Human Behavior, Development and Society
E-ISSN 2651-1762, Vol 23 No 2, August 2022

Kejaman in Malaysia: Decreasing Language Ability and Uniplexity of Social Networks[1]

Amee Joan[2] and Su Hie Ting, Universiti Malaysia Sarawak

Date Received: 8 February 2022 Revised: 20 April 2022 Accepted: 27 April 2022

Abstract

This study examined the influence of social networks on the language ability of Kejaman speakers, a small indigenous group in Sarawak, Malaysia. Using questionnaires, data were collected from 123 participants from three generations of Kejaman speakers who lived in two longhouses located in Belaga, Sarawak. The results showed good to excellent ability in Kejaman among the grandparents and parents' generation, but fewer of the children's generation were able to interact fluently and spontaneously in Kejaman. Based on frameworks for social network analysis, the Kejaman had a loose-knit social network characterised by a low density and uniplex social network pattern, indicating dependence on a selected number of kin and non-kin contacts. The average number of contacts in their exchange and interactive network was three each for all three generations. The grandparents' generation was close to having a multiplex social network (49.1%), but the other two generations had uniplex social networks of 21% to 25%. There were significant negative correlations between ability to speak Kejaman and the number of exchange and interactive networks. Their networks comprise contacts from other ethnic groups. Therefore, having more contacts and interactions with non-Kejaman speakers was associated with a lower level of Kejaman ability.

Keywords: *Exchange networks, interactive networks, uniplex, multiplexity, Kejaman*

Introduction

Ethnic languages thrive where members of an ethnic group live together and it is the shared language of wider communication in the community. However, once speakers of an ethnic language live among people who speak other languages, such as in urban areas with ethnic diversity in workplaces and social groups or in families where there is intermarriage, research shows that many communities shift from their ethnic language to more dominant languages (Trevilla, 2009). Decreasing use of ethnic languages has been attributed to various factors, including intermarriage (David, 1996), education, (Eckert, 2000; Eun, 2018; Li, 1994) and urbanisation (Alagappar et al., 2018; Gal, 1979; Milroy, 1987). Intermarriage may result in the use of the language of one spouse, or neither of them because they may choose to speak a language in which both are proficient. Education may also cause a decrease in the use of ethnic languages because once children attend school, they may speak the school language at home. Studies on the Chinese in Sarawak showed that children who attend Chinese medium schools end up speaking Mandarin at home, thereby easing out the use of Chinese dialects (Lee & Ting, 2016; Lee et al., 2017). Members of ethnic groups who move to urban areas have less opportunities to speak their ethnic language. In urban areas, intermarriages are also more frequent. Communication with social and work contacts who are not from the same ethnic group is usually in shared standard languages.

Social Network Analysis is an approach used to investigate how network structure affects every day behaviour (Hawe et al., 2004), including language behaviour. A social network is a social structure made up of individuals (or organisations) connected by one or more specific types of interdependencies such as friendship, kinship, common interest, or relationships of beliefs, knowledge, or even prestige (Milardo, 1988; Milroy, 1987). The primary hypothesis of Social Network Theory is that individuals are embedded in their personal social clusters which provide them with

[1] This paper was first presented at the 3rd International Conference on Language Studies (iCLS 2021) held on 8–9 September 2021 at Universiti Malaysia Sarawak, Kota Samarahan, Malaysia.

[2] Corresponding author's email address: jamee@unimas.my; Co-author's email address: shting@unimas.my

structures that help them to cope with their everyday lives, and which also affect members' behaviour (e.g., language use) (Sarhimaa, 2009). To perform social network analysis, it is necessary to find out who is linked to whom, the nature of that linkage, and how the linkage affects behaviour (linguistic behaviour) (Karahan, 2004).

Over time, the interaction and mutual engagement of people who come together either directly or indirectly via other people leads to development of shared norms and patterns of behaviour. Milroy (1987) found that the strongest ties correlated with the strongest use of vernacular variants. Following Granovetter's (1973) seminal strength of weak ties argument, Milroy (1987) posited that weak ties are significant channels for linguistic and social change because they serve as bridges across groups. Conversely, strong ties lead to intra-group cohesion and support of localised norms (Velazquez, 2013). Li (1994) and Milroy (1987) claimed that a dense and close-knit social network system is a crucial mechanism for ethnic language maintenance. The study of social networks enables researchers to investigate the immediate contexts for the use of languages, and will offer more insights into language use than demographic factors (e.g., education, intermarriage) or societal factors such as urbanisation.

