# CHAPTER 8

# LITERACY SURVEY ANALYSIS – ASSESSING THE CURRENT STATE OF KHUEN LITERACY

This chapter presents the analysis of the data collected on the literacy survey. All of the data collected was written in Khuen in the bound answer booklets designed by the author. The author translated the written answers to the Individual Literacy Questionnaires and the literacy tests with the help of native Khuen speakers. The author then marked each literacy test and determined the tested literacy level of each subject based on their scores on the literacy tests (c.f. Section 7.3).

## 8.1 Description of Sample

First the screening questions are considered because these define the sub-population that was sampled and hence impact the inferences that can be drawn from the results. All but 2 of the subjects said they spoke Khuen first or best (Q21 and Q24 respectively.) These two subjects deserve closer scrutiny. Subject #34 was born in Tachileik and as a child spoke Shan first but later learned Khuen literacy during his 5-year stay in a temple. He scored 20, 26 and 18 on reading, writing and numeracy tests respectively, a combination that classify him as having functional literacy skills. When asked about his primary ethnic identity (Q27) he said he considers himself Shan. Since the population about which inferences are to be made is the population of Khuen speakers in the 10 Khuen-majority village tracts around Keng Tung town, this subject will be excluded from those calculations that pertain to the target population. For those calculations that do not pertain to the target population the subject will be included. In the following figure and tables describing the age and education of the subject, subject #34 will be indicated by parentheses. Subject #55 learned Shan first as a child and later learned to speak Khuen. She taught herself Khuen literacy for about 3 months and scored 28, 25 and 26 on reading, writing and numeracy tests respectively. This combination of scores classifies her as having sustained functional literacy skills.

When asked about her primary ethnic identity (Q27) she said she considers herself Khuen and so she will not be excluded from the sample for any of the calculations that follow.

The two other screening criteria relate to Khuen literacy, namely reported ability to read and write Khuen. All of the subjects reported that they can read Khuen. Two subjects (#30 and #31) reported that they could not write Khuen but were nevertheless tested. In estimating the reported Khuen literacy rates in Table 56 above only those subjects who reported that they could both read and write were considered to be literate. To be consistent therefore subjects #30 and #31 must be excluded from any calculations below where reported literacy proficiency is relevant. The irony is that both subjects scored 11 on the writing test, classifying them as having basic writing skills. Furthermore, they both only scored 4 points on the reading test classifying them as lacking even basic reading skills. In the following figure and tables describing the age and education of the subjects, subjects #30 and #31 will be indicated by square brackets.

The sampling design for the literacy survey was described in Section 7.5. The actual ages of the subjects in the sample are laid out in Figure 49. The ages of the seven subjects who were also included in the sociolinguistic survey are indicated by boldface type. Subject #34 is indicated by parentheses.

| | | **Male (N=30)** | | **Female (N=30)** | |
|---|---|---|---|---|---|
| **Age Ranges** | | **Ages of subjects** | **Total** | **Ages of subjects** | **Total** |
| 15-30 | 15-20 | 19 | 10 | 16 16 17 17 17 17 18 **20** | 11 |
| | 21-25 | 21 21 22 (22) 23 23 24 | | 23 | |
| | 26-30 | **26 30** | | 28 **30** | |
| 31-45 | 31-35 | 31 31 33 34 34 | 9 | 35 **35** | 9 |
| | 36-40 | 38 38 40 | | 36 36 37 37 38 38 | |
| | 41-45 | 45 | | 45 | |
| 46+ | 46-50 | 47 47 48 48 50 | 11 | 50 50 | 10 |
| | 51-55 | 54 | | 52 | |
| | 56-60 | 60 60 | | 57 [60] **[60]** | |
| | 61-65 | 61 | | 62 63 | |
| | 66-70 | 70 | | **68** 70 | |
| | >70 | 72 | | | |

Figure 49 Age distribution of sample on literacy survey

Note that because of the extra requirements made of subjects for the literacy survey – namely that they claim to be literate – subjects for the literacy survey are being chosen from a sub-population of the population from which subjects for the sociolinguistic survey were chosen. For this reason it is important to check separately for the literacy survey sample the attributes of the subjects that might be related to the research questions, for example years spent in formal or informal education. The entries in Table 74 give the number of years spent in formal education by each subject. The entries are classified by village and gender and Subject #34 is indicated by parentheses. Subjects #30 and #31 are indicated by square brackets.

