

The adaptation of MAIN to Maltese

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This paper describes the process of adapting the Multilingual Assessment Instrument for Narratives (MAIN) to Maltese. The language-learning context in Malta is introduced, followed by an overview of the main typological characteristics of Maltese. A detailed account of the adaptation process is then given. Theoretical and clinical applications of the Maltese adaptation of the MAIN are discussed and current research projects in which the Maltese adaptation is being employed are briefly described.

1 Introduction

Children's narratives are known to generate rich, quasi-naturalistic information on their oral language abilities (Paradis et al., 2020), making narrative tasks a valuable resource in clinical assessment. The Multilingual Assessment Instrument for Narratives (MAIN; Gagarina et al., 2012, 2019), developed within COST Action IS0804 as part of the Language Impairment Testing in Multilingual Settings (LITMUS) test battery (Armon-Lotem, de Jong, & Meir, 2015), is designed to evaluate narrative comprehension and production in children learning one or more languages. The four picture-based narrative tasks of the MAIN (*Cat, Dog, Baby Birds, Baby Goats*) have been purposely designed in parallel to ensure comparability. Each task addresses story production through telling and retelling, as well as narrative comprehension. Assessment of narrative production taps into microstructural, or linguistic, aspects and the macrostructural features of story structure and organisation (Gagarina et al., 2016). A set of questions pertaining to each story addresses comprehension of narrative macrostructure.

The MAIN stories and protocols have been adapted to a growing number of languages, enabling cross-linguistic insight into children's narrative abilities. Moreover, the availability of several language versions allows MAIN to determine the bilingual/multilingual narrative skills of children exposed to more than one language. The latter feature is especially relevant to the identification of language difficulties in children receiving bilingual/multilingual exposure,

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which is often hampered by the limited availability of tests in each of the child's input languages (e.g., Bedore & Peña, 2008). These theoretical and clinical applications of the MAIN indicated that a Maltese adaptation would be a useful addition to the numerous language versions already available. This paper introduces the language-learning context in Malta and outlines the main typological characteristics of the Maltese language. It then describes the development, application and use of the Maltese adaptation of the MAIN.

2 Malta's language-learning context

Maltese is the national language of Malta, spoken by the vast majority of its inhabitants (Vella, 2013), with English holding official language status alongside Maltese and Maltese Sign Language. Bilingualism in Maltese and English is nationwide, albeit to varying degrees. The relative prominence of English stems from Malta's past as a British colony between 1800 and 1964 (Paggio & Gatt, 2018). Maltese tends to be the dominant spoken language, but English is often preferred in the written medium (Pace & Borg, 2017). English is sometimes employed as a home language with Maltese children, although most young children are predominantly exposed to Maltese at home. In these instances, children's acquisition of the second language (L2), Maltese or English respectively, is expected to take place largely through schooling (Camilleri, 1995; Gatt, Grech, & Dodd, 2016; Gatt & Dodd, 2019). Early exposure to relatively balanced exposure to Maltese and English in the home is also a possibility, encouraging children to develop as simultaneous bilinguals.

Since Maltese and English exist in close proximity, language contact phenomena are widely employed. It is virtually impossible, therefore, for Maltese children exposed to one language in the home to develop monolingually (Vella, 2013). Several loan words having Romance and English origins have been integrated into Maltese out of necessity (Hoberman, 2007), as in the case of the words *pizza*, *stiker* 'sticker' and *trakk* 'truck', which compensate for Maltese lexical gaps. Many English words are also preferred over available Maltese equivalents (Brincat, 2011), functioning as core borrowings. In spoken Maltese, for example, *bicycle*, *meeting* and *toys* are widely preferred over *rota*, *laqgħa* and *gugarelli*, the respective Maltese equivalents. This language choice pattern is accompanied by code-switching, which contrasts with borrowing in being more sporadic and idiosyncratic in nature. Moreover, adults addressing their children in Maltese tend to employ additional core borrowings from English which are unlikely in adult-to-adult language use. Since it is specific to adult-child dyads, this language contact mechanism has been referred to as 'functional borrowing' (see Gatt, Grech, & Dodd, 2016).

