects by examining the acquisition of [+/-generic] definite plural noun phrases (*The sharks are dangerous*) in child L2 German and L2 French. Recent literature on language development discusses whether CLI occurs with the knowledge of further languages, and whether length of exposure affects the extent of CLI. This study adds to the discussion since my developmental L2 French data suggest that CLI decreases with increasing exposure to the target language. However, the non-target syntactic performance by the L2 German learners can rather be explained by deficits at the syntax-semantics interface or by developmental patterns in L1 English and L1 German than by CLI. Participants are native English-speaking children learning French or German in a full language immersion program.

### **1. Introduction**

Previous research on language development investigates the effect of length of exposure (LoE) on crosslinguistic influence (CLI) (e.g., Austin 2009; Sorace & Serratrice 2009; Ionin & Montrul 2010; Unsworth 2012). This discussion involves two major questions: Does knowledge of another language (be it an L2, L3 or one of the languages in bilingual acquisition) lead to CLI? And does LoE (or the amount of exposure) affect the extent of CLI? There are more studies showing evidence of CLI occurring with knowledge of another language in the linguistic domains of syntax, morpho-syntax and the lexicon (e.g., Ringbom 2001; Mobaraki, Vainikka & Young-Scholten 2008) than for the areas of syntax-pragmatics and syntax-semantics (e.g., Hulk & Müller 2000; Ionin 2008; Serratrice, Sorace, Filiaci & Baldo 2009; Snape, García Mayo & Gürel 2009; Unsworth 2012; Snape 2013). It has been claimed that syntactic CLI depends on language internal aspects such as structural overlap at the surface level rather than language external factors such as language dominance (Hulk & Müller 2000; Müller & Hulk 2001). If a syntactic construction in language A allows more than one grammatical analysis, and language B allows one of these options, then CLI is predicted. In order to investigate CLI, developmental stages must be analyzed (Müller & Hulk 2001; Unsworth 2012). CLI might occur in developmental stages rather than in the endstate, due to a decrease in CLI with increasing LoE. A correlation of CLI and LoE has been found (e.g., Austin 2009; Sorace & Serratrice 2009; Serratrice et al. 2009); however, the developmental stages might be identical to monolingual developmental patterns regardless of CLI. Furthermore, some non-target syntactic second

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\* Nadine Kolb, University of Cologne, kolbn@uni-koeln.de. I thank the audiences at BUCLD 38 and GASLA 12 as well as Christiane M. Bongartz and Jason Rothman for their comments, Bonnie D. Schwartz, Dagmar Barton and Tanja Kupisch for stimulating discussions on the acquisition of generic reference, and Kamil Ud Deen for supporting me in designing the Truth Value Judgment Task presented in this paper.

language (L2) performance cannot be traced back to CLI, but rather to difficulties occurring in interface structures (e.g., Müller & Hulk 2001; Rothman 2009). A complexity in interface properties leading to non-target-like syntactic L2 performance has been found (e.g., Rothman 2009). The present study investigates CLI from L1 English at the syntax-semantics interface in definite plural determiner phrases (DPs) (henceforth ‘definite plurals’) with [+/-generic] reference and the influence of length of L2 exposure on CLI in child L2 French and L2 German.

## 2. Generic definite plurals

Generic DPs express generalizations as shown in sentence (1). In contrast to generalizations expressed by quantifiers (e.g., *all, every*), generics allow exceptions.

(1) Sharks are dangerous.

The way generic reference is expressed varies crosslinguistically and “no language has noun phrases distinctively generic in form” (Lyons 1999: 179). Therefore, DPs with generic reference are ambiguous, even though the degree of ambiguity varies depending on the linguistic context, which is determined by distinctions such as definite/indefinite, singular/plural, count/mass/proper noun, the choice of the predicate (kind-, individual- or stage-level predicates), the choice of the verb, the syntactic position of the noun, tense, aspect, lexical cues (e.g., *in general, normally*) etc. Thus, a lexical device such as *in general* can determine a generic interpretation of an ambiguous DP. Carlson (1977) argues that generic and non-generic bare plurals are in complementary distribution and that the interpretation depends on the linguistic context. Thus, bare plurals in context are not ambiguous. This claim suggests that definite plurals in context are also clearly identifiable as either generic or non-generic. In the present study we deal with individual-level predicates (2a) and stage-level predicates (2b). The choice of the predicate is one of the factors determining generic or non-generic interpretations.

(2) a. The sharks are dangerous.  
b. The sharks are hungry.

An individual-level predicate such as *dangerous* refers to a whole class of sharks being dangerous whereas a stage-level predicate such as *hungry* rather points to a non-generic interpretation since *being hungry* in contrast to *being dangerous* is not a permanent condition. “[S]tates (and events) are stage-level predicates while properties are individual-level” (Lyons 1999: 249; see also Lumsden 1988). States and events refer to a “point or period in time” (Lyons 1999: 191) – a ‘stage’ in time – whereas properties refer to a whole class or a representative individual in that class and are time-independent. It has been claimed that bare and definite plurals can have generic reference in combination with individual-level predicates (e.g., Brugger 1993<sup>1</sup>; Longobardi 1994; Lyons 1999) and non-generic reference with stage-level predicates (e.g., Lyons 1999).<sup>2</sup>

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<sup>1</sup> Individual-level predicates are contrasted to kind-level predicates in this discussion (Brugger 1993: 12). Since the present study focuses on individual- and stage-level predicates, it is beyond the scope of this paper to discuss kind-level predicates.

<sup>2</sup> The role of the linguistic context including the predicate choice is more complex than demonstrated in this paper. A simplified version that enables the reader to understand the present study was chosen for this paper. For further information see e.g., Carlson (1977), Brugger (1993), Krifka, Pelletier, Carlson, ter Meulen, Chierchia & Link (1995), Lyons (1999).

In English (3a) and German (3b), generic reference is typically expressed by bare nouns, whereas the equivalents in French use plurals with a definite article (3c); (subject) bare nouns are ungrammatical (3d).

- (3) a. Sharks are dangerous.  
 b. Haie sind gefährlich.  
    sharks are dangerous  
    ‘Sharks are dangerous.’  
 c. Les requins sont dangereux.  
    the sharks are dangerous  
    ‘Sharks are dangerous.’ / ‘The sharks are dangerous.’  
 d. \*Requins sont dangereux.  
    sharks are dangerous

Definite plurals are hence ambiguous [+/-generic] in Romance (4c) but not in English (4a) and Standard German (4b) [-generic].

- (4) a. The sharks are dangerous. [-generic]  
 b. Die Haie sind gefährlich. [+/-generic]  
    the sharks are dangerous  
    ‘The sharks are dangerous.’ / ? ‘Sharks are dangerous.’  
 c. Les requins sont dangereux. [+/-generic]  
    the sharks are dangerous  
    ‘The sharks are dangerous.’ / ‘Sharks are dangerous.’

Some varieties of German are more tolerant in reference to the use of generic definite plurals than English (e.g., Longobardi 1994; Krifka et al. 1995; Oosterhof 2004; Barton, Kolb & Kupisch under review).

For English, in monolingual L1 acquisition, on the one hand Pérez-Leroux, Munn, Schmitt & DeIrish (2004) found evidence for over-acceptance of generic interpretations of definite plurals (study 1: 70-80% for 4-6- and 6-7-year-olds with a slight decrease with increasing age, study 2: 30-40% for 3-5-year-olds) and on the other hand Gelman & Raman (2003) found evidence for target-like non-generic interpretations of definite plurals (for 4-year-olds). As Serratrice et al. (2009) point out, this discrepancy might be due to methodological differences in the design of the experiments. Furthermore, it has been found that age is a significant factor in the acquisition of article semantics related to generic reference since children from 4 years on (or possibly earlier) distinguish between generic and non-generic DPs based on linguistic form (e.g., Gelman, Star & Flukes 2002; Hollander, Gelman & Star 2002; Gelman & Raman 2003), and that children go through developmental sequences when acquiring article semantics (e.g., Gelman et al. 2002; Gelman & Bloom 2007). Adult native speakers interpret definite plurals above 90% as non-generic (e.g., Pérez-Leroux et al. 2004; Montrul & Ionin 2010) whereas English monolingual children over-accepted generic definite plurals to the same extent as English-Italian bilingual children (Serratrice et al. 2009). In adult L2 acquisition, evidence for CLI has been found from L1 Spanish (and L1 Korean) to L2 English as well as an effect of LoE on CLI; Spanish native speakers initially over-accepted generic reference of definite plurals in English and performed in a more target-like way with increasing LoE (Ionin & Montrul 2010).

For German, monolingual German and German-Italian bilingual children over-accepted the generic interpretation of definite plurals and explicitly allowed ambiguous interpretations

(Kupisch & Pierantozzi 2010). Bilingual German-French and German-Italian adults accepted less generic definite plurals and interpreted less definite plurals as generic than monolingual adults due to over-correction rather than CLI from French or Italian (Kupisch & Barton 2013). Monolingual adult native speakers have been found to accept generic definite plurals (Kupisch & Pierantozzi 2010; Barton et al. under review) with a higher acceptance rate with kind-level predicates than with individual-level predicates (Barton et al. under review). Monolingual children (37%) over-accepted the generic reading to a higher extent than monolingual adults (15%) (Kupisch & Pierantozzi 2010).