| Village | School in village | Gender | Years spent in formal education | Average time | |
|---|---|---|---|---|---|
| | | | | mean | median |
| **Pa Jahm** | Yes | Male | 0 0 0 0 0 (0) | 0 | 0 |
| | | Female | [0] [0] 0 3 4 5 | 2 | 1.5 |
| **Yang Kway** | Yes | Male | 0 0 0 2 7 7 | 2.67 | 1 |
| | | Female | 0 0 2 2 9 9 | 3.67 | 2 |
| **Wan Jay** | No | Male | 0 0 1 2 4 | 1.4 | 1 |
| | | Female | 0 0 2 4 5 5 9 | 3.57 | 4 |
| **Wan Kahng** | No | Male | 0 0 0 0 0 0 0 | 0 | 0 |
| | | Female | 0 0 1 1 7 | 1.8 | 1 |
| **Murng Jem** | Yes | Male | 0 0 0 0 2 3 | 0.83 | 0 |
| | | Female | 0 0 0 0 8 10 | 3 | 0 |
| **Overall** | | Male | | 0.93 | 0 |
| | | Female | | 2.87 | 1.5 |

Table 74 Years in formal education by village and gender

Comparing these entries with the corresponding data from the sociolinguistic survey presented in Table 24, it is apparent that more subjects on the literacy survey had spent time in formal education. Whereas for the sociolinguistic survey the median time spent in formal education was 0 for both men and women, in the literacy survey the median time was 1.5 years signifying that over half of the women had attended school for some time. Comparing the mean times for males and females separately between the two surveys there are no significant differences ($p>0.195$, 2-sample t-test).

The breakdown of years spent in formal education by age and gender is given in Table 75. Subject #34 is indicated by parentheses. Subjects #30 and #31 are

indicated by square brackets. The entries in Table 75 show a similar pattern to those observed on the sociolinguistic survey presented in Table 25, namely that younger people are more likely to have spent time in formal education than older people, and women are more likely to have spent time in formal education than men.

| | Male (N=30) | | | Female (N=30) | | |
|---|---|---|---|---|---|---|
| Age Ranges | Years in formal education | Average | | Years in formal education | Average | |
| | | mean | median | | mean | median |
| 15-30 | (0),0,0,0,0,2,2,2,3,7 | 1.6 | 1 | 1,2,4,5,5,5,7,8,9,9,10 | 5.9 | 5 |
| 31-45 | 0,0,0,0,0,0,1,4,7 | 1.33 | 0 | 0,0,0,1,1,2,2,3,9 | 2 | 1 |
| 46+ | 0,0,0,0,0,0,0,0,0,0,0,0 | 0 | 0 | 0,0,0,0,0,0,0,0,[0],[0] | 0 | 0 |

Table 75 Years spent in formal education by age and gender

As discussed in Section 5.1.3 for the sociolinguistic survey, most men receive their education through being a monk or novice in a temple. The entries in Table 76 show the distribution of times spent in the temple by age of subject. Subject #34 is indicated by parentheses. The average values are comparable to those in Table 26 for subjects on the sociolinguistic survey: for each age category the difference between the mean values in the two surveys is not significant ($p>0.23$, 2-sample t-test).

| Age Ranges | | Time spent in temple (years) | Average (mean) | Average (median) |
|---|---|---|---|---|
| 15-30 | 15-20 | 5 | 7.7 | 7.5 |
| | 21-25 | 10, 10, 6, (5), 8, 3, 12 | | |
| | 25-30 | 11, 7 | | |
| 31-45 | 31-35 | 13, 19, 8, 8, 8 | 8.3 | 8 |
| | 36-40 | 2, 4, 6 | | |
| | 41-45 | 7 | | |
| 46-60 | 46-50 | 6, 3, 10, 4, 7 | 5.7 | 4 |
| | 51-55 | 3, 10, 4 | | |
| | 56-60 | 4, 10, 2 | | |

Table 76 Time spent in temple (men only)

The data presented Table 76 agree with the findings of the sociolinguistic study in the respect that the mean time that men spend in the temple is between 6 and 8 years. This is a significant fact in the present study given that Buddhist temples

are the primary centres of Khuen literacy education. Since women are not allowed to enter the monkhood, it is not surprising that a greater percentage of them attend formal school. Furthermore the greater availability of government schools in recent decades is consistent with the increasing trend for younger people to spend time in formal education.

## 8.2 Khuen Literacy Education

In the previous section the amount of time men and women spent in formal education was described as well as the amount of time men spent as monk or novice in a temple. In this section the focus is specifically on the education people receive in Khuen literacy. The evidence presented provides a partial answer to the following research question.

**Research Question 5.1:** What are the patterns of Khuen literacy education for men and for women?

Men and women are treated separately because of the fact that all men spend some time living in a temple and while they are there learn to read and write in Khuen whereas women never live in the temple. For both men and women the aim is to identify the pattern of education by asking the questions 'Where?', 'When?' and 'For how long?' they studied reading in Khuen. (The same questions were asked about writing and the responses were always the same as for reading.)