Although bilingualism is the norm in Malta, recent years have seen a substantial increase in linguistic diversity through a continuous influx of asylum seekers and economic migrants (Cefai et al., 2019). Suffice to say, in the scholastic year 2018/19, foreign children enrolled in pre-primary, primary and secondary education amounted to 12% of the total student population, representing a 1% increase over the previous year's figures (National Statistics Office, Malta, 2021). The languages most commonly spoken by these children, based on their reported nationality, were Italian and Arabic, followed by Bulgarian and Serbian. For foreign children,

societal bilingualism in Maltese and English would be expected to add a multilingual dimension to skills developing, or already available, in a minority home language, although related empirical evidence is still scarce (see Baschiera & Caruana, 2020; Pirchio et al., 2020).

3 A brief typology of the Maltese language

Maltese is a Semitic language. It is typologically closest to North African vernacular Arabic, from which it has inherited the greater part of its verbal morphology (Hoberman, 2007). A millennium of close contact with Sicilian and Italian explains its substantial Romance influences (Comrie, 2009), while English borrowings have been in use over the last sixty years or so (Hoberman, 2007). Mifsud (1995) described the Maltese language as consisting of a basic Semitic layer on which Romance elements and, subsequently, English borrowings, were superimposed. The Semitic framework is itself influenced by these Romance and English borrowings, making Maltese “unique and different from Arabic and other Semitic languages” (Hoberman, 2007: 258).

In their comprehensive description of the Maltese language, Borg and Azzopardi-Alexander (1997) highlight its rich inflectional and derivational morphology, its optional subject forms by virtue of the person, number and gender inflections coded on the verb and its free word order. Also noteworthy are the free and suffixed pronouns that are marked for first, second and third person, with singular and plural distinctions also coded for each person. Pronominal suffixes attach to nouns, marking possession, to verbs, where they mark direct and indirect objects, and to prepositions as their objects (Borg, & Azzopardi-Alexander, 1997; Hoberman, 2007). Table 1 lists the subject pronouns, all of which are free, and exemplifies enclitic pronouns that are suffixed to nouns, verbs and prepositions. An enclitic pronoun on the main verb enables topicalisation of the grammatical object (Fabri & Borg, 2002). Thus, by virtue of the free word order of Maltese, emphasis may be placed on an object by preposing it to the beginning of the sentence, as in *Hallihom lill-psiepes*, literally translated as ‘Leave **them**, the baby birds’ (‘Leave the baby birds alone’).

These features of Maltese make it typologically very different from English, the language in which the MAIN was originally constructed. It was imperative, therefore, that the Maltese adaptation embraced the structural properties of the language to ensure authenticity in the context of Maltese narrative assessment. In the next section, the adaptation process is described.

Table 1: Free and enclitic pronouns in Maltese

	Free subject pronouns		Enclitic pronouns (with examples)	
	Singular	Plural	Singular	Plural
1st person	<i>jien(-a)</i> 'I'	<i>aħna</i> 'we'	<i>-i</i> <i>oħt-i</i> 'my sister' <i>-ja</i> <i>idej-ja</i> 'my hands' <i>-ni</i> <i>agħti-ni</i> 'give me'	<i>-na</i> <i>oħt-na</i> 'our sister' <i>idej-na</i> 'our hands' <i>agħti-na</i> 'give us'
2nd person	<i>int(-i)</i> 'you'	<i>intom</i> 'you'	<i>-ek</i> <i>xagħr-ek</i> 'your hair' <i>-ok</i> <i>oħt-ok</i> 'your sister' <i>-k</i> <i>jagħti-k</i> '(he) gives you'	<i>-kom</i> <i>xagħr-kom</i> 'your hair' <i>oħt-kom</i> 'your sister' <i>jagħti-kom</i> '(he) gives you'
3rd person masc.	<i>hu(-wa)</i> 'he'	<i>huma</i> 'they'	<i>-u</i> <i>oħt-u</i> 'his sister' <i>-h</i> <i>bi-h</i> 'with him' <i>-hu</i> <i>agħti-hu-lu*</i> 'give it to him'	<i>-hom</i> <i>oħt-hom</i> 'their sister' <i>bi-hom</i> 'with them' <i>agħti-hom-lu*</i> 'give them to him'
3rd person fem.	<i>hi(-ja)</i> 'she'	<i>huma</i> 'they'	<i>-ha</i> <i>oħt-ha</i> 'her sister' <i>bi-ha</i> 'with her' <i>-hie</i> <i>agħti-hie-lha**</i> 'give it to her'	<i>-hom</i> <i>oħt-hom</i> 'their sister' <i>bi-hom</i> 'with them' <i>agħti-hom-lha**</i> 'give them to her'

