

# **The Comprehension and Production of Passive Constructions by Afrikaans and isiXhosa first language Grade 1 Children**

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## **Abstract**

The acquisition of passives is well-studied in many languages, with evidence of crosslinguistic differences in the age at which passives are acquired. The aim of this study is to add to the existing knowledge of child acquisition of passives by providing data from Afrikaans and isiXhosa, two under-researched and typologically different languages spoken in South Africa. Comprehension and production data were collected from first language speakers (27 Afrikaans; 29 isiXhosa) from low socioeconomic backgrounds at the beginning and end of their Grade 1 year (aged 6;0 to 7;6). Picture selection and sentence completion tasks of the Receptive and Expressive Activities for Language Therapy (Southwood & Van Dulm 2012) were used to collect comprehension and production data, respectively, on short/full passives with actional verbs, reversible passives, and passives containing perceptual and psychological verbs. Comprehension of short passives with actional verbs were fully acquired by the isiXhosa L1 groups and reversible passives were approaching mastery by the beginning of Grade 1, but not the comprehension or production of any other types of passives constructions, by neither the isiXhosa nor the Afrikaans L1 group. By the end of the Grade 1 year, the isiXhosa group had acquired full comprehension and

production of all passive types, whereas the Afrikaans group had fully acquired comprehension of both short and full passives with actional verbs but not yet passive production. Language group differences are thought to be related, in part, to differences in passive morphosyntax.

**Keywords:** Passives, child language acquisition, later developing language constructions, Afrikaans, isiXhosa.

## Introduction

The inclusion of items assessing passive constructions in standardised child language assessment instruments indicates the importance of passives in language development (see Armon-Lotem *et al.* 2016). These instruments include those used to identify children at risk for language impairment, e.g., the Diagnostic Evaluation of Language Variation, available in American English (Seymour, Roeper, de Villiers, & de Villiers 2005); and the Test of Reception of Grammar (Bishop 2003) available in at least English, German (Fox-Boyer 2006), Lithuanian (Ruzaitė & Dabašinskienė 2010), and Norwegian (Bishop 2009).

In this study, we investigated the comprehension and production of passives by children who are situated in low socioeconomic status (SES) environments. Whereas most studies on passives did not deliberately sample children from low SES contexts (Demuth *et al.* 2010 being an exception), this study focused on this academically at-risk population (Catts, Fey, Tomblin, & Zhang 2002). Despite a large body of research on passives, there is still a dearth of information on the acquisition of passives in Afrikaans and isiXhosa, two South African languages with large speaker bases. The aim of the study is to determine whether passives have been acquired by Grade 1<sup>1</sup> first language (L1) child speakers of these

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<sup>1</sup> The South African school system is divided into four phases: Grade R is the preparatory school year directly preceding Grade 1, where children turn 7 years old in their Grade 1 year. Together with Grades 2 to 3 they form the first phase of primary school, namely the Foundation Phase; Grades 4 to 6

understudied languages in low SES contexts, and to establish whether any development in passive comprehension and production takes place over the course of this school year.

Passive constructions in Germanic languages (such as Afrikaans) generally require a predicate and at least one argument in short<sup>2</sup> passives, namely the THEME/PATIENT (the object of the active counterpart). An optional second argument, the AGENT (the subject of the active counterpart), can be included in full passives. Some full passives are reversible,<sup>3</sup> as in *John is pulled by Thandi; Thandi is pulled by John* (Horgan 1978). In irreversible passives, reversal of the THEME/PATIENT and AGENT roles would render semantically improbable constructions (as in *The bone was swallowed by the dog; The dog was swallowed by the bone*).

In addition, the verb which is used in a passive can either be actional (e.g., *to push*), perceptual (e.g., *to see*), or psychological (pertaining to psychological states or mental processes, e.g., *to remember*). The distinction between these three types of verbs is important, because the predicate may require different theta roles, and because the ages of acquisition for passives containing them are not necessarily similar. For example, typically developing English-speaking children have been shown to acquire passives with actional verbs by the age of five years, but those with psychological verbs only after nine years (Maratsos, Fox, Becker, & Chalkley 1985). Such an age difference is not apparent in comparable active constructions in English (Hirsch & Wexler 2006).

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is the Intermediate Phase; Grade 7 (which is the last year of primary school) form the Senior Phase with Grades 8 and 9 (the first two years of secondary school); and Grades 10 to 12 form the Further Education and Training Phase.

<sup>2</sup> The term ‘short passive’ refers to passive constructions in which there is no phrase introducing the external theta role, e.g., in *John was hugged*. ‘Full passive’, which is synonymous with ‘long passive’ refers to passive constructions in which there is a phrase introducing the external theta role, as in *John was hugged by his sister*.

<sup>3</sup> In reversible passive constructions, the subject can be exchanged with the agent in the by-phrase and still render a logical and meaningful sentence, even if it results in the opposite meaning, with an acceptable semantic felicity judgement (Hutson & Powers 1974).

By investigating two languages, Afrikaans and isiXhosa, which are from different language families, but which are used in the same geographic areas with the same SES and by the same age group, as we do in this study, it is possible to see if the age of acquisition varies across the two languages. If the age of acquisition differs, one needs to ascertain whether this can be attributed to psycholinguistic or structural features of the languages concerned, or to non-linguistic, sociocultural factors.

### *Morphosyntaxics of Afrikaans and isiXhosa*

The surface word order in main clauses in Afrikaans and in isiXhosa is SVO, as illustrated in the active constructions in (1a) and (1b) (adapted from Du Plessis & Visser 1992:9).

	Subject	verb	object
(1a)	<i>Die hond</i>	<i>lek</i>	<i>die mense</i>
(1b)	<i>i-nja</i>	<i>i-khoth-a</i>	<i>aba-ntu<sup>4</sup></i>
	NC9-dog	SM9-lick-FV.PRES	NC2-people
	‘The dog licks the people’		

According to Biberauer (2002), Afrikaans is a verb-second (V2) Germanic language.

Consider Afrikaans examples (2) to (4) from Lombard and Conradie (2009:169-170):

(2) Sentence-initial prepositional phrase:

(2a)	<i>By</i>	<i>die</i>	<i>skool</i>	<u><i>lees</i></u>	<i>die</i>	<i>leerders</i>	<i>boeke</i>
	at	the	school	<u>read</u>	the	learners	books
	‘At school, the children read books’						

(2b)	<i>*By</i>	<i>die</i>	<i>skool</i>	<i>die</i>	<i>leerders</i>	<u><i>lees</i></u>	<i>boeke</i>
	at	the	school	the	learners	<u>read</u>	books

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<sup>4</sup> Numeral = number of agreement according to noun class or person; FV = final vowel; LOC= Locative; NC = noun class; OM = object agreement marker; PS = person singular; PP = person plural; PRES = present tense; SM = subject agreement marker; PTCP = participle marker; COP = copulative; PASS = passive marker; PAST = past tense; TNS = tense.

