

## Lexical Category Vulnerability in L1 Attrition: Evidence from Heritage Vocabulary among Kara Young Adults in Tanzania

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### Abstract

*Studies investigating the lexical categories likely to attrit mostly focus on EFL contexts. In this regard, little is known about L1 attrition in the L1 context. Hitherto, in the EFL context, there has been a longstanding disagreement about which lexical items are more vulnerable to attrition and the reasons for their latent vulnerability. Consequently, this study identifies lexical categories that are more vulnerable to attrition in a non-EFL context and establishes the theoretical reasons for this vulnerability. It is a mixed research, employing the Cross-Linguistic Influence Hypothesis and the Activation Threshold Hypothesis, integrated into the concept of “Core and Peripheral lexicon”. The study obtained data from 15 Kara young adults aged 18-39 as the target group and 15 older adults aged 40 and above as the control group, purposively selected and recruited through the snowballing technique. Data collection involved proficiency-testing tools such as direct vocabulary elicitation, verbal fluency tests, and picture-naming tasks. Data analysis involved list development, which later formed the Six-Phase Thematic Analysis of information chunks. The study establishes that nouns are more vulnerable to attrition than verbs, primarily because they form the peripheral lexicon (easily affected by borrowing). Meanwhile, Adverbs, adjectives, and minor word classes demonstrated resilience because they constitute the core lexicon. The study establishes, therefore, that lexical attrition in a non-EFL context depends on the degree of interface between a lexical category and the language’s either internal or external system. Moreover, the study recommends further research across diverse contact situations to provide additional insights that will contribute significantly to the debate and yield new theoretically and empirically grounded perspectives on the phenomenon.*

**Keywords:** Heritage Vocabulary, Kara Language, L1 Attrition, Lexical Category Vulnerability, Young Adults, Intergenerational Language Transmission

### 1 Introduction

The term language attrition refers to the gradual, non-pathological decline in previously acquired linguistic knowledge or skills after prolonged disuse. Attrition can contribute to lost accessibility due to retrieval failure resulting from memory loss of certain long-term disused lexical items (Schmid & Jarvis, 2014) and lexical replacement (also known as lexical shift). It can affect any facet of linguistic knowledge, namely phonology, morphology, syntax, semantics, lexicon, or general language proficiency. It differs from language endangerment and language shift in that it takes place (and, of course, is assessed) at the individual or specific social group level, following the influence of a dominant language or infrequent use (De Leeuw, 2009; Cherciov, 2011; Park, 2018). Attrition qualifies as a subtype of language shift and endangerment (see Sands et al., 2007; Killian, 2009; Bibiebome et al., 2019; Okeke & Okeke, 2017) because the only difference between the two is that

language shift and endangerment are intergenerational and often involve the whole community (De Leeuw, 2009; Cherciov, 2011).

A common understanding among scholars has been that attrition affects the lexicon more than other domains of linguistic competence (Alharthi, 2015; Moreno, 2015; Park, 2018). The point of departure, though, is that most of these findings derive from the context of English as a Foreign Language (EFL) or among the migrant speakers of English. This leaves non-migrant contexts, such as among Kara young adults engaging in intensive interactions with Swahili speakers in both formal and informal settings and attributing their heritage vocabularies in situ, unaddressed. In this light, the present study found it interesting to explore the attrition process among Kara language speakers to advance theories and policies on language endangerment and to inform interventions for language vitality and maintenance in the L1 environment.

## 2 Literature review

Lexical attrition is commonly defined as the loss of lexical-semantic knowledge. Chaouch-Orozco and Martin-Villena (2024) define it as the decline of lexical-semantic abilities due to reduced L1 exposure and/or L2 interference. Likewise, Cohen (1989) considers it the temporary or permanent loss of knowledge about one or more of a word's characteristics, including form, position, function and meaning. Bardovi-Harling and Stringer (2013) consider it a loss of knowledge in the aspect of meaning. According to Zhang (2023, p.75), "lexical attrition includes loss of lexical meaning of vocabulary items; loss of semantic discrimination ability; and loss of vocabulary use and expression ability". Lexical attrition is also associated with loss of vocabulary, loss of semantic distinctions and reduced performance abilities (Sands et al., 2007, p. 55). The indicators of attrition include poor or difficult lexical recall, a lack of certainty in lexical judgements (Sands et al., *ibid.*), and reduced vocabulary size in the context of L1 loss in the L2 environment. Lexical attrition is also characterised by low lexical access and forgetfulness of less commonly used vocabulary (Park, 2018, p. 5). It is associated with cross-linguistic interference, such as borrowing, whose endpoint is forgetfulness of the disused lexical items after replacement. In normal thinking, borrowing enriches the lexicon, but also a pathway to lexical loss, especially when the equivalent lexical items in L2 replace those in L1 (Opitz, 2011; Schmid, 2011; Moreno, 2015; Mlibwa & Sam, 2024).

