

# Code-Switching as a Communicative Resource Within Routine, Bilingual Family Interactions for a Child on the Autism Spectrum

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## Abstract

*In today's global society, bilingualism is increasingly regarded as an asset. Bilingual competencies have been associated, for example, with cognitive benefits, increased ethnolinguistic pride, and access to more expansive sociocultural experiences. Currently, there is a convergence of research findings showing that bilingual children with autism spectrum disorders (ASD) perform comparably to monolingual children with ASD across measures of social-interactive, linguistic, and cognitive performance. In other words, bilingualism has not been shown to put children with ASD at a disadvantage. We have not yet, however, begun to examine bilingualism as a benefit for children with ASD. We currently have no information on how bilingual abilities are displayed by children with ASD and how the children draw on those competencies to navigate the demands of bilingual social interactions. This study is a conversation analysis (CA) of the code-switching behaviors of a bilingual child on the autism spectrum as he engaged in routine interactions with family members. The findings reveal that code-switching was used by this child strategically and systematically as a unique pragmatic resource.*

Bilingual learning is often assumed to be too challenging and confusing for children with autism spectrum disorders (ASD) and other developmental disabilities (Wharton, Levine, Miller, Breslau, & Greenspan, 2000; Yu, 2013); however, these assumptions have not been supported by current research, which shows that children with developmental disabilities, even those with cognitive impairments and severe language impairment, are capable of communicating bilingually (for reviews, see Baker, 2013; Drysdale, van der Meer, & Kagohara, 2015; Hambly & Fombonne, 2014; Kohnert & Medina, 2009; Park, 2014). In their survey of 49 parents of children with ASD, Kay-Raining Bird, Lamond, & Holden (2012) found that over 75% of the parents who were raising their children to be bilingual reported their efforts to be successful to some degree. Similarly, Hambly and Fombonne (2012) found that 62 percent of the 45 bilingually exposed children with ASD in their sample acquired bilingual vocabulary. In a later study, Hambly and Fombonne (2014) found that the degree to which children with ASD become bilingually proficient had less to do with the severities of their impairments and more to do with the levels of recent direct exposure to languages and the level of their first language proficiencies.

The current research on bilingual children with ASD also does not support the idea that bilingualism exacerbates disability conditions or furthers developmental delays. Across studies, matched bilingual and monolingual children with ASD have been found to meet language development milestones at a similar pace, perform comparably on language tests, demonstrate similar rates of social initiations and responsiveness, and display similar qualities of functional communication (Hambly & Fombonne, 2012; Ohashi et al., 2012; Petersen, Marinova-Todd, & Mirinda, 2012; Reetzke, Zou, Sheng, & Katsos, 2015; Valicenti-McDermott et al., 2013). These findings are consistent with those from research with children with other disabilities, including

specific language impairment (Gutierrez-Clellen, Simon-Cerejido, & Wagner, 2008; Håkansson, Salameh, & Nettelbladt, 2003; Paradis, Genesee, & Crago, 2010; Thordardottir, 2010) and Down syndrome (Cleave, Kay-Raining Bird, Trudeau, & Sutton, 2014; Kay-Raining Bird et al., 2005).

Another common concern expressed about bilingualism by parents and professionals is that home language use would hinder the acquisition of English (Yu, 2013). Discontinuing the use of a home language is not an effective strategy for teaching English because it can disrupt family practices (Yu, 2016). Also, having a strong foundation in a primary language fosters the development of additional languages. For example, Hambly and Fombonne (2014) found that first language proficiency was predictive of second language proficiency for children with ASD. Similarly, Seung, Siddiqi, and Elder (2006) found that a speech-language pathologist's (SLPs) use of Korean with a preschooler with ASD in therapy helped the child to make progress towards his intervention goals while also supporting his acquisition of English. Comparable findings have been reported in studies of children with other disabilities. For example, Perozzi and Chavez-Sanchez (1992) found that a group of first-graders with language delays who spoke Spanish as their first language learned new English vocabulary twice as quickly when those words were first taught in Spanish. Thordardottir, Ellis Weismer, and Smith (1997) found that a bilingual, English/Icelandic-speaking child with specific language impairment acquired more English vocabulary in response to a bilingual therapy approach than a monolingual one. In short, home language use is not a barrier to English development but can actually be a catalyst.

