Journal of Languages, Linguistics and Literary Studies (JLLLS), Vol. 5, No. 4, 2025
ISSN: 2788-4481 (**Print**) | 2788-4473 (**Online**)
Journal Website: https://journals.jozacpublishers.com/jllls
https://doi.org/10.5281/zenodo.17288008

Investigating factors contributing to first language lexical attrition in non-migrant context among Kara young adults

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Received: 16 June 2025 | **Accepted:** 15 August 2025 | **Published:** 07 October 2025

Abstract: Studying L1 attrition has vehemently focused on migration and child adoptions. The study of L1 attrition in multilingual societies experiencing local cross-linguistic effects has received limited concerns. Thus, factors perceived to determine attrition are limited to emigration contexts. This paper investigates factors for attrition of Kara-L1 traditional culture terms among non-migrants young adults. It is guided by the Cross-linguistic Influence Hypothesis (CLI). The study is generally qualitative, and it employs a case study design. It used oral and written data collected through verbal fluency tests, direct vocabulary elicitation tasks, picture naming tasks, surveys and unstructured interviews administered to 30 participants recruited purposively. These were young adults (N=15) as the target group as well as mid-aged and older adults as the control group (N=15). The participants were snowballed from the family and friends as recruiting agents. Data analysis adhered to the six-phase thematic analysis. The findings of the study revealed that factors for L1 attrition are multiple, varying from one context of attrition to another. However, some factors are cross-cultural, cutting across at least many instances of cross-linguistic interference. They are also dependent on aggregate attrition since no single factor can cause attrition. The current study recommends redirection of approaches to attrition cases in African multilingual contexts; hence, avoid focusing on migration and examine the prevailing exposure of ethnic languages to superior languages like English, Swahili, and French.

Keywords: Domain-specific factors, Language attrition, Language attrition factors, Migrant & non-migrant contexts, Traditional culture terms

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1. Introduction

Language attrition has become a very popular topic in recent days due to increased interest in the assessment of linguistic knowledge of both native speakers and L2 developers. Linguists have put much effort into assessing and documenting loss of the native languages among migrants and second language attrition among foreign students after study completion abroad. They have established findings on language decline after contact, and come up with procedures and theories to assess language loss among individual migrants (Bardovi-Harlig & Stringer, 2010). Additionally, studies have established factors or variables to predict attrition namely; age, education, literacy, contact network, length of exposure, attitudes and motivations (Opitz, 2011; Bardovi-Harlig & Stringer, 2010; Cherciov, 2011). These factors are relevant in

migrant situations. As such, they are not reflected to potential attriters who are still immersed in the native speech community, despite using L2 more frequently and in many domains due to its dominance.

According to Ammerlaan (1996), domain-specific investigation on language attrition variables should be done since findings of one study cannot be generalised to other societies due to varied contact situations. These can be applicable only under certain conditions but not all domains of language use (Ammerlaan, 1996: 7). Although studies on L1 attrition are abundant in migrant contexts, little is known about factors for L1 attrition in non-migrant language context. Therefore, the current study sought to analyse factors for L1 attrition in the non-migrants languages context. The ultimate goal is to give insights on new trends in the field of L1 attrition i.e., diverging from migration and child adoptions to non-migrant contexts where native speakers lose their language proficiency due to the influence of dominant languages in both formal and informal settings.

The findings of this study underscore the multifaceted and dynamic nature of language attrition factors for Kara-L1 lexical attrition in non-migrant setting. This is contrasting traditional models that emphasise on migration as instigating factor for L1 attrition. This study highlights domain-specific factors leading to attrition in relation to cross-cultural factors. It also serves as an alert for the need to reconceptualise L1 attrition beyond migration-based frameworks as it accounts for internal socio-cultural and institutional forces shaping indigenous knowledge retention. This has implications to language policy and indigenous knowledge revitalisation efforts, especially in multilingual societies where dominant languages can marginalise indigenous languages within their speech community.

2. Literature review

This section reviews literature on language attrition in both migrant and non-migrant contexts and the theoretical framework underlying language attrition in non-migrant contexts.

2.1. Factors for L1 attrition

Literature describes several factors leading to lexical attrition. These are also known as causal factors which among them include: child adoption, migration and age. These are extralinguistic factors which instigate the possibility for a speaker to enter the continuum of attrition. For example, the study that gave birth to the term attrition based on introspection was carried out when Richard Lambert (Lambert & Fred, 1982) lost proficiency in languages such as Bangali, Sanskrit, Urdu and Marathi during childhood after certain level of attainment in particular languages (Köpke & Schmid, 2004). Similarly, early study by Kaufman & Aranoff (1991) investigated attrition of Hebrew-L1 in a child adopted from Israel to US a few months at age 2.6. They discovered drastic loss of L1 morphological and lexical skills in the child. Another early study on child adoption was by Nicoladis and Grabois (2002), which focused on simultaneous acquisition of English and loss of Cantonese in a Chinese child adopted in an Anglophone family in Canada at age 17 months. They discovered rapid attrition occurring after three months of adoption in both comprehension and production. Moreover, the study by Pallier et al. (2003) involving 8 adult Koreans adopted by families in France at age 3 to 8 years, investigated the possibility for attrition. Through self-rating task, they discovered total loss of L1 after adoption. This problem was not prevalent in 8 monolingual French speakers who had no any exposure to Asian languages such as Korean. Therefore, child adoption was established as the factor with robust impact on individual retention of the mother tongue or attrition. Studies of this kind based on childhood history and investigated a small sample, sometimes, one speaker. Child adoption involves children who experience disconnection from native community at the point of premature L1 acquisition (Cherciov, 2011). This disconnection considerably results into loss of exposure to L1 and absolute immersion in L2 dominant language environment.