Little is known about whether the Kejaman are retaining use of their ethnic language during a time of change when younger members of the community move to urban areas to continue their education and to work. The Kejaman are a small indigenous group living in two longhouses in the interior of Belaga, along the river Balui, in the Kapit Division of Sarawak (Strickland, 1995). Based on the 2012 census, there were about 1,200 speakers at Rumah Kejaman Neh Long Litten and 1,170 speakers at Rumah Kejaman Ba Segaham (Belaga District Office, 2013; Joan & Ekot, 2017). The Kejaman population is only 0.08% of the 2.79 million Sarawak state population (Department of Statistics Malaysia, 2017). Many Kejaman speakers have moved away from Belaga to live in urban areas. Over a decade ago, the vitality of the Kejaman language was assessed at level 6a of the Expanded Graded Intergenerational Disruption Scale (EGIDS, Lewis & Simons, 2009) as the language was used orally by all generations and was spoken by children as their first language. However, more than a decade later, there are concerns that the youngest generation may be losing ability to speak Kejaman, and it is intriguing how some people transmit Kejaman to their children, while others abandon it.

This study examined the influence of social networks on the language ability of the Kejaman in Sarawak, Malaysia. The specific objectives of the study were to determine: (a) the ability of participants to speak Kejaman and other languages; (b) the density and multiplexity of their social networks; and (c) the relationship between Kejaman language ability and density of social network links. The hypothesis was that Kejaman language ability increases with an increase in the density of social network links.

Method of the Study

The study involved 123 Kejaman speakers (52 males and 71 females aged 7–90), consisting of three generations (grandparents, parents, and children). Each generation consisted of 41 participants. Table 1 shows the demographic background of the participants involved in this study.

Table 1 *Demographic Background (Frequency and Percentages) of Participants (N = 123)*

Feature	**Generation 1**	**Generation 2**	**Generation 3**
Place of Birth			
Belaga	39 (95%)	19 (46.3%)	4 (9.7%)
Other places	2 (4.8%)	22 (53.7%)	37 (90.3%)
Living Permanently in the Longhouse			
Yes	25 (61.0%)	19 (46.3%)	8 (19.5%)
No	16 (39.0%)	22 (53.7%)	33 (80.5%)
Social Media Group Membership			
Aneak Kejaman FB	32 (78.0%)	41 (100%)	37 (90.2%)
1 Kejaman Facebook	31 (75.6%)	41 (100%)	36 (87.8%)
WhatsApp	31 (75.6%)	41 (100%)	36 (87.8%)

The participants were considered Kejaman if one of their parents was Kejaman. A majority of the participants' fathers (78%) and mothers (69%) were Kejaman. Intermarriage is a growing phenomenon, as shown by 85% of the children having mixed parentage. More participants were Malay-educated (52%) than English-educated (42%), while 6% did not go to school at all.

To collect data on language ability, participants were asked to self-report their ability to speak seven languages on a scale of one to five: Kejaman, Malay, English, Iban, Kayan, Chinese, and Mixed Language. In this study, mixed language was defined as use of two or more languages in the same conversation.

The language ability scale for self-rating shown in Table 2 was adapted from Li (1994) and Mah (2005). According to Duff (2014), only the speaker knows the actual knowledge he/she has of a language. Self-reports of language ability are considered reliable as they have been employed in other research on language maintenance and shift (Alagappar et al., 2018; Joan & Ting, 2017; Li, 1994; Mah, 2005; Stoessel, 2002; Ting & Ling, 2012; Wang & Chong, 2011).