Responses to the question regarding the place where subjects studied Khuen literacy are predictable and easy to summarise. All subjects studied at the temple in their own childhood village or a neighbouring village. Subject #55 reported that at the age of 30 she taught herself for a period of 3 months, although having previously spent 4 years in Burmese-medium school she probably had some generic literacy skills before she taught herself Khuen literacy.

Examining the age at which subjects started learning how to read in Khuen across the separate age groups (15-30; 31-45; 46+) there were no significant differences

between the mean values of different age groups so for simplicity all age groups will be considered together. Figure 50 shows parallel boxplots for the ages of subjects when they started learning to read Khuen. Note that subject #55 has been excluded from this plot because her age was an outlier. Figure 50 shows that females tend to start learning to read later than males. The modal age for males is 10 years of age with 15/29 [52%] starting their time as novices (and hence their Khuen literacy education) at this age. While 8/27 [30%] of females start reading Khuen at age 10, a further 8/27 [30%] start at age 12 reflecting a more varied pattern for females than for males. The difference between the mean values at which males and females start to read Khuen is estimated as 1.6 years and is significant (p=0.002, 2-sample t-test).

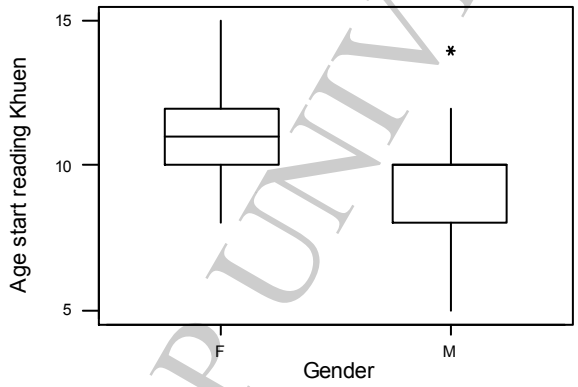



Figure 50 Ages at which subjects start learning to read Khuen (by gender)

Having examined the time when subjects begin to study Khuen literacy, the next area to investigate is how long they typically study for. Figure 51 shows separate dotplots for male and female subjects of the number of years they spent studying Khuen reading and writing.

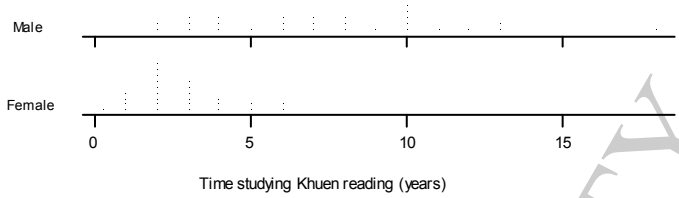



Figure 51 Dotplot of time studying Khuen (by gender)

The patterns for males and females are quite different. While the times male subjects spend studying Khuen literacy skills are fairly uniformly distributed between 2-10 years, the times spent by female subjects have a peak at 2 years. The median time for females is 2 years whereas for males it is 7 years. This is in keeping with the fact that for males Khuen literacy education comes as part of their general apprenticeship in the Buddhist monkhood whereas females study Khuen reading and writing as lay people. What is not clear from the data gathered is the amount of study a female student would do in one year compared to a male student. For example, whereas male subjects would use their literacy skills in their studies as novices outside of literacy classes, female subjects – who cannot live at the temple – would probably have less interaction with Khuen literature in the course of their daily lives and so might develop their skills at a slower rate. This is yet another reason to consider male and female subjects separately. The foregoing discussion is summarised in Table 77.