Note. * *-lu* is the enclitic indirect object pronoun 'to him', ***-lha* is the enclitic indirect object pronoun 'to her'.

4 Adapting MAIN to Maltese

The adaptation of the MAIN story scripts to Maltese closely followed Bohnacker and Gagarina's (2019) guidelines for adapting the Revised version of the MAIN in English to other languages. The process started with a preliminary translation of the English version that was carried out by the first author and checked by a professional proofreader of Maltese. This translation retained the sequence and number of Goals, Attempts, Outcomes, as well as Initiating Events and Reactions represented by the Internal States of the story characters. Native Maltese vocabulary was given priority over core borrowings from English, so that the story script adaptations were formulated in unified Maltese. For example, although use of the lexical items *baby birds* and *baby goats* would have been somewhat acceptable in an oral rendition of the story scripts with children, the respective Maltese equivalents *psiepes* and *gidien* were preferred.

Next, six bilingual speech-language pathologists who had pursued post-qualification research and/or had more than 10 years of professional experience were invited to view the four picture sequences and read the respective story scripts. They were asked to provide feedback

on the suitability of the scripts for children aged 3-10 years, specifically in terms of naturalness of structures employed to convey the narrative content represented in the pictures. The original English version was not provided, so that the clinicians would not be inclined to focus on how closely the Maltese translation approximated the original. Most comments concerned the lexical-semantic level, exploring options for representing the words *bush*, *mummy bird*, *baby birds*, *mummy goat* and *baby goats* without relying on the English versions as core English borrowings. The selected Maltese lexical forms were those having the least ambiguous semantic conceptualisations. The resulting adaptation of each story script was used as a basis for translating the respective scoring sheets. The four story scripts and scoring sheets were then piloted with four Maltese-English bilingual children aged 6;0 – 6;11 years. Each child was also administered the narrative comprehension questions for the four stories. For each child, the *Cat* and *Dog* stories were employed to elicit story retelling while spontaneous telling was addressed through the *Baby Birds* and *Baby Goats* stories. In the latter story, *lupu*, the Maltese equivalent of *wolf*, was preferred over *volpi* ‘fox’ by three children. Since wolves and foxes are not found in Malta, the children’s performance suggested that exposure through books and visual media may have been more inclined towards wolves than foxes. However, this trend has also been observed in MAIN narratives collected in contexts where both animals are found. This prompted the design of a ‘wolf version’ of the *Baby Goats* picture sequence, story script and scoring sheet that has been made available in the MAIN resource base. In view of the Maltese children’s performance during piloting, this alternative picture sequence was preferred and the relevant lexical substitutions were made to the story script and scoring sheet.