‘At school, the children read books’

(3) Sentence-initial topicalised object:

(3a) *Hierdie brood eet John*

this bread eat John

‘This bread John eats’

(3b) \**Hierdie brood John eet*

this bread John eat

‘This bread John eats’

(4) Sentence-initial adverbial phrase:

(4a) *In die middag lees Oupa die koerant*

in the afternoon read Grandpa the newspaper

‘In the afternoon, Grandpa reads the newspaper’

(4b) \**In die middag Oupa lees die koerant*

in the afternoon Grandpa read the newspaper

‘In the afternoon, Grandpa reads the newspaper’

Du Plessis and Visser (1998) illustrate that isiXhosa is an underlyingly SVO language in which the (non-topicalised) object follows the verb. Examples (5) to (7) from Lombard and Conradie (2009:170-171) show that when a non-subject occurs in sentence-initial position in isiXhosa, the verb can appear either in second position (as in Afrikaans) or in third position.

(5) Sentence-initial prepositional phrase:

(5a) *E-si-kolo-ini ba-fund-a ii-ncwadi aba-fundi*

LOC-NC7-school-LOC SM2-read-FV.PRES NC10-books NC2-learners

at school they.read books learners

‘At school, the learners read books’

(5b) *E-si-kolo-ini aba-fundi ba-fund-a ii-ncwadi*

LOC-NC7-school-LOC      NC2-learners    SM2-read-FV.PRES    NC10-books  
at school                      learners                they.read                books

‘At school, the learners read books’

(6) Sentence-initial topicalised object:

(6a) *Esi      sonka    u-ya-si-ty-a*                                      *u-John*  
this    bread    SM1a.PS-TNS.PRES-OM1-eat-FV.PRES    NC1a-John  
this    bread    he.it.eats    John

‘This bread John eats’

(6b) *Esi      sonka    u-John                      u-ya-si-ty-a*  
this    bread    NC1a-John      SM1a.PS-TNS.PRES-OM1-eat-FV.PRES  
this    bread    John                      he.it.eats

‘This bread John eats’

(7) Sentence-initial adverbial phrase:

(7a) *Emva    kwa-imini      u-fund-a*                                      *i-phepha-ndaba*  
*u-tatomkhulu*  
After    of-day                      SM1a.PS-read-FV.PRES      NC4-paper-news  
NC1a-grandpa  
in the afternoon              he.read    newspaper  
grandpa

‘In the afternoon, Grandpa reads the paper’

(7b) *Emva    kwa-imini              u-tatomkhulu                      u-fund-a*  
*i-phepha.ndaba*  
After    of-day                      NC1a-grandpa                      SM1a.PS-read-FV.PRES  
NC4-paper-news

in the afternoon      grandpa      he.read  
 newspaper

‘In the afternoon, Grandpa reads the paper’

In terms of grammatical morphology, Afrikaans is an impoverished language with no overtly indicated subject-verb agreement or case-marking, whereas isiXhosa is a highly inflected language, with agreement markers in isiXhosa occurring as prefixed subject and object agreement markers to verbs. The prefix to be used is determined by the class of the relevant noun (there being 15 noun classes in isiXhosa, or 13 classes and 2 subclasses). Specifically, nouns in isiXhosa are grouped into classes according to the alliterative form of the prefix that the noun receives, with words which begin with the same prefix belonging to the same group. Odd numbered classes, and class 14, represent singular nouns whereas even numbered classes (except class 14) represent plural nouns.

Due to the agglutinative nature of isiXhosa, the lexical subject and object can occur in different surface positions within a sentence because, unlike in isolating languages such as Afrikaans, isiXhosa word order does not determine which noun is the subject and which is the object; rather, this is clear from nominal and verbal inflections.

Examples (8) and (9) illustrate the differentiation in terms of noun classes and some of the noun class prefixes as well as the application of the subject and object agreement markers in isiXhosa.

(8) *Ndi-ya-ku-thand-a*

SM1.PS-TNS.PRES-OM2.PS-love-FV.PRES

‘I love you’

(9) *ama-ntombazana      a-thand-a      ama-kwenkwe*

NC6-girls      SM6-like-FV.PRES      NC6-boys

‘Girls like boys’

### *Passives in Afrikaans and isiXhosa*

Afrikaans passive constructions are periphrastic and combine a non-finite verb that encodes the passive voice (prefixed by the participle marker *ge-*), along with a free morpheme, an auxiliary of which the uninflected form is *wees* ‘be’ (Butler 2016; Conradie 2020).

Afrikaans verbs that start with the morphemes *be-*, *ge-*, *er-*, *her-*, *ont-* or *ver-* and verbs containing certain unstressed prefixes do not take the participle marker *ge-* (Taalkommissie van die Suid-Afrikaanse Akademie vir Wetenskap en Kuns 2009). The periphrastic passive and past tense forms, as well as the perfect, past, and adjectival participles all display the same prefixed (*ge-*) form and are homophonous.

In Afrikaans passive sentences, the internal argument (typically assigned the THEME or PATIENT theta role) is fronted in full passives, as it moves to the subject position; compare (10a), the active sentence, and (10b), the full passive derivation of the given active sentence. Passives may electively have an adjunct (a *deur* ‘by’ phrase) introducing the external theta role. The complement of the preposition *deur* ‘by’ thematically matches the expression which functions as the subject in the active voice of the sentence. This *deur* ‘by’ phrase may occur either before or after the verb; see (10b) where the by-phrase has two possible placements, rendering full passives with word orders that differ from each other. The external argument does not have a phonetic form in short passives (see (10c)).

(10a) *Honde eet bene*

‘Dogs eat bones’

(10b) *Bene word (deur honde) ge-ëet (deur honde)*

bones are (by dogs) PTCP-eat (by dogs)

‘Bones are eaten (by dogs)’

(10c) *Bene word ge-ëet*

bones are PTCP-eat



‘Bones are eaten’

As in Afrikaans, the passive voice in isiXhosa is expressed by means of (i) tense morphemes and (ii) a verbal affix. There are however differences between passive constructions in Afrikaans and in isiXhosa of which five are discussed below.

The first difference between the passive morphology of Afrikaans and isiXhosa is that while an isiXhosa verbal affix is used to indicate the periphrastic passive form (as in Afrikaans), this isiXhosa affix is not a prefix (as it is in Afrikaans) but a prefinal suffix (Nkani 1998; Khumalo 2007; Downing 2009), as the affix appears directly after the stem and directly before the final vowel. There are two such affixes, namely *-iw-* and *-w-*, and they are allomorphs occurring in complementary distribution: *-w-* with bisyllabic verbs, polysyllabic verbs and with three-syllabic vowel verbs, as illustrated by examples (11a) and (11b) (Bryant 2007:164).

(11a) *u-Mama*                      *u-ya-biz-w-a*  
 NC1a-Mother                      SM1a-TNS.PRES-call-PASS-FV.PRES

‘Mother is being called’

(11b) *Ubu-si*                      *ubu-ya-ty-iw-a*                      *z-ii-ntombi*  
 NC14-honey    SM14-TNS.PRES-eat-PASS-FV.PRES    COP-NC10-girls

‘Honey is being eaten by the girls’

The addition of the passive affix *-w-* to the verb stem results in various (morpho)phonological changes which occur in the derivation from active voice to passive voice. For instance, bilabial consonants (e.g., *ph*) of the last syllable of verb stem (e.g., in *bopha* ‘tie/bandage’) are palatalised in the passive form (in this case, rendering *-botshwa* ‘being tied / bandaged’) (Bryant 2007; Potgieter 2014).