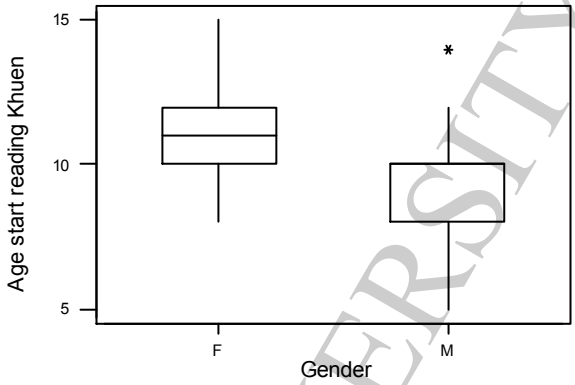
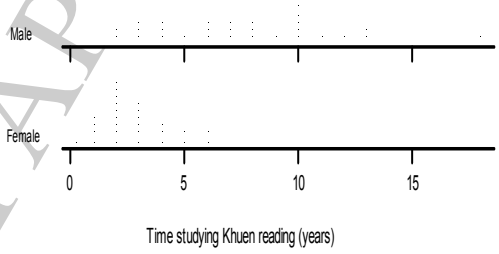
| | Female | Male |
|---|---|---|
| **Where?** | Temple in childhood home village or neighbouring village | |
| **What as?** | Lay student (attends day classes) | Initiate in temple (novice or monk) |
| **When?** | 15/29 [52%] of boys and 8/27 [30%] of girls start at age 10. Another 8/27 [30%] of girls start at age 12. On average girls start later than boys: median difference is 1 year; mean difference is 1.6 years. The copy of Figure 50 below shows parallel boxplots of the ages at which males and females started reading Khuen.<br>  <br><br>Figure 49 (copy) Ages at which subjects start learning to read Khuen (by gender) | |
| **How long?** | The time spent studying Khuen reading is quite different for males and females. The median time for males is 7 years whereas for females it is 2 years. The copy of Figure 51 below compares the distribution of the periods of study for males and females. Males are more uniform over a wider range whereas females are more peaked around 2 years.<br>  <br><br>Figure 50 (copy) Dotplot of time studying Khuen (by gender) | |

Table 77 Patterns of Khuen literacy education by gender

The following section examines attitudes towards Khuen literacy.

## 8.3 Attitudes to Khuen Literacy

In this section evidence is presented to answer the following research question:

**Research Question 5.2:** Do Khuen speakers have positive attitudes to Khuen literacy?

As with the research questions relating to attitudes on the sociolinguistic survey, the questions relating to attitudes towards Khuen literacy were indirect. The following question relates to people's attitudes towards Khuen literacy for children.

**Q38a Do you think that Khuen children should learn to read Khuen?**

Subjects were unanimous in their response: 60/60 [100%] of the subjects responded positively. Further insight is gained by examining responses to the follow-up question which asked subjects to specify why they thought children should learn to read Khuen. The responses to Q38b are laid out in Table 78. The percentage figures in parentheses give the number in that particular cell as a percentage of the row total. The reasons are arranged so that more integrative[43] reasons are towards the left and more instrumental reasons are towards the right. It is noticeable that 44/57 [77%] of the total responses are clearly integrative, in other words the reasons why Khuen children should learn to read Khuen are for group belonging and identification. This fits with the picture of strong Khuen ethnic identity revealed by responses to Q27 to which 56/57 [98%] of the subjects answered that they think of themselves primarily as Khuen.



[43] The concepts 'integrative' and 'instrumental' are described in Section 3.3.4.

| Gender | ←Integrative | | | | Instrumental → | | Total |
|---|---|---|---|---|---|---|---|
| | Khuen should be able to read Khuen | Preserve Khuen national identity | Buddhist religious purposes | Read letters / communicate | Personal development | Business | |
| **Male** | 13 (45%) | 9 (31%) | 0 (0%) | 3 (10%) | 2 (7%) | 2 (7%) | 29 (100%) |
| **Female** | 18 (64%) | 4 (14%) | 2 (7%) | 1 (4%) | 0 (0%) | 3 (11%) | 28 (100%) |
| **Total** | 31 (54%) | 13 (23%) | 2 (4%) | 4 (7%) | 2 (4%) | 5 (9%) | 57 (100%) |

Table 78 Q38b Reasons why children should learn to read Khuen

Subjects were also asked whether they saw any advantage in being able to read Khuen (Q37a). The response was again unanimously positive, i.e. 57/57 [100%] said that they could see an advantage in being able to read Khuen. Further insight is gained by examining the follow-up question (Q37b) which asked subjects to specify one or more advantages. The responses to Q37b are presented in Table 79. The percentage figures in parentheses give the number in that particular cell as a percentage of the column total. Some subjects named more than one advantage so the number of responses (62) is greater than the number of subjects offering a response (57).

| | Advantage | Male | Female | Total |
|---|---|---|---|---|
| ↑ Integrative | **Khuen should be able to read Khuen** | 0 (0%) | 3 (9%) | 3 (5%) |
| | **Preserve Khuen identity – national and family** | 2 (7%) | 1 (3%) | 3 (5%) |
| | **For Buddhist religious practices** | 5 (17%) | 0 (0%) | 5 (8%) |
| | **Read invitations to religious events (Naa Bun)** | 0 (0%) | 6 (19%) | 6 (10%) |
| | **Read Buddhist scripture** | 3 (10%) | 5 (16%) | 8 (13%) |
| | **Read wedding invitations** | 0 (0%) | 4 (12%) | 4 (6%) |
| | **Read letters** | 6 (20%) | 6 (19%) | 12 (19%) |
| Instrumental ↓ | **Read instructions / get information** | 3 (10%) | 1 (3%) | 4 (6%) |
| | **Useful in society and travel** | 5 (17%) | 3 (9%) | 8 (13%) |
| | **Broaden knowledge** | 3 (10%) | 1 (3%) | 4 (6%) |
| | **Teach** | 1 (3%) | 2 (6%) | 3 (5%) |
| | **Trade** | 2 (7%) | 0 (0%) | 2 (3%) |
| | **Total** | 30 (100%) | 32 (100%) | 62 (100%) |