For Romance, in monolingual L1 acquisition, evidence has been found for children preferring generic interpretations for definite plurals in Spanish (e.g., Pérez-Leroux et al. 2004). Age is a significant factor in the developmental stages in the acquisition of article semantics in L1 Catalan since 3 year-olds judged 1/3 of all DPs (bare and definite plurals) as generic, 4-year-olds judged 1/3 of the definite plurals as generic and 5 year-olds did not judge any definite plurals as generic (Gavarró, Pérez-Leroux & Roeper 2006). Italian monolingual children and adults as well as Spanish-Italian and English-Italian bilinguals accepted generic definite plurals in Italian in an Acceptability Judgment Task (Serratrice et al. 2009), and Italian monolingual children, adults and Italian-German bilinguals showed a generic preference in the interpretation of definite plurals in a Truth Value Judgment Task (Kupisch & Pierantozzi 2010). French-German bilingual adults have been found to show a generic preference in the interpretation of definite plurals in French (Barton in preparation). In adult L2 acquisition, CLI has been found from L1 English to L2 Spanish in the interpretation of definite plurals since definite plurals were interpreted as generic around 50% of the time in Spanish (Montrul & Ionin 2012).

In summary, developmental sequences have been found in the acquisition of generic reference, by the age of 4 children differentiate between generic and non-generic interpretations even though English and German monolingual children above the age of 4 have been shown to over-accept the generic interpretation of definite plurals, in L1 Romance a generic preference has been found in the interpretation of definite plurals, CLI has been found from English to Spanish and vice versa for the interpretation of definite plurals, and LoE has been shown to have an effect on CLI.

### **3. A study on [+/-generic] definite plurals in child second language acquisition**

#### **3.1 Research questions and predictions**

The main goal of the present paper is to examine CLI and whether LoE affects the extent of CLI by investigating the interpretation of definite plurals in child L2 French and L2 German. My research questions<sup>3</sup> are set out in (5).

(5) Research questions:

- a. Is there evidence for CLI from English to French and from English to German?
- b. Does increasing LoE lead to a decrease of CLI?
- c. Do child L2 learners of German and French with varying LoE differ in reference to CLI?
- d. Do difficulties occur based on the syntax-semantics interface that cannot be explained by CLI?
- e. Does the interpretation of definite plurals differ when combined with individual- and stage-level predicates?

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<sup>3</sup> Some of these research questions and predictions were developed and motivated by Bongartz & Kolb (2009).

The occurrence of CLI at the syntax-semantics interface is predicted based on evidence for CLI in previous research (e.g., Snape et al. 2009; Montrul & Ionin 2012; Unsworth 2012; Snape 2013). Following the Full Transfer/Full Access model (Schwartz & Sprouse 1996) according to which the initial state of L2 acquisition is the final state of L1 acquisition, in the present study it is assumed that the initial developmental stage is based on the L1 grammar. For L2 French and L2 German, this suggests an initial [-generic] interpretation of definite plurals which is the target interpretation in L1 English. However, CLI from English to French is not in line with the surface overlap hypothesis (Hulk & Müller 2000; Müller & Hulk 2001), which does not predict CLI from English to French but from English to Standard German. English and Standard German allow only one grammatical analysis (non-generic interpretation of definite plurals) whereas French and some varieties of German allow two options (generic and non-generic interpretation of definite plurals). If evidence for CLI is found, a decrease of CLI with increasing LoE is hypothesized as suggested by recent literature (e.g., Serratrice et al. 2009; Ionin & Montrul 2010). Thus, in later developmental stages, L2 learners of German are expected to continue allowing the [-generic] interpretation based on the target language (Standard) German or allowing both interpretations based on some variety of German. L2 French learners are expected to allow both interpretations [+/-generic] by showing a generic preference in the later developmental stages due to a decrease of CLI since previous research has found a generic preference in Romance (e.g., Pérez-Leroux et al. 2004; Kupisch & Pierantozzi 2010). Thus, in the early developmental stages L2 German and L2 French learners are expected to behave similarly due to CLI from English, and to differ in the later developmental stages based on the differences in French and German.<sup>4</sup> Furthermore, interface difficulties that cannot be traced back to CLI are expected to occur as found in previous interface studies (e.g., Rothman 2009).

The interpretation of definite plurals with individual- and stage-level predicates is predicted to differ. Individual-level predicates tend to express [+generic] reference whereas stage-level predicates rather refer to [-generic] contexts. Therefore, for individual-level predicates, one would rather expect a [+generic] interpretation in languages which tolerate generic definite plurals such as French and some varieties of German, and a [-generic] interpretation in English and Standard German since generic definite plurals are ungrammatical. For the interpretation of stage-level predicates, [-generic] interpretations are expected in French, German and English.

### **3.2 Participants**

The 51 L2 French and L2 German learners (5 to 12 years old) who participated in this study are enrolled in a full language immersion program in the US. Immersion education is a content-based approach and the participants do not have explicit grammar instruction. Since all participants are enrolled in the same school (either in the French or the German immersion program), the two language groups have been instructed with the same approach and are therefore ideal comparison groups. The children attend the school for approximately 35 hours per week and are exposed to the L2 for 80% of their school day, which constitutes 28 hours per week during the academic school year. All L2 learners are native speakers of English. The L2 learners had to fill out a language background questionnaire with the interviewer after the

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<sup>4</sup> These predictions refer to definite plurals in general based on the grammaticality of the languages involved. Further predictions in reference to definite plurals in combination with individual- and stage-level predicates (in reference to the short stories of the Truth Value Judgment Task presented in this paper) are included in chapter 3.3.

experiment in order to monitor for language input and use in- and outside the school environment.<sup>5</sup>

**Table 1: Characteristics of study participants**

Groups (Based on LoE)	N	Age of Onset (years; months)		Age at Testing (years; months)		Length of L2 Exposure (years; months)	
		Mean (SD)	Range	Mean (SD)	Range	Mean (SD)	Range
L2 French Low	10	5;6 (0;4)	4;11-5;10	6;6 (0;6)	5;10-7;5	1;1 (0;6)	0;8-1;8
L2 French Mid	9	5;9 (0;6)	5;3-6;6	9;2 (0;3)	8;11-9;8	3;5 (0;5)	2;8-3;8
L2 French High	10	5;6 (0;6)	4;10-6;4	10;11 (0;6)	10;4-12;2	5;6 (0;8)	4;8-6;6
L2 German Low	8	5;5 (0;5)	4;10-6;1	6;8 (0;4)	6;3-7;0	1;1 (0;6)	0;8-1;8
L2 German Mid	7	5;8 (0;6)	5;0-6;6	9;3 (0;3)	9;1-9;9	3;7 (0;5)	2;8-4;1
L2 German High	7	5;5 (0;3)	5;0-5;9	11;1 (0;3)	10;10-11;5	5;9 (0;2)	5;8-6;0
Native German Adults	47	0	-	37;2 (13;11)	19;0-62;0	-	-
Native German Children	12	0	-	7;8 (0;4)	7;1-8;1	-	-
Native French Adults	4	0	-	32;3 (6;6)	28;0-42;0	-	-
Native English Adults	5	0	-	34;9 (13;9)	26;0-59;0	-	-

As shown in Table 1, based on the length of L2 exposure (LoE), the language groups were each divided into three groups: L2 French Low (N=10), Mid (N=9) and High (N=10) and L2 German Low (N=8), Mid (N=7) and High (N=7). Age of onset is a stable variable ranging from 4;10 to 6;6 years for all learners (see columns 3 and 4), which is in accordance with the definition of child L2 learners<sup>6</sup>. The L2 learners have been exposed to the L2 from 0;8 to 6;6 years (see column 8). The mean LoE of the Low LoE groups is 1;1 year, the L2 French Mid LoE group 3;5 and the L2 German Mid LoE group 3;7 years, the L2 French High LoE group 5;6 and the L2 German High LoE group 5;9 years (see column 7). With increasing LoE, age at testing also increases (see columns 5 and 6) which has to be kept in mind when interpreting the results since maturation effects might also play a role; the L2 French Low LoE group was 6;6 years, the L2 German LoE group 6;8 years, the L2 French Mid LoE group 9;2 years, the L2 German Mid LoE group 9;8 years, the L2 French High LoE group 10;11 years and the L2 German High LoE group was 11;1 years old when the experiment was conducted. Table 2 provides information on the participants' language background.<sup>7</sup>

<sup>5</sup> The L2 learners participated in further experiments, e.g., an Acceptability Judgment Task, an Elicitation Task on Genericity, a Story Retelling Task and two proficiency assessments (the Student Oral Proficiency Assessment developed by the Center for Applied Linguistics (CAL) and a cloze test). See Kolb (in preparation) for details on the language background questionnaire and the other experiments.