Table 2 *Language Scale for Self-rating of Kejaman Language Ability*

Scale	Descriptors
5: *Excellent*	Able to understand what is heard or read in mother tongue. Able to summarise information, express opinions. Able to use the language socially and professionally. Able to interact fluently and spontaneously with native speakers.
4: *Good*	Able to interact fluently and spontaneously with native speakers. Able to describe experience and events, aspirations and give their opinions.
3: *Average*	Able to describe experience and events, aspirations, and give opinions. Able to communicate about daily routine. Able to introduce oneself and others. Able to answer simple questions.
2: *Very little*	Able to communicate about daily routine. Able to introduce oneself and others. Able to answer simple questions.
1: *Not at all*	Unable to use the language at all.

The instrument for eliciting data on social network comprising 20 situations was adapted from Stoessel (2002) and Lanza and Svendsen (2007). The 20 different situations were based on domains such as family, friendships, transactions, employment, education, law, government and religion. For example, for the situation related to financial problems, participants were asked “Who will you consult when you face financial problems?” (Stoessel, 2002, p. 44). For the situation related to childcare, the participants were asked "When you need someone to take care of your children, who would you seek help from?" (Lanza & Svendsen, 2007, p. 36). Four out of the 20 speech situations were not in these two sources, but were added because they were relevant to the Kejaman community (Ghani, 2000; Joan & Ting, 2017). The four situations were related to health, childcare, leisure, funeral/death and taboo. The participants’ answers provided information on the exchange network (family, including relatives with blood ties) and interactive networks (non-kin).

Participants were also required to list the names of people who knew one another and the capacities or settings in which they knew each other. This was used to determine whether the individual belonged to a uniplex network (knowing the person in a single capacity) or a multiplex network, based on Milroy (1987). A multiplex network is comprised of individuals who know a few people in many capacities, like a person’s cousin may be his neighbour and also his colleague.

For data collection, consent was obtained from the District Officer in Belaga and the Maren Uma (chief) of the two longhouses. On the day of data collection, the researcher met all the participants at once, explained the study, and distributed the questionnaires, which were collected the following day.

The questionnaire data were keyed into IBM SPSS Statistics 22 for analysis. For language ability, frequencies and mean scores were calculated (see Table 1). The social network information on with whom the participants talked was categorised into kin and non-kin to compute the number of links for the exchange and interactive networks respectively. As an example, the formula for calculating the number of links in the exchange network was as follows:

$$\text{No. of Links in Exchange Networks} = \frac{\text{No. of People for Situation 1 + … (till Situation 20)}}{\text{Total Number of Situations (i.e. 20)}}$$

The minimum number could be zero if the participants did not talk to anybody about their problems, and there was no maximum number. If the number of links in the exchange network was three, it meant that the participants talked to an average of three persons when they faced a certain kind of problem. The same formula was used for calculating the number of links in interactive networks.

Next, the density and the multiplexity of the participants' social network were calculated. Milroy (1987) emphasised that density and multiplexity scores are conditions that often co-occur. Density is the percentage of the actual number of links over the total number of possible network links (Milroy, 1987). The denominator is 20 links (based on the 20 situations presented in this study).

$$\text{Density} = \frac{\text{Actual Number of Links}}{\text{Total Number of Possible Links (i.e., 20)}} \times 100\%$$

For multiplexity scores, the total number of contacts listed by the participants was used as the denominator in the formula. The numerator was obtained by adding up all the number of multiplex links for Participant 1, Participant 2 and so on.

$$\text{Multiplexity} = \frac{\text{Total Number of Contacts Who Know Each Other of All Participants}}{\text{Total Number of Contacts Listed by All Participants}} \times 100\%$$

Based on Milroy's (1987) Network Strength Scale, the density and multiplexity scores were divided into two scales: low (0–49%) and high (50–100%). Pearson's Correlation Coefficient tests were run to gauge the strength of relationships among language ability, exchange networks, and interactive networks.

Results

Language Ability

Table 3 shows the language ability of the participants for Kejaman, Malay, English, Iban, Kayan and Mixed Language. The participants' language ability will be described for each of these languages.