Table 79 Q37b Advantages of being able to read Khuen

The advantages are arranged so that more integrative advantages are towards the top of the list and more instrumental advantages are towards the bottom of the list. The single most popular advantage specified, namely the ability to read letters, is rather ambiguous in that a personal letter from a friend would be more integrative whereas a business letter would be more instrumental. If all of the categories above 'Read letters' in Table 79 are considered to be 'integrative' and all categories below 'Read letters' counted as 'instrumental', then integrative responses account for 29/50 [58%] of the total and instrumental responses account for 21/50 [42%].

Comparing the entries in Table 79 with the responses to the same question from the sociolinguistic survey presented in Table 53 the ratio of integrative categories to instrumental categories is about the same 26:21 compared to 29:21.

In summarising the evidence in this section two things stand out: all of the subjects believe that Khuen children should learn to read Khuen and all of the subjects cited at least one advantage to being able to read Khuen. The advantages cited were both integrative and instrumental showing that Khuen literacy ability has both symbolic and practical functions in Khuen society. From the positive nature of the responses to these questions it may also be inferred that Khuen subjects have strongly positive attitudes to Khuen literacy.

## 8.4 Khuen Literacy Proficiency

This section discusses the various issues in Khuen literacy proficiency examined by the survey. In Section 8.4.1 the marking of the literacy tests is discussed. Sections 8.4.2 and 8.4.3 then present, respectively, an analysis of the literacy test data and the subjects' self-assessment of their literacy proficiency.

### 8.4.1 Marking literacy tests

In marking the literacy tests certain issues arose that had not been identified when the instruments were pilot tested. Due to an oversight in Q2.4 on the reading test,

the numbers used were Arabic. All other numbers were changed as a result of the pilot test to the everyday Khuen numbers which are the same as those used in Burmese. The consequence of this was that some subjects (namely #50; #24 & #48) were unable to attempt this question, not because they could not read Khuen, but because they were not familiar with the Arabic numbers. Since the purpose of the test was to measure Khuen numeracy rather than knowledge of Arabic numbers this question was simply removed from their tests and their total score out of 22 was factored up to be the same percentage out of 30. For example a score of 14/22 was counted as a score of 19/30.

In marking the writing test, it became apparent that many people did not know their exact date of birth. The question literally asked them to specify the day on which they were born to which people answered a day of the week rather than the intended date in the month. To allow for the lack of clarity in the question, subjects were not penalised if they wrote the name of a day of the week. The year follows Burmese and Shan convention so 2007 in the Western (Gregorian) calendar equates to 1368 up until the date of the New Year (around April) and 1369 thereafter. Dates of birth were cross checked with answers given verbally to Q12 (How old are you?) on the Individual Literacy Questionnaire.

### 8.4.2 Tested literacy proficiency

In this section evidence is presented to answer the following research question:

> **Research Question 5.3:** What proportion of those who claim to be able to read and write actually are literate?

Since the judgement of a subject's literacy skills is based on their performance in the individual tests of reading, writing and numeracy, firstly an overview of the marks in these tests is given. As discussed previously, male and female subjects will be treated separately. Figure 52 shows parallel boxplots of the scores for female subjects on the three tests: numeracy, reading and writing.

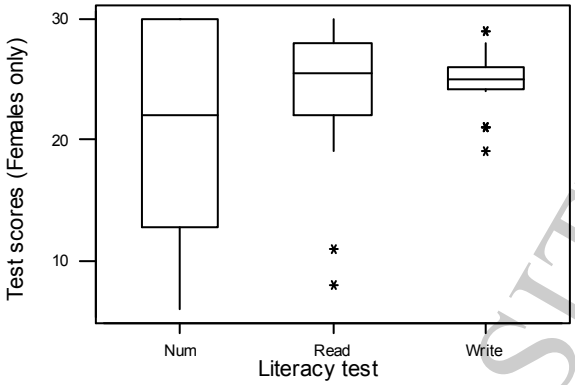



Figure 52 Boxplots of literacy test scores (Females only)