The second difference is that tense is not expressed by means of a free lexical morpheme in the form of a passive auxiliary in isiXhosa but rather through the same bound

tense morphemes that are generally also affixed to active verbs. The two main tense morphemes are the so-called “long” and “short” forms. The long form generally occurs where there is no object or post-verbal adverb, and the short form generally occurs where the verb is unstressed and is followed by an expression such as an object or an adverb. Examples (12a) and (12b) illustrate the use of the long and short present tense passive forms respectively.

- (12a) *I-moto*            *i-ya-lungis-w-a*  
 NC9-car            SM9-TNS.PRES-fix-PASS-FV.PRES  
 ‘The car is being fixed’
- (12b) *I-moto*            *i-lungis-w-a*                            *ng-u-Tata*  
 NC9-car            SM9-fix-PASS-FV.PRES    COP-NC1a-father  
 ‘The car is being fixed by father’

In example (12a), occurring in the present tense, the affix *-ya-* is inserted between the subject agreement marker and the object agreement marker, creating the so-called “long form” of the present tense, where present tense is also indicated by the addition of the final vowel *-a* of *iyalungiswa*. Where the object agreement marker is absent, *-ya-* is inserted between the subject agreement marker and the verb stem. Normally, this verbal affix *-ya-* is found with “unexpanded predicates” where the verb is not followed by an object or an adverbial expression. The long tense form verbal affix is thus connected with the short passive form. The “short form” of the present tense in example (12b) occurs where the verb is unstressed and is followed by an object or an adverb (Potgieter 2017). The verbal affix *-ya-* does not occur in the short tense form (Oosthuysen 1958). The absence of the *-ya-* is thus associated with full passives. However, if the verb receives primary stress, *-ya-* may occur irrespective of whether the verb is followed by another expression (Louw & Jubase 1963).

The third difference is that whereas Afrikaans uses the three variations of the free morpheme of *wees* (*word* ‘is’, *is* ‘was’ and *was* ‘had been’) coupled with an invariant

participle to form the periphrastic verbal cluster of the passive, isiXhosa uses a wider variety of verbal affixes (Potgieter 2017). For instance, in the perfect past tense, the final vowel is replaced by the affix *-ile* (in the long form) or *-e* (in the short form). The affix *-a-* may be inserted to the right of the subject agreement marker to mark the remote completed past, also known as the “A-past” (with this affix often replacing the final vowel of the subject agreement marker). The suffix *-ya/-za* may also be attached to the subject agreement marker to mark the future tense, along with the prefix *(u)ku-* that attaches to the verb (Oosthuysen 1958).<sup>5</sup>

A fourth morphosyntactic difference between Afrikaans and isiXhosa passives pertains to subject and object agreement marking, which does not occur in Afrikaans, but does in isiXhosa. Consider examples (13a) and (13b) from Potgieter (2014:96): The verb in the active construction in (13a) is in agreement with the noun class of the expression occupying the object position with the use of the object agreement marker (in this case, *-zi-*) as an affix directly preceding the verb stem. However, when the object of the active construction becomes the subject of the passive construction in (13b), *-zi-* becomes the subject agreement marker, occupying the first position in the verbal complex. Because there is no object position in the passive construction, the verbal complex does not contain an object agreement marker.

- |       |                                    |                               |                    |
|-------|------------------------------------|-------------------------------|--------------------|
| (13a) | <i>u-John</i>                      | <i>u-ya-zi-theng-a</i>        | <i>izi-pho</i>     |
|       | NC1a-John                          | SM1a-TNS.PRES-OM8-buy-FV.PRES | NC8-gifts          |
|       | ‘John is buying gifts’             |                               |                    |
| (13b) | <i>izi-pho</i>                     | <i>zi-ya-theng-w-a</i>        | <i>(ng-u-John)</i> |
|       | NC8-gifts                          | SM8-TNS.PRES-buy-PASS-FV.PRES | (COP-NC1a-John)    |
|       | ‘Gifts are being bought (by John)’ |                               |                    |
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As is the case in Afrikaans, an optional *by* phrase may be included in isiXhosa passive constructions allowing for the occurrence of both full and short passives. The subject argument of the active sentence in (13a) above occurs in a copular NP (*nguJohn*) in the passive sentence in (13b), which serves as the isiXhosa equivalent of the Afrikaans *deur* ‘by’ phrase (Du Plessis & Visser 1992).<sup>6</sup> This phrase consists of a copular prefix (in the case of (13b), *ngu-*) which is determined by the noun class concerned, where the noun is the AGENT to which the copular prefix attaches (Louw & Jubase 1963).

A fifth difference between Afrikaans and isiXhosa passives is that the short verbal and adjectival passives are homophonous in Afrikaans (consider (14a) and (14b)), but not in isiXhosa; consider (15a) and (15b): (In fact, according to Alcock, Rimba and Newton (2011), Bantu languages do not have adjectival passives, i.e., passives with a state reading. This can be seen in the lack of passive morphology in (15b).

Afrikaans <sup>7</sup>				isiXhosa	
(14a)	<i>Die papier is</i>	<i>ge-skeur</i>	(15a)	<i>I-phepha</i>	<i>li-krazul-w-e</i>
	the paper	be.PAST	PTCP-torn’	NC4-paper	SM4-torn-PASS-FV.PAST
	‘The paper was torn’ (passive construction; agent not mentioned)				
(14b)	<i>Die papier is</i>	<i>ge-skeur</i>	(15b)	<i>I-phepha</i>	<i>li-krazu-k-il-e</i>
	the paper	be.PAST	PTCP-torn’	NC4-paper	SM4-torn-NEUTER- STATIVE-FV.PAST
	‘The paper is torn’ (= is in a state of having been torn)				

<sup>6</sup> Although the isiXhosa copular NP (just like the English *by* phrase) may occur only postverbally, its exact position depends on discourse factors (Du Plessis & Visser 1992).

<sup>7</sup> If *is* is interpreted as an auxiliary (specifically as the past tense form of *word* ‘to become’), a passive reading is rendered, as in (14a), but if *is* is interpreted as the present tense form ‘to be’, an adjectival reading is rendered, as in (14b).

As seen in (15b), there is no passive affix *-w-* in *likrazukile* ‘is in a state of being torn’, whereas *likrazulwe* in (15a) does contain the *-w-* passive affix, making the two non-homophonous.

