Language acquisition and transmission for signed languages such as British Sign Language (BSL) or American Sign Language (ASL) differs substantially from that of spoken languages. Approximately 5-10% of deaf children are born to deaf, signing families and thus acquire a sign language natively. However, the vast majority of deaf children (90-95%) are born to hearing families who typically do not sign (Mitchell & Karchmer, 2004). For these individuals, acquisition of a sign language may begin in early or late childhood, later in life, or not at all. Various studies have shown age of sign language acquisition effects at phonological, morphological and lexical levels (Emmorey, Bellugi, Friederici, & Horn, 1995; MacSweeney, Waters, Brammer, Woll, & Goswami, 2008; Mayberry & Fischer, 1989).

In this study, a sentence processing study originally conducted for ASL (Boudreault & Mayberry, 2006) has been replicated for BSL, with the aim of investigating age of sign language acquisition effects on grammaticality judgement. The original stimulus items, based on those from Boudreault & Mayberry (2006), included 168 grammatical and ungrammatical examples of 6 BSL syntactic constructions: simple declaratives, negated declaratives, interrogatives with a wh-question sign, as well as clauses containing agreement verbs, relative clauses and classifier constructions, all presented on video by a deaf native BSL signer. This set was piloted with a group of three deaf native BSL signers. Stimulus items which were not judged by all three signers as clearly grammatical or ungrammatical were discarded, resulting in a set of 120 sentences for the BSL Grammaticality Judgement Task.

Participants in the study were 20 deaf adults who were first exposed to BSL between birth and the age of 13 years. Accuracy and response times were both measured. Here we present preliminary results suggesting that accuracy of grammaticality judgement decreases as age of first exposure to BSL increases. Overall, all signers were less accurate and slower to respond to ungrammatical versus grammatical items, although this was less true of the native signers when compared to the non-native group. These results suggest that age of acquisition of BSL does affect grammatical competence as measured by grammaticality judgements, confirming similar findings for ASL (Boudreault & Mayberry, 2006).

These results also suggest that the BSL Grammaticality Judgement Task may be an effective tool for measuring syntactic knowledge of BSL. This is consistent with recent trends by theoretical syntactians who are using psycholinguistic methodologies instead of, or in addition to, more traditional intuitive and/or informal grammaticality judgements (e.g., Myers, 2009).