The boxplots show that the results from the reading and writing tests were similar whereas the results from the numeracy test were lower on average and much more spread out. The mean values for the reading and writing tests (24.18 and 24.96 respectively) are not significantly different but both reading and writing test mean values are significantly different from that of the numeracy test (20.86) (separate paired t-tests, $p<0.02$). The greater spread of marks in the reading test compared to the writing test is in part due to the fact that the nature of the questions meant that marks were attained in 'clumps' rather than singly. The spread is even more pronounced in the numeracy test. The upper quartile line of the boxplot is at the maximum possible score indicating that at least a quarter of the subjects scored 30/30 [100%] on the test. Such a pattern is not uncommon in mathematics test scores where a properly laid out correct answer is awarded full marks but if the examinee does not know how to approach a particular question it is also possible to score zero.

A similar pattern pertains among the scores of male subjects, as can be seen in Figure 53.

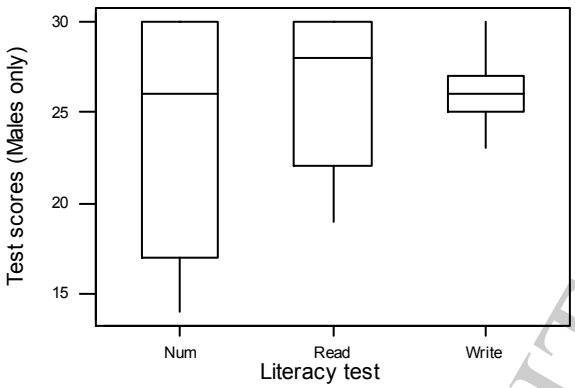



Figure 53 Boxplots of literacy test scores (Males only)

The scores on all three tests are generally higher for males than females. The boxplots show that for both reading and numeracy tests at least a quarter of the subjects scored 30/30 [100%]. The mean scores are not significantly different for the reading and writing tests (26.1 and 26.07 respectively). The mean score for the writing test is significantly greater than the mean numeracy test score (23.45) (paired t-test, p=0.033). The mean score for the reading test is marginally significantly greater than the mean numeracy test score (paired t-test, p=0.063).

The foregoing discussion shows that reading and writing test results display similar patterns but numeracy is different to both. This behaviour also holds true for more in depth analysis which is presented in the following two sections, first for the reading test data and secondly for the numeracy test data. Patterns in the writing test data are essentially the same as for the reading test data so will not be presented for the sake of brevity.

### 8.4.2.1 Tested reading (and writing) proficiency

In the above description all age groups were included together. Since age was one factor in the design of the original quota sample, any possible effect it might have

on the test scores must be investigated. Figure 54 shows a plot of reading test scores of female subjects against their ages.

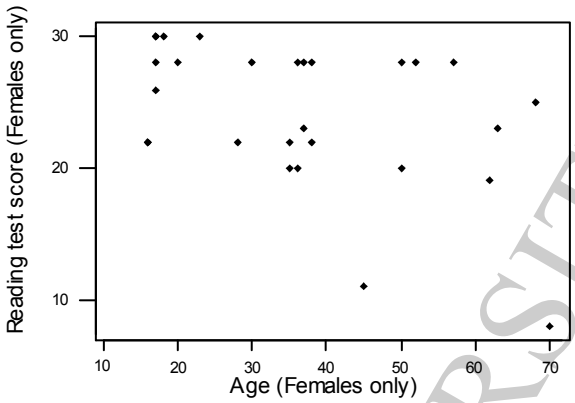



Figure 54 Reading test scores for females versus age

There is a slight downward trend with age in the observations. The linear correlation coefficient is negative ($r = -0.454$) and significant ($p=0.015$). The two subjects who are represented by dots at the bottom of the plot appear to be outliers. Excluding these two observations, the linear correlation between reading score and age is still negative ($r = -0.3$) but not significant ($p=0.136$). This slight downward trend of reading skill levels with age is perhaps explained by the patterns of Khuen literacy education described in Section 8.2. Since most females study for around 2 years in their early teenage years, age is strongly correlated with the time since they last studied Khuen literacy. While it is possible to maintain one's literacy skills after finishing regular study, the chances are that some things will be forgotten if they are not periodically reinforced. This would appear to be the case here.

Figure 55 reveals a similar pattern for male subjects. The linear correlation coefficient is negative ($r = -0.364$) and significant ($p=0.052$).