### ***Age of Acquisition of Passives***

The imitation, comprehension and production of passives have received extensive research attention over the years, the earliest studies including that of Fraser, Bellugi, and Brown (1963) who focused on passives in English-speaking three-year-olds and found that the children generally could not comprehend or produce passives, and had difficulty imitating them. One of the influential works on passives in child language is De Villiers and De Villiers’ (1973) study employing an act-out task with toys to test young English-speaking children’s comprehension of reversible active and passive constructions. The youngest group (1;7 to 1;11) failed to perform above chance level on the active and passive sentences, whereas the group aged 2;4 to 2;7 mostly mastered the active but not the passive sentences. However, the group aged 2;8 to 3;1 responded correctly to 88% of the active and 66% of the passive sentences. These findings were elaborated upon by Baldie (1976), who had children of three to eight perform an imitation task, a picture selection (comprehension) task, and a picture description (production) task, and found that children can imitate passives before the age of five and can comprehend passives at approximately six years but produce passives correctly as late as 7;6. On these results, passives seem to be late-developing in English despite the fact that some types (specifically those containing actional verbs) are already understood at four years.

Several other studies (also in languages other than English) have been conducted, e.g., Pye (1992), Armon-Lotem *et al.* (2016), Demuth *et al.* (2010), and Potgieter (2014, 2017). Demuth *et al.* (2010) performed a number of experimental tasks with three-year-old monolingual Sesotho-speaking children (Sesotho being a Bantu language). They found that

three-year-olds were able to comprehend and produce passives. For instance, 98% of the PATIENT prompts with actional verbs resulted in the production of a passive construction. Furthermore, the children could generalise novel verbs to both active and passive frames. Potgieter (2014) assessed the comprehension and production of passives by monolingual four-year-old speakers of isiXhosa from low SES backgrounds, and found that they had already started acquiring the passive: Her participants obtained scores of 53% and 51% on the comprehension and production tasks, respectively.

Crosslinguistically, there are two contradicting general findings on the age of acquisition of passive constructions. The first is that there is a delay in the acquisition of the passive compared to that of active constructions, and the passive is generally viewed as being fully acquired after the age of five years. This delay was initially reported for English by Bever (1970), and several studies have since replicated Bever's findings for English and various other languages, including German (Dittmar, Abbot-Smith, Lieven, & Tomasello 2014; Jovanović 2018), Greek (Terzi & Wexler 2002), Russian (Babyonyshev & Brun 2003), and Spanish (Pierce 1992). Contrastively, the second general finding is that passives may be acquired earlier than stated by these researchers,<sup>8</sup> at the age of three to four years (e.g., Allen & Crago 1996 for Inuktitut) or earlier (see Gil 2008 for some child speakers of the Jakarta dialect of Indonesian producing passive morphology before their second birthday). It has been proposed that the low frequency of occurrence of passives in certain languages can account for passives occurring late in the language of child speakers of those languages (e.g., Demuth 1990; Allen & Crago 1996); however, frequency of the input is not the only factor that plays a role in passives being late developing (Crawford 2004).

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<sup>8</sup> According to Hirsch and Wexler (2006), studies concluding that passives are acquired early should be interpreted with caution, as they used exclusively natural (i.e., not elicited) production data in the absence of comprehension tasks. Some exceptions can be found, such as Pye (1992 for K'iche' Maya, who employed elicitation tasks in addition to spontaneous language samples) and Demuth *et al.* (2010 for Sesotho, who employed comprehension and elicited production tasks), both studies finding early passive acquisition.

The difference in the types of verbs used in passives – whether the verb is actional, perceptual or psychological – has been shown to have an effect on the age at which the passive is acquired (Maratsos *et al.* 1985), as stated above. Another psycholinguistic factor that might affect the acquisition of passives is that passives are complex grammatical constructions involving syntactic movement (see Radford 2009 for a description of A-movement; also see Borer & Wexler's 1987 hypothesis that children find passives difficult due to their inability to compute the necessary syntactic operations associated with passives). It is due to differences between active and passive constructions in terms of word order and verb morphology, as well as the associated internal movement operations, that passive constructions are classified as complex and late developing in child speakers of certain languages (for a detailed overview of the variables involved, see Armon-Lotem *et al.* 2016).

In languages that have a verbal affix or auxiliary verb which refers only to the passive voice, passives are acquired earlier (Demuth 1990). Children acquire passives later in languages in which affixes and auxiliary forms are ambiguous, in the sense that they can have more than one grammatical function (Demuth 1990). The use of a preposition to mark the external argument or the use of a different case from the active form also leads to earlier acquisition. The uniqueness of the morphosyntactic characteristics of the passive construction in a specific language thus also affects child speakers' acquisition of passives (Demuth 1990).

Another syntactic characteristic that has been shown to affect the acquisition of passives is whether the passive is short or full. Armon-Lotem *et al.* (2016) found that short passives are easier to acquire than full passives, in their crosslinguistic study of five-year-olds. This held for six of the eight languages in which both full and short passives were tested (Catalan, Dutch, German, Hebrew, Lithuanian, and Polish), with Danish and English being the exceptions. Horgan (1978) found that children initially treat short passives as statives (see Deen 2011), and acquire short passives before full passives. Only about 10% of

the passives produced by children younger than six years were full passives (Horgan 1978). Full non-reversible passives occurred only after nine years, and no child younger than 11 years produced both reversible and non-reversible passives. The age of acquisition for the comprehension and production of full passives with actional verbs, short passives with actional verbs and reversible passives in Afrikaans, assessed by Southwood and Van Dulm (2012a), is between five and six years for comprehension, and six and eight years for production in children from mid SES backgrounds. Passive items containing perceptual and psychological verbs were responded to correctly less frequently than those containing actional verbs.

### ***Research Question***

The current study set out to answer the following research question: Are passives fully acquired by Grade 1 by speakers of Afrikaans and isiXhosa, or is there development over the course of the school year? Our hypothesis is that passives would not yet have been mastered in Afrikaans and will show some development over the course of the year, whereas passives would have been mastered by isiXhosa-speaking children, (i) based on the findings for other Bantu languages (see, e.g., Demuth *et al.* 2010) and (ii) because of the differences in the linguistic features of passive constructions in the two languages concerned, as previously discussed.

### **Materials and Methods**

#### ***Participants***

The study was conducted in two rural schools in the Western Cape Province of South Africa. One school was attended by L1 Afrikaans speakers and the other by L1 isiXhosa speakers. The selection criteria for the schools were that they be situated in communities with low SES,



have the same geographical classification (either both rural, both semi-urban or both urban), and have a National Quintile of 3 or lower.<sup>9</sup>

The selected Afrikaans-medium school, which has a national quintile of 2, is the only primary school in its particular settlement in a farming district outside a semi-urban town. The mean age of the 27 participants (10 boys, 17 girls) from this school was 6;9 (range 6;0 to 7;6) at the onset of the study. Seven of the Afrikaans first language participants could understand English but not speak it, and another four reported being able to speak English as a second language.

The selected isiXhosa-medium school is a National Quintile 1 school in a township neighbouring the industrial area of the same town. It is one of two primary schools in this township. At the onset of the study, the mean age of the 29 participants from this school (13 boys, 16 girls) was 6;8 (range 6;0 to 8;11). Of the isiXhosa first language participants, six could understand but not speak Afrikaans, seven could understand but not speak English, and another seven reported being able to speak English as a second language.