The results showed a decrease in Kejaman language ability from G1 to G3. G1 individuals were fluent speakers of the Kejaman language (M = 4.80) compared to G2 (M = 4.73), while G3 participants had very little ability in Kejaman. G1 individuals had the best mastery of their ethnic language because they lived with their parents (82.9%) and in Belaga (61%). Their fathers (92.6%) and mothers (58.5%) were also Kejaman. Their family (exchange network) was Kejaman, and therefore they had many opportunities to speak Kejaman on a daily basis, and could speak Kejaman fluently and spontaneously in social and professional contexts.

The Kejaman participants' ability to speak Malay and English increased from G1 to G3, indicating that these languages may replace Kejaman in daily use in the future. Table 2 shows that G1 participants had an average ability to speak Malay (M = 3.04) and English (M = 2.73). They could use Malay to talk about daily routines, their experiences and events, and give their opinions. G2 individuals had better ability to speak Malay (M = 4.17) and English (M = 3.68); they could interact fluently and spontaneously in these two standard languages.

Table 3 *Language Ability of the Kejaman Participants for Kejaman, Malay, English, Iban, Kayan and Mixed Language (N = 123)*

Language	Kejaman			Malay			English			Iban			Kayan			Mixed Language		
	G1	**G2**	**G3**	**G1**	**G2**	**G3**	**G1**	**G2**	**G3**	**G1**	**G2**	**G3**	**G1**	**G2**	**G3**	**G1**	**G2**	**G3**
5: *Excellent*	34	33	3	4	11	10	5	9	3	10	24	3	8	8	1	13	8	4
4: *Good*	6	6	6	7	27	25	7	18	23	26	11	23	13	10	1	12	10	4
3: *Average*	1	2	5	18	2	5	11	8	10	3	6	10	12	18	7	4	9	7
2: *Very little*	0	0	10	11	1	1	8	4	5	2	0	5	3	2	1	4	4	2
1: *Not at all*	0	0	17	1	0	0	10	2	0	0	0	0	5	2	31	8	8	24
Mean	4.80	4.73	2.21	3.04	4.17	4.07	2.73	3.68	3.58	4.02	4.43	3.39	3.39	3.50	1.53	3.43	3.15	2.07
SD	0.45	0.53	1.33	0.97	0.62	0.68	1.34	1.08	0.80	0.87	0.74	1.56	1.24	1.03	1.02	1.51	1.42	1.43

Notes.

1. G1, G2, and G3 refer to Generation 1 (grandparents), Generation 2 (parents) and Generation 3 (children) respectively. There were 41 participants each for the three generations.
2. Mixed language refers to code-switching between all the languages in the speaker's linguistic repertoire.

Surprisingly, the G3's ability in these two languages was only average to good (Malay, *M* = 4.07; English, *M* = 3.58). As G3 individuals were mostly still in school, they were in the process of acquiring mastery of the standard languages.

As for Iban, the other indigenous group found in large numbers in Belaga, G1 and G2 participants reported good ability to speak Iban (G1, *M* = 4.02; G2, *M* = 4.43). They could talk fluently and spontaneously in Iban about their experiences and opinions in social contexts, and to some extent, in professional contexts. However, G3 individuals had only average ability to speak Iban, meaning that they could use Iban to talk about daily routines, their experiences, events, aspirations and opinions.

Kayan is another indigenous group living in Belaga, and the older generations of the Kejaman participants could speak Kayan (G1, *M* = 3.50; G2, *M* = 3.39). G3's ability to speak Kayan (*M* = 1.53) was limited to talking about daily routines.

A comparison across the generations showed that G2 was the most versatile in language ability. They were still fluent speakers of their ethnic language because over half (56.1%) of them lived with their grandparents, and they were in frequent contact with their families and relatives through WhatsApp and social media platforms like Facebook. All of them were in the Kejaman WhatsApp group. Their social media communication may not be totally in Kejaman, but there would be at least a sprinkling of words or chunks of the communication in Kejaman. The extent of Kejaman use in social media communication across the generations is an area for further investigation.

Among the three generations, G3 reported the least ability to speak Kejaman, and the factors leading to this were residence outside of Belaga, Malay medium education, and fewer Kejaman speakers in their social networks. Many of them (70.7%) live in urban areas and lacked opportunities to speak Kejaman. A majority (85.36%) of them belonged to a mixed marriage family. This is why G3 reported speaking Malay, English, and Iban better than Kejaman. Some will not be able to pass on Kejaman to their children in the future because they already cannot speak Kejaman well.