<sup>6</sup> Child L2 learners are first exposed to a second language between the ages of 4 to 7/8 years (e.g., Schwartz 2003; Unsworth 2005). This age range is being determined by the following assumptions: The precondition for child L2 acquisition is that one grammar is acquired when the child is exposed to another language, and researchers agree that the acquisition of the L1 grammar is completed at the age of four. The upper point of seven years of age is based on studies on age and ultimate attainment whose findings suggest that the language acquisition processes remain the same for child L2 learners whose age of onset is 7 years or below and for monolingual (or bilingual) native speakers. (Schwartz 2003)

<sup>7</sup> This paper focuses on the discussion of CLI based on L1 (English) and L2 (French or German). The participants' L3/L4 proficiency might also influence the interpretation of definite plurals in L2 French or L2 German. However, this discussion goes beyond the scope of this paper; Table 2 is included for the sake of completeness. For a discussion of the participants' L3/L4 proficiency and their influence on article use and interpretation, see Kolb (in preparation).

**Table 2: Overview of participants' language background**

Groups (Based on LoE)	N	L1	L2	L3/4
<b>L2 French Low</b>	10	English	French	L3 Farsi (N=2) L3 Lingala (N=1) L3 Spanish (N=2)
<b>L2 French Mid</b>	9	English	French	L3 Dutch (N=1) L3 Japanese (N=1) L3 Russian (N=1) L3 Spanish (N=2)
<b>L2 French High</b>	10	English	French	L3 Italian (N=1)
<b>L2 German Low</b>	8	English	German	-
<b>L2 German Mid</b>	7	English	German	L3 Spanish, L4 French (N=1)
<b>L2 German High</b>	7	English	German	L3 Norwegian (N=1) L3 Spanish, L4 French (N=1) L3 Italian (N=1) L3 Chinese (N=1)
<b>Native German Adults</b>	47	German	<sup>8</sup>	-
<b>Native German Children</b>	12	German	-	-
<b>Native French Adults</b>	4	French	L2 English, L3 Spanish (N=2) L2 English, L3 German (N=2)	-
<b>Native English Adults</b>	5	English	French (N=2) German (N=1) L2 German, L3 Turkish (N=1)	-

As a control group, adult native speakers of German (N=47), French (N=4) and English (N=5) as well as monolingual German children (N=12) are included. The native German children (7;8 years) fall in between the L2 Low and L2 Mid groups in reference to age at testing and come from the Frankfurt area. The native German adults were recruited all over Germany<sup>9</sup> and participated in this experiment in connection with a study by Barton, Kolb & Kupisch (under review). The native French adults were recruited and grew up in the Lyon area and the native English adults in the US (East coast). No adult native speakers acquired any further languages before puberty and according to self-reports, their native language is the language in which all L1 participants are most proficient.

### 3.3 Methodology

The experiment is a dynamic Truth Value Judgment Task (TVJT) including 12 short stories followed by one test item. The test items are 4 definite plurals followed by an individual-level predicate (6a), 4 definite plurals followed by a stage-level predicate (6b), and 4 distracters (6c).

<sup>8</sup> Barton, Kolb & Kupisch (under review) divided the same 47 adult native speakers into three L2 proficiency groups for an Acceptability Judgment Task and found that advanced and near-native speakers of L2 English accept fewer generic definite plurals with individual-level predicates in their L1 German than participants with low L2 proficiency (in any L2). However, this significant difference might not only depend on L2 proficiency but also on age and education since the 'low L2 proficiency' group is the oldest group ( $M = 46.9$  years old) and the least educated (no high school diploma). For further details see Barton, Kolb & Kupisch (under review).

<sup>9</sup> The native German adults grew up in 5 different areas in Germany: Hamburg, Berlin, Cologne, Rhine-Main area and Freiburg.

- (6) a. Definite plural with individual-level predicate  
The sharks are dangerous.
- b. Definite plural with stage-level predicate  
The sharks are hungry.
- c. Distracter  
The oranges are not orange.

The 12 test items had to be judged as true or false in reference to the preceding short story; see (7) for an example of a short story. The short stories were accompanied by 4 pictures, which helped the children to follow the story that was read out loud by the interviewer.<sup>10</sup> The short stories were all created in the same systematic manner. Each predicate was mentioned 4 times in the story due to plausible deniability. Half of the stories mentioned an individual-level predicate first, half of the stories mentioned a stage-level predicate so that a priming effect could be excluded. Three of the four distracter items were false in reference to the preceding short story in order to control for a yes-bias. The short stories and test items were translated into French and German and proofread by native speakers.

(7) Example of a short story:

One day, Mary and Marc go to Sea World. They look at different animals and arrive at a tank with sharks. Mary is very scared of sharks because she knows that sharks in general are dangerous. When they arrive at the tank, they get to know John. John has been taking care of the two sharks for the last two years. John welcomes Mary and Marc, and explains some things to them about the sharks.

John: "Listen kids. These two sharks are hungry right now. Do you want to watch me when I feed them?"

Marc and Mary: "Yes, that would be great. Are sharks always hungry? And is it true that they are dangerous?"

John: "Well, sharks out in the ocean are not always hungry because they can eat whenever they want. These two sharks here tend to be hungry quite often since we only feed them twice a day. And, sharks in general are dangerous but these two sharks right here are not dangerous. I have been playing with them for the last two years and they never hurt me."

So, the children had a lot of fun, they watched the sharks swim, saw how they were fed and enjoyed their day at Sea World. Hey puppet, can you tell us something about this story?

Puppet: "Yeah, it was a fun story. Hmm, let's see, this was a story about John in Sea World, and he met Mary and Marc and they all had fun with the sharks. What else happened, let's see... John explained:

- a) The sharks are dangerous.  
b) The sharks are hungry.

During an oral interview (either in French or German), a puppet was presented to the participants at the beginning of the experiment. The children were told that the puppet listens to the stories and makes a statement summing up each story. Since the puppet does not always listen to the stories carefully he needs the children's help. The children listened to the story, the puppet subsequently uttered the test item and the children had to answer whether the last

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<sup>10</sup> Testing generic reference with an experiment including pictures is always problematic since pictures refer to specific objects. However, the pictures were not the focus of this task and the purpose was to keep the children's attention on the task. The pictures did not seem to influence the children's judgments.



statement by the puppet was true or false. As a motivator the children received an answer sheet with 12 empty circles that had to be filled with green or red stickers. The green stickers were used for true statements and the red stickers for false ones, so that the puppet's score could be evaluated at the end of the experiment. The children were asked to explain their judgments after each story. One example preceded the first test item in order to ensure that the children understood the task. The children were tested in pairs.<sup>11</sup> The experiment was video- and audiotaped.

The testing procedure was the same for the L2 French and L2 German learners as well as for the L1 German children and adults, i.e. the TVJT was conducted in an oral interview format in the respective language. However, the L1 French and L1 English adults participated in a written format of the TVJT; they read the short stories by themselves (without pictures) and answered the question of whether the puppet's statement was true or false in combination with a short explanation.

The TVJT was evaluated as demonstrated in Table 3.

**Table 3: Distribution of [+/-generic] interpretations in French, German and English**

	French	German	English
<b>individual-level</b> <i>The sharks are dangerous.</i> <b>definite plurals with individual-level predicates</b>	<b>true = [+generic]</b> false = [-generic]	true = [+generic] (ungrammatical in Standard German) <b>false = [-generic]</b>	true = [+generic] (ungrammatical) <b>false = [-generic]</b>
<b>stage-level</b> <i>The sharks are hungry.</i> <b>definite plurals with stage-level predicates</b>	<b>true = [-generic]</b> false = [+generic]	<b>true = [-generic]</b> false = [+generic] (ungrammatical in Standard German)	<b>true = [-generic]</b> false = [+generic] (ungrammatical)

In L2 French and L2 German, the test items followed by an individual-level predicate such as *The sharks are dangerous* that were judged as 'true' were counted as a [+generic] interpretation since based on the story sharks in general (= sharks in the ocean) are dangerous, and those judged to be 'false' were counted as [-generic] since the specific sharks in the story (= the two sharks in Sea World) were not dangerous. The test items followed by a stage-level predicate such as *The sharks are hungry* that were judged as 'true' were counted as a [-generic] interpretation since the two specific sharks in the story (= the ones at Sea World) were hungry. Those judged to be 'false' were counted as [+generic] since sharks in general (= the ones in the ocean) are not hungry because they can eat whenever they want.