### ***Materials***

The Afrikaans and isiXhosa versions of the Passives booklet of the REALt (Southwood & Van Dulm 2012b) were used, which includes a comprehension and production section. See Table 1 for a breakdown of the items included in this study.

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<sup>9</sup> Schools in South Africa are assigned quintiles on the basis of the SES of the community in which they are located. This quintile serves as a poverty measure and is used to determine the amount of funding that a school receives from the government. Quintile 1, 2 and 3 schools are non-fee paying schools and receive more state subsidy than Quintile 4 and 5 schools, which are in more affluent communities.

Table 1. *Type and number of passive items*

Number of items			
Comprehension		Production	
Type of passive <sup>10</sup>	No. of items	Type of passive <sup>11</sup>	No. of items
Full: actional	10		
Of which actional: 10		Actional	9
Short: actional	9		
Of which actional: 9			
Reversible	15		
Of which actional: 9		Reversible: actional	5
Of which perceptual: 3			
Of which psychological: 3		Reversible: perceptual	5
		Reversible: psychological	5
TOTAL	34	TOTAL	24

<sup>10</sup> For the short and full passives, there were 8 reversible passives each, all of which were full passives. The reason for having two comprehension tasks both containing a mix of reversible and irreversible passives is the types of opposers present in each task. Whereas the actional passives were mostly reversible, there was no picture depicting the reversed version. For instance, in *The dog was walked by Grandma Gogo*, there was no picture of a grandma being walked by a dog. This was because the actional passives task focused on the differences in bound morphology between the active and passive forms (*The dog was walking by Grandma Gogo*), as discussed below, and not on the word order differences (*Grandma Gogo was walked by the dog*). In the reversible task, all items were full passives, and the opposer pictures included a reversed option (*Thandi is kissed by the teddy bear vs The teddy bear is kissed by Thandi*).

<sup>11</sup> In the Actional task, three passives could be classified as reversible when considered separately from the picture. For instance, one picture shows a boy's shirt being caught on a fish hook while he is fishing. Whereas *The fish hook was caught by John* would be the reversed version, the catching action that a person would perform on a fish hook would differ vastly from the piercing, catching action a fish hook would impose on a person.

### *Comprehension Tasks*

The 34 comprehension items in the REALt are divided into two picture selection tasks, one assessing short and full passives and the other assessing reversible passives. Some of the REALt stimuli are active sentences and others passive; the task was however amended for the purposes of this study so that all stimuli were passive sentences, with the items of each task presented in random order.

For each comprehension item, the child chooses the picture that matches the stimulus, from a set of three: the target picture, the opposing picture and the distractor. For the task assessing comprehension of full and short passives, the stimulus sentence and the sentence associated with the opposing picture differ only in terms of a bound morpheme (e.g., the equivalent of *The dog is walkED/walkING by Granny Gogo*) and/or a few function words (e.g., *Stevie is scared BY/OF the dog; The chicken WAS/HAD eaten*).<sup>12</sup> The opposing picture contains one or more of the visual elements of the other two pictures without depicting the target or opposing actions. For instance, for the stimulus *The dog is walked by Granny Gogo*, the target picture shows a dog being walked by a woman; the opposing picture shows a dog walking past a woman; and the distractor picture shows a woman walking, with no dog in the picture (see Figure 1). For an example of a comprehension item containing a short passive and a comprehension item containing a perceptual verb, see the appendix.

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<sup>12</sup> For the Afrikaans, the contrast was for instance between *Stevie is deur die pyp gesny* ‘Stevie was cut by the pipe’ and *Stevie het deur die pyp gesny* ‘Stevie cut through the pipe’. The contrast is illustrated by means of the different auxiliary verb forms in Afrikaans in contrast to the participle suffixes used in English. See Figure 2.

Figure 1. Example of full actional passive in the comprehension task (differentiation in terms of bound verbal suffixes) for isiXhosa







<p>Target picture:</p> <p>I-nja i-hanjis-w-a ng-u-Makhulu uGogo</p> <p>NC9-dog SM9-walk- PASS-FV.PRES COP-NC1a-Grandma Gogo</p> <p>‘The dog is walked by Granny Gogo’</p>	<p>Opposing picture:</p> <p>I-nja i-hamb-a ku-Makhulu uGogo</p> <p>NC9-dog SM9-walk- FV.PRES LOC-Grandma Gogo</p> <p>The dog is walking by Granny Gogo’</p>	<p>Distractor picture:</p> <p>U-Makhulu uGogo u-ya-hamba</p> <p>NC1a-Grandma Gogo SM1a-TNS.PRES-walk</p> <p>‘Granny Gogo is walking’</p>
		




Figure 2. Example of full actional passive in the comprehension task (differentiation in terms of the auxiliary verb) for Afrikaans

<p>Target picture:</p> <p>Stevie is deur die pyp gesny</p> <p>Stevie be.PRES.PERFECT by the pipe PTCP-cut</p> <p>‘Stevie was cut by the pipe’</p>	<p>Opposing picture:</p> <p>Stevie het deur die pyp gesny</p> <p>Stevie did through the pipe PTCP-cut</p> <p>‘Stevie cut through the pipe’</p>	<p>Distractor picture:</p> <p>Stevie hou die pyp vas</p> <p>Stevie hold the pipe fast</p> <p>‘Stevie is holding the pipe’</p>
		

In the case of the reversible passives, the stimulus and opposer do not necessarily differ minimally morphologically: In the case of the item *Thandi is kissed by the teddy bear*,<sup>13</sup> the opposing sentence could be *Thandi is kissing the teddy bear*, but it could also be *The teddy bear is kissed by Thandi*. Figure 3 shows the three picture choices for this item: the target being a teddy bear kissing a girl, the opposer a girl kissing a teddy bear, and the distractor a girl holding a teddy bear.

<sup>13</sup> Note that the developers of the REALt included mostly probable but also two improbable scenarios in the reversible passive items, reasoning that a child who truly understands and produces passives will also be able to understand improbable passives (Southwood & Van Dulm 2012a).

Figure 3. Example of reversible passive in the comprehension task

Target picture:	Opposing picture:	Distractor picture:
<p><b>Afrikaans:</b></p> <p>Thandi word deur die teddiebeer gesoen</p> <p>Thandi be.PRES.INDICATIVE by the teddy.bear PTCP-kiss</p> <p>‘Thandi is kissed by the teddy bear.’</p> <p><b>IsiXhosa:</b></p> <p>U-Thandi u-phuz-w-e ng-u-nodoli we-bhere</p> <p>NC1a-Thandi SM1a-kiss- PASS-FV.PAST COP-NC1a-doll of-bear</p> <p>‘Thandi was kissed by the teddy bear.’<sup>14</sup></p>	<p><b>Afrikaans:</b></p> <p>Die teddiebeer word deur Thandi gesoen</p> <p>the teddy.bear be,PRES,INDICATIVE by Thandi PTCP-kiss</p> <p>‘The teddy bear is kissed by Thandi.’</p> <p><b>IsiXhosa:</b></p> <p>U-nodoli we-bhere u-phuz-w-e ng-u-Thandi</p> <p>NC1a-doll of-bear SM1a-kiss-PASS-FV.PAST COP-NCa-Thandi</p> <p>‘The teddy bear was kissed by Thandi.’</p>	<p><b>Afrikaans:</b></p> <p>Thandi hou die teddiebeer vas</p> <p>Thandi hold the teddy.bear fast</p> <p>‘Thandi is holding the teddy bear.’</p> <p><b>IsiXhosa:</b></p> <p>U-Thandi u-bamb-e u-nodoli we-bhere</p> <p>NC1a-Thandi SM-hold- VF.FV.PAST NC1a-doll of-bear</p> <p>‘Thandi was holding the teddy bear.’</p>
		