Social Networks

The social network of participants was identified based on the number of people they talked to when they encountered problems in 20 situations. The study's results showed that the Kejaman participants talked to kin (exchange network) on finance-related matters, funeral and death, religious ceremonies, and traditions. However, they talked to non-kin in matters related to information and communication technology, a topic associated with modern life.

Table 4 shows the mean scores for the number of exchange and interactive networks, and density and multiplexity scores for the three generations of Kejaman participants. G2 individuals talked to more contacts (6.9 persons) about their problems, compared to G1 and G3 (5.4 persons each). All three generations were more likely to seek advice from family than from friends, colleagues, neighbours and so on as indicated by the larger number of exchange networks (kin) than interactive networks (non-kin). G2 participants were in contact with as many family members and non-family members, but G1 and G3 persons had more contacts with kin. G2 individuals were in contact with more groups of people (colleagues, friends, family) because they were working. All of them were members of the three WhatsApp groups for Kejaman people: Aneak Kejaman FB, 1 Kejaman FB, and smaller WhatsApp groups.

Table 4 *Number of Exchange/Interactive Networks and Density Scores for Generations 1, 2 and 3 (Mean Scores, N = 123)*

Generation	Exchange Network	Interactive Network	Total Number of Networks	Density Scores	Multiplexity Scores
1	3.0	2.4	5.4	27.4%	49.1%
2	3.6	3.4	6.9	34.6%	21.3%
3	3.1	2.3	5.4	27.2%	24.3%

Table 3 shows that the three generations of Kejaman participants had low density scores of below 50% (G1, 27.4%, G2, 34.6%; G3, 27.2%). The participants either had few contacts or were selective in seeking advice from a few contacts. Only a few participants had high density scores of above 50% (4.8% of G1; 9.8% of G2; 4.9% of G3). More G2 participants had higher density scores, indicating that they sought advice from more people than G1 and G3 individuals, probably because they had additional work contacts.

As for multiplexity, G1 persons had the highest mutiplexity score of 49.1%, while the other two generations had multiplexity scores below 25%. Most G1 participants were from two longhouses where they knew everyone in the longhouse, and some were family. The low multiplexity scores showed that G2 and G3 individuals had uniplex networks, because in town areas, people usually knew one another in single capacities. For example, the participants' colleagues and friends did not know one another.

When the density and multiplexity scores are put together, they allow groups to be characterised as close- or loose-knit social networks. Table 4 shows that the three generations had a loose-knit social network pattern (low density, uniplex). Although G1 participants had a multiplexity score of 49.1%, it was still categorised as a uniplex network based on Milroy's (1987) Network Strength Scale because it was below 50%. Milroy (1992) emphasised that loose-knit networks facilitated linguistic change, while close-knit networks are a norm maintenance mechanism for language maintenance. In this study, even though G1 and G2 individuals had a loose-knit social network, they still had good-to-excellent ability to speak Kejaman because they grew up speaking Kejaman and retained their language ability, despite acquiring proficiency in other languages.

Correlation between Language Ability and Social Network

To test the hypothesis on whether an increase in the Kejaman language ability is associated with an increase in the density of social network links, the social networks were categorised into exchange network and interactive network. The Pearson Correlation test results showed that there was a significant relationship between exchange network and language ability at confidence level at $p < .01$ (Table 5). There was also a significant relationship between interactive network and language ability at $p < .01$. However, the direction of the correlation was not expected. The more exchange or interactive networks the Kejaman participants had in their social networks, the lower their Kejaman language ability, and this correlation was significant for all three generations. The negative correlation points to the exchange and interactive networks having many contacts who are not Kejaman-speaking.