However, it is contentious whether borrowing always leads to attrition of all lexical categories at equal rates (see Zhu & Xie, 2019, for details on this debate). Some scholars refer to this situation as lexical replacement (Pavlenko, 2004), where L1 items are no longer used frequently, leading to reduced lexical memory. Schmid and Jarvis (2014) refer to it as the loss or lack of lexical accessibility associated with retrieval difficulties. It is argued that the disused lexicon is no longer available in the long-term memory (in the psycho-cognitive view) after becoming a weaker form (in the cross-linguistic influence view) (Park, 2018). This implies that lexical attrition from cross-linguistic interference activates the threshold for unused lexical items, especially those of a non-dominant language. Overall, the current study views lexical attrition as the decline in vocabulary knowledge among potential attriters, to the extent that further lexical accessibility or retrieval is either impossible or only possible with the right cues.

The literature review indicates a longstanding disagreement among linguists over whether lexical categories attrit equally or variably (Zhu & Xie, 2019). Wang (2014), who investigated 130 Chinese non-English majors, for instance, found no significant differences in attrition across word classes (p. 67). Marefat and Roushdad (2007) and Jin and Ni (2011) also found no significant differences in attrition rates across word classes, implying discrepancies in the findings and warranting further

investigation across various contexts. Further studies can underscore cross-contextual findings inferred from context-specific data premises.

Contrarily, several scholars report differences in the rate of attrition among word categories. Several scholars (Cohen, 1986; Ross, 2002) consider nouns the most vulnerable category; others cite verbs or other categories (Kuhberg, 1992). According to Park (2018, p. 5), the stronger forms are formulaic expressions, conventional expressions, idioms, short-form vocabulary, basic vocabulary, and social fillers. Contrarily, some lexical items are very weak to the forces of attrition, including less frequently occurring words and those longer in length (Park, *ibid*). The literature indicates that the lexicon is the most vulnerable linguistic element to attrition compared with other facets of linguistic knowledge (Alharthi, 2015; Moreno, 2015; Park, 2018). Alharthi (2015) considers both verbs and adjectives to be the most vulnerable categories in the context of L2 attrition, with adjectives being more likely than verbs. Overall, the literature above indicates a lack of consensus on whether lexical items attrit equally or variably, and calls for further research (Zhu & Xie, 2019). The controversy thus inspires further longitudinal and cross-sectional studies in different contexts of language contact and attrition, as this study did.

Apart from the controversy over the variability of attrition across word classes, lexical attrition varies with the prevailing context (Mlibwa et al., 2025). In particular, attrition differs between L1 and L2 contexts (Sands et al., 2007; Alharthi, 2015; Moreno, 2015; Utamwa, 2016; Park, 2018). In the EFL context, L2 is the potential language, acquired in school/college (classroom) contexts, and the context of loss is the L1 environment. Quite differently, L1 acquisition takes place at home (a naturalistic setting), and attrition occurs either in a foreign country or within the native environment after exposure to L2 in formal, informal, or both settings. In EFL, the potential attriter loses exposure to the L2 through frequent L1 interaction, whereas in migrant and non-migrant contexts, the speaker prefers L2 forms to L1 forms, resulting in a loss of L1-equivalent vocabulary.

Attrition in the African context is mostly an outcome of language shift, which is the prototype of the LI context (see Sands et al., 2007; Killian, 2009; Okeke & Okeke, 2017; Yuka & Bayodele, 2017; and Bibiebome et al., 2019). In the South African context, for example, heritage languages shift to Afrikaans for identity's sake, and due to the war displacement of some communities. Identity also affects minority communities in Nigeria and Ghana, leading to lexical loss after a long time of disuse. Other studies consider lexical attrition to be a consequence of drastic technological and cultural changes, which lead to deterioration of some cultural concepts (Chepkmoi, 2015, in Kenya; Mlibwa et al., 2025, and Msuya, 2021, in Tanzania).

In this light, one of the motivations for the study is that EFL, migrant, and non-migrant contexts differ in attrition trajectories, acquisition processes, attrition environments, patterns of language contact, and underlying cognitive mechanisms. Existing theoretical explanations for why some lexical categories are more susceptible to attrition than others have been developed largely from studies of EFL learners following periods of study interruption or recess (see Zhu & Xie, 2019; Wang, 2014; Zhang, 2023). That is, findings on L1 lexical attrition in the L1 environment are scant in the available literature, suggesting the need for further studies. Consequently, the current study identified lexical categories most vulnerable to attrition against the resilient ones. It uses the findings to discuss the reasons for potential vulnerability. The study envisaged that lexical decline is possible even in non-migrant settings and considered that the debate on lexical category vulnerability should extend to other contexts, including the Kara multilingual situation. The aim is to reflect reality in Africa, where lexical attrition is not necessarily a result of speakers' movement to a foreign linguistic

community but rather of prolonged intensive contact in the native environment, mainly due to linguistic interference. The aim is also to contribute to the ongoing scholarly debate on the attrition rate by adding insights from a non-migrant context to inform both theory and practice in language revitalisation and maintenance.