The learners' judgments involve three factors: a) correctness based on the story, b) possible interpretations of the particular predicate, and c) grammaticality in the target language (and the L1 English). a) Based on the content of the story, both answers 'true' and 'false' are possible for all 8 test sentences.<sup>12</sup> The stories were created systematically so that 'true' and 'false' are both plausible. b) Individual-level predicates rather express [+generic] reference and stage-level predicates [-generic] reference. The expected response for definite plurals with individual-level

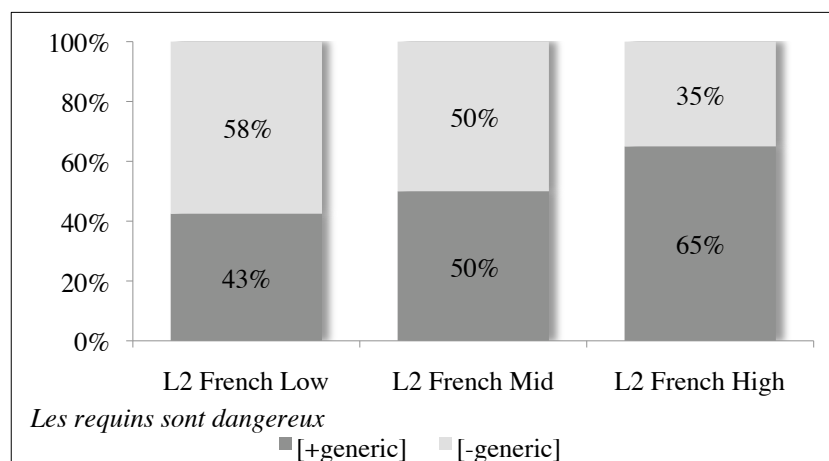
<sup>11</sup> In a pilot study, the children participated individually in the TVJT. However, the children were extremely shy and therefore the set-up was changed to pairs. Testing individuals is important for statistics, but the discussions the children had while judging the test items gave further evidence for the reasons for their choice of interpretation. The set up with pairs is also based on the Student Oral Proficiency Assessment ([www.cal.org](http://www.cal.org)), which was conducted as part of the research project (see Kolb in preparation). Thanks to Christiane M. Bongartz for suggesting the Student Oral Proficiency Assessment based on her experience with this assessment tool.

<sup>12</sup> As already mentioned in 3.3, this is not the case for the distracters since 3 out of 4 distracter items were false in reference to the preceding short stories in order to control for a response bias.

predicates is ‘true’ in French and ‘false’ in German and English (see Table 3 in bold print), with stage-level predicates ‘true’ in French, German and English (see Table 3 in bold print). c) In French, ‘true’ and ‘false’ are grammatical with both predicates since definite plurals can have [+/-generic] reference. In Standard German (and English), for individual-level predicates ‘false’ (= [-generic])<sup>13</sup> is the target answer and for stage-level predicates ‘true’ (= [-generic])<sup>14</sup> is the target answer since [+generic] interpretations are ungrammatical. However, as illustrated in chapter 2, some varieties of German tolerate generic definite plurals.

### 3.4 Results

Children showing a yes-bias or failing on at least three of the distracter items were excluded (2 in the L2 French Low group<sup>15</sup>, none in L2 German). In L2 French and L2 German, the children’s judgments as ‘true’ and ‘false’ were analyzed as the percentage of [+generic] and [-generic] interpretations of definite plurals. The two conditions ‘individual-level’ and ‘stage-level’ refer to definite plurals with individual- or stage-level predicates. As demonstrated in 3.3 and in Table 3, the target answers differ for definite plurals with individual- and stage-level predicates, a scenario that subsequently requires separate analyses. Figure 1 presents the average percentage for individual-level per LoE group (Low, Mid and High) for L2 French.



**Figure 1. L2 French: Average percentage of definite plurals with individual-level predicates interpreted as [+/-generic]**

For the L2 French learners, a one-way ANOVA revealed no significant effect of LoE ( $F = 1.079, p = .355$ ) which is confirmed by a post-hoc Games-Howell test; the three groups L2 French Low, L2 French Mid and L2 French High do not differ significantly: Low-Mid  $M$  difference =  $-7.50, p = .910$ , Low-High  $M$  difference =  $-22.50, p = .299$ , Mid-High  $M$  difference =  $-15.0, p = .599$ .

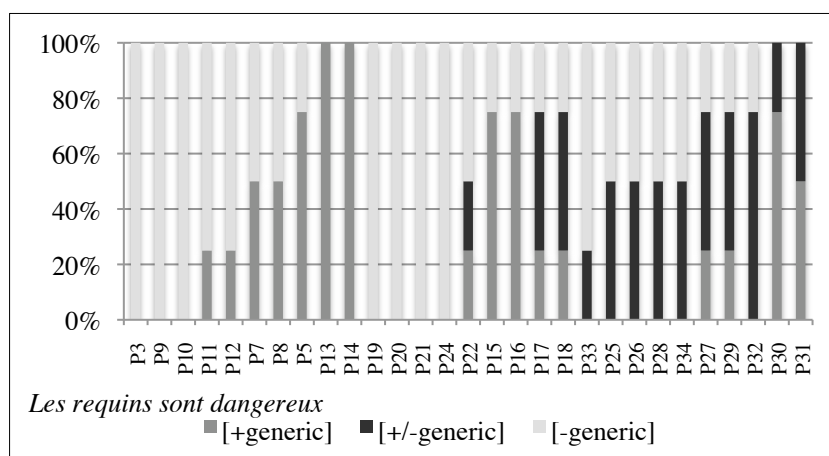
In contrast to the group results, the individual results reveal that most children (22/29) show a [+generic] or [-generic] response pattern. The children’s individual responses are presented in

<sup>13</sup> Based on the story, ‘false’ refers to the two specific sharks in Sea World not being dangerous.

<sup>14</sup> Based on the story, ‘true’ refers to the two specific sharks in Sea World being hungry.

<sup>15</sup> These two participants were excluded during the evaluation process and do not appear in Tables 1 and 2.

Figure 2<sup>16</sup> (organized by group, i.e., the first 10 participants belong to L2 French Low, the following 9 to Mid and the last 10 to High). The children's responses can be divided into three response patterns<sup>17</sup>: [+generic] (3/4 or 4/4 items judged as true), [-generic] (3/4 or 4/4 items judged as false) or mixed (2/4 items judged as true). In group Low 30% (3/10), in group Mid 44% (4/9) and in group High 50% (5/10) of the children show a [+generic] response pattern. Thus, with increasing LoE the number of [+generic] response patterns increases as well as the awareness of ambiguity which is demonstrated by [+/-generic] interpretations. However, the correlation between LoE and the amount (increase) of generic interpretations is not significant (correlation according to Pearson:  $r = .214, p = .249$ ).



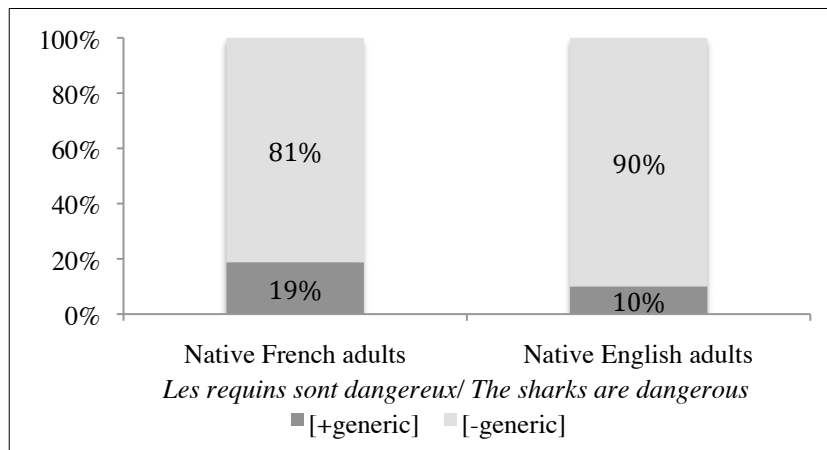
**Figure 2. L2 French: Individual results of definite plurals with individual-level predicates interpreted as [+/-generic] (in %)**

The predicted initial [-generic] preference is confirmed as well as the [+generic] preference in later developmental stages, which is also demonstrated by the ‘ambiguous’ response [+/-generic] not expected and not suggested in the instructions. However, both the initial [-generic] and the [+generic] preferences in the High LoE group were weaker than predicted.

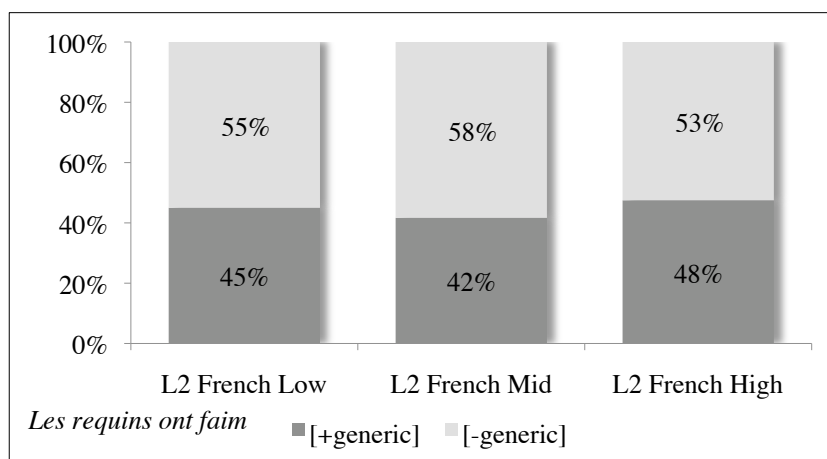
The responses by the adult native speakers of French and English are presented in Figure 3. Both groups show a [-generic] response pattern (L1 French 81%, L1 English 90%). They are presented in a separate figure since the testing procedures for these two groups and the L2 learners differed (written vs. oral interview format). In addition, these two groups are not analyzed statistically since the participant numbers are too low.