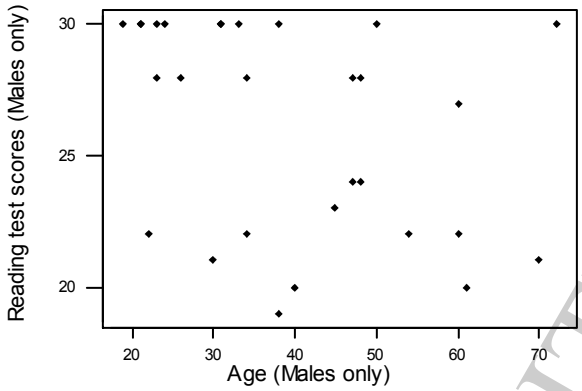



Figure 55 Reading test scores for males versus age

Having shown that there is some evidence of a trend with age, the reading test scores for the three different age groups of the sample design will be examined. Figure 56 gives parallel boxplots for the reading test scores for female subjects in the different age groups.

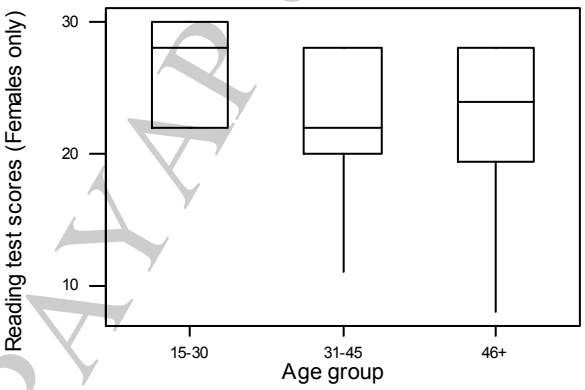



Figure 56 Reading test scores for females by age group

While subjects in the youngest age group have higher scores than the other two groups, there is no clear gap between them. The difference in mean values between the 15-30 age group and the 31-45 age group is significant (p=0.053, 2-sample t-test). However, if the minimum valued observation is removed from the calculation then the significance level is more marginal (p=0.082). The differences in mean values between the other groups are not significant.

Figure 57 gives parallel boxplots for the reading test scores for male subjects in the different age groups.

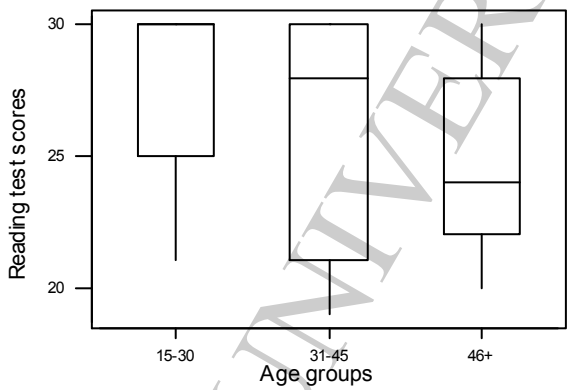



Figure 57 Reading test scores for males by age group

There is substantial overlap of each box which represents the central 50% of the observations for each age group. It is thus not surprising that there are no significant differences between the mean values for the three age groups (p>0.132, 2-sample t-test for each pair of means).

### 8.4.2.2 Tested numeracy proficiency

This section essentially repeats the plots and tests of the previous section but this time for the numeracy test data. Figure 58 shows a plot of numeracy test scores of female subjects against their ages. There is a slight downward trend with age in

the observations. The linear correlation coefficient is negative (r = −0.472) and significant (p=0.011).

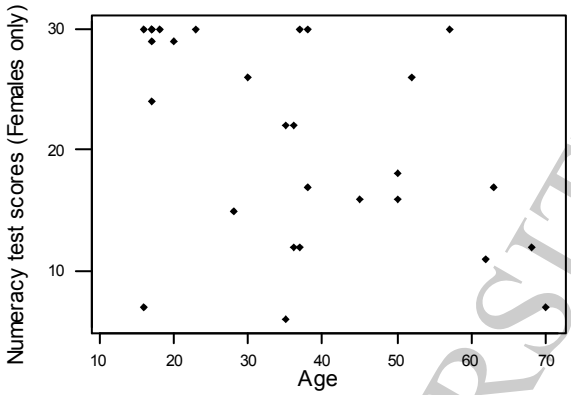



Figure 58 Numeracy test scores versus age (Females only)

Figure 59 shows a plot of numeracy test scores of male subjects against their ages. There is less of a trend with age than for female subjects. The linear correlation coefficient is negative (r = −0.142) but not significant (p=0.461).