The updated story scripts were then reviewed by a Maltese linguist, who was also given access to the original English version, the accompanying picture stimuli and Bohnacker and Gagarina’s (2019) guidelines. At this stage, the primary focus was on ensuring that the microstructural requirements were met. To enhance the idiomatic use of Maltese, cumbersome syntactic constructions were minimised, as in the case of the subordinator *li* ‘that, who’ being employed twice in a single sentence with only one or two elements separating both occurrences. One of the two subordinating clauses was therefore converted to a main clause, in each of the four stories. Table 2 lists the four instances where a main clause was considered more idiomatic than a subordinating clause in the Maltese story scripts. Topicalisation of the grammatical object, including attachment of a co-referential pronominal clitic to the main verb (see Fabri & Borg, 2002), was also introduced to enhance syntactic authenticity. The Maltese main, subordinating and coordinating clauses, as well as the instances of direct speech, were then mapped onto their English counterparts to ensure a close correspondence between the numerical values of the two language versions. Word counts for both language versions were also compared and decisions on how to quantify the Maltese story tokens were taken following consultation with the Maltese linguist. A distinction was made between word components having lexical-semantic meaning, such as enclitic pronouns, and those having solely grammatical meaning, as in the case of person, number and gender markers on verbs, as well as gender and number markers on adjectives. For the purpose of comparison to English token counts, only words and word components having semantic meaning were tallied. The Maltese versions of the *Baby Birds*, *Baby Goats* and *Dog* stories have slightly lower token counts than

their English counterparts (*Baby Birds*: 170 in Maltese, 178 in English; *Baby Goats*: 175 in Maltese, 185 in English; *Dog*: 172 in Maltese, 174 in English). Here, the optional subject forms characteristic of Maltese contributed to the numerical discrepancies. The *Cat* story adaptation to Maltese counts 181 tokens (178 in English).

Table 2: Sample of clauses in the Maltese adaptation of the MAIN, as mapped onto the English story scripts, including all Maltese main clauses (MC) replacing subordinating clauses (SC) in the English version

English clauses		Maltese		
		Clauses*	Variations from English version	
Baby Birds		Il-Psiepes		
MC	One day there was a mother bird...	MC	Darba waħda kien hemm għasfura...	--
SC	...who saw that...	MC	...u rat li... ‘...and (she) saw that...’	‘u rat li...’ (MC) preferred over ‘li rat li...’ (SC)
Baby Goats		Il-Gidien		
MC	One day there was a mother goat...	MC	Darba waħda kien hemm mogħża...	--
SC	...who saw that...	MC	...u rat li... ‘...and (she) saw that...’	‘u rat li...’ (MC) preferred over ‘li rat li...’ (SC)
Cat		Il-Qattus		
MC	Meanwhile, a cheerful boy was coming back from fishing...	MC	Sadanittant, tifel ferrieħi kien ġej lura mis-sajd...	--
SC	...with a bucket and a ball in his hands.	MC	...u f’idejh kellu barmil u ballun. ‘... and in his hands he had a bucket and a ball.’	‘u f’idejh kellu barmil u ballun’ (MC) preferred over ‘b’barmil u ballun f’idejh’ (SC)
Dog		Il-Kelb		
MC	Meanwhile, a cheerful boy was coming back from shopping...	MC	Sadanittant, tifel ferrieħi kien ġej lura mix-xirja	--
SC	...with a bag and a balloon in his hands.	SC	...u f’idejh kellu basket u bużżieqa. ‘... and in his hands he had a bag and a balloon.’	‘u f’idejh kellu basket u bużżieqa’ (MC) preferred over ‘b’basket u bużżieqa f’idejh’ (SC)

Note. *English translations are given in square brackets where Maltese clauses differ from the English version.

The revised story scripts were then back-translated by a Maltese bilingual holding a postgraduate degree in the English language. The back-translation was purposely non-literal, in order to accommodate the grammatical and lexical adaptations made to the Maltese version. There was general agreement between the original and back-translated English versions, with differences in wording being minor and retaining the macrostructural properties of the original. For example, in the English back-translation of the *Baby Birds* story, the Attempt-Goal sequence in Episode 1 was worded as *She flew from her nest to find food for them* whereas, in the original script, the same sequence is presented more explicitly as *She flew away because*