<sup>16</sup> The individual results in this paper (Figures 2, 5, 8 and 10) show that children responded ‘true’ (= [+generic]), ‘false’ (= [-generic]) or ‘true AND false’ (= [+/-generic]) even though they were instructed to judge the puppet’s statement as either true OR false. However, some children argued why the statement is true AND false in reference to the preceding short story. This demonstrated an awareness of the ambiguity of definite plurals. In the analysis, the ‘true AND false’ responses were counted as [+generic] since access to a generic interpretation is demonstrated. ‘Ambiguous’ judgments in a TVJT in which true or false judgments were expected (and part of the instruction) were also found by Kupisch & Pierantozzi (2010) in German and Italian by bilingual children.

<sup>17</sup> The idea to divide the children’s judgments into response patterns is inspired by Unsworth (2012) who characterizes individual response patterns as specific, non-specific or mixed.



**Figure 3. L1 French and L1 English: Average percentage of definite plurals with individual-level predicates interpreted as [+/-generic]**



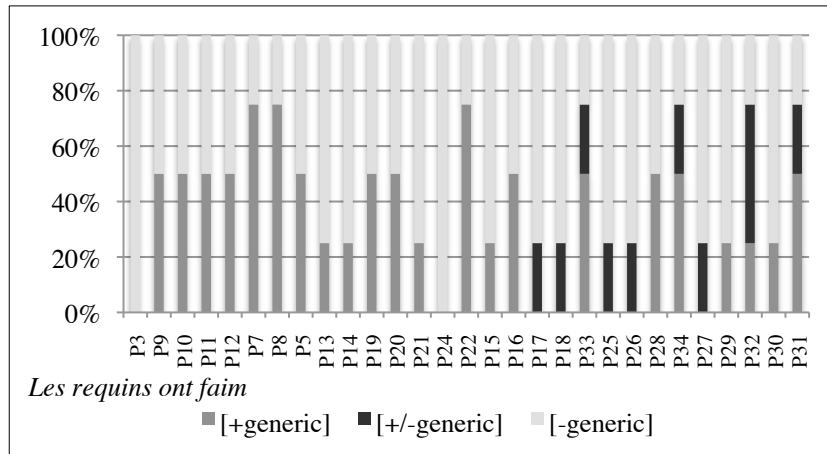
**Figure 4. L2 French: Average percentage of definite plurals with stage-level predicates interpreted as [+/-generic]**

The LoE group results for the stage-level condition for L2 French are presented in Figure 4. For the L2 French learners, a one-way ANOVA revealed no significant effect of LoE with stage-level predicates ( $F = .137, p = .872$ ) which is confirmed by a post-hoc Games-Howell test; the three groups L2 French Low, L2 French Mid and L2 French High do not differ significantly: Low-Mid  $M$  difference = 3.33,  $p = .951$ , Low-High  $M$  difference = -2.50,  $p = .970$ , Mid-High  $M$  difference = -5.83,  $p = .868$ . LoE does not correlate with the L2 learners' amount of generic interpretations (correlation according to Pearson:  $r = .059, p = .753$ )

The individual results show that most children (20/29) have a preference for either [+generic] or [-generic]. The children's individual scores with stage-level predicates in L2 French are presented in Figure 5 (organized in analogy to Figure 2). The response patterns are the following: In group Low 30% (3/10) of the children show a [-generic], 20% (2/10) a [+generic] and 50% (5/10) a mixed pattern, in group Mid 56% (5/9) show a [-generic], 11% (1/9) a [+generic] and 33% (3/9) a mixed pattern, and in group High 50% (5/10) show a [-

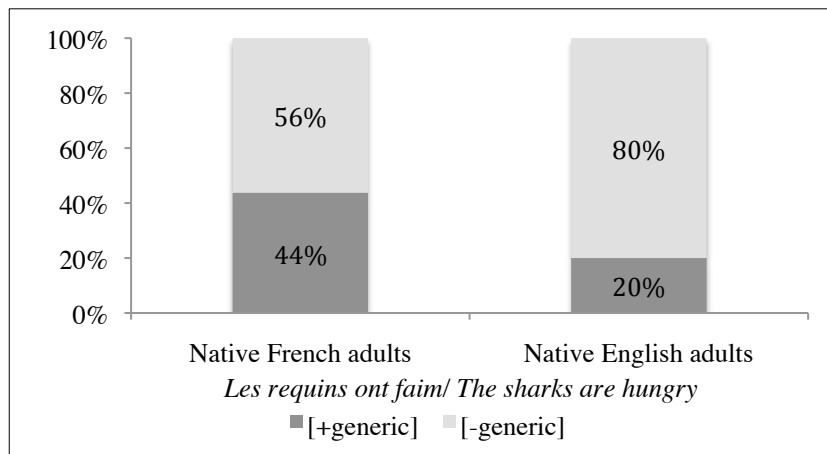
generic], 40% (4/10) a [+generic] and 10% (1/10) a mixed pattern. Children in the Mid and High LoE groups demonstrate their awareness of ambiguity by judging definite plurals as [+/-generic] which was not predicted in the stage-level condition.

The [-generic] interpretation of the stage-level condition which was predicted for all LoE groups is confirmed (to a certain degree) even if to a lower extent than expected.



**Figure 5. L2 French: Individual results of definite plurals with stage-level predicates interpreted as [+/-generic] (in %)**

Figure 6 presents the adult native speakers' responses in French and English. Both groups show a [-generic] response pattern in the stage-level condition (L1 French 56%, L1 English 80%).



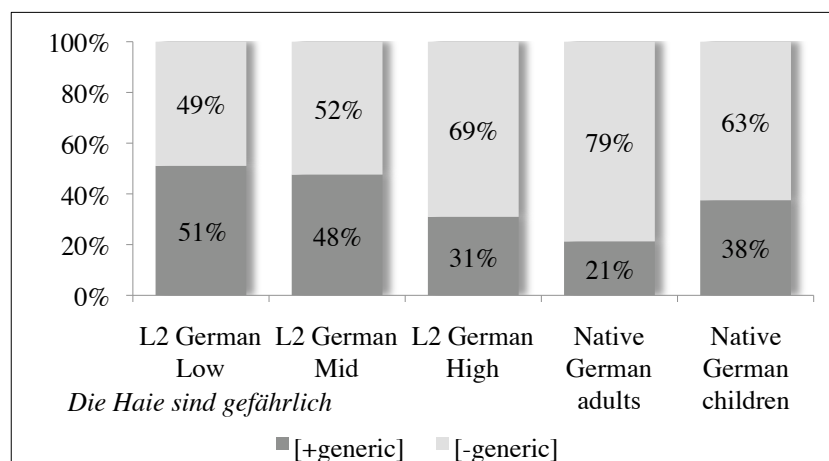
**Figure 6. L1 French and L1 English: Average percentage of definite plurals with stage-level predicates interpreted as [+/-generic]**

The individual- and stage-level condition compared shows differences in the interpretation of definite plurals. A t-test for all L2 French learners reveals no significant effect even if the mean difference between the two conditions is 12.097, showing that overall more generic

interpretations occurred with individual- than with stage-level predicates ( $T = 1.558, p = .130$ ). The Low and Mid groups do not differ in terms of the two conditions in that they show a weak non-generic preference (individual-level: Low 58% and Mid 50%, stage-level: Low 55% and Mid 58%). The High group, however, prefers the generic interpretation (65%) in the individual-level condition and allows less generic interpretations (48%) in the stage-level condition. The individual results show that only 2/28 participants show identical responses (6/28 the same response pattern<sup>18</sup>) for both predicates. Furthermore, with individual-level predicates more [+/-generic] judgments (24/116 judgments of test items) occurred than with stage-level predicates (10/116) which suggests a difference between the two conditions. L1 French and L1 English adults show in both conditions a [-generic] preference. This [-generic] response pattern was stronger in the individual-level condition for both native speaker groups.

The L2 French learners' LoE correlates significantly with their age at testing (correlation according to Pearson:  $r = .980, p < .001$ ). Thus, the longer the L2 learners are exposed to the L2 the older they are, and maturation and cognitive development might play a role in the developmental stages.

The German average scores per LoE group (L2 Low, L2 Mid and L2 High) and native speaker group (children and adults) for individual-level are presented in Figure 7.