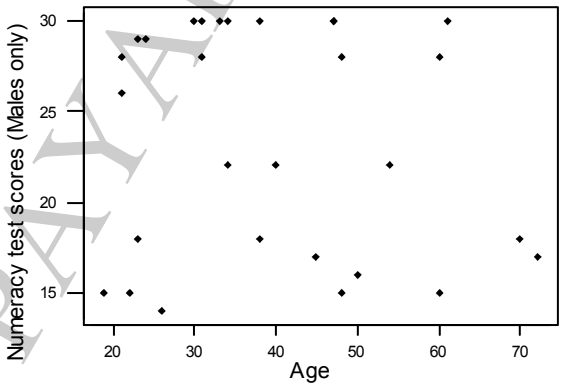



Figure 59 Numeracy test scores versus age (Males only)

Having shown that there is some association between age and numeracy test score, the numeracy test scores in the different age groups are examined. Figure 60 shows parallel boxplots of the numeracy test scores for female subjects in different age groups. The boxplots show that the youngest age group has generally higher scores than the other two groups which seem very similar. The difference in mean values between the 15-30 age group and the 31-45 age group is significant (p=0.071, 2-sample t-test), as is the difference between the mean values of the 15-30 age group and the 46+ age group (p=0.033, 2-sample t-test). The difference between the two older age groups is not significant (p=0.716, 2-sample t-test).

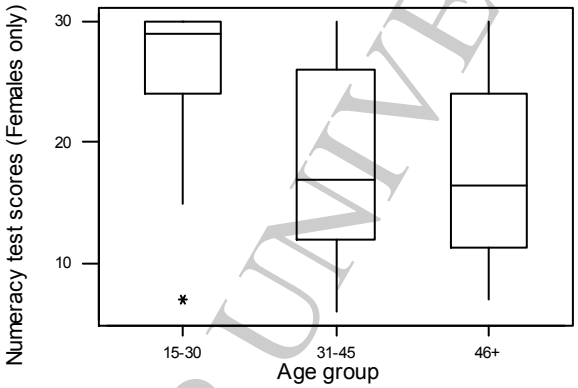



Figure 60 Numeracy test scores by age group (Females only)

Figure 61 shows parallel boxplots for male numeracy test scores by age group. The large overlap between all three boxes is indicative of the fact that there is little difference across the age groups. There are no significant differences between the mean values (p>0.351, 2-sample t-test for each pair of means).

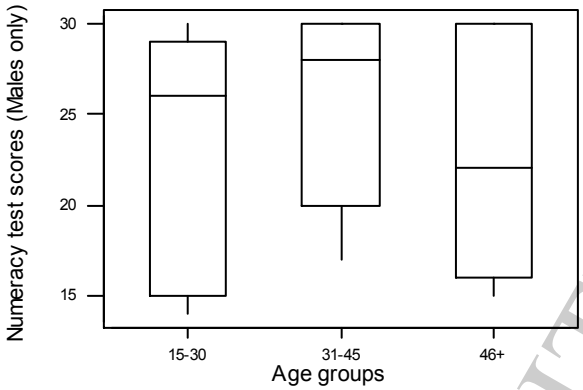



Figure 61 Numeracy test scores by age group (Males only)

Having examined the distributions of scores on the individual tests (reading, writing and numeracy) these scores are now used as components in the determination of the literacy proficiency level of each subject. The following sections discuss this and use these levels to calculate literacy rates first for females and then for males.

### 8.4.2.3 Tested literacy proficiency rates - female

The entries in Table 80 give the raw scores attained by female subjects for reading, writing and numeracy tests as well as the level of literacy determined by the minimum score among the three tests for each subject. The minimum test score in each row (i.e. for each subject) is highlighted in boldface type. The entries are ordered by age which is shown in the second column. There are four levels of literacy: ILL – 'Illiterate'; B – 'Basic'; F – 'Functional'; and SF – 'Sustained Functional'. As can be seen from the boldface entries in the table, the numeracy test score is more often the lowest score for older subjects than it is for younger subjects. This is in keeping with the fact that younger people have spent more time in formal education where numeracy skills are taught more thoroughly than they are in Khuen literacy classes. Further analysis of the test on which

subjects obtained their lowest scores is given in Table 81. Further analysis of the tested literacy levels for each age group is given in Table 82.

| Age group | Age | Reading test | Writing test | Numeracy test | Literacy level |
|---|---|---|---|---|---|
| 15-30 | 16 | 22 | 29 | **7** | ILL |
| | 16 | **22** | 29 | 30 | SF |
| | 17 | 30 | **27** | 30 | SF |
| | 17 | 28 | 28 | **24** | SF |
| | 17 | 26 | **25** | 29 | SF |
| | 17 | 30 | **27** | 30 | SF |
| | 18 | 30 | **25** | 30 | SF |
| | 20 | 28 | **25** | 29 | SF |
| | 23 | 30 | **26** | 30 | SF |