In mainstream research on bilingualism, it has long been established that bilingualism is not harmful to children's development (for reviews, see Bhatia & Ritchie, 2013; Hamers & Blanc, 2000; Hoff et al., 2012). In fact, much of the current research has gone beyond to focus on the benefits of bilingualism. On the cognitive level, examples of these benefits include better performance on tasks involving metalinguistic reasoning and executive control (Bialystok, 2011) and multitasking (Poarch & Bialystok, 2015). Economically, speaking more than one language has been associated with higher earnings and expanded job opportunities, especially if the languages spoken are those of high social status (Callahan & Gándara, 2014; Gabszewicz, Ginsburgh, & Weber, 2011). Culturally, bilingualism (especially knowledge of one's heritage languages) plays an important role in maintaining familial intimacy, cultural membership, and increased ethnolinguistic pride (Kondo-Brown, 2006; Worthy & Rodriguez-Galindo, 2006). At the interactional level, bilinguals use the languages in their repertoire as a resource for marking cultural affiliations, for associating/distancing themselves from frameworks of meanings evoked by linguistic choices, and for arriving at shared meaning and intimacy (Auer, 1998; Heller, 2007). While there is strong support for bilingualism and heritage language maintenance for children with ASD and other developmental disabilities among scholars and leaders in the communicative disorders field (Kohnert, 2013; Paradis et al., 2010), there remains a need for empirical research on the additive aspects of bilingualism in these populations.

This study seeks to make a modest contribution towards this gap by examining how code-switching—the alternating use of two or more languages—is employed as an interactional resource by a bilingual, Chinese/English-speaking 5-year, 10-month-old boy on the autism spectrum during routine family conversations. This case study is anchored on the notion that bilingualism is not simply a static state of being, but also an interactional achievement. Zentella (1997) referred to these achievements as “*doing* being bilingual” which is to say that bilingual interactions represent an active navigation of and adaptation to bilingual social and sociocultural landscapes through language. Challenges in these social performances—the adaptation of language to situational contexts for social means—are at the core of a diagnosis of autism. Thus, the examination of bilingual interactional achievements can be particularly relevant for understanding social-communicative competencies in children with ASD.

The specific bilingual interactional phenomenon targeted for analysis in this study is *conversational code-switching*, which is defined by Gumperz (1982) as “the juxtaposition within the same speech exchange of passages of speech belonging to two different grammatical systems

or sub-systems” (p. 59). Speakers code-switch between languages in conversations in ways that are linguistically orderly and socially meaningful (for reviews, see Auer, 1998; Bullock & Toribio, 2012; Myers-Scotton, 2003; Wei, Milroy, & Ching, 2000). Speakers tend to code-switch at points of talk that do not violate the grammar of either language involved, such as at the junction between free rather than bound morphemes (Poplack, 1980). Code-switching can also be pragmatically predictable. For example, speakers may switch to another language to emphasize a point or to distance themselves from a topic (Wei et al., 2000). As a systematic conversational resource, the examination of code-switching patterns can be useful for understanding whether children with autism are able to use their knowledge of two languages in strategic ways to achieve conversational objectives.

## **Method**

### **Conversation Analysis**

This study employed *conversation analysis* (CA), which is an inductive empirical approach that seeks to understand how interlocutors design their interactional turns in socially patterned ways within naturally occurring conversations (Schegloff, 2007; ten Have, 2007). Conversation analysis (CA) emphasizes the contextualized and coordinated nature of talk in interaction. O’Reilly, Lester, and Muskett (2016) argued that CA is particularly well-suited for understanding communication in individuals on the autism spectrum because it provides a systematic and theoretically coherent approach to examine participation in everyday social encounters, challenges in which constitute many of the core features of autism. The turn-by-turn, microanalytic approach of CA has been effective in revealing competencies underlying the often subtle and unconventional strategies employed by children with ASD to engage in interactions (Sterponi, de Kirby, & Shankey, 2014; Sterponi & Shankey, 2014; Stiegler, 2007).