### **3 Theoretical framework**

The study employed two theories: Cross-Linguistic Influence Hypothesis (CLI) by Aneta Pavlenko (Pavlenko, 2000 & 2004) and Michael Paradis' Activation Threshold Hypothesis (ATH) (see Paradis, 2004 and Köpke & Schmid, 2004). CLI views attrition as a product of grammatical conflicts of the linguistic forms of different languages in contact within the bilingual's cognitive system. Thus, generally, L1 lexical items are always weaker than L2 forms. In other words, stronger forms always replace weaker forms. Some lexical items of L1 are stronger against attrition than their equivalent L2 forms due to their semantic significance; hence, they are not easily affected by subtractive borrowing (lexical replacement). In this view, some lexical items are more susceptible to extra-linguistic forces such as cultural, technological, and contact-induced changes. Thus, they are clearly more vulnerable to attrition, as this study argues. Such weaker forms occur less frequently than strong forms. In this, the frequency of occurrence is the concept commonly associated with ATH. In that sense, ATH is a complementary theory to CLI, since the latter links lexical-category vulnerability to the neurolinguistic aspects of bilingualism. In view of ATH, lexical attrition is not merely a sociolinguistic phenomenon but also a psycho-cognitive problem resulting from a low frequency of use of certain linguistic forms. In that light, lexical items that occur more frequently in use are less vulnerable to attrition due to higher activation than replaced forms, which occur less frequently in speech and hence have a higher activation threshold (inhibition). ATH is therefore typically associated with lexical category vulnerability, since lexical categories that are easily replaced by L2 forms are more vulnerable than those that sustain the forces of borrowing in a zone of contact. ATH also posits that language disuse gradually leads to loss, and that the most frequently used elements (such as substrates) of L2 tend to replace their (less-used) L1 counterparts (see Paradis, 2007; Köpke & Schmid, 2004 for details). The resulting feature is the forgetting of disused and less frequent lexical items, while retaining those that are more frequent. In the context of this study, it was hypothesised that Swahili-L2 speakers would readily replace Kara-L1 lexical items due to disuse. Therefore, CLI and ATH played complementary roles in ascertaining aspects of the lexicon that resist attrition, as opposed to those that are easily replaced or lost. CLI explained how certain lexical items are more susceptible to borrowing from a sociolinguistic viewpoint, while ATH related lexical attrition to the cognitive aspects of forgetting (Park, 2018).

Regarding reasons for variations in lexical category vulnerability, this study integrated the two theories into a single conceptual analysis, i.e., the principle of "Core and peripheral lexicon," to discuss these variations. The concept is common in sociolinguistics, contact linguistics, and historical linguistics. Scholars in these fields have slightly different views. For instance, in contact linguistics, Winford's (2003) study demonstrates variation in susceptibility to borrowing across vocabulary types by distinguishing between peripheral and basic vocabulary. According to him, specialised and cultural vocabularies are more susceptible to borrowing, while basic vocabulary such as numerals, pronouns, body parts, kinship terms, natural phenomena, and common verbs is mostly resistant to borrowing. Thus, according to this view, the reason for variations in lexical vulnerability lies in differences in susceptibility to borrowing across lexical items. Items that belong to the core lexicon are said to be more resistant to borrowing, unlike those lexical items belonging to the peripheral lexicon. Winford (2003) further argues that basic/core items are deep-rooted and

embedded in regular communication, hence their high frequency of use, unlike the peripheral lexicon. Thus, borrowing (contact-induced change) results in a low frequency of use of the peripheral lexicon; thus, frequency of use of certain lexical forms is the recurrent reason cited as a determinant of lexical attrition (Köpke & Schmid, 2004; Paradis, 2004).

In sociolinguistics, the core-peripheral concept is associated with variation in use, whereby some lexical items are considered fundamental to the language, whereas others are not. For instance, according to Crystal (2019), the core lexicon constitutes vocabulary that forms the fundamental area of the language, such as words used frequently in everyday communications, virtually common to all speakers, showing relative stability over time, and acquired early. He further argues that peripheral vocabulary is that which is not central to daily communication (implying low frequency of use), including scientific and professional jargon, technical terms, slang, and colloquialisms. Thus, core vocabulary items are less likely to be replaced by their equivalent loanwords of the dominant language due to higher frequency of occurrence, especially those common in the basic vocabulary list (Swadesh, 1952). This is a similar argument to that of Wardhaugh and Fuller (2021), who discuss lexical borrowing or vocabulary change that often affects the peripheral lexicon more readily than the core. Concurrently, from a historical linguistic perspective, Swadesh (1952) postulated a specific set of universally widespread core vocabulary that is more resistant to cultural borrowing across all human languages. Therefore, it can be inferred that variations exist across different word classes when it comes to lexical attrition, and this variation is related to the core-peripheral concept.