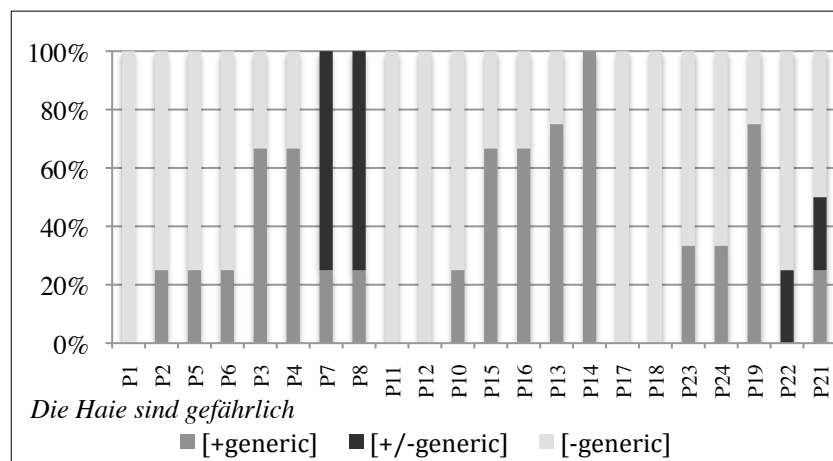
**Figure 7. German: Average percentage of definite plurals with individual-level predicates interpreted as [+/-generic]**

For the L2 German learners, a one-way ANOVA revealed no significant effect of LoE ( $F = .679, p = .519$ ) which is confirmed by a post-hoc Games-Howell test; the three groups L2 German Low, L2 German Mid and L2 German High do not differ significantly in the individual-level condition: Low-Mid  $M$  difference = 3.42,  $p = .984$ , Low-High  $M$  difference = 20.09,  $p = .473$ , Mid-High  $M$  difference = 16.67,  $p = .635$ . A Games-Howell test including all

<sup>18</sup>An 'identical response' means that a participant's response was exactly the same with both predicates (e.g., 100% non-generic responses with individual- and stage-level predicates) and 'same response pattern' means that a participant's response followed the same response pattern with both predicates (e.g., 100% non-generic responses with individual-level and 75% non-generic responses with stage-level predicate) based on the response patterns introduced in chapter 3.4 (generic response pattern: 3/4 or 4/4 items judged as true, non-generic response pattern: 3/4 or 4/4 items judged as false, mixed response pattern: 2/4 items judged as true).

L2 learners and native speakers reveals a significant difference between the L2 German learners (all combined to one group) and the L1 German adult group ( $M$  difference = 22.28,  $p = .034$ ). The native German children who are in regards to age in between the L2 Low and Mid groups do not differ significantly from any of these two groups (Low-L1 children  $M$  difference = 13.54,  $p = .926$ , Mid-L1 children  $M$  difference = 10.21,  $p = .979$ ).

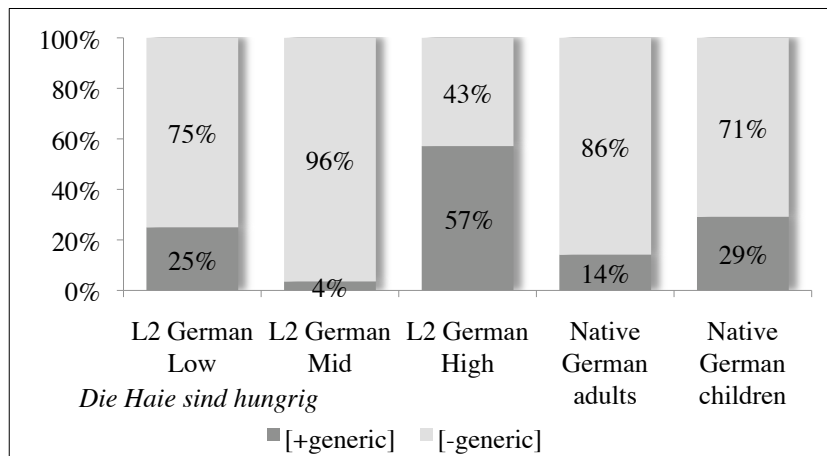
The individual results show that all children (22/22) have a preference for [+generic] or [-generic]. The children's individual scores for individual-level in L2 German are presented in Figure 8 (organized by group, i.e., the first 8 participants belong to L2 German Low, the following 7 to Mid and the last 7 to High). The response patterns are the following: In group Low 50% (4/8), in group Mid 57% (4/7), and in group High 14% (1/7) of the children show a [+generic] response pattern.



**Figure 8. L2 German: Individual results of definite plurals with individual-level predicates interpreted as [+/-generic] (in %)**

Even if individual-level predicates tend to express [+generic] reference, we predicted [-generic] interpretations for all LoE groups since generic reference is ungrammatical in Standard German and in L1 English. The predicted [-generic] preference is not confirmed by the L2 Low group (49%) or by the L2 Mid group (52%). Only the L2 High LoE group shows non-generic preference (69%). The native German children show a [-generic] preference (63%), similar to the L2 German High group. In contrast to the L1 German adults, the L1 German children (5/12 children) also judged some items (8/48 test items) as ambiguous [+/-generic] which is comparable to the L2 children (4/22 children also judged 8/88 test items as ambiguous). The results of the L1 German adults (and L1 German children) confirm some tolerance of generic definite plurals since the non-generic preference (79%) is weaker than expected for Standard German.

Figure 9 presents the average score for stage-level per LoE group (Low, Mid and High) for L2 and L1 German.



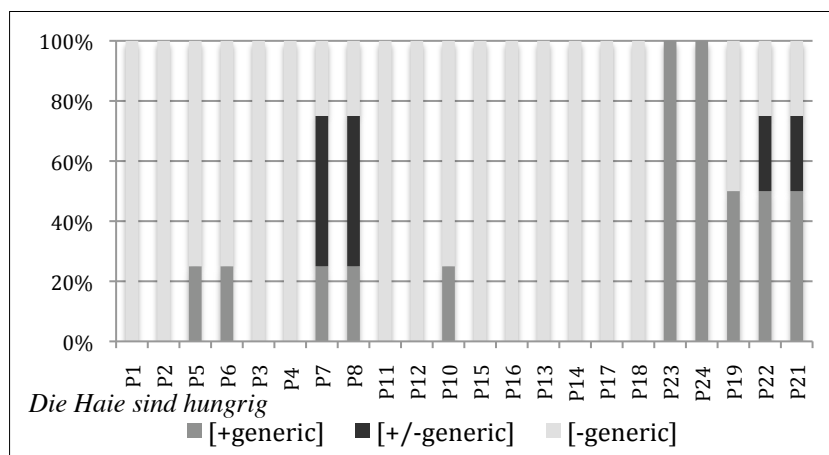
**Figure 9. German: Average percentage of definite plurals with stage-level predicates interpreted as [+/-generic]**

For the L2 German learners, a one-way ANOVA revealed a significant effect of LoE with stage-level predicates ( $F = 5.115, p = .017$ ). A post-hoc Games-Howell test reveals that the L2 German Mid and High groups differ significantly ( $M$  difference =  $-53.57, p = .036$ ) whereas the two other groups do not show a significant difference: Low-Mid  $M$  difference =  $21.43, p = .238$ , Low-High  $M$  difference =  $-32.14, p = .277$ . There is a correlation between LoE and the L2 learners' amount of generic interpretations which is, however, not significant (correlation according to Pearson:  $r = .385, p = .077$ ). A Games-Howell test including all L2 learners and native speakers reveals no significant differences between the groups in the stage-level condition. The native German children who are in regards to age in between the L2 Low and Mid groups differ in regards to their generic interpretations of definite plurals from the L2 Low group even though this effect is not significant (Low-L1 children  $M$  difference =  $-4.17, p = .998$ , Mid-L1 children  $M$  difference =  $-25.60, p = .070$ ).

The individual results show that most children (21/22) have a preference for [+generic] or [-generic]. The children's individual scores for stage-level in L2 German are presented in Figure 10 (organized in analogy to Figure 8). The response patterns are the following: In group Low 75% (6/8) of the children show a [-generic] and 25% (2/8) a [+generic] response pattern, in group Mid 100% (7/7) show a [-generic] pattern, and in group High 29% (2/7) show a [-generic], 57% (4/7) a [+generic] and 14% (1/7) a mixed response pattern.

Non-generic interpretations for all LoE groups were predicted since generic reference is ungrammatical in Standard German and in the L1. In addition stage-level predicates tend to express [-generic] reference. The [-generic] preference is confirmed by the L2 Low group (75%) and L2 Mid (96%) group which shows a strong non-generic response pattern. However, the L2 High group judges 43% of the definite plurals as non-generic which does not confirm our predictions. All native speakers show a non-generic preference, the adults (86%) to a higher degree than the children (71%). In the stage-level condition, the L1 children (2/12 children) judged 2/48 test items as ambiguous and the L2 children (4/22 children) 6/88 test items.





**Figure 10. L2 German: Individual results of definite plurals with stage-level predicates interpreted as [+/-generic] (in %)**

The individual- and stage-level conditions compared show differences in the interpretation of definite plurals. However, a t-test for all L2 German learners reveals no significant effect even if the mean difference between the two conditions in reference to generic interpretations is 15.152, showing that overall more generic interpretations occurred with individual- than with stage-level predicates ( $T = 1.573$ ,  $p = .131$ ). The Low and Mid groups both show no generic or non-generic preference in the individual-level condition whereas they both show a strong non-generic preference in the stage-level condition. The High group shows a non-generic preference (69%) in the individual-level and a generic preference (57%) in the stage-level condition. The individual results show that 7/21 participants show identical responses (11/21 the same response pattern) for both predicates. The [+/-generic] judgments in both conditions are balanced (8/88 judgments with individual-level and 6/88 with stage-level predicates) and do not suggest any differences. The native speaker groups show a non-generic preference in both conditions allowing slightly more generic interpretations in the individual-level condition ([-generic]: children 79%, adults 63%) than in the stage-level condition ([-generic]: children 86%, adults 71%). A t-test for the native speakers reveals that the differences between both conditions are not significant (native German children:  $T = .601$ ,  $p = .560$ ,  $M$  difference of [+generic] interpretations = 8.333, native German adults:  $T = 1.536$ ,  $p = .131$ ,  $M$  difference of [+generic] interpretations = 7.092).