This case study is based on video recorded data collected from January–May 2006 in the child’s home. Most video recordings were completed on weekend mornings typically around breakfast time between 8 a.m. and 10 a.m. in the child’s home over 14 weeks. This time was chosen because weekend mornings was a time of the week when all five members of the family were together reliably. The study of everyday interactional routines, such as family meal routines, have been argued to be particularly useful for understanding how children learn language in the process of interacting with others in patterned ways (Blum-Kulka, 1997; Peters & Boggs, 1986). In addition to these observations in the home, the child was observed on two occasions at a playgroup at a local church with same-aged peers. A total of approximately 20 hours of direct observations were completed over 14 visits and 15 hours of video data were collected.

Because CA requires a close examination conversational turns, detailed transcriptions of interactions were essential to the analysis. The transcription conventions used in this study were based on the Jefferson transcription system (Jefferson, 1984) with added notation to delineate Chinese and English (see Appendix A). As many instances as possible of the target phenomena—code-switching—were extracted and examined across transcripts to reveal the systematic ways in which it was employed in the interactional sequences of everyday talk. In total, 258 instances of code-switching were identified in the child’s speech. In this study, patterns were presented as findings only if there were at least three instances in the corpus.

### **Participants**

The focal child was a 5-year, 10-month-old child who will be referred to as Shane<sup>1</sup>. He lived in a bilingual, Chinese/English-speaking family with his mother, father, 7-year-old brother, Stewart, and 4-year-old sister, Aria. Shane and his family lived in a city within the greater San Francisco Bay area. Both parents were born in Taiwan and moved to the United States after completing their graduate degrees. Shane’s brother, Stewart, was also born in Taiwan and moved

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<sup>1</sup>Subject names and other identifying information have been replaced by pseudonyms.

to the United States with his parents when he was 6 months old. Shane and Aria were born in the United States. According to data from the United States census bureau, as of 2005, the racial/ethnic composition of city in which the family lived was 51% Asian, 35% White, 14% Hispanic, and 2% African American. The family's house was situated in a residential neighborhood in a part of the city known for its specialty shopping centers offering foods, merchandise, and services that catered to Chinese patrons.

The primary language spoken in the home was Mandarin, a dialect of Chinese. Both parents were comfortable conversing in English and also spoke another dialect, Taiwanese, which they spoke only with each other. Mandarin was reliably used by the children when they addressed their parents, partly because their parents expected them to do so. However, English was the children's preferred language when they spoke with each other. The parents made active efforts to preserve Mandarin as the home language and encouraged the children to use Mandarin as much as possible. Stewart attended a Chinese after-school program. Shane and Aria were not yet old enough to attend. Both parents remarked on several occasions that they felt their children's bilingual skills were important to them as a family. His mother specifically commented that if the children spoke limited or no Chinese in the future, she believed she and her husband would have trouble communicating with their children and that their family dynamics would be negatively affected.

Shane was diagnosed with autistic disorder<sup>2</sup> at 4-years, 7 months of age by a developmental psychologist at a local university medical center. Based on his assessment report, Shane exhibited qualitative impairments in social interaction, communication, and displayed restricted, repetitive, and stereotyped patterns of behavior, interest, and activities. Shane's mother reported that she and her husband had been concerned about Shane's communication development even before the diagnosis because he did not begin using any words until past 3 years of age. He also played with cars and other favorite toys for hours at a time to the exclusion of other activities. Clinical tests of intelligence showed Shane's IQ to be within typical range. At the time of this study, Shane spoke in full sentences, communicated most of his needs verbally, and engaged regularly in conversations. He had difficulties with more elaborated language use, such as telling stories and carrying on extended conversations (especially with unfamiliar people).

## **Findings**

Shane displayed many systematic code-switching behaviors that were strategic and pragmatically purposeful. The observed functions that occurred regularly (having at least three exemplars out of 258 code-switching instances) were reported. Due to space limitations, only one or two exemplars of each function will be presented.

### **Clarification and Emphasis**

Shane was observed to use code-switching frequently to clarify and emphasize his intention. The following excerpt illustrates an instance of clarification demonstrated by Shane while he was doing homework with his father after breakfast. This exchanged occurred after his father asked him to read the instructions for his homework assignment aloud.