she wanted to find food for them. The direct Maltese translation of the latter, *Taret 'il bogħod ghax riedet issibilhom l-ikel*, was preferred as it approximated the original word counts of the individual macrostructural elements more closely. Fine-tuning of the vocabulary items employed for some Internal State Terms (ISTs) was also required for a consensus to be reached. A case in point is the IST as Initiating Event *playful* in Episode 1 of the *Cat and Dog* stories, which was translated as *ihobb jilgħab* (literally '(he) likes to play'), since a suitable Maltese lexical equivalent was not identified. This was back-translated as *who was playing*, drawing attention to the fact that the Maltese translation did not employ the same word class as the original English story scripts. *Ihobb jilgħab* was therefore substituted by the IST *vivaċi* 'lively.' Not all lexical differences could be accommodated. In particular, semantic nuances conveyed by specific lexical items in the English story scripts could not be conveyed faithfully in Maltese, either because the latter's lexical range did not allow this or because limited usage of specific Maltese words led to them being relatively obscure. For instance, the action words *growled*, *meowed* and *cried* were all represented by the more generic lexical item *qal* '(he) said.' Moreover, Maltese idiomatic expressions were reconsidered in terms of their accessibility to younger children and eliminated in instances where they might have been too abstract or complex. For example, *ħaseb* '(he) thought' was preferred over *qal bejnu u bejn ruħu*, literally translated as '(he) said within himself and his soul' in being more semantically concrete. Final checking of the Maltese story scripts and score sheets was carried out by a Maltese bilingual holding a doctorate in Maltese translation, who also translated the remaining parts of the MAIN manual to Maltese.

5 Theoretical and clinical applications of the Maltese adaptation of the MAIN

The availability of a Maltese adaptation extends the MAIN's potential for cross-linguistic research. It also allows insight into the narrative skills of Maltese children acquiring Maltese as their L1 or L2. Besides, it enables the assessment of Maltese narrative abilities in language minority children having home languages other than Maltese and/or English. Maltese, like other understudied languages, merits more research attention than it has garnered to date, particularly in view of it being a non-Indo-European language (Kidd & Garcia, 2022). Given that Maltese monolingualism is highly unlikely (Vella, 2013), language assessment for Maltese children needs to consider that language knowledge is likely to be distributed across Maltese and English, necessitating evaluation of proficiency in both. Documenting Maltese narrative skills as a component of bilingual acquisition is highly relevant to establishing the extent of variation from the norm that counts as clinically significant. It also opens inroads into the study of language acquisition in normative bilingual contexts, a field which is notoriously under-researched, despite the theoretical potential it holds (Montanari & Nicoladis, 2018). The Maltese adaptation of the MAIN also enables the measurement of narrative skills in migrant children and adults living in Malta and learning Maltese as a foreign language, often as a third language (L3), since English is more likely to take on L2 status by virtue of it being a global language of communication. Documenting the learning of Maltese as a foreign language has potential to shed light on the dynamics of multilingual acquisition within a societal context of

stable bilingualism. It complements the testing of children's home language/s through the numerous MAIN language versions available, along with the assessment of English, thus serving both clinical and research purposes. Finally, the Maltese adaptation of the MAIN also represents a valuable addition to the limited clinical assessment base available for native and foreign speakers of Maltese. A bilingual Maltese-English story retelling task is already in use as part of the standardised Language Assessment for Maltese Children (LAMC, Grech, Franklin & Dodd, 2011). The Maltese adaptation of the MAIN enhances the viability of language assessment for children exposed to two or more languages in Malta, across a broader range of narrative skills.

An important strength of narrative tasks is that they enable the naturalistic elicitation of language contact phenomena, such as code-switching, typically produced in bilingual contexts (see Iluz-Cohen & Walters, 2012) for an investigation of codeswitching in children's English and Hebrew narratives). Since contact between Maltese and English in the Maltese context is widespread, it is unsurprising that the usage of English incorporates extensive code-switching and typological influence from Maltese, leading to use of the term 'Maltese English' (Krug & Sönning, 2018). Likewise, the Maltese language is characterised by substantial influences from English, particularly at the lexical and morphosyntactic levels (see Vella, 2013 for a discussion). Given these language contact dynamics, the Maltese adaptation is a resource which allows insight on the current mixing patterns between Maltese and English, adding to the limited evidence currently available on language contact phenomena elicited through bilingual narrative tasks (e.g. Iluz-Cohen & Walters, 2012). Then, the comparability of MAIN narratives across language versions opens up exciting possibilities for comparison of language mixing phenomena in different input language pairs, or even combinations of more than two input languages, which share a common language or otherwise.