The L2 German learners' LoE correlates significantly with their age at testing (correlation according to Pearson:  $r = .974$ ,  $p < .001$ ). Thus, as for the L2 French learners, maturation and cognitive development might play a role in the developmental stages.

Finally, the LoE groups per language are compared with each other ( $N=51$ ). A one-way ANOVA revealed a significant effect with stage-level predicates ( $F = 3.271$ ;  $p = .013$ ) but not with individual-level predicates ( $F = .809$ ;  $p = .549$ ). A post-hoc Games Howell test for the direct comparison of the groups with comparable LoE (L2 German Low vs. L2 French Low, L2 German Mid vs. L2 French Mid, L2 German High vs. L2 French High) revealed that only in the stage-level condition the L2 German Mid and L2 French Mid groups differ significantly ( $M$  difference = -38,10,  $p = .015$ ). Thus, in the individual-level condition, the language groups with comparable amount of exposure do not differ significantly from each other.

#### 4. Discussion and conclusion

The present study investigated crosslinguistic influence and L2 exposure effects in the acquisition of syntax-semantics by native English speaking children acquiring L2 French or L2 German. In L2 French and L2 German, no significant effect of LoE could be found, possibly due to the low number of participants per group. Therefore, the results show tendencies rather than effects. In L2 French, the children with low LoE show a slight non-generic preference of definite plurals with individual- and stage-level predicates. With increasing LoE, the number of generic interpretations with individual-level predicates increases and becomes more target-like, and the slight non-generic preference with stage-level predicates remains. In L2 German, the children with low LoE perform around chance with individual-level predicates and show a non-generic preference with stage-level predicates. With increasing LoE, the number of generic interpretations decreases with individual-level predicates turning into a target-like performance; the highest LoE group's responses are in between the child and adult native speakers' responses. With stage-level predicates, increasing LoE first turns into a non-generic preference which is stronger than the native speaker groups' non-generic preference and then develops into generic preference in the next developmental stage which is not target-like. In both conditions, the native German children allow more generic interpretations of definite plurals than the native German adults which has also been found by Kupisch & Pierantozzi (2010).

Based on previous research, evidence for CLI from English to French and from English to German was predicted. The L2 French results confirm this prediction (to some degree). Initial non-generic interpretations of definite plurals based on the target interpretation in L1 English were found, even though a stronger non-generic preference was expected. The individual results also confirm this prediction since some children show non-generic response patterns due to CLI. These findings are in line with Montrul & Ionin's (2012) findings on adult L2 learners showing CLI from English to Spanish by interpreting about half of the definite plurals as non-generic. However, my findings contradict the surface overlap hypothesis (Hulk & Müller 2000; Müller & Hulk 2001), which predicts CLI from French to English but not vice versa. The L2 German results only partially confirm our prediction. The predicted initial [-generic] interpretations could be found in the stage-level condition but were around chance in the individual-level condition. The individual learners showing a non-generic response pattern confirm CLI from English which is in line with the surface overlap hypothesis (Hulk & Müller 2000; Müller & Hulk 2001). In contrast to the L2 French results, where non-generic interpretations can be explained by CLI from English and generic interpretations by target-like performance in L2 French, in the L2 German results initial generic interpretations can neither be explained by CLI from English nor by the target language German (if we do not focus on other varieties of German at this point).

Secondly, a decrease of CLI with increasing LoE was predicted. A significant effect of LoE could not be found and the three LoE groups per language did not differ significantly from each other, which suggests that this prediction is not confirmed. However, in L2 French, increasing LoE led from a non-generic to a generic preference with individual-level predicates; a generic preference for definite plurals in Romance has also been found by Pérez-Leroux et al. (2004) and by Kupisch & Pierantozzi (2010). Thus LoE does affect the magnitude of CLI (even if not significantly), which is in line with Serratrice et al. (2009), Ionin & Montrul (2010), and Unsworth (2012). In L2 German, increasing LoE also led to non-generic interpretations with individual-level predicates as predicted, however not due to a decrease of CLI since in the initial stages evidence for CLI was only found for some individual learners (in the individual-level condition) for whom non-generic response patterns were expected to remain with increasing

LoE. In the stage-level condition, CLI was found in German since a non-generic preference for definite plurals was found (which could either be due to CLI or due to target performance), an increase of LoE led to the next developmental stage with a strong non-generic preference, and the highest LoE group showed generic preference which cannot be traced back to CLI nor to exposure effects.

The third prediction was that L2 French and L2 German learners show similarities due to CLI from English in the initial stages and differ in the later developmental stages based on the differences in French and German. This prediction is only partially confirmed since the two language groups differ in the initial as well as in the later developmental stages. With individual-level predicates, the low LoE groups behave similarly by showing results that are around chance. The individual results confirm similarities since in both groups half of the L2 learners show a non-generic response pattern. With stage-level predicates, the initial stages vary more since the L2 German Low group shows a strong non-generic preference for definite plurals whereas the L2 French Low group performs slightly above chance. The individual results demonstrate these differences since 75% (6/8) of the L2 German Low learners and only 30% of the L2 French Low learners show a non-generic response pattern. Thus, the overall initial non-generic interpretation of definite plurals is not confirmed, and in the early stages the groups perform more similarly with individual-level than with stage-level predicates. In the later developmental stages, the groups differ; a significant difference was found for the Mid groups in the stage-level condition. With individual-level predicates, the L2 German learners develop towards a non-generic preference and the L2 French learners towards a generic preference for definite plurals. With stage-level predicates, the L2 German learners' initial non-generic preference becomes stronger in the next developmental step (all participants show a non-generic response pattern) and turns into a generic preference in the last developmental step (4/7 participants show a generic response pattern) whereas the L2 French learners stay consistent with the slight non-generic preference in each stage.

The fourth prediction was that interface difficulties not connected to CLI will occur. This prediction is confirmed by the L2 German learners. The high LoE stage with stage-level predicates and the initial LoE stage with individual-level predicates can neither be explained by CLI from English nor by target performance of L2 (Standard) German. Either interface difficulties or developmental patterns as in L1 English or L1 German could be an explanation. Interface difficulties are in line with Rothman (2009) who found deficits at the syntax-pragmatics interface due to the complexity of interface properties. Developmental L1 patterns showing an over-acceptance of generic definite plurals have been found in the present study by monolingual German children that confirm data by Kupisch & Pierantozzi (2010) for monolingual German children and by Pérez-Leroux et al. (2006) for monolingual English children. A further explanation for the over-acceptance of generic definite plurals could be influence from a variety of German tolerating generic definite plurals which seems rather unlikely for the initial stages with 0;8 years of exposure.

The last prediction was that the interpretations of definite plurals with individual- and stage-level predicates differ. Even though differences in the interpretation in these two conditions can be observed, this prediction is not confirmed statistical evidence. In L2 French, the group results show that the initial non-generic preference turns into a generic preference with individual-level predicates whereas the slight non-generic preference remains for all developmental stages with stage-level predicates. In L2 German, the initial performance around chance develops into a non-generic preference with individual-level predicates whereas the initial non-generic preference with stage-level predicates becomes stronger in the next step and turns into a generic preference. The individual results revealed that most individual L2 French learners'

interpretation of definite plurals differ with individual- and stage-level predicates, whereas more than half of the L2 German learners show the same response pattern for both predicates suggesting differences between French and German.

Individual variation in the L2 learners' performance also plays a role as demonstrated by the individual results showing that learners with the same LoE are not necessarily a homogeneous group. The individual differences in the interpretation of definite plurals might be due to varying learning paces and/or due to variation in the cognitive development. The learners' age at testing was kept constant per group but increased with increasing LoE. There might be variation in the cognitive development per group due to individual variation and in-between groups due to differences in age.

The present study involved short stories accompanied with pictures providing a particular context that the correctness of the test item is based on. It is possible that children rather perceive these stories as non-generic contexts which might influence their interpretations accordingly. The children's explanations and their judgments do not provide direct evidence for this assumption but more data with further testing methods is necessary since a task effect cannot be ruled out.

In future studies, it would be interesting to keep age at testing constant while increasing LoE in order to rule out possible maturation effects. In addition, L2 learners that did not learn further languages (L3/L4) would enable us to exclude CLI from further languages. A constant test format for all participants, i.e. an oral interview format for the L1 English and L1 French groups, would provide better comparison. Thus far the L1 French and L1 English control data has to be seen as a first tendency and needs to be confirmed by retesting with higher participant numbers using the same test format. In addition, further L1 developmental data in German, French and English with age-matched participants and constant test methods is necessary in order to compare the developmental stages in L1 and L2 acquisition. It remains to be investigated with further data whether there is evidence for CLI or whether the developmental stages in L1 French, L1 German and/or L1 English are identical to the developmental stages in child L2 acquisition.