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<sup>2</sup>Diagnostic label consistent with the criteria of the fourth edition of the *Diagnostic and Statistical Manual of Mental Disorders (DSM)* under which Shane was diagnosed (American Psychiatric Association, 2000).

Excerpt 1

1	Father	Ni nian ge wo ting <i>You read it to me.</i>
2	Shane	Ke shi wo bu zhi dau <i>But I don't know.</i>
3	Father	Bu zhi dau she me? <i>Don't know what?</i>
4	Shane	<b>Read!</b> Wo bu zhi dau ze me <b>read.</b> <i>Read! I don't know how to read.</i>

In the excerpt above, Shane responded to his father's request for clarification (line 3) by emphasizing the requested information "read" in English while reiterating in Chinese his original utterance "I don't know how" (line 4). Because Shane had understood his father's use of "nian" (read) in line 1, the switch was not likely due to unfamiliarity with the Chinese equivalent. The juxtaposition of the English word "read", used twice, against the rest of the utterance, topicalizes the act of reading and highlights its salience. Clarifications and emphases have also been identified in the general bilingual literature to be among the most frequently performed functions that bilingual children accomplish through code-switching (Zentella, 1997).

Shane also used code-switching to mark elevations in affect, to strengthen the force of an assertion, or to draw attention to particular propositions. In the following excerpt, Shane used code-switching from Chinese into English to emphasize his move in a negotiation sequence with his mother for more milk at breakfast.

Excerpt 2

1	Shane	Ma ma, wo xiang yao he niu nai. <i>Mama, I want to drink milk.</i>
2	Mother	Ni xian zai jiu yao he niu nai le? Ni gang gang yi jing yo he guo liang zi le- <i>You want to drink milk already now? You just drank twice just now-</i>
3	Shane	-((Nasalized voice, raised pitch)) ↑ Wo yao yo (0.2) ↓ <b>one, more, time</b> ((punctuating each syllable and pointing three times in the air)) <i>((Nasalized voice, raised pitch)) ↑ I have to have (0.2) ↓ one, more, time ((punctuating each syllable and pointing three times in the air))</i>

In line 3 of the negotiation sequence above, Shane used code-switching in combination with other strategies for emphasis, including slowed tempo, deliberate stress, lowered pitch, and punctuated gestures to underscore a bargaining move meant to persuade. These conversational moves were deployed frequently by Shane and often to effective ends. The alternation between languages served to disambiguate meanings, reiterate propositions, and intensify sentiments. Code-switching was one of many linguistic and non-linguistic resources that Shane drew on to achieve these functions.

**Changes in Footing**

Shane also used code-switching to make a variety of footing changes, that is, to reposition himself in the moment of speaking relative to other participants. According to Goffman,

A change in footing implies a change in the alignment we take up to ourselves and the others present as expressed in the way we manage the production or reception of an

utterance. It is another way of talking about a change in our frame for events.” (1983, p. 129–130)

Goffman asserts that code-switching<sup>3</sup> is usually involved in performances of footing along with other strategies such as changes in pitch, volume, rhythm, or stress quality. An examination of footing can elucidate how speakers monitor and manage their changing social positioning within a conversation. At least four types of footing shift strategies were identified within data collected from Shane’s conversations. These included code-switching for the purpose of: (a) marking the end to participation, (b) making an appeal, (c) commenting on his own state, and (d) changing a stance on an issue. The following sections detail examples of these footing moves.

**Ending Participation.** Shane was observed to use code-switching to signal when he was about to close a conversation or end participation. Excerpt 3 illustrates how this was achieved in a conversation.

Excerpt 3

((Shane was doing homework with his father, which involved writing about a time when he felt he made a good choice about something. Shane began describing an event, but then stopped suddenly.))

1	Father	Ran hou ne? Jiang dau yi ban. <i>And then? You were in the middle.</i>
2	Shane	Ran hou. ((Sniff)) Wo men jou <b>go</b> <i>And then. ((Sniff)) We went</i>
3	Father	Ran hou ne? <i>And then?</i>
4	Shane	<b>That’s all.</b>
5	Father	Huh?
6	Shane	<b>That’s all.</b>

Shane had been struggling with this assignment for half an hour prior to this exchange. With his father’s prompting, he had tried on several occasions to tell a personal narrative about an event in which he felt he had made a good choice. The overall co-narration between him and his father had been largely in Chinese. The final turns in this exchange (lines 4 and 6) marked a break in their dialogue. Using the English “that’s all”, Shane conclusively closed the narrative sequence that had been building haltingly up to that point.