Table 5 *Correlation between Kejaman Language Ability and Social Networks for Generations 1, 2 and 3 (N = 123)*

Generation	Exchange Network	Interactive Network
G1 Language Ability	-.46**	-.42**
G2 Language Ability	-.62**	-.59**
G3 Language Ability	-.59**	-.72**

Note. **$p < .01$

For G1 individuals, the correlation between their network and language ability was moderate (r = -.46 for exchange network; $r = .42$ for interactive network). They had a good to excellent ability to speak Kejaman because they were living in the two longhouses in Belaga among other Kejaman speakers who they knew in many capacities. However, these individuals were also prone to mixing languages ($M = 3.43$ out of 5, Table 2) because they interacted with other Iban and Kayan people in buying-and-selling, and when they go to banks, the post office and government departments to settle matters.

For G2 participants, the correlations between language ability and the two networks were moderately high ($r = -.62$ for exchange network; $r = -.59$ for interactive network). The more contacts they had among family and people with non-blood ties, the poorer their Kejaman language ability.

This is expected because of the presence of many non-Kejaman people in their exchange and interactive networks. Their exchange network had many non-Kejaman people due to mixed marriages, and their interactive network had very few Kejaman people because the small number of Kejaman people who live outside of Belaga were spread all over Sarawak.

As for G3 participants, they were surrounded by Kejaman speakers only when their parents brought them to the longhouses during festival celebrations and funerals of family members. The presence of non-Kejaman speakers leading to them having poorer ability to speak Kejaman is more obvious for their interactive network (r = -.72) than their exchange network (r = -.59). Table 2 shows that G3 participants had very little ability to speak Kejaman, and the low density and multiplexity scores in Table 3 show that the youngest generation of the Kejaman were interacting with their friends and nuclear families in Malay, English and, to some extent, Iban.

Discussion

The finding of a negative relationship between the number of social network links and ability to speak the ethnic language for the Kejaman participants for all three generations was unexpected. Other studies (Lanza & Svendsen, 2007; Li, 1994; Stoessel, 2002) have found that when participants have a greater number of exchange networks, they have a better ability to speak their ethnic language. The Kejaman had a loose-knit social network indicated by the low density and uniplex network pattern, but yet they largely retained their ability to speak Kejaman.

The negative relationship between number of social network links and language ability contradicted previous findings. Early research (Milroy, 1987) on social networks showed a positive correlation between close-knit social networks and maintenance of the ethnic language. In recent research where a positive correlation was found, the participants had dense network links with their ethnic community and practised endogamy, such as the Malayalee Indian in Malaysia (Govindasamy & Nambiar, 2003). The Kejaman differed in that they had low density social networks. The Kejaman's social networks can be described as weak ties. They talked to only five to seven people when they faced problems, and most of their contacts did not know one another. Weak network links facilitate linguistic change, and the weak ties usually occur in communities where the members of the community are socially and geographically mobile, and their numerous contacts do not know one another (Milroy, 1987).

Yet, despite the loose-knit social networks of the Kejaman, the grandparents and parents' generations retained good to excellent ability to speak Kejaman, while the children's ability ranged from poor to good. In addition, the Kejaman situation is different from the Guernesiais speakers in the Channel Islands (British Crown Dependency near France). Sallabank (2010) found that denser social networks were associated with better ability to speak Guernesiais, while older, educated, frequent users of social media, and speakers isolated from native speakers had poorer ability. Sallabank's (2010) results suggested that modernity led to loss of the ethnic language at both the individual and societal levels. However, Kejaman language loss at the individual and societal levels had not happened yet at the time of the study. For the children's generation, the maintenance of the Kejaman language may be attributed to their closer ties with kin (about three family members) than non-kin (about two persons). In the totality of language use in a day, there is more communication with exchange networks, and this allows the Kejaman language to be used frequently.

The results suggest that social media communication among Kejaman speakers can help preserve the language. Kejaman language maintenance among the younger generation at this point in time may be due to frequent contact with Kejaman people through social media communication. Even if the Kejaman participants are geographically separate from their nuclear and extended families, their frequent contact via social media has kept Kejaman relevant to their linguistic repertoire. As mentioned, the Kejaman people have moved to other towns outside of Belaga, where previous generations of Kejaman people have usually lived. They are not migrants to another land, yet the feeling of living far away from family is similar to that experienced by migrants, because it takes eight hours to travel from Bintulu (the nearest town)—that is six hours by car (land), and two hours by boat