Migration does not only affect children but also adults. Literature indicates that adults who move from one linguistic environment to another and stay there for a long time experience decline in L1 proficiency, and the problem becomes more eminent at lexical level (Moreno, 2015). However, this attrition is not rapid, as it is the common understanding in language attrition field that attrition is more rapid in children than in adults (Park, 2018). Studies on adult attrition in migrant contexts are abundant in spite of delving on the childhood experiences. For example, De Leeuw (2009) investigated attrition of L1 German among German migrants to Anglophone Canada and Dutch Netherlands during adolescence and childhood and found out deviation from native accent. Through phonetic experiments, she discovered divergence from native accent after exposure to English. This is indicative to the role of migration on attrition since it results into loss of exposure in L1 and maximum integration into L2 community. This problem is mild among adults compared to child adoption scenarios whereby a child moves to a new linguistic community before L1 maturation. Concurrently, the study by Opitz (2011) among adult bilingual German migrants to Ireland found out no significant difference in performance between the target group and the control group, except with Z-Score test. This implies little signals of attrition among adult migrants due the age at the onset of attrition (AOA).

At lexical level, the study by Cohen (2008) investigated loss of productive lexicon (oral) in English-Hebrew bilingual children in Portuguese as a third language. The assessment based on storytelling tasks and the age of the onset to attrition was 1, 3, to 9 months. The study found out significant decrease of the lexicon in stories after 9 months of discontinued exposure in L1.

The above literature gives insight on movement as the major factor for attrition. In this sense, attrition is viewed as an associate concept of migration. However, with increased concerns in the field, scholars have come to discover that even without migration; attrition can take place especially among children who have gained exposure to the dominant languages like Swahili and English, as the case in Africa has shown (Sebina, 2014; Utamwa, 2016; Msuya 2021; Mlibwa & Sam, 2024). These scholars associate attrition with language contact or bilingualism caused by long-term exposure to

another language through formal education and penetration of the dominant language into informal uses. For instance, the study by Sebina (2014) among English medium children in Botswana discovered that they sounded non-native after their exposure to English in schools. Similarly, a study by Utamwa (2016) among Gogo school children in Dodoma Tanzania discovered reduced lexical knowledge among the subjects due to exposure to Swahili through formal education. This was also revealed in a study by Msuya (2021) among Chasu (Pare) children in Kilimanjaro, Tanzania. The children lost proficiency in their L1 lexicon due to the influence of Swahili in both formal and informal settings. These studies underscore the role of education and informal uses as factors for L1 attrition among non-migrant bilinguals. They assert that attrition is not necessarily a result of migration from a monolingual to a bilingual community, but long-term proximal contact situations in a native environment.

According to Sebina (2014), although attrition is abundant in the migrant contexts, we are not sure of individuals going through attrition in their native environment. Other studies in non-migrants' context, especially in Africa focus on language shift among bilinguals. Killian (2009) studied the loss of clicks in Khoemana between the Grique in Northern Cape and Free State in South Africa. This study was conducted in 2-month of elicitation of vocabulary in the language to discover signs of phonological attrition after shifting to Afrikaans as the main language. The study concluded that the subjects lost some phonological ability in click sounds after they had shifted. In the same context, Sands et al. (2007) assessed the possibility of attrition in N|uu, a minority language in South Africa and discovered little signs of attrition in the elicited lexical corpus. The study concluded that attrition is not associated with rapid shift. This owes to the fact that attrition is more of a gradual process than an abrupt language change.

The observation in this study embodies a new trend in the field of language attrition, which so far has received less impetus among language attrition researchers. It calls for a distinct approach to attrition as a domain-specific, multifaceted, and dynamic phenomenon (Bardovi-Harlig & Stringer, 2010; Park, 2018). To achieve this end, the findings of the current study have not only focused on speakers' migration but also on non-migrant bilingual contexts due to the increased and long-term contacts. Societies are increasingly coming together due to increased trading activities, education, and the spread of media technology that replaces traditional arts and culture. This increase has an impact on language use and vocabulary change in a non-migrant context. Consequently, the current study sought to establish context-specific (domain-specific) factors for L1 attrition in a non-migrant context; so as to explore factors other than formal education, language shift; and migration. This necessitated exploring from attrition of traditional culture terms among Kara young adult native speakers with Swahili as their second language in social domains.

2.2. Theoretical framework

This study views L1 attrition as an aspect of cross-linguistic interference. Thus, the Cross-Linguistic Influence Hypothesis (CLI) by Aneta Pavlenko (2004) is used to guide the understanding of the phenomenon at stake. Pavlenko (ibid) uses this hypothesis to describe the cognitive system of a bilingual speaker whereby acquisition of similar linguistic forms of two languages results into what Bardovi-Harlig and Stringer (2010) describe as grammatical conflicts. Normally, linguistic forms of the dominant language (usually L2) tend to replace those of L1. Backed up with empirical findings, this hypothesis has proved its strength in establishing facts on aspects of language contact that have resulted in the decline of linguistic knowledge of native speakers who have acquired the dominant language (Pavlenko, 2000 & 2004; De Leeuw, 2009; Opitz, 2011; Cherciov, 2011). Elements of L2 similar in functions with those of L1 tend to replace those of L1 in the native speaker's linguistic repertoire; since attrition does not occur in isolation but in the presence of another language, usually the dominant language (Opitz, 2011). Since factors for L1 attrition are mainly sociolinguistic and cross-linguistic in nature, CLI can help to identify factors leading to attrition of Kara traditional culture lexicon replaced by Swahili especially among the young generation, which is interested in language of education, media and new technology.

3. Research methodology

This study was conducted at Ukara Island in Ukerewe district in Mwanza, Tanzania; between January and March 2024. The place is densely populated (NBS, 2022) and there is high influx of non-Kara speakers who are involved in fishing and business. This enables proximal and long-term interactions with Swahili speakers in the context that makes Swahili a dominant L2 over the Kara. The study is mainly qualitative, and it employs a case study design to allow in-depth interactions with native speakers in the natural settings as suggested by Schmid and Jarvis (Schmid & Jarvis, 2014). However, it employs simple statistical descriptions like percentage, frequency, average/mean and summation to measure the performance. Additionally, it presents data using tables and figures for illustrations. This study employed purposive sampling to snowball family members based on personal characteristics namely age, sex, sociolinguistic background, and education.

The study involved participants in two age categories for instance, young adults (aged 18-39) as the target group and mid -aged and older adults (aged 40+) as the control group. The control group was assumed to be stable in their lexical knowledge unlike the target group. The latter group acted as the controller of perfect linguistic knowledge from which comparison and the conclusion was drawn. The target population involved Kara native speakers living in Ukara but with exposure to other languages, including Swahili, in both formal and informal settings. The sample of 30 participants was opted based on Schmid's (2011) manual on language attrition methodology, which recommends 15-30 participants as sample size for comprehension tests.

The study used oral and written data, which were collected through multiple methods categorised as performance and non-performance methods. Performance methods aimed at assessing vocabulary knowledge, such as direct vocabulary elicitation (DVE), Verbal fluency test (VFT), and picture naming tasks (PNT). These were intended to measure lexical knowledge of participants to be sure of how much they have attrited. Non-performance methods included sociolinguistic

questionnaire (Language Attrition Test Battery-LATB) and unstructured personal interview (follow-up questions). All these methods were administered in the mother tongue to capture language fluency of each participant. Each performance task contained subtasks. For instance, DVE had three subtasks; the first contained 55 expressions for lexical judgement whereby each participant had to judge and replace Swahili loanwords in bold type. The last task was to calculate percentage and average score and compare the result across participants and judge attriters from non-attriters. The second subtask contained a tool of 130 expressions in which each participant had to supply corresponding vocabulary. This focused on a wide range of ethno-geographical issues addressed through terms referring to local tools and artefacts, arts, folklore, climate, environment, food technology, rituals, and eating mannerism. This aimed at testing the speaker's semantic inferential abilities in a wide range of lexical culture. The last subtask contained 20 lexical entries to measure the semantic inferential abilities of participants in kinship terms. In all these subtasks, there was no presentation of stimulus to simplify retrieval (Sands et al., 2007). This study obtained scores for each participant by calculating the number of correct items over the total items and established average and percentage; then compared the results.

Additionally, verbal fluency test was another set of tools that yielded the result. This is an oral test adopted in pathological studies to measure vocabulary retention of the participants. The participant had to list a number of items in certain semantic category within a given reaction time (RT) often 60 to 120 seconds (Cherciov, 2011). It contained five subtasks namely: local tools and appliances (C1); fish species (C2); basic numeracy 1-10 (C3); wind types (C4); and numbers beyond ten (C5). The production period was 60 seconds. These subtasks aimed at measuring recall abilities among the participants. The last procedure was to calculate total scores over time taken and compare the results.

The last task was PNT, which involved using pictures or real objects to name some referents. In this task, unlike DVE, the provided stimulus is either physical or pictorial for participants to name (Schmid, 2011). The aim was to measure semantic referencing or recall ability, focusing on speed and accuracy of response of each participant. This study used images of objects downloaded from Google images (animals and fingers) and physical objects (body parts). This task contained three subtasks such as naming domestic and wild animals (D1), body parts (D2), and fingers (D3). The last procedure was to calculate the total number of correct responses over the reaction time (Schmid, 2011: 141).

The study also adopted Schmid's (2011) Language Attrition Test Battery, which is a tool containing a list of comprehension questions to obtain sociolinguistic information of participants namely: age, sex, social network, and linguistic background. The current study used 20 printed questions on contact networks, proximity of social interactions, self-rating, language use preferences (attitudes and motivation), language dominance and sociolinguistic backgrounds of each participant. This aimed to determine factors for L1 attrition by comparing the result with performance tasks. In addition, the unstructured interview was useful as a follow-up tool to obtain responses on emerging issues during the execution of other tools.

The collected data were analysed using the Six-phase thematic analysis as postulated by Braun & Clarke (2012). This includes simple analytical steps such as familiarising with data, generating initial codes, searching for themes, revising potential themes, defining and naming themes and producing the report. In phase one, raw data from various instruments were checked to establish frequency and percentage. Oral data were first replayed to review the accuracy of responses and speed in performance tasks. Simple calculations were then made to establish scores for each participant while data from the questionnaire were reviewed to establish the frequency of responses and percentages. Phase two involved coding of small chunks of information to develop themes and subthemes. Data coding was useful for analytical purposes, systematic presentation of findings and ethical considerations. Each participant had a code containing a capital letter P (Participant) and a number for example, P1, P2, and P3. Phase three involved shifting codes into themes to identify similarities and overlaps; hence, generating broader topics related to the research objectives (thematic map). Phase four was the review of potential themes in relation to coded data to check the quality and relevance of the themes to the research questions. Phase five involved defining and naming the themes for presentation. This went together with establishing fine-grained details of the topic through interpretation and description of data. This culminated to the conclusion by comparing performances at the age level. Phase six involved writing the final report by making a narrative story about the topic. Specific comments, scores, arguments, and examples were drawn to back up the findings.

4. Findings and discussions

This section presents analysis of data which leads to findings on factors for L1 attrition and the discussion of the findings.

4.1. Factors for attrition of Kara cultural lexicon

The findings revealed that lexical attrition in non-migrant contexts involves a combination of multiple factors. Some of these factors are linguistic and others are non-linguistic. However, the observed factors are mainly domain-specific rather than cross-cultural. The study, therefore, established that no single factor could suffice to determine or cause attrition. The identified factors are presented in detail in the subsequent subsections.

4.1.1. Change in domains of language use

The findings from the LATB data revealed that contact with Swahili speakers has increased the domains of use of Swahili in Ukara Island. This has made Swahili a dominant language in daily communications as presented in Table 1.

Table 1: Domains of Kara and Swahili uses

S/N	DOMAIN OF USE	KARA ONLY	SWAHILI ONLY	BOTH
1	Home	27 (90%)	0 (0%)	3 (10%)
2	Public rallies	0 (0%)	28 (93.3%)	2 (6.6%)
3	Fish camps/centres	5 (16.6%)	3 (10%)	22 (73.3%)
4	Market	16 (53.3%)	4(13.3%)	10 (33.3%)
5	School	0 (0%)	29 (96.7%)	1 (3.3%)
6	Offices	0 (0%)	30 (100%)	0 (0%)
7	Churches/mosques	0 (0%)	30 (100%)	0 (0%)
8	Friends	24 (80%)	1 (3.3%)	5 (16.7%)
9	Hospitals	0 (0%)	29 (96.7%)	1 (3.3%)
10	Farms	30 (100%)	0 (0%)	0 (0%)
11	Football grounds	24 (80%)	3 (10%)	3 (10%)
12	Funerals	29 (96.7%)	0(0%)	1 (3.3%)
13	Weddings	29 (96.7%)	0 (0%)	1 (0%)
14	Clan meetings	27 (90%)	0 (0%)	3 (10%)
15	Art and music	0 (0%)	30 (100%)	0 (0%)

The findings in Table 1 reveal that Swahili is the language of official matters used in schools, hospitals, political matters, religion, public offices and modern music. On the contrary, Kara has remained an informal language used at home and in specific social occasions like funerals, weddings and family/clan meetings which are less frequent. Additionally, results from unstructured interview indicate that Swahili is nowadays a home language in urban families in Ukara Island. It is also the language of the phone and modern music known as bongo *fleva*, which has replaced the traditional music and dance. This has an enormous impact on young Kara speakers' retention instability of the vocabulary corresponding to traditional culture.

4.1.2. Frequency and recency of use

The findings from LATB revealed two types of frequency of use namely, the general language use and frequency of use of certain linguistic forms, like vocabulary use. The general language use embodies the extent which the language is used social domains. This is a relevant category of attrition in migrant contexts, whereby the potential attriter either stops using L1 or uses it in rare situations. Kara lexical attrition is shown to be a result of mainly low frequency of use of lexical items that have given up for L2 (Swahili) vocabulary as illustrated in Figure 1.

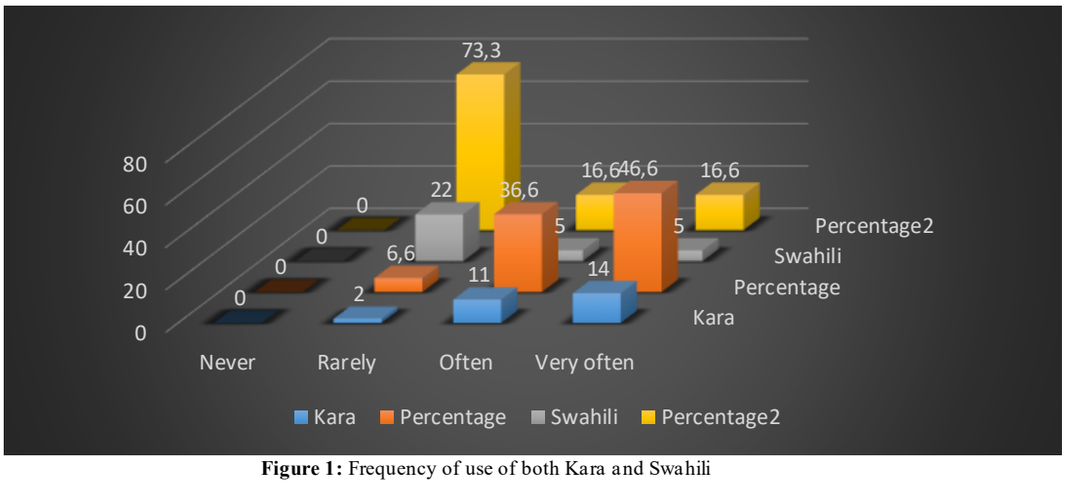

Figure 1: Frequency of use of both Kara and Swahili

The findings in Figure 1 indicate the co-existence of both Kara and Swahili in daily communications since neither claims to speak either language. In other words, all the 30 participants have certain levels of proficiency in both languages. It is also shown that Kara is used very often (46.6%) while Swahili is used less often (16.6%) in daily communications. This implies that Kara is the main language of communication in Ukara Island. However, since lexical attrition is subconscious, the co-existence of these two languages leads to a loss of vocabulary of the non-dominant language. For instance, during the administration of different performance tasks, this study observed more attrition of Kara's lexicon by young adults compared to mid-aged and older adults. This observation concurs with the findings in the study by Mlibwa and Sam (Mlibwa & Sam, 2024). The observation signifies that even in the context of continued use of L1, lexical attrition can prevail, given that L2 items replace L1 items that are translatable in L2.

4.1.3. Language dominance and Stigma

The findings further revealed that in Ukara Island, Insular Jita is the dominant ethnic language while Swahili is super-dominant language (Bradshaw & Odom, 2017). Kara is the least dominant language which is also considered primitive. Following that *abhaakara,* which is translated as ancient or primitive people, is an ethnonym referring to Kara native

speakers. The label attached to Kara native speakers logically promotes stigma whereby the Jita and Kerewe mock at the Kara speakers and describe them as speaking childishly. Thus, Kara is considered a childish version of Jita. For instance, when asked whether they maintain Kara in Jita and Kerewe communities, Kara young adults admitted adopting the Jita accent for fear of stigma while older adults affirmed to maintain Kara as shown in Figure 2.

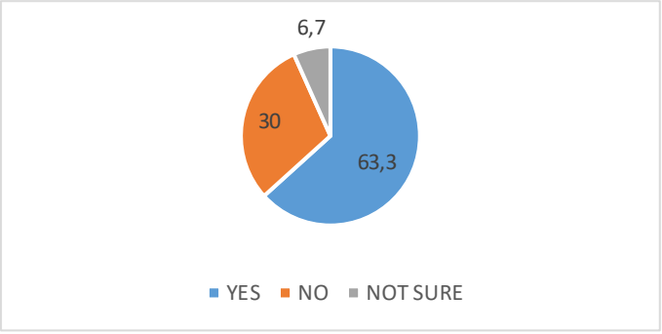

Figure 2: Persistent use of Kara outside Ukara Island

The findings in Figure 2 show the existence of stigma and language dominance based on speakers' perspectives. Nineteen participants (63.3%) admitted maintaining Kara in Jita and Kerewe speaking communities while nine (30%) admitted a shift whereas two (6.7%) were not sure of whether to adopt Swahili and/or Jita or maintain Kara. The findings indicate that young adults adopted the Jita accent rapidly compared to older adults. These findings give a superfluous picture of the findings that Kara is a less prestigious language in Ukara and Ukerewe islands. This has enormous impact on the traditional culture terms, but in combination with other factors leading to intensive borrowing and consequential L1 lexical attrition.

4.1.4. Intensive borrowing from Swahili

The findings from vocabulary elicitation tasks revealed that young adults replace much of their traditional vocabulary. Intensive borrowing of lexicon from Swahili has left Kara young adults with little Kara terms; especially the borrowing that has persisted for a long time as illustrated in Table 2.

Table 2: Intensive borrowing from Swahili into Kara

Swahili loanword	**Kara original term**	**Gloss**	***Swahili loanword***	**Kara original term**	**Gloss**
chibaraka	Líbhando	Fortune/good luck	*idharau*	likayo	Disruption
Bila sababu	Litabhayo ekayo	Without any reason	*emichango*	obhusanya	collections
Kiongozi	Mutangasya	Leader	*okwiinua*	okwikola	Being spoonful
Tabia	Ntungwa	Behaviour/habit	*okwifanya*	okwikola	pretending
Abhasafiri	Bhakendi	Travellers	*kama*	laabha	if
Bhamamchagua	Bhamamsola	They chose him	*ibaati*	libhando	fortune
Emifugo	Ebhitunganwa	livestock	*aina*	mbaka	Types
Sehemu	Mbaala/mbachu	Parts	*Huruma*	sasila	compassion
Bhuadui	Bhubhiibhi	Enmity	*Kauli*	Nyaika/ndoma	Reply
Bila makubaliano	Mutaikeenwe	Without agreement	*Hata*	nolu	Even if
Abhavivu	Abhalenga	Lazy people	*Uvumilie*	wikomesye	Be strong/patient
Shida	Nyaako	Trouble	*Badilika*	induka	change
Obhuchonganishi	Obhulwanya	Causing enmity	*baadae*	mara	Later on
Iajali	Ing'ánga	Accident	*itaidi*	ikomesya	Struggle/be strong
Ibidii	Obhwikomesya	Efforts/Hard work	*mumajaribu*	mubhirekesyo	In temptation
Akili	Obhwenge	intelligence	*abhaanafunzi*	abheikisibhwa	Students/disciples
Mbinguni	Mlwiire	Heaven	*omusaada*	obhusakisi	Help/aid
Safari	Olukendo	Journey	*lishaamba*	inzambu	farm
Omushaara	Obhupokerwa	Payment/salary	*ifuraha*	obhukondeleywe	happyness
Emipaka	Chimbibhi	boundaries	*Siri*	imbisike	Secret
Itamaa	Inamba	Greedy	*chiadisi*	chingani	Tales
Chale	Ng'embe	Cuts	*Msemaji*	mwaiki	Spokes person
Kila	Bhuli	Every	*Amakusudi*	inzonga	Purpose
amajeraa	Obhuuta	Injury	*Ifamilia*	omusi	Family
Okujali	Okulumwa	Being compassionate	*ibarua*	inyarubha	Letter
Echipato	Líbhona	Earning	*Okudai*	okutonga	Owing to
Amakosa	Ebhiyabhi	Mistakes	*lideni*	libhanja	Debt
Irishi	Imiki	Amulet/charm	*chiburi*	echisirimu	disobedience
Ihasira	Linyika	Anger	*kala*	nyikaara	Become angry
Amaagizo	Amalakilo	instructions	*obhupole*	obhufura	Politeness
Okuonya	Okukanya	warning	*okufafanua*	okusómbola	Explaining
Okulaani	Okwikaana	Cursing	*Ihukumu*	indamu	Judgement
Okusaliti	Okwiínda	Betraying	*Samehe*	saasira	Forgive
Amazao	Ebhiyámbwa	Crops	*imbegu*	inosi	Seed
Taja	Sobhola	Mention/list	*Isimba*	indale	Lion
Omwangwi	Omwangwa	Echo	*Au*	ama	or

The list in Table 2 is unlimited, as many Kara cultural words have given up for Swahili terminology. Through lexical judgement task presenting 55 sentences with Swahili loanwords in bold type, young adults failed to supply Kara original items in place of Swahili loanwords while older adults (age 60+) scored above average as illustrated in Table 3.

Table 3: Group performance in lexical judgement task

Age group	No. of participants	Individual scores/55 items	Total scores	Average performance group-wise/55 items
18-39	15	26, 12, 11, 13, 15, 9, 10, 9, 12, 10, 32, 16, 17, 23, 14	229	15.26
40 -above	15	21, 31, 25, 25, 28, 33, 30, 43, 47, 41, 30, 21, 31, 17, 30	453	30.2

The findings in Table 3 indicate 15.26 (27.7%) as average performance by the target group while 30.2 (54.9%) is for the control group. These findings illustrate significant variations in performance across age groups, suggesting that young adults have actually attrited in traditional cultural terms. Furthermore, the findings from vocabulary elicitation produced a corpus of 234 Kara vocabulary items forgotten by young adults. Therefore, lexical borrowing stands as the major factor for Kara attrition of traditional cultural terms among young adults. These findings concur with Sands et al. (2007: 599) who established that 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.

4.1.5. Modern science and technology

The findings from vocabulary elicitation revealed that the introduction of modern science and technology has affected young adults' memory of Kara lexical terms referring to traditional tools and artefacts such as kitchen and house wares like utensils; tools used in crop husbandry, processing and storage; fishing, animal husbandry, arts and music, traditional architecture and other local technologies. Kara lexical items which are not used for a long time, are likely to be attrited and give way to their corresponding terminology. It was also revealed that some local tools have disappeared in Ukara island; hence, influence the extent of forgetting their terminology as illustrated in Table 4.

Table 4: Forgotten terms for local tools and artefacts

Item	Gloss	Item	Gloss
oMutao	Used to tap water in the well or the water pot	*oLuteko*	A fibre made for hanging food containers in the house
eChiibho	Deep-basin containers made of hard grass fibres used to serve ugali on the table	*oLwaanja*	A big basin or bowl made of hard grass fibres for keeping cooked or fried food
iMbaacho	Hoe-like small tool for levelling timber	*oLungo*	A big bowl like vessel for separating grains from dusts
iNgeréso	Hoe-like local tool used for butchery	*eChisunga*	A branched piece of tree used to hang water tapping vessels
eChifuma	Bowl-like big vessel for the storage of grains like rice and sorghum	*iNzua*	A gourd-shaped pot for keeping cool water (earthenware)
liTuuku	A collected heap of millet or grasses	*iNyungu*	An earthenware for cooking food e.g., fish
iMvûni	A small hoe for weeding	*oLukalo*	An altar-like parallel woods for frying fish or meat
oMuse	An artefact for weeding (used by ancestors since Neolithic period)	*oLwoocho*	An iron rod installed in a piece of wood used mainly for testes treatment
iNdumbitumbi	A piece of stick moving upright in water used for treatment/witchcraft	*eChichuuri*	Chicken's pen (grass-thatched)
eChitara	A big vessel for food storage outside the hut	*echisai*	Container for milk
eChisingiro	A wooden chair for milking	*iNzyo*	An oval-shaped stone for grinding grains
oLubhui	A flat surface stone for grinding grains, used with *inzyo*	*liTeesyo*	A stone for sharpening knives and axes
iNgata	A round-shaped cloth or grasses for holding buckets on head	*liFwaata*	A cloth for knotting in the stomach or waist esp. by women
aKakeneko	A small vessel to separate water from ashes	*liSandikiliro*	Used together with *kakeneko*
liKubhichiro	A cow skin or any flat sheet for fire blowing	*liKusu*	Local spoons picked from Lake Victoria from sea snails
oMwambi	An arrow	*oLukera*	A needle for basketry
oMwicho	A two-headed wood material for grinding or peeling dry grains like rice	*liTwangiro*	A wooden utensil like a champagne glass for grinding dry grains (used with *omwicho*)
iNgomako	A round-shaped hard stone for making leaf/root medicine	*oMukuma*	A big wooden tool for fighting
iMalímba	A wooden chair with backrest for elders	*oMwikamo*	A wooden chair with a normal backrest used for ordinary people in the family

The findings in Table 4 revealed that most of these tools are no longer in use. Thus, they have remained in the memory of speakers especially older adults. Through DVE, containing 130 expressions for measuring semantic inferencing abilities among the participants: this study indicated general loss among young adults compared to the control group as illustrated in Table 5.

Table 5: Group performance in semantic identification task

Age group	No. of participants	Individual scores/130 items	Total scores	Average performance group-wise/130 items
18-39	15	73, 69, 60, 59, 62, 52, 56, 49, 56, 61, 90, 61, 58, 79, 36	921	61.4
40 -above	15	94, 118, 92, 90, 85, 91, 112, 114, 125, 110, 80, 89, 84, 78, 103	1465	97.6

The findings in Table 5 revealed that out of 130 expressions, the target group scored an average of 61.7 items (47.2%) whereas the control group scored an average of 97.6 items (75.07%). These findings imply that young adults experience reduced vocabulary memory, reflecting their traditional culture. Modern tools such as kitchenware, houseware, food processing and preservation and music/art had replaced Kara traditional tools and artefacts for a long time. Therefore, modern technology has replaced the traditional one, leading to the replacement of terminology corresponding to it. This has resulted in the loss of indigenous knowledge, especially among the young adults.

4.1.6. Cultural change

The findings from LATB data revealed that a change of culture is one of the major factors for lexical attrition among young adults. Youths have lost interest in traditional culture particularly music, dance, art, oral traditions and local technology. They have shifted to the modern music and culture in general due to globalisation and the development of media technology. Results from LATB indicate that young adults no longer uphold their traditional culture as summarised in Figure 3.

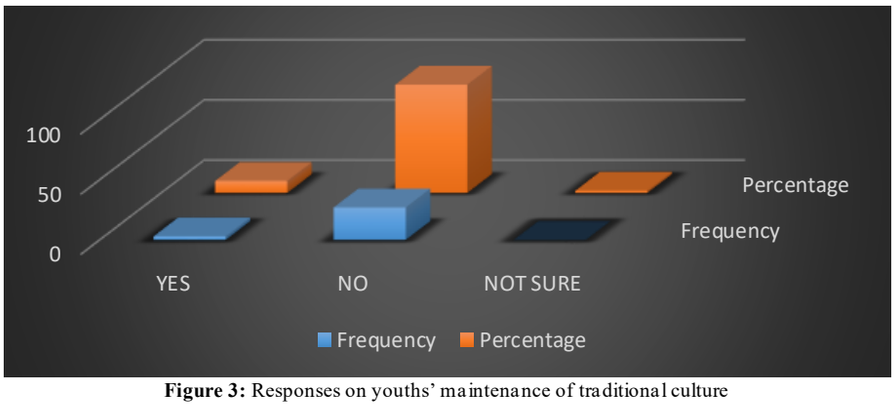

Figure 3: Responses on youths' maintenance of traditional culture

The findings in Figure 3 indicate that 27 (90%) of the respondents disagreed on youths' maintenance of traditional culture, while 3 (10%) agreed. This implies the prevailing discontinuous preservation of traditional culture among the youths, which affects their knowledge of traditional culture. Lexical culture is the facet of linguistic knowledge that easily suffers the consequences than any other facet of linguistics. Through DVE such as the semantic inferential ability task (coded as A2) containing 130 cultural expressions for which participants had to supply the corresponding cultural vocabulary, this study discovered low performance among young adults compared to mid-aged and older adults (Figure 3). Therefore, cultural change brings about lexical change, the changes that lead to the loss of memory of lexical knowledge among youths. This study noticed loss of terms referring to finger names, wind types, wild animals, arithmetic, local tools and artefacts. These findings support observations in the study by Mlibwa and Sam (Mlibwa & Sam, 2024).

4.1.7. The role of speakers' attitude and motivation

The findings from LATB revealed possibilities of emotional factors which are reported to influence attrition in a non-migrant context, as previously observed in migrant contexts (Schmid, 2002; Cherciov, 2011). The non-migrants with negative attitude towards L1 experience attrition in L1 than those with positive orientations. The former are always motivated to acquire L2, which can cause a shift to L2 domains. However, in Kara, the claimed attitude was not very explicit on the loss of L1 cultural vocabulary. Their loss of L1 cultural vocabulary was subconscious, and any attempt to speak Jita or acquire Swahili was due to the forces from outsiders, like fear of stigma. Through LATB, Kara native speakers gave their language preferences as illustrated in Figure 4.

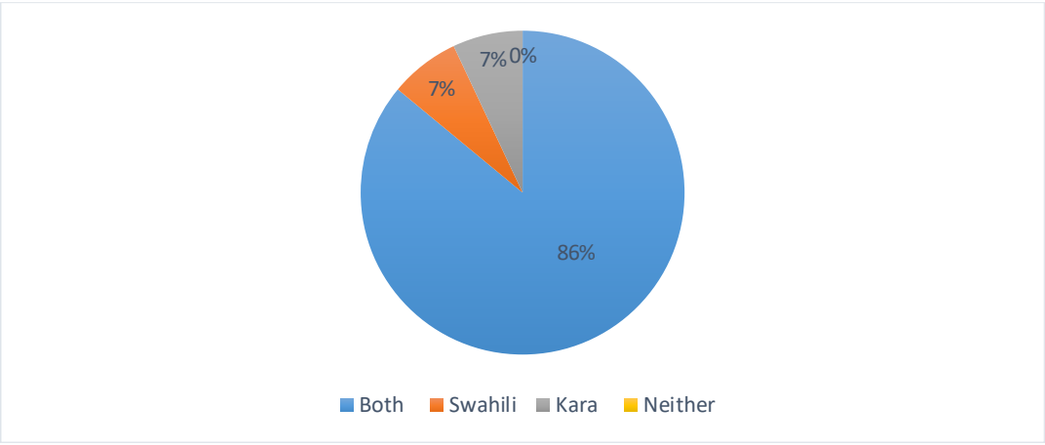

Figure 4: Language use preferences by participants

The findings in Figure 4 indicate that a large percentage of the participants preferred the use of both languages (86%), implying the importance of both languages in their livelihood and communications. Through unstructured interview, participants gave reasons for their preference including improved communication with diverse populations. On the contrary, those who preferred Kara underscored its importance as language of their pride. This implies that Kara speakers still have positive attitudes towards their mother tongue as evidenced in their language use preferences and frequency of use. Thus, attitude cannot influence lexical loss in non-migrant contexts since the process is subconscious in nature.

4.1.8. The role of formal education

The findings from the interview data reiterated observations from previous studies in a similar context of language contact cite formal education as a major factor for L1 attrition, especially among school children (Sebina, 2014; Utamwa, 2016; Msuya, 2021). In the current study, results from performance tasks did not show variations in performance between participants due to different education levels. Performance varied only due to age differences. The young adults performed poorly compared to older adults in most of the assessment tasks, like vocabulary elicitation, verbal fluency, and naming tasks. The observations in the current study are in line with the study by Mlibwa and Sam (Mlibwa & Sam, 2024). However, the uniqueness of the current study is based on the fact that formal education has less impact on lexical loss among young adult in a non-migrants context.

4.1.9. Age

The findings from language proficiency tests in multi-tasks revealed that young adults have experienced reduced indigenous knowledge due to the influence of Swahili. Except, they have not attrited in body parts, kinship terms and domestic animals. Unlike in the former semantic categories, young adults have attrited in local tools and artefacts, wild animals, finger names, wind types and disappeared fish species. For example, young adults performed poorly in lexical judgement task compared to adults. These findings support the observations in Mlibwa and Sam (Mlibwa & Sam, 2024).

4.2. Discussions

The current study observed that factors for Kara L1 attrition in the cultural lexicon are of two categories, namely, domain or context-specific factors and cross-cultural factors. Domain-specific factors as established by Ammerlaan (1996) vary from one context of language contact to another and they include fear of stigma, motivation, intensive borrowing, modern science and technology, drastic cultural change, and formal education and literacy. These factors result from the interference of the dominant language (Swahili-L2) in both formal and informal settings and are associated with non-migration. Concurrently, studies like Utamwa (2016) and Msuya (2021) discovered that Swahili had influenced ethnic languages in Tanzania through formal education and increased use in informal settings, and that children have experienced reduced proficiency especially in lexical knowledge. Likewise, Sebina (2014) discovered the influence of English phonological systems on Tseswana in Botswana among English medium pupils, as they no longer sound native. This is rather a clear case to prove a formal influence on the native mother tongues in non-migrant contexts. This is unlike in-migrant contexts where L1 attrition is associated with migration and factors such as age, education and literacy, length of residence in L2 country, language contact and choice, as well as attitudinal and emotional factors are considered decisive to L1 attrition (Cherciov, 2011). In this context, these factors are termed as predictor variables used to assess attrition among migrants; thus, attrition is associated with disconnection from the L1 community.