6 Current research involving the Maltese MAIN

Data collection that uses the Maltese MAIN adaptation to document narrative skills in individuals having Maltese as L1, L2 and L3 has only commenced recently. It has so far involved children living in Malta in two lines of research, one involving participants having Maltese nationality and the other focusing on foreign children.

With Maltese-English bilingual children, MAIN data are currently being collected from typically-developing 3-6-year-olds having varying levels of proficiency in Maltese and English. Thus, use of the revised English version and its Maltese adaptation in parallel has enabled the assessment of narrative production and comprehension in both languages. The aim of this research is to document the narrative skills of children growing up in the bilingual context of Malta. Findings have clinical relevance, as they contribute towards establishing a standardised version of the Maltese adaptation, useful for the assessment of children with language impairments. These data also have theoretical importance. They shed light on narrative abilities in two languages that co-exist as official languages on a nationwide level, elucidating on the nature of bilingual narrative skill acquisition without the bias imposed by factors such as low socioeconomic status (SES), the latter typically associated with bilingualism in language

minority groups. This dataset also has the potential of extending cross-linguistic comparisons using MAIN data. Because of public health restrictions related to the COVID-19 pandemic, data collection has so far taken place in a virtual mode. The PowerPoint templates of the Hong Kong online pilot version (Hamdani et al., 2021) have been used with permission from the authors, with the scripts accompanying the slide shows modified to reflect the story scripts and comprehension questions of the Maltese adaptation of the MAIN. Data collection is still ongoing, with available data currently being transcribed and analysed.

Another project involves the Maltese adaptation employed as part of a test battery that evaluates the Maltese and English language skills of foreign children residing in Malta. For these children, aged between 3 and 6 years, both parents are foreign nationals and speak a home language which is neither English nor Maltese. These data may contribute towards a better understanding of multilingual development in societies that are intrinsically bilingual, providing a theoretically interesting viewpoint that differs from the predominantly monolingual contexts often documented in the literature. The Maltese adaptation of the *Dog* and *Cat* stories is being used alongside the original English version to elicit the participants' story retelling and narrative comprehension in both languages. Testing is scheduled at three time points over a twelve-month period, in order to document the developmental acquisition of both languages. Due to restrictions imposed by the COVID-19 pandemic, some of the children have participated in the study virtually, while others were able to participate in person. To maintain homogeneity in the data collected, Hamdani et al.'s (2021) PowerPoint version of the MAIN was used in both virtual and in-person testing. Data collection is almost complete and the available data are currently being coded and inputted.

7 Concluding remarks

Narrative tasks are highly relevant to the assessment of children developing monolingually, bilingually or even multilingually. By virtue of their contextualised nature, they can be elicited relatively easily across different languages. MAIN (Gagarina et al., 2012, 2019) is a versatile tool for evaluating the skills of children learning one or more languages. In bringing together several language versions of the same narrative assessment, it has increased opportunities for cross-linguistic investigations, bilingualism and multilingualism research as well as clinical assessment. The Maltese adaptation of MAIN is a valuable addition to this assessment toolkit. The data it generates can contribute towards answering theoretical questions related to linguistic universals in the acquisition of narrative comprehension and production skills in two or more languages. The Maltese version of MAIN can serve to elucidate the nature of bilingual and multilingual acquisition in a context where bilingualism is the norm. Last but not least, it facilitates clinical evaluation with children who are native or foreign learners of the Maltese language. Comprehensive assessment that spans all languages available to the child is now more of a reality than just an ambition.

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