<sup>14</sup> Note that in some passive items, the Afrikaans is in the present tense whereas the isiXhosa is in the past. Should the isiXhosa had been in the present tense, another morpheme, namely *-ya-* ‘TNS.PRES’ would have been required, which would have made the isiXhosa passive morphologically more complex. The Afrikaans item was presented in the present tense to avoid ambiguity between passives and statives which can both contain *is*.

### *Production Task*

The passive production items consist of passives containing actional verbs in one 10-item task, and reversible passives in a 15-item task, the latter containing actional, psychological and perceptual verbs. Items were presented in random order. In each case, the participant was shown a picture and heard an active sentence and the start of the sentence's passive counterpart (e.g., *Oh dear, look at what happened here. The dogs chewed the couch. But let's say it another way. Let's start with "The couch". "The couch ..."*), which the participant completed. Figure 4 contains the picture used with this verbal stimulus.

Figure 4. *Example of stimulus picture in the production task*



In terms of the responses, short passives as well as full passives were considered to be correct. Mastery of the reversible passive was regarded as assigning the THEME or PATIENT theta role to the phrase in the structural subject position, whether or not the phrase introducing the external theta role was included.

### *Procedure*

Two Afrikaans-speaking and three isiXhosa-speaking fieldworkers assisted the authors in collecting data from Afrikaans-speaking and isiXhosa-speaking Grade 1s at each data collection time (10 fieldworkers in total). It took approximately 20 minutes to assess one

participant with the Passives booklet of the REALt. The participants were told that they could request breaks, and fieldworkers also monitored them for signs of fatigue. 56 participants were assessed within two four-week periods: one at the start of the Grade 1 year (in January/February, henceforth “Time 1”) and the other at the end (October/November, henceforth “Time 2”). At both Time 1 and Time 2, the Afrikaans-speaking participants were assessed during the first two weeks and the isiXhosa-speaking participants during the second two weeks.

Fieldworkers were provided with a picture book with accompanying text and a paper scoresheet on which the relevant targeted and potential non-targeted responses were printed. Fieldworkers wrote non-targeted responses (including incomplete responses) down verbatim on the scoresheet. Where spontaneous revisions occurred, only the last response was captured. If a child gave incorrect responses to the entire first half of the items of any task of any construction (for instance, the comprehension task for full passives), the fieldworker would discontinue assessing that specific task and assign zero to the rest of the items in that task. Discontinuation was implemented to avoid participant distress and fatigue, given that the passive tasks formed part of a larger test battery. At Time 1, ten children in the Afrikaans group discontinued the production task for action passives, whereas this decreased to five children at Time 2. At Time 1 and 2, 13 children and five children, respectively, discontinued the production task for reversible passives. For the isiXhosa group, three children discontinued the production task for reversible passives and no tasks were discontinued in Time 2.

### ***Ethical Considerations***

Ethical clearance for the study was granted by the Research Ethics Committee (Humanities) of Stellenbosch University (protocol number GL010812). Permission to conduct the study was obtained from the principals and relevant teachers at the study schools. Informed consent



was obtained from participants' parents or legal guardians by distributing information letters and consent forms to them in their L1, via the schools. Participants gave written assent after the fieldworkers had explained to them in their L1 what tasks they would be asked to perform and why. Confidentiality and anonymity were assured during all stages of the research process.

### ***Data Entry and Analysis***

In all cases, a score of 90% or more was deemed indicative of mastery (following Southwood and Van Dulm 2012a). Paired samples t-tests were used to determine whether there was a significant difference between Time 1 and Time 2 for the comprehension and production data of each language separately. An independent samples t-test was performed for a comparison of the two languages at Time 1 and Time 2. All analyses were done using IBM SPSS version 23.

## **Results**

### ***Afrikaans L1 Group***

Descriptive statistics for the comprehension and production of the Afrikaans group are summarised in Table 2. A cursory look at the data shows an increase in mean scores from Time 1 to Time 2 in all conditions except the comprehension of reversible passives, which decreased slightly from 6.78 to 6.63. No mean score was above 90% (i.e., 4.5/5, 8.1/9, 9/10 or 13.5/15) for any of the items, indicating that full mastery had not been reached yet, even by Time 2. Looking at individual results at Time 1, only one child reached a score of 90% for full actional passives, while three out of 27 scored 90% for short actional passives, whereas no single child achieved this score for any other condition. At Time 2, five out of 27 children achieved 90% for short actional and full/short actional passives, while seven, six and eight

out of 27 children had acquired the production of reversible actional passives, reversible perceptual passives and reversible psychological passives respectively.

Table 2. *Descriptive statistics of Afrikaans production and comprehension scores at Time 1 and Time 2*

Item type	N	Time 1					Time 2				
		Range	Max score	Mean	Mean (%)	SD	Range	Max score	Mean	Mean (%)	SD
<b>Comprehension</b>											
Full: actional	27	1-9	10	4.70	47%	1.88	3-8	10	6.30	63%	1.49
Short: actional	27	5-9	9	7.11	79%	1.19	4-9	9	7.74	86%	1.16
Reversible	27	2-10	15	6.78	45.2%	2.19	2-13	15	6.63	44.2%	2.44
<b>Production</b>											
Reversible: actional	27	0-4	5	0.59	11.8%	1.08	0-5	5	2.15	43%	2.14
Reversible: perceptual	27	0-4	5	0.33	6.6%	0.96	0-5	5	1.81	36.2%	2.32
Reversible: psychological	27	0-2	5	0.15	3%	0.53	0-5	5	1.74	34.8%	2.16
Full/short: actional	27	0-7	10	1.11	11.1%	2.01	0-10	10	3.56	35.6%	3.91

*Notes:* Max score is the maximum attainable score for the item. SD = Standard Deviation.

Different item types were analysed separately for change across Time 1 and Time 2. For the comprehension items, results from the paired samples t-test shows that there was only a significant difference over time for the comprehension of full passives ( $t(26)=-4.13$ ,  $p < 0.001$ ) but not for short ( $t(26)=-1.94$ ,  $p=0.064$ ) or reversible ( $t(26)=0.26$ ,  $p=0.799$ ) passives.

For the production of passives by the Afrikaans group, all item types showed a significant increase across the time points: reversible actional ( $t(26)=-3.43$ ,  $p=0.002$ ), reversible perceptual ( $t(26)=-3.14$ ,  $p=0.004$ ) and reversible psychological ( $t(26)=-3.81$ ,  $p=0.001$ ). The production of full/short actional passives also increased significantly over time ( $t(26)=-3.14$ ,  $p=0.004$ ).