The core-peripheral concept is relevant to the present study because it establishes that lexical attrition is driven by borrowing, which affects the lexicon in varying ways. This concept is therefore associated with a high frequency of core lexicon use vis-à-vis a low frequency of peripheral lexicon use. Therefore, the present study adopts this approach to discuss why certain lexical items are more easily attributed to others.

#### **4 Methodology**

This study assessed L1 vocabulary knowledge and documented attrition of heritage vocabulary in the Kara language in Tanzania. The study drew on evidence from fieldwork conducted on Ukara Island, the home of Kara, in Lake Victoria, Tanzania. The fieldwork was conducted from January 2024 to April 2024. According to NBS (2022), Ukara is densely populated and experiencing a high influx of multi-tribal people, who come for fishing and trade, with Kiswahili serving as a lingua franca. This creates intensive, long-term interactions in Kiswahili, the dominant language, thereby making cross-linguistic influences prevalent in this sociolinguistic milieu.

The study used a mixed approach (both qualitative and quantitative). Quantitative data were very useful for objectively interpreting the data, ensuring depth of analysis, and providing a vivid description of the problem. Additionally, a quantitative method was used to analyse lexical items, employing a chi-square goodness-of-fit test to determine frequencies across lexical categories in the list. The study also employed measures of central tendency, such as mean scores and frequencies, as well as percentages, to compare performance across participants and to identify potential attriters descriptively.

The study involved young adults aged 18-39 as the target population and the control group of people aged 40 years and above. The study adopted Higley's (2019) definition of young adults (age 18-39). This cut-off was necessary to obtain participants who have attained optimal linguistic proficiency in

the L1 and have a long-term exposure to the L2 (Kiswahili). The study opted for this broader age category to compare the results across a wide spectrum in a single age range. The control group's age range of 40+ was optimal, as it is the group with stable linguistic ability from which authentic lexical knowledge can be measured. The group is also perceptibly conservative of their traditional culture and language. Therefore, participants in this study are native speakers who remain immersed in their native linguistic environment yet have gained exposure to Kiswahili, the dominant language, through both formal and informal communication. The study used a sample of 30 participants, based on Schmid's (2011) manual on language attrition assessment, which recommends 15-30 participants for comprehensive tests. The study employed snowball sampling, with the family as the recruiting agency, whereby one family member, especially an adult, suggested potential participants within the family. The first participant in the chain was provided with important information about the selection criteria, including age, educational background, bilingual proficiency, literacy in both languages, and gender. The aim was to obtain the right participants and ensure a detailed description of participants.

The study collected oral data in the mother tongue using the following tools: Direct Vocabulary Elicitation (DVE), Verbal Fluency Tests (VFT), and Picture Naming Tasks (PNT). The use of multiple methods was important for data/source triangulation to obtain accurate and reliable data. The study used these methods in a complementary manner, since direct vocabulary elicitation measures complex lexical knowledge (no stimulus), whereas the picture naming task assesses lexical recognition with visual aids or stimuli. Contrarily, the verbal fluency test assesses lexical retrieval abilities and accessibility within a given temporal constraint. These tools measure lexical knowledge and quantify the potentially attrited vocabulary in extended lexical domains to ensure cross-validation of the findings.

Each method contained subtasks to measure language abilities in an extensive range of the lexicon. DVE had three subtasks, namely, the lexical judgement task (55 items), the semantic inferential task (130 expressions), and knowledge of kinship terms (30 items). In the first subtask, participants were provided with 55 sentences, each containing Swahili loanwords in bold, for a correction exercise. The second subtask contained 130 supply-type questions for participants to complete by providing corresponding terms from traditional culture, while the last subtask assessed lexical knowledge of kinship terms (also Supply-Type Questions). The study measured performance by calculating the number of correct items out of the total number of items and computing the percentage score, and subjected the output to inferential analysis.

The verbal fluency test, an oral test, was adopted from pathological studies, in which participants had to list vocabulary from different semantic categories within a given time, typically 60-120 seconds (Cherciov, 2011). The current study contained 5 subtasks covering local tools and appliances (C1), fish species (C2), basic numeracy (1-10) (C3), wind types (C4), and numbers beyond 10 (C5). The aim was to measure fluency in various semantic categories corresponding to the language's heritage vocabulary. The last resort was to calculate the number of correct items in proportional time over the total number of items. Another method was the picture-naming task (PNT), which, unlike DVE, used stimuli such as pictures, images, video, or combinations thereof for participants to name the objects. The study used three types of pictures: 20 pictures of wild and domestic animals; 1 picture for each of 5 finger types; and 1 picture for body parts, with a target of 30 body parts in total. All tasks and subtasks were aimed at eliciting and testing retention of specific vocabulary related to Kara heritage vocabulary. This study measured performance by comparing results along the age axis.