**Making an Appeal/Softening Stance.** In the following exchange, Shane used code-switching to respond to his mother’s reprimand, and to reframe a demand more softly as a request.

<sup>3</sup>Code in the sense used by Goffman includes variation in style. *Code-switching* as discussed in these terms refers not only to bilingual code alternation but also to shifts in language style by monolingual speakers.

Excerpt 4

((Shane was stomping his feet and demanding loudly to get some milk.))		
1	Shane	Wo yiao! I want it!
2	Mother	<b>Y-you got to ask friendly, or I will not give you anything</b>
3	Shane	Ke bu ke yi he niu nai? <i>May I drink milk?</i>
4	Mother	<b>Mm. Good.</b> Wo ke yi gei ni <i>Mm. Good. I can give it to you.</i>
5	Shane	<b>Please?</b>
6	Mother	<b>Okay</b>

In the above exchange, Shane’s mother, code-switching into English, admonished him (line 1) for not using a polite request. Shane responded by using a polite request utterance (line 2) in Chinese. This politeness question structure “ke bu ke yi...?” (*May I...?*) was a conventionalized one within this family. Shane’s siblings also used this request structure whenever their parents prompted them to ask for something “nicely.” Shane produced this phrasing and also punctuated his politeness performance with “please?” (line 4).

**Commenting on Own Knowledge or State.** In the following interaction, Shane used a code-switch to comment on himself and his own state of knowledge.

Excerpt 5

((Mother and Shane were working on an assignment to count by five to one hundred. When Shane had trouble doing so, she referred him to a number chart on the wall and pointed to the expected numbers.))		
1	Mother	<b>Count by five</b> zai zhe li ((Pointing to number chart on wall)) <i>Count by five here</i> ((Pointing to number chart on wall))
2	Shane	<b>Ten, fifteen, twenty, no,</b> ((pushing mother’s hand away)) - Wo zhi dau - <b>twenty-five, thirty, thirty-five, forty...</b> <i>Ten, fifteen, twenty, no,</i> ((pushing mother’s hand away)) - <i>I know - twenty-five, thirty, thirty-five, forty...</i>

Shane’s code-switch in line 2, “wo zhi dau” (*I know*), served to momentarily break him out of the position of a speaker performing an action and repositioned him as an observer commenting on his own ability to perform.

**Notably Absent Code-Switching Functions.** Despite the many discourse functions performed by Shane through code-switching, remarkably, he was not observed to use code-switching to perform two pragmatic moves that were often displayed by his siblings and that have been commonly documented in studies of code-switching in adult and child bilingual speakers without disabilities (Heller, 1988; Lo, 1999; Zentella, 1997). In Shane’s code-switches, there were no cases of direct and indirect quotations (e.g., “*El me dijo*, call the police!”—He told me, call the police!), or instance of code-switching to achieve narrative frame breaks (e.g., “Charlie tried to push Gina in and, *bendito*, Kitty fell on her head” —Charlie tried to push Gina in and, lament, Kitty fell on her head). In short, Shane was not observed to use code-switching as a strategy for presenting multiple voices in this way. These functions were frequently performed during code-

switching by other members of his family. An example of such a performance was found in a conversation with Shane's 4-year-old sister, Aria.

Excerpt 6

((Shane is looking at a picture in a book. His father and sister, Aria, are eating.))		
1	Shane	<b>Oh my god!</b> Ni kan! ((points to book, looks at father)) <b>It's a big one.</b> <i>Oh my god! Look!</i> ((points to book, looks at father)) <i>It's a big one.</i>
((Father looks at where Shane is pointing and nods))		
2	Shane	<b>Wow</b>
3	Aria	<b>Daddy:!</b> Shane shuo- wo ting dau Shane (0.25) <b>oh my god</b> , ke shi bu xing. <i>Daddy! Shane said – I heard Shane (0.25) oh my god but it's not allowed.</i>

In line 3, Aria code-switched to quote Shane but embedded his English utterance within a predominantly Chinese one to do so. Within this utterance, she positioned herself as an overhearer of an utterance (“I heard Shane”) and attributed the authorship of the utterance, *oh my god*, to Shane. Both of these positions and perspectives were animated through her telling. She subsequently code-switched from the quoted speech to an evaluation of the quote by invoking an unspecified rule that such an utterance is “not allowed”. Within a single turn, Aria accomplished several changes in footing to position and reposition herself as an overhearer, a re-animator of an overheard utterance, and an assessor of the animated utterance. Such displays of multiple voicing were not observed in in Shane's speech.