(river). Lanza and Svendsen (2007) pointed out that migrants who keep in close contact with their families through telephone calls, emails, and SMS messages had many opportunities to use their ethnic language. Undoubtedly, the language used in the new media tends to be standard languages, particularly English (second language in Malaysia) and Malay (first language in Malaysia), based on findings among the Iban of Sarawak (Metom et al., 2021; Ting et al., 2020). This can be observed in the use of Iban, which is the largest indigenous group in Sarawak, and yet English and Malay are creeping into social media communication. The Kejaman would be no different in their preference to use English and Malay in social media communication. The shift away from Kejaman would be faster because the Kejaman account for only 0.08% of the Sarawak state population, whereas the Iban account for 28.6% of the Sarawak state population (Department of Statistics Malaysia, 2017). Nevertheless, the inclusion of some Kejaman words among other languages is at least keeping the language alive in daily communication, even among the children's generation. A greater part of the interactions is with kin, which means there are opportunities for a variety of Kejaman words to be used. This is because Kejaman participants talk with their family on a wide range of topics such as finance-related matters, religious ceremonies, funerals and death, and traditions. They only talked to non-kin on information/communication technology matters.

Conclusions

This study showed that the Kejaman had low density, uniplex social networks and numbers of contacts; these were negatively associated with their ability to speak Kejaman. The more exchange and interactive networks they had, the more they were in contact with non-Kejaman people, and the fewer opportunities they had to speak Kejaman. The study's findings showed that in the digital era, the ethnic language can be preserved through social media communication among the Kejaman community, particularly virtual interactions within the exchange networks. These findings contribute to understanding mechanisms of language shift beyond merely identifying macro factors such as locality and population size, by highlighting micro factors such as age, gender, education level and socio-economic status which have been studied by other researchers (Ghani, 2022; Joan, 2013; Joan & Ting, 2016). However, the present study did not investigate the factors that influence social networks or the proportion of Kejaman speakers among contacts in the exchange and interactive networks. An assumption was made about the exchange network being made up of Kejaman speakers, and the interactive networks being made up of both Kejaman and non-Kejaman speakers. Future research should also investigate the ethnic compositions (Li, 1994) or ethnic index of social networks (Lanza & Svendsen, 2007), because the overwhelming presence of non-Kejamans leads to other shared languages being used. Such research will lead to a better understanding of how languages of small groups may be lost from their communities.

References

Alagappar, P. N., Dealwis, C., & David, K. (2018). The influence of age cohorts and social networks on the language choices of the non-indigenous Tamil minority in Kuching, Sarawak. *KEMANUSIAAN: The Asian Journal of Humanities, 25*(1)*,* 69–93.

Belaga District Office. (2013). *Population in Belaga, Sarawak*. Belaga District Office, Sarawak.

David, M. K. (1996). *Language shift among the Sindhis of Malaysia* [Doctoral dissertation, Fakulti Bahasa dan Linguistik, Universiti Malaya]. Universiti Malaya.

Department of Statistics, Malaysia. (2017). Sarawak population by district 2017. https://data.sarawak.gov.my/home/data/resource/d8336af5-4667-463f-aa61-441edad63d08

Duff, P. (2014). Case study research on language learning and use. *Annual Review of Applied Linguistics, 34*, 233–255. https://doi.org/10.1017/S0267190514000051

Ghani, B. A. (2000). The influences of sociocultural environment and other languages on the Miriek, Bintulu and Kejaman Languages. In M. Leigh (Eds.), *Borneo 2000,* (pp. 1–10). Institute of East Asian Studies.

Govindasamy, S., & Nambiar, M. (2003). Social networks: Applicability to minority communities in multilingual settings. *International Journal of the Sociology of Language, 161*, 25–45. https://doi.org/10.1515/ijsl.2003.027

Granovetter, M. S. (1973). The strength of weak ties. *American Journal of Sociology, 78*(6), 1360–1380.

Hawe, P., Webster, C., & Shiell, A. (2004). A glossary of terms for navigating the field of social network analysis. *Journal of Epidemiology & Community Health, 58*(12), 971–975.