### ***isiXhosa L1 Group***

The descriptive statistics for the comprehension and production scores from the isiXhosa participants are presented in Table 3. The mean score for the comprehension of the short actional passives was over 90% at Time 1 and Time 2 (24 out of 29 children scored 90% or more), indicating that it had been acquired. The comprehension items at Time 2 showed that full actional passives had been acquired (22 out of 29 children achieved a mean of more than 90%), and the reversible passives were approaching acquisition ( $13.28/15 = 89\%$  achieved by 19 out of 29 children). At Time 2, the production of reversible actional, reversible perceptual and full/short passives all had mean scores of 90% or above, with 23, 21 and 21 out of 29 children having acquired it respectively.

Table 3. *Descriptive statistics of isiXhosa production and comprehension scores at Time 1 and Time 2*

Item type	N	Time 1					Time 2				
		Range	Max score	Mean	Mean (%)	SD	Range	Max score	Mean	Mean (%)	SD
<b>Comprehension</b>											
Full: actional	29	5-10	10	8.55	85.5%	1.21	5-10	10	9.14	91.4%	1.36
Short: actional	29	6-9	9	8.21	91.22%	0.82	6-9	9	8.17	90.78	0.97
Reversible	29	7-14	15	11.03	73.53%	2.53	8-15	15	13.28	88.53%	2.39
<b>Production</b>											
Reversible: actional	28	0-5	5	3.61	72.2%	1.69	2-5	5	4.72	94.4%	0.65
Reversible: perceptual	27	0-5	5	2.52	50.4%	1.58	1-5	5	4.55	91%	0.91
Reversible: psychological	25	0-5	5	2.68	53.6%	1.75	0-5	5	4.28	85.6%	1.22
Full/short: actional	23	0-10	10	6.04	60.4%	2.80	6-10	10	9.54	95.4%	0.96

*Notes:* Max score is the maximum attainable score for the item. SD = Standard Deviation

The comprehension scores from the isiXhosa group showed that the reversible items underwent a significant increase ( $t(28)=-4.46$ ,  $p<0.001$ ). Full actional items did not show a significant increase from Time 1 to Time 2 ( $t(28)=-1.90$ ,  $p=0.067$ ); it was to be expected as the Time 1 scores were already high (mean of 8.55/10), and by Time 2 it had increased

enough to be considered acquired (mean of 9.14/10). In the same vein, no significant difference was found between Time 1 and Time 2 for comprehension of short actional items ( $t(28)=0.14$ ,  $p=0.889$ ).

The production scores showed an increase for all items across the year. Increases for three item types had a strong significance of  $p < 0.001$ : reversible perceptual ( $t(26)=-6.31$ ), reversible psychological ( $t(24)=-4.09$ ) and full/short actional passives ( $t(21)=-6.74$ ). Significant increases were also seen for the reversible actional items in passive production over the course of the Grade 1 year ( $t(27)=-3.10$ ,  $p=0.005$ ).

### *Afrikaans and isiXhosa*

At Time 1, all differences in means between the two language groups were significant; see Table 4 for all the results. The Afrikaans group scored consistently lower than the isiXhosa group. At Time 2, the significant differences persisted except for the comprehension of short passives which showed no significant difference ( $t(54)=1.52$ ,  $p=0.136$ ). For both language groups, the score for this item was relatively high, with a mean score over 8/10.

Table 4. *Results of the independent samples t-test, for Times 1 and 2*

Item Type	Time 1			Time 2		
	t	df	p	t	df	p
<b>Comprehension</b>						
Full: actional	-9.18	54	0.00	-7.48	54	0.00
Short: actional	-4.044	54	0.00	-1.52	54	0.14
Reversible	-6.71	54	0.00	-10.30	54	0.00
<b>Production</b>						
Reversible: actional	-7.86	53	0.00	-6.18	54	0.00
Reversible: perceptual	-6.15	52	0.00	-5.89	54	0.00
Reversible: psychological	-7.17	50	0.00	-5.46	54	0.00
Full/short: actional	-7.23	48	0.00	-7.86	53	0.00

## Discussion

For the Afrikaans group, neither comprehension nor production had been mastered for any passive construction by the end of Grade 1. This finding supports that of Southwood and Van Dulm (2012a), namely that passives are late developing in Afrikaans. Mastery in terms of comprehension and production in the Southwood and Van Dulm (2012a) study occurred between the ages of five and eight years for mid-SES L1 child speakers of Afrikaans, and the Afrikaans data from our study point towards acquisition after 6;9 (the age of the youngest Afrikaans-speaking participant at the end of the Grade 1 year). For the Afrikaans group, both full and short passives are late developing, and comprehension of short passives may be acquired earlier than comprehension of full passives. This is shown by the difference of at least 20% between the Afrikaans comprehension scores for short and full passives at both

times of data collection. This result is consistent with findings from Armon-Lotem *et al.* (2016) for six languages.

The isiXhosa comprehension scores for full and short passives in the current study are very similar, as they do not differ significantly between Times 1 and 2, and are mastered by the end of Grade 1. Passive production shows mastery at the end of Grade 1 (not yet at the beginning of the year), with the exception of reversible passives with psychological verbs, which are approaching mastery. These findings point to passive production being late developing in isiXhosa. There are, however, little other data available with which to compare the isiXhosa group, as only one other study (Potgieter (2014), who also used the REALt to collect data) on the acquisition of passives by isiXhosa child speakers could be traced. Recall that Potgieter (2014) found that isiXhosa-speaking four-year-olds with a low SES had started acquiring passives, obtaining scores around 50%. In Sesotho, passives have also been reported to be acquired early (around three years) (see Demuth *et al.* 2010). Participants in the Demuth *et al.* (2010) study obtained scores almost at ceiling for the prompted production of passive constructions containing actional verbs. This differs from our findings on passives with actional verbs at Time 1. The reason for this difference is not clear – it is not thought to be due to SES differences, as the participants in Demuth *et al.*'s (2010) study were also situated in low SES contexts – but could be related to the specific tasks that were used.

When the two language groups are compared at the end of their Grade 1 year, there are no differences in terms of the comprehension of short passives; however, at the beginning of the year there is a significant difference, indicating that the Afrikaans L1 children had caught up with the isiXhosa L1 children. For the comprehension of full passives, the isiXhosa L1 children fared significantly better than the Afrikaans L1 children at Time 1 and Time 2.

Morphosyntactic factors in the derivation of the passive in Afrikaans and isiXhosa may account for this delay in acquisition of passives in Afrikaans compared to isiXhosa.

Afrikaans has an ambiguous verbal prefix *ge-*, and child speakers of languages with ambiguous passive morphosyntax tend to acquire passives later (see Demuth 1990).