Goffman (1983) described the representation of multiple voices through the nesting of one telling within another as *embeddings*. He argued that embeddings were of considerable importance in conversation because they allowed the speaker to present a complex arrangement of social relationships and unrestricted displacement of those relationships in time and place. Per Goffman, the practice of embedding was essential in storytelling. Narration requires the teller to embed the utterances and actions of characters (the speaker himself included) in his own utterances. Goffman asserted that the storyteller occupied an important status in conversation for they “provide a footing to which a very wide range of speakers and hearers can briefly shift” (1983, p. 150).

This gap in Shane's code-switching activity may index a more pervasive communication difficulty. Shane's parents had repeatedly reported frustration regarding Shane's inability to relate personal experiences and to recount past events. According to them, Shane's narrative difficulties were a core element of his language abilities that made communication with him difficult. This issue emerged repeatedly in interviews with both parents and had been pointed to as a consistent source of communication impasse during routine interactions.

Despite these limitations, the data showed that Shane displayed a range of other discourse competencies through the use of conversational code-switching. He demonstrated attunement to participants and settings through his language choices. In addition, he utilized code-switching to achieve discourse moves in moments of speaking, specifically, as a linguistic resource for accomplishing the following pragmatic functions: making a clarification, marking emphasis, ending participation, making an appeal, indicating change in stance, and commenting on himself. These bilingual skills played an important role in his ability to create, respond to, negotiate, and assert specific meanings within unfolding family interactions.



## Discussion

The findings presented here suggest that far from being haphazard, dual language practices are systematic and socially ordered even for a child on the autism spectrum. As a member of a bilingual family, Shane's use of code-switched speech in itself indexed his belonging. Contrary to the notion that bilingual exposure would confuse children with autism, in Shane's case, the two languages were used in strategic ways to meet different participation demands within family routines. It highlights that communicative competence involves more than the mastery of a particular language system. It entails also the acquisition of locally meaningful skills and orientations.

Insofar as there were noticeable differences between his code-switching performance and those of the other children in the family, the differences appeared to manifest across languages, suggesting that the challenges went beyond the particulars of any single language or the number of languages spoken. The child's relative limitations in coordinating multiple perspectives in his talk were not only evident the moments of code-switching, but also when he spoke only English or Chinese. This is consistent with the current understanding that the core challenges in ASD lie in persistent social-communication difficulties regardless of linguistic capacities (Kim et al., 2014).

As is the nature of case studies, the findings associated with this particular child may not be representative of the bilingual communication experiences of other children on the autism spectrum, especially those with more limited language skills. However, it does provide evidence that some children with autism are not only able to become bilingual but that their knowledge of two languages can be an interactional asset. The clinical implication of these findings is that bilingual competencies should not be overlooked as a developmental resource to be actively cultivated, especially given its importance in fostering familial intimacy and facilitating socialization. Bilingual children with ASD living in bilingual environments are affected by unique issues related to language use that are rarely discussed in the current literature. As researchers continue to refine the profile of autism, it will be important also to begin exploring the heterogeneity of experiences across individuals with autism in different cultural and linguistic communities and from bilingual and multilingual backgrounds.

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## ***Appendix A. Transcription Notations.***

*Italics* Translation from Chinese

**Bold** English

(0.0) Time elapsed in seconds

. Stopping fall in tone

, Continuing intonation

? Rising inflection

! Animated tone

- Halting, abrupt cutoff

— Emphasis indicated by underline

◦◦ Quieter speech

(( )) Gestures, non-speech vocalizations, environmental details

() Transcription doubt

(...) Not intelligible