To obtain data on lexical items, which are more vulnerable to attrition, the study identified the items to which participants performed poorly during lexical performance tests. All forgotten items were identified by a cross mark on the printout. The next step involved including all candidate terms in the lexical inventory known in this study as ‘Lexical List of Kara Attrited Vocabulary’ (234 wordlist). A lexical item was categorised as attrited when at least 50% of the young-adult participants (8 out of 15) failed to correctly identify, recall, or produce the item. The 50% threshold was adopted because it represents most failures within the target cohort and therefore provides evidence of group-level lexical decline rather than isolated individual forgetting. Moreover, similar quantification approaches have been employed in studies of lexical attrition that identify lexical loss through patterns of reduced recognition or usage across a substantial proportion of speakers (e.g., Sands et al., 2007; Killian, 2009). According to Sands et al. (2007, p.59), “The rate of borrowing is likely to be a good indicator of lexical attrition if it can be quantified and if the borrowing entails the loss or decreased use of another term”. In this line, the main task was to quantify the vocabulary items to demonstrate their candidacy for the list. Table 1 presents a sample lexical list of Kara-attributed vocabulary. The list contains five (5) columns: serial number (S/N), the original Kara terms in alphabetical order and their word classes, the replacing Swahili loanword, and the English gloss.

**Table 1: Sample lexical list of Kara attrited vocabulary**

S/N	Original term	Word class	Swahili loanword	Gloss
1	Bhakendi	N	Bhasafiri	Travelers
2	Bhalisinzi	N	ziada	Excess
3	Bharongo	N	Mapacha	Twins
4	Bheikisibhwa	N	Abhanafunzi	Pupils/disciples
5	Bhirekeesho	N	Majaribu	Temptations
6	Ikola	V	Ifanya	Pretend or disguise
7	Laabha	ADV	Labda	Maybe
8	Mfura	ADJ	Mpole	Meek/humble

The last stage was to quantify the candidate words by calculating the items in each lexical category to determine which lexical category was most vulnerable to attrition. This was achieved through inferential statistics, such as a chi-square goodness-of-fit test, by calculating the expected frequency for each lexical category and the effect size (Cramer’s V). The result indicated a large effect size of  $V=0.62$ , demonstrating that the difference among word class frequencies/distributions was both statistically significant and essentially large.

## 5 Results

Through the administration of various performance tools, this study found that young adults have replaced and attrited various L1 lexicons (Kara lexicon). The study found that different lexical categories were attrited at varying degrees. In this, nouns occupied the topmost layer in the rate of attrition, followed by verbs. Table 2 presents the total number of attrited lexical items and their attendant percentages by word category.

**Table 2. Attrition rate across different word classes**

S/N	Word class	Total words	Percentage
1	Nouns	145	62
2	Verbs	68	29.1
3	Adjectives	7	3
4	Adverbs	10	4.3
5	Conjunctions	3	1.2
6	Determiners	1	0.4
7	Pronouns	0	0
	<b>Total</b>	<b>234</b>	<b>100</b>

As shown in Table 2, the highest frequency percentage indicates the highest attrition rate, while the lowest indicates the lowest. The percentages were calculated based on the total number of words already attrited (N=234). Furthermore, the study used a chi-square goodness-of-fit test to test the normal distribution of frequency values of word classes in the list. The analysis demonstrated a statistically significant difference in the list of word classes, i.e.,  $\chi^2(6, N=234) = 538.03, p < .001$ . In the analysis, the large effect size ( $V=0.62$ ) indicates strong variation across word classes.

As shown in Table 2, the most frequently occurring categories were nouns (62.0%) and verbs (29.1%), which, in total, constituted 91.1% of all words. The adjectives (3.0%), adverbs (4.3%), conjunctions (1.2%), determiners (0.4%) and pronouns (0.0%) were relatively uncommon. The findings demonstrate that the list has a significant bias toward nouns and verbs, suggesting that nouns are more vulnerable to attrition than verbs.

Lexical resilience was more prominent among minor word classes such as conjunctions (3 words =1.2%), determiners (1=0.4%) and pronouns (0 items). The attrited conjunctions were *tali* (but), *laabha* (if/when) and *nólu* (even if), while the determiner was *bhuli* (every). These were replaced by Swahili words like *ila* for *tali* (but), *hata* for *nólu* (even if) and *kila* for *bhuli* (every); the same case was for the conjunction *ama* (or) replaced by the Swahili word “*au*”. These findings demonstrate that minor word classes are more resistant to the forces of attrition and are therefore better retained than major word classes.