Contrastively, isiXhosa uses a specific affix (a pre-word-final suffix with allomorphs *-iw-* or *-w*), which only applies to the passive, hence no such ambiguity exists in isiXhosa.<sup>15</sup>

Besides the effect of linguistic factors, SES might also have had an effect on the age of acquisition of both groups of children. No findings have been published on mid-SES isiXhosa-speaking children's acquisition of passive constructions in their L1, so we base this statement on findings for Afrikaans. Southwood and Van Dulm (2012a), who tested Afrikaans-speaking children from mid SES backgrounds with the REALt, found that comprehension of passives is mastered at the latest by six years. In the current study, passive comprehension is not yet mastered by Afrikaans-speaking children with low SES at the age of 6;9 to 8;3, at the end of their Grade 1 year. The difference between the ages of mastery in the two studies amongst Afrikaans-speaking children could pertain to differences in SES, but this can only be confirmed in follow-up comparative studies in which participants are matched carefully on a range of variables.

### ***Conclusions***

The general aim of the study was to contribute to knowledge of the acquisition of passives by children, by adding data from two typologically different, understudied languages. The research question was whether passives are fully acquired by Grade 1 by speakers of Afrikaans and isiXhosa, or whether development takes place over the course of the year. The comprehension of passives nears mastery in the isiXhosa L1 children at the beginning of Grade 1, but not in the Afrikaans L1 children. In Afrikaans, both full and short passives are

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<sup>15</sup> In this regard, Armon-Lotem *et al.* (2016) discusses the notion that the uniqueness of the auxiliary may play a role in the acquisition of the passive, with passives possibly being acquired later in languages in which a particular auxiliary verb is used in more than one construction (such as in Afrikaans) than in languages in which the passive makes use of a unique auxiliary. Whereas isiXhosa does not make use of an auxiliary in passive constructions, it does have a specific verbal affix for this purpose.



late developing (with a lack of mastery even at the end of Grade 1), although short passives may be acquired earlier than full passives. The linguistic differences in morphosyntactic features between Afrikaans and isiXhosa can possibly explain the difference between the two languages in terms of ages of acquisition of the short and full passives.

For both languages, mastery of the production of multiple passive constructions occurs after the age of five. This finding for Afrikaans concurs with a general finding in the literature for most other languages studied thus far, but the finding for isiXhosa is contrary to that of Potgieter (2012) for isiXhosa and Demuth *et al.* (2010) for Sesotho. However, the current study had almost double the number of participants than Demuth *et al.*'s study (n=29 vs n=16) and focused on an older age range. Therefore, comparisons between these two studies should be interpreted cautiously.

This study has several limitations, including that group generalisations instead of careful consideration of possible individual variation were made. Selecting participants by narrow age band instead of by school grade could have delivered less intragroup variability and different overall results. Furthermore, only two study schools in one geographical location were considered. Despite these possible limitations, the findings of the study contribute to our knowledge of crosslinguistic differences in the acquisition of passives, specifically testing a range of subtypes and making use of elicited data (instead of natural production). From our findings, and a cursory comparison between our findings and that of Van Dulm and Southwood (2012), it appears that the passive morphosyntax of a language and the level of SES may affect the age at which child speakers of that language comprehend and produce passive constructions.

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### **Declaration of Interest Statement**

The authors have no conflict of interest to declare.

### **Data Availability Statement**

Due to restrictions on data sharing with persons not named in the application for ethical clearance, supporting data is not available.

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**Appendix: Additional examples of REALt test items**

Figure A1. *Comprehension task for short passives in English, Afrikaans and isiXhosa:  
Example item*



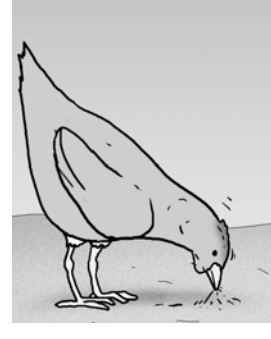
Stimulus	Target	Distractor	Opposer
	<p><b>Afrikaans:</b></p> <p>Die hoender word geëet</p> <p>the chicken be.PRES.INDICATIVE</p> <p>E</p> <p>PTCP-eat</p> <p><b>isiXhosa:</b></p> <p>I-nkukhu i-ya-ty-iw-a</p> <p>NC9-chicken SM9-eat-PASS-FV. PAST</p> <p>‘The chicken is eaten.’</p>	<p><b>Afrikaans:</b></p> <p>Die hoender is op Die bord</p> <p>the chicken be.PRES on the plate</p> <p><b>isiXhosa:</b></p> <p>I-nkukhu i-se-pleyit-ini</p> <p>NC9-chicken SM1a-LOC-plate-LOC</p> <p>‘The chicken is on the plate’</p>	<p><b>Afrikaans:</b></p> <p>Die hoender het geëet.</p> <p>The chicken did PTCP-eat</p> <p><b>isiXhosa:</b></p> <p>I-nkukhu i-ya-ty-a.</p> <p>NC9-chicken SM9-TNS.PRES-eat-FV.PRES</p> <p>‘The chicken is eating.’</p>
<p>Afrikaans: “Wys vir my: Die hoender word geëet.”</p> <p>isiXhosa: “Ndibonise: Inkukhu ityiwe”</p> <p>‘Show me: The chicken is eaten.’</p>			



Figure A2. Comprehension task reversible passives in English, Afrikaans and isiXhosa:  
Example item containing psychological verb

Stimulus:	Distractor	Opposer	Target
	<p><b>Afrikaans:</b></p> <p>Mev. Martin slaap Mrs Martin sleep</p> <p>‘Mrs Martin is sleeping.’</p> <p><b>IsiXhosa:</b></p> <p>u-Nkosikazi Martin u-lele</p> <p>NC1a-Mrs Martin SM1a-sleep</p> <p>‘Mrs Martin was sleeping.’</p>	<p><b>Afrikaans:</b></p> <p>Mev. Martin word deur Stevie getroos</p> <p>Mrs Martin be.PRES by Stevie PTCP-comfort</p> <p>‘Mrs Martin is comforted by Stevie.’</p> <p><b>IsiXhosa:</b></p> <p>u- Nkosikazi Martin u-thuthuzel-w-e ng-u-Stevie</p> <p>NC1a-Mrs Martin SM1a-comfort-PASS- FV.PAST COP-NC1a-Stevie</p> <p>‘Mrs Martin was comforted by Stevie.’</p>	<p><b>Afrikaans:</b></p> <p>Stevie word deur mev. Martin getroos</p> <p>Stevie be.PRES by Mrs Martin PTCP-comfort</p> <p>‘Stevie is comforted by Mrs Martin.’</p> <p><b>IsiXhosa:</b></p> <p>U-Stevie u-thuthuzel-w-e ng-u- Nkosikazi Martin</p> <p>NC1a-Stevie SM1a-comfort-PASS- FV.PAST COP-NC1a-Mrs Martin</p> <p>‘Stevie was comforted by Mrs Martin.’</p>
<p>Afrikaans: “Wys vir my: Stevie word deur mev. Martin getroos.” IsiXhosa: Ndibonise: UStevie uthuthuzelwe nguNsk uMartin.” ‘Show me: Stevie is comforted by Mrs Martin.’</p>	