In summary, it has been confirmed that the initial developmental stage in the L2 acquisition process is based on the native language English followed by developmental stages showing rather linear development (in contrast to an abrupt cut-off point). A differentiation of the interpretation based on the choice of the predicate was observed but not confirmed by statistical significance. In L2 French, evidence for CLI was found for definite plurals with individual- and stage-level predicates as well as a weak (non-significant) effect of length of L2 exposure with individual-level predicates. In L2 German, we found evidence for CLI with stage-level predicates and a weak (non-significant) effect of length of L2 exposure with stage-level predicates for the second developmental stage. However, the non-target syntactic performance in the initial stages in the individual-level condition cannot be explained by CLI but rather by deficits at the syntax-semantics interface or by developmental patterns in L1 English and L1 German. Overall, these findings have to be confirmed by further data. The question remains whether the L2 learners' developmental stages can be traced back to CLI, developmental patterns similar to L1 acquirers or deficits at the syntax-semantics interface.

## References

Austin, Jennifer (2009). Delay, Interference and Bilingual Development: The Acquisition of Verbal Morphology in Children Learning Basque and Spanish. *International Journal of Bilingualism* 13: 447-479.

- Barton, Dagmar (in preparation). *Generische Nominalphrasen bei Deutsch-Französischer Zweisprachigkeit*. Ms., Universität Hamburg.
- Barton, Dagmar, Nadine Kolb & Tanja Kupisch (under review). Generic Reference in German: Article Grammaticalization in Progress? Ms.
- Bongartz, Christiane M. & Nadine Kolb (2009). Full Transfer/Full Access in Child L2: Evidence from Genericity and the L2 Romance DP. *International Symposium on Bilingualism 7*, Utrecht. Unpubl.
- Brugger, Gerhard (1993). Generic Interpretations and Expletive Determiners. *University of Venice Working Papers in Linguistics 3*: 1-30.
- Carlson, Gregory N. (1977). *Reference to Kinds in English*. Amherst, MA: University of Massachusetts Dissertation.
- Center for Applied Linguistics. [www.cal.org](http://www.cal.org).
- Gavarró, Anna, Ana Teresa Pérez-Leroux & Thomas Roeper (2006). Definite and Bare Noun Contrasts in Child Catalan. *Language Acquisition and Language Disorders 41*: 51-68.
- Gelman, Susan A. & Paul Bloom (2007). Developmental Changes in the Understanding of Generics. *Cognition 105* (1): 166-183.
- Gelman, Susan A. & Lakshmi Raman (2003). Preschool Children Use Linguistic Form Class and Pragmatic Cues to Interpret Generics. *Child Development 74* (1): 308-325.
- Gelman, Susan A., Jon R. Star & Jonathan E. Flukes (2002). Children's Use of Generics in Inductive Inferences. *Journal of Cognition and Development 3*(2): 179-199.
- Hollander, Michelle A., Susan A. Gelman & Jon R. Star (2002). Children's Interpretation of Generic Noun Phrases. *Developmental Psychology 38*(6): 883-894.
- Hulk, Aafke & Natascha Müller (2000). Bilingual First Language Acquisition at the Interface between Syntax and Pragmatics. *Bilingualism: Language and Cognition 3* (3): 227-244.
- Ionin, Tania (2008). Progressive Aspect in Child L2 English. In Belma Haznedar & Elena Gavruseva (eds.), *Current Trends in Child Second Language Acquisition: A Generative Perspective*. (pp. 17-53). Amsterdam/Philadelphia: John Benjamins Publishing Company.
- Ionin, Tania & Silvina Montrul (2010). The Role of L1-Transfer in the Interpretation of Articles with Definite Plurals in L2-English. *Language Learning 60*: 877-925.
- Kolb, Nadine (in preparation). *Child Second Language Acquisition of Generic Determiner Phrases. A Study on L2 French and L2 German*. Ms., University of Cologne.
- Krifka, Manfred, Francis J. Pelletier, Gregory N. Carlson, Alice ter Meulen, Gennaro Chierchia & Godehard Link (1995). Genericity: An Introduction. In Gregory N. Carlson & Francis J. Pelletier (eds.), *The Generic Book*. (pp. 1-124). Chicago: University of Chicago Press.
- Kupisch, Tanja & Cristina Pierantozzi (2010). Interpreting Definite Plural Subjects: A Comparison of German and Italian Monolingual and Bilingual Children. In Kati Franich, Kate M. Iserman & Lauren L. Keil (eds.), *BUCLD 34 Proceedings* (pp. 245-254). Boston, MA: Cascadilla Press.
- Kupisch, Tanja & Dagmar Barton (2013). How Bilinguals Deal with Variation: Generic Reference in Adult German Bilinguals. *Studia Linguistica 67*(1): 1-27.
- Longobardi, Giuseppe (1994). Reference and Proper Names: A Theory of N-Movement in Syntax and Logical Form. *Linguistic Inquiry 25*: 609-665.
- Lumsden, Michael (1988). *Existential Sentences: Their Structure and Meaning*. London: Croom Helm.
- Lyons, Christopher (1999). *Definiteness*. Cambridge, New York, Melbourne: Cambridge University Press.
- Mobaraki, Mohsen, Anne Vainikka & Martha Young-Scholten (2008). The Status of Subjects in Early Child L2 English. In Belma Haznedar & Elena Gavruseva (eds.), *Current Trends in*

- Child Second Language Acquisition: A Generative Perspective*. (pp. 209-235). Amsterdam/Philadelphia: John Benjamins Publishing Company.
- Montrul, Silvina & Tania Ionin (2010). Transfer Effects in the Interpretation of Definite Articles by Spanish Heritage Speakers. *Bilingualism: Language and Cognition* 13: 449-473.
- Montrul, Silvina & Tania Ionin (2012). Dominant Language Transfer in Spanish Heritage Speakers and L2 Learners in the Interpretation of Definite Articles. *The Modern Language Journal* 96.2: 70-94.
- Müller, Natascha & Aafke Hulk (2001). Crosslinguistic Influence in Bilingual Language Acquisition: Italian and French as Recipient Languages. *Bilingualism: Language and Cognition* 4: 1-21.
- Oosterhof, Albert (2004). Generic Noun Phrases in Dutch. In Fred Karlsson (ed.), *Proceedings of the 20th Scandinavian Conference of Linguistics* (pp. 1–22). Helsinki: University of Helsinki, Department of General Linguistics.
- Pérez-Leroux, Ana Teresa, Alan Munn, Cristina Schmitt & Michelle DeIrish (2004). Learning Definite Determiners: Genericity and Definiteness in English and Spanish. In Barbara Beachley, Amanda Brown & Frances Conlin (eds.), *BUCLD 28 Proceedings Supplement*.
- Ringbom, Hakan. (2001). Lexical Transfer in L3 Production. In Jasone Cenoz, Britta Hufeisen & Ulrike Jessner (eds.), *Cross-linguistic Influence in Third Language Acquisition: Psycholinguistic Perspectives* (pp. 59-68). Clevedon: Multilingual Matters.
- Rothman, Jason (2009). Pragmatic Deficits with Syntactic Consequences? L2 Pronominal Subjects and the Syntax-Pragmatics Interface. *Journal of Pragmatics* 41 (5): 951-973.
- Schwartz, Bonnie D. & Rex A. Sprouse (1996). L2 Cognitive States and the Full Transfer/Full Access Model. *Second Language Research* 12(1): 40-72.
- Schwartz, Bonnie D. (2003). Child L2 Acquisition: Paving the Way. In Barbara Beachley, Amanda Brown & Frances Conlin (eds.), *BUCLD 27 Proceedings* (pp. 26-50). Somerville, MA: Cascadilla Press.
- Serratrice, Ludovica, Antonella Sorace, Francesca Filiaci & Michela Baldo (2009). Bilingual Children's Sensitivity to Specificity and Genericity: Evidence from Metalinguistic Awareness. *Bilingualism: Language and Cognition* 12(2): 239-257.
- Snape, Neal, María del Pilar García Mayo and Ayse Gürel (2009). Spanish, Turkish, Japanese and Chinese L2 Learners' Acquisition of Generic Reference. In Melissa Bowles, Tania Ionin, Silvina Montrul & Annie Tremblay (eds.), *GASLA 10 Proceedings* (pp. 1-8). Somerville, MA: Cascadilla Proceedings Project.
- Snape, Neal (2013). Japanese and Spanish Adult Learners of English: L2 Acquisition of Generic Reference. *Studies in Language Sciences: Journal of the Japanese Society for Language Sciences* 12: 70-94.
- Sorace, Antonella & Ludovica Serratrice (2009). Internal and External Interfaces in Bilingual Language Development: Beyond Structural Overlap. *International Journal of Bilingualism* 13: 195-210.
- Unsworth, Sharon (2005). *Child L2, Adult L2, Child L1: Differences and Similarities. A study on the acquisition of direct object scrambling in Dutch*. PhD thesis, Utrecht University.
- Unsworth, Sharon (2012). Testing for Crosslinguistic Influence and Exposure Effects in the Bilingual Acquisition of Specific Indefinite Objects. In Alia K. Biller, Esther Y. Chung & Amelia E. Kimball (eds.), *BUCLD 36 Proceedings* (pp. 633-645). Boston, MA: Cascadilla Press.