Verbs, on the other hand, occupy the second position among the easily attriting lexical categories. This has affected many verbs describing traditional culture and practices of the Kara people, especially those replaced with Swahili loanwords, and have not been in use for a long time. Table 3 presents the sample replaced and attrited verbs of the Kara language.

**Table 3. Sample of attrited Kara verbs**

Sn	Kara original verb	Swahili loanwords	Gloss
1	Bhonesya	Karibhisya (from Karibisha)	Invite for food
2	Bhubhá	Lola iwivu (from ona wivu)	Be envious
3	Pokera/lia	Lipa	Pay
4	Eleka	Kabhizi (from kabidhi)	Give someone to take care of your cattle
5	Fukama	Uma amagoti	Kneel
6	Ikaana	Laani	Curse

7	Ikala	Funga	Close e.g. door
8	Ipama	Pendeza	Look smart
9	Ikenga	Kwepa	Escape
10	Ikeeya	Ishúsha	Humble yourself
11	Ikilisibhwa	Kubaliwa	Be accepted
12	Ikola	Ifánya	Pretend/disguise
13	Ikomesya	Itaidi	Strive
14	Ikusya	Itukuza	Glorify yourself/boost
15	Induka	Badilika/geuka	Change
16	Kaanya	Onya	Warn/prohibit
17	Kayá	Zarau (from dharau)	Despise
18	Kindika/kánda	Tenga	Dissociate
19	Laalika	Alika/karibhisya	Invite
20	Lamyá	Abudu	Worship
21	Leebha	Fuga	Keep animals
22	Lumwa	Hurumia	Be compassionate
23	Mala líbhanja	Timiza	Fulfil your responsibility
24	Saandika	Chuja	Sieve
25	Sayá/saakya	Zidisha	Pour in excessively
26	Siirika	Rizika	Be satisfied
27	Sobhola	Tája	Mention
28	Sola	Chagua	Choose/elect
29	Solósya	Kusanya	Collect
30	Tangasya	Ongoza	Lead
31	Tobhesya	Lipisya (from lipisha)	Charge levy
32	Tonga	Dai	Request a repayment
33	Utaara	Umia	Be injured
34	Yabhúura	Fafanua	Explain clearly

Table 3 is a sample of attrited verbs in the Kara language by young adults. That is, young adults often could not use the words during the performance tests. Contrarily, they used Kiswahili equivalent words indicated in the middle column. When asked about them, young adults admitted to having known them but have now lost them. This is because they use equivalent Swahili loanwords more frequently, as they have replaced their heritage vocabulary. This finding implies that young adults have completely replaced Kara's original terms with Swahili terms. Due to the disuse of particular lexical items for a long time, they have lost memory of particular items. However, not all verbs are attrited equally. The current study revealed that verbs denoting common actions and short forms, such as lya (eat), fwa (die), sya (grind), and kenda (go), had not undergone lexical substitution and attrition, whereas complex, multi-syllabic verbs had changed. This implies that speech simplification is one of the driving forces behind lexical shift and, in turn, attrition, since speakers always prefer simple forms to complex ones. It further indicates systematic lexical attrition, in which the process exhibits exceptional tendencies, as words within the same grammatical category behave differently in situations of language contact and change. Another assumption is that monosyllabic and common verbs occur more frequently in speech than complex and unusual verbs.

The findings revealed that adjectives were generally more resistant to borrowing and attrition than other word categories. That is, of 234 words, only 7 (3%) were adjectives that had deteriorated

among young adults. However, a detailed analysis revealed that the derived adjectives were more vulnerable than core adjectives. In this, core adjectives encompassed adjectives that are not resulting from affixation such as *-kuru* (greater/grownup), *-lela* (young), *-toto* (small-age), *-nywakale* (thin), *-nene* (big), *-mutuku* (red), *mwirafuru* (black), *mwera* (white), *sósi* (yellow), *-kenyi* (strange), *-fui* (short), *-leela* (tall), *-fwiimbe* (oval), *-lénga* (lazy), *-tiilu* (small-size), though they can derive into other word classes like nouns. On the other hand, the derivative adjectives were those adjectives modified from other bases. These included adjectives such as *mufura* (meek), *chinyooke* (weak), *nzaaka* (remnant), *nzale* (rotten, e.g., fish), *mulenga* (lazy), *ndaro* (boys' hut), *owo bhubheele* (firstborn) and *kamalisya* (lastborn). The core or basic vocabularies (in this case, core adjectives) appear to have sustained attrition due to their semantic significance and centrality in the language's internal system. Thus, they are more concomitant with the language's internal system than with the external sociolinguistic/extralinguistic interference, which cultivates high frequency of occurrence.

Secondly, adverbs were satisfactorily resistant to borrowing and attrition. The analysis revealed that out of 234 words, only 10 adverbs (4.3%) had deteriorated among the young adults. However, this attrition is more systematic as certain adverbs were more resistant to attrition, including temporal adverbs and spatial deictic adverbs. Temporal adverbs include *lelo* (today), *mutondo* (tomorrow), *liikolo* (yesterday), *echolilya* (the day before yesterday or after tomorrow), *mungeta* (night), *mumwisi* (noon), *keekolo* (evening), *bwiire bhukuru* (midnight) and *katóndo* (morning), and spatial deictic adverbs include *anu* (here), *heyo* (there), *hao* (there- but near), *eliya* (there- very far from here), etc.

## 6 Discussion

The objective of the present study was to identify the lexical category most vulnerable to attrition. The findings demonstrate variation in lexical category vulnerability across word classes, with nouns showing the highest frequency, followed by verbs. Adjectives and adverbs were among the major word classes showing relative resilience, while minor word classes such as conjunctions, pronouns, determiners, and prepositions were very resistant to both lexical substitution and consequential attrition. The findings imply that vulnerability varies across lexical categories. Through the lens of CLI, which accounts for cross-linguistic interference between languages and forms (Pavlenko, 2004), attrition affects nouns and verbs more than other word classes, since they represent weaker linguistic systems. L2 items act as competitors to those of L1 in the speaker's mental lexicon. From a CLI perspective, nouns and verbs are more vulnerable because they are more exposed to cross-linguistic competition and are continuously expanded and replaced in contact situations. Contrarily, adjectives, adverbs and minor word classes are a minority and less frequently occurring; hence, showing robust resistance to lexical change. The findings also align with those of Cohen (1989) and Ross (2002), who established that the nominal word class is the most vulnerable lexical category. Conversely, the findings contradict those of Jin and Ni (2011) and Wang (2014), who found no significant variation in attrition across word classes. Kuhberg (1992), Ross (2002), Alharthi (2015) and Zhu & Xie (2019) also found significant variations, especially in L2 attrition contexts. In other words, the controversy as to whether different lexical categories are lost equally or variably remains.

I am of the view that the contradiction in the findings stems from a lack of common procedures and contextual dynamics. The context dynamics here imply variations on the sociolinguistic forces underlying language attrition. Most studies investigated the vulnerability in EFL contexts. Thus, cross-contextual variations undermine efforts to reach consensus on potential vulnerability across different lexical categories. Context dynamics implies sociolinguistic and acquisitional variations

among non-migrant, migrant, and EFL subjects. In either context, it is important to establish the conditions or factors that determine various findings. The major focus should be on establishing a theoretical lens and methodological procedures to account for variations in a conventional manner. It is important to understand the sociolinguistic or pedagogical constraints (context-specific) on lexical retention (as presented in the next paragraphs).

The analysis indicates that lexical items with low distribution or frequency in the language and in the list are more susceptible to attrition than nouns and verbs, which exhibit higher distribution frequency and the size effect. Therefore, lexical category vulnerability is partly dependent on cross-linguistic effects whereby competition between L1 original vocabulary and L2 loanwords normally affects the lexical forms of the non-dominant language due to the speaker's use preferences. In Paradis' (2004) view, every lexical item has its own activation threshold that either inhibits lexical retrieval (i.e., accessibility) or ensures accessibility, depending on frequency of use. In other words, frequently used lexical items are invulnerable to attrition compared to infrequently used ones. Thus, one can argue that nouns and verbs are readily attrited due to their extensive exposure to language borrowing, lexical change, and substitution, whereas adverbs and minor word classes such as conjunctions, prepositions, pronouns, and determiners have a low activation threshold and hence higher retention. Therefore, frequency of use is another determinant factor of lexical accessibility and vulnerability (see Schmid & Jarvis, 2014, for a detailed account of lexical accessibility). This factor also accounts for variation in vulnerability in EFL contexts: low-frequency words are more vulnerable to attrition than high-frequency words (Ross, 2002). Thus, according to Zhu and Xie (2019) and Ross (2002), nouns are less vulnerable compared to verbs. This finding, however, is contrary to Kara's study, which found nouns to be more vulnerable to attrition. Therefore, although the frequency of occurrence in speech determines attrition, it cannot account for lexical vulnerability since what is more frequent in an EFL context may not be the case in a non-migrant setting. However, although nouns and verbs occur more frequently in speech, lexical forms of the dominant language most likely replace them, since native speakers always prefer the vocabulary of the dominant language to that of the non-dominant language. Consequently, the activation threshold for the substituted, less competitive vocabulary remains higher, making the retrieval difficult.

In the EFL context, "Imageability" is the concept that accounts as a factor linked to the varying attrition of different word categories. Citing Ellis and Beatons' (1993) Imageability Hypothesis, they argue that the greater the degree to which a word arouses a mental image, the more likely it is to be remembered (Zhu & Xie, 2019, p. 80). They further maintained that nouns tend to be more imaginable than verbs since EFL textbooks use more images for nouns than verbs. With this view, nouns are less vulnerable to attrition compared to verbs. This is contrary to Kara's study, which finds nouns more vulnerable to attrition than any other word categories, and Imageability does not reflect the reality in Kara's context.

The present study links variations in lexical category vulnerability to the concept of "Core and Peripheral lexicon" (see Swadesh, 1952; Winford, 2003; Crystal, 2019). Thus, the relevant argument in Kara's context is that the lexicon has a direct interface with either the language's internal system or the externally ever-changing world. In that case, lexical categories central to the internal linguistic system are more resistant to both borrowing and attrition (Winford, 2003), unlike those embedded in the external or sociolinguistic environments of the native speakers. This proposition supports the findings in the current study that major word classes, such as nouns and verbs, are more vulnerable to attrition (peripheral) than minor word classes, since they have a greater interface with the external linguistic system of the speech community. Minor word classes show concomitance with the

language's internal system (core/basic), are semantically significant, and are always preferred in regular use. Any contact-induced change affects the major word classes more than minor words. That is why borrowing and the consequent attrition lead to the deterioration of the major word classes more than of the minor ones.

This view echoes Winford's (2003) idea that vocabulary varies in its susceptibility to borrowing, since the process affects technical and cultural vocabulary more than basic vocabulary, such as numerals, pronouns, body parts, kinship terms, and common verbs. The current study found attrition in technical and heritage vocabulary (especially verbs and nouns) and maintenance of minor word classes, adverbs, and adjectives. Winford further argues that elements of the core or basic lexicon are deeply embedded in daily human communication, as similarly maintained in CLI perspectives. Thus, core vocabulary can only deteriorate in the context of intensive long-term contact. Concurrently, Crystal (2019) associates the core vocabulary with higher frequency and the peripheral vocabulary with low frequency, as postulated by Paradis (2004) through ATH. Therefore, various theoretical perspectives can help to explain why different word classes do not deteriorate equally. However, the arguments vary depending on the context in which attrition takes place. In the Kara context, the "core and peripheral" and "frequency of use" concepts are most relevant to account for the variations in lexical category vulnerability, unlike in the EFL context, where Imageability is the point to affirm the fact that nouns are more resistant to attrition than verbs and other word classes.

## **7 Conclusion**

Based on the findings and discussion above, this study concludes that, in the multilingual context of Ukara, nouns are more susceptible to lexical attrition. Meanwhile, verbs show a relative degree of attrition while adjectives, adverbs and minor word classes are impervious to borrowing and attrition. This indicates significant variation in attrition across word classes. This study also concludes that the theoretical reasons established to justify lexical category vulnerability are numerous and vary in both L2 attrition in the L1 environment and L1 lexical attrition in the L1 environment. In the EFL context, the problem is associated with the Imageability Hypothesis and the frequency of occurrence. In the Kara context, variability is associated with cross-linguistic interference and frequency of use, which are subsumed under the concept of "Core and peripheral lexicon". The possible inference is that nouns are more vulnerable to attrition because they have a higher degree of interface with the external world (e.g., contact-induced language change), which is always changing to varying degrees. Minor word classes, in contrast, are immune to external changes since they belong to the core lexicon, which is central to the internal linguistic system. In that case, the core lexicon is less susceptible to attrition due to its concomitance with the internal linguistic system, high frequency of use (low threshold), its semantic significance, and resistance to borrowing.

Along these lines, the study recommends future research on lexical attrition in other sociolinguistic contexts, especially in African multilingual communities with long-term, intensive language contact. This recommendation does not imply that the present study failed to address the phenomenon; rather, it acknowledges that the findings reported here are contextual. Comparative studies of different language contact situations would help establish whether the patterns found in this study are context-specific or generalisable across multilingual communities, thus enhancing our understanding of lexical categories that may be more susceptible to attrition.

Future studies should employ either cross-sectional or longitudinal designs to capture more insights and trends rather than relying solely on cross-sectional instances. Future studies should also integrate

lexical data with additional theoretical perspectives to test attrition and identify more reasons for lexical category vulnerability. This could help revise existing theories of lexical attrition or change, rather than relying on traditional hypotheses. In addition, data from this study serve as an alert for further interventions to revitalise endangered languages, document minority languages (through database/list development), and undertake lexicographic activities (e.g., dictionary-making) in less-researched languages like Kara. Moreover, insights and data from this study can inform interventions for intergenerational language transmission.

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