Cross-cultural factors feature as universal in assessing language proficiency. They work together with domain-specific factors to determine attrition in both migrant and non-migrant contexts. These include age, changing domains of language use, language dominance, frequency and recency and motivation to learn an L2. Age outruns all the factors in both contexts to determine L2 acquisition and L1 attrition (Pallier et al., 2003; Cherciov, 2011; Opitz, 2011; Köpke & Schmid, 2004). According to Park (2018), language attrition to young speakers tends to be more rapid or tremendous; the younger the attriter, the quicker and the more severe the extent of language loss; the younger the child, the faster the rate of attrition (p. 6). Unlike children, adults have high language retention even in contexts of lost immersion (Schmid, 2002). In the case of Kara, young adults (age 18-39) performed poorly in many tasks unlike adults (age 40+) who had better

retention of a large part of their indigenous knowledge. The changing domains of language use is associated with the frequency of use and determines attrition or retention. Cherciov (2011) identifies two important aspects of L1 use and attrition, namely, the amount of L1 use (how often L1 is used) and the type of use (the context in which L1 is used, i.e., work, family or school). The current study found out that limited use of Kara in formal domains and increased use of Swahili in both formal and informal settings, has led to low frequency of using L1 items which have then been replaced by Swahili loanwords. Another associate term to frequency of use is recency of use and immediacy. Kara young adults performed better in terms and concepts which are recent and immediate to their physical environment. Likewise, McGregor et al. (2018) reported that studies conducted on semantic fluency tasks have indicated good performance by the subjects in naming objects and organisms immediate to their environment than those strange in their convenient physical environment. Motivation is also cross-cultural compared to attitudes since some native speakers can attrite even if they claim to have positive attitudes towards their L1. However, they may be motivated to learn the standard or dominant language to earn economic and social advantages. For instance, Kara young adults lack indigenous knowledge since they are interested in Swahili as the dominant language and modern culture and technology. In migrant context, attitude amounts to attrition since the potential attriter desires to adopt quickly the language and culture of the hosts unlike those who remain monolinguals (Cherciov, 2011).

Apart from contextual variations, this study also discovered interdependence in the factors for attrition as reported in migrant contexts that they do not work out in isolation or no single factor can amount to attrition (Cherciov, 2011 : 40). This concept is represented in Figure 5:

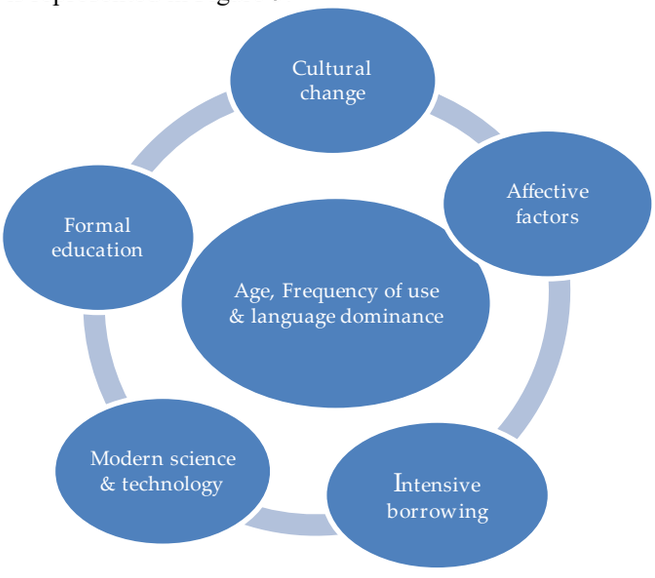

Figure 5: The interdependence cycle of the factors for L1 attrition in L1 context

This interdependence radial cycle represents L1 lexical attrition determined by both cross-cultural factors at the centre and domain-specific factors at the outer layer. Central factors cut across all contexts of attrition while domain-specific are always extra-linguistic in nature varying from one contact situation to another. Together, they form one cycle implying that we cannot dismantle them in delineating attrition. For instance, age itself cannot lead to attrition properly without the influence of the dominant language. According to Opitz (2011), L1 attrition does not happen in isolation but in the context of another language being acquired (p.28). Acquisition of another language results in the limited use of the previously acquired language. Scholars argue that more use of L2 implies lesser use of L1 in either contexts of attrition (Schmid, 2002; Cherciov, 2011; Opitz, 2011). This influence can occur after migration or education and increased use of L2 in informal settings among non-migrants (Sebina, 2014; Utamwa, 2016; Msuya, 2021; Mlibwa & Sam, 2024). Formal education differs between migrant and non-migrant contexts. In migrant contexts, migrants who have obtained formal education in L1 have better retention of their L1 knowledge than uneducated ones (L1 literacy) (Cherciov, 2011; Opitz, 2011; Schmid & Jarvis, 2014; Park, 2018) while in non-migrant contexts, it instigates exposure to L2 through formal education, which amounts to L1 attrition in a long run (Utamwa, 2016). Cultural change varies from one community to another, and intensive borrowing is common among non-migrant children and young adults since the subjects still use their L1 although they have replaced their L1 lexical items with L2's. Similar findings were for modern science and technology; migrants do not borrow after exposure to new technology, but they have no option in a strange environment than to learn the language of the hosts. Therefore, all factors for attrition depend on each other, though they may vary from one context of attrition to another as Cherciov (2011) argues that we cannot single out the factors for L1 attrition.

5. Conclusion

On the basis of the findings above, there are multiplicity of factors for L1 attrition. These factors vary from one language contact area to another, though some are cross-cultural, cutting across one context of attrition to another. Again, the factors do not work in isolation since no single factor can cause attrition. This signifies the nature of attrition as a

multifaceted linguistic concept. This also embodies its interdisciplinary nature which has much to do with the sociolinguistic environment of language contacts as well as the cultural, social and cognitive state of the language users.

6. Funding
This research paper received no internal or external funding.

7. Acknowledgments
We are indebted to 30 Kara native speakers who participated in this study willingly. We honour their contributions to this study.

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