Joan, A. (2013). *Language vitality and endangerment of the indigenous minority languages in Sarawak, Malaysia: the case of the Kejaman language*. Konferensi Antar Universiti Se Borneo-Kalimantan ke-7, 2013 (KABOKA), Kuching, Sarawak.

Joan, A., & Ekot, J. (2017). *The Kejaman language*. Universiti Malaysia Sarawak Publisher.

Joan, A., & Ting, S. H. (2017). Influence of social network on language use of Kejaman speakers in Sarawak, Malaysia. *Oceanic Linguistics, 56*(1), 22–41.

Karahan, F. (2004). Ethnolinguistic vitality, attitudes, social network and codeswitching: The case of Bosnian-Turks living in Sakarya, Turkey. *International Journal of the Sociology of Language, 165*, 59–92.

Lanza, E., & Svendsen, B. A. (2007). Tell me who your friends are and I might be able to tell you what language (s) you speak: Social network analysis, multilingualism, and identity. *International Journal of Bilingualism, 11*(3), 275–300.

Lee, P. Y., Ting, S. H., & Lo, M. C. (2017). Chinese or Malay-medium schools? A study of factors influencing Chinese parents' choice of primary schools in Sarawak, Malaysia. *Kajian Malaysia, 35*(1), 41–67.

Lee, D. P. Y., & Ting, S. H. (2016). Tracing ethnic rganized zat of Chinese in Malaysia to Chinese-medium school. *Global Chinese, 2*(2), 163–187.

Lewis, M. P., & Simons, G. F. (2009). *Languages of the world.* Ethnologue. https://www.ethnologue.com/size-and-vitality/kag

Li, W. (1994). *Three generations, two languages, one family : Language choice and language shift in a Chinese community in Britain*. Multilingual Matters.

Mah, B. (2005). *Ethnic identity and heritage language ability in second generation Canadians in Toronto* [Master's thesis, Ryerson University]. Ryerson University Toronto.

Metom, L., Ting, S. H., & Ling, H. N. (2021, September 8–9). *Language use of the Iban people in Iban-Dominant and non-Iban dominant areas in Sarawak*. Proceedings of the 3rd International Conference on Language Studies (iCLS2021), Kota Samarahan, Malaysia.

Milardo, R. M. (1988). Families and social networks: An overview of theory and methodology. In R. M. Milardo (Eds.), *Families and social networks (*pp. 13–47). Sage Publications.

Milroy, L. (1987). *Language and social networks*. Blackwell.

Sallabank, J. (2010). The role of social networks in endangered language maintenance and revitalization: The case of Guernesiais in the Channel Islands. *Anthropological Linguistics, 52*(2), 184–205.

Sarhimaa, A. (2009). Social network theory as a framework for studying minor Finnic languages with special reference to Karelian. *The Quasquicentennial of the Finno-Ugrian Society*, *258*, 161–190.

Stoessel, S. (2002). Investigating the role of social networks in language maintenance and shift. *International Journal of the Sociology of Language, 153*, 93–131.

Strickland, S. S. (1995). *Materials for the study of Kejaman-Sekapan oral tradition*. Sarawak Museum.

Ting, S. H., & Ling, T. Y. (2012). Language use and sustainability status of indigenous languages in Sarawak, Malaysia. *Journal of Multilingual and Multicultural Development, 33*(6), 1–17.

Ting, S. H., & Rose, L. (2014). Ethnic language use and ethnic identity for Sarawak indigenous groups in Malaysia . *Oceanic Linguistics, 53*(1), 92–109.

Ting, S. H., Tinggang, A., & Metom, L. (2021). Language use and attitudes as indicators of subjective vitality: The Iban of Sarawak, Malaysia. *Language Documentation and Conservation, 15,* 190–218.

Trevilla, L. (2009). *Languages of the world*. Ethnologue. https://www.ethnologue.com

Velazquez, I. (2013). Mother's social network and family language maintenance. *Journal of Multilingual and Multicultural Development, 34*(2), 189–202.

Wang, X., & Chong, S. L. (2011). A hierarchical model for language maintenance and language shift: Focus on the Malaysian Chinese community. *Journal of Multilingual and Multicultural Development*, *32*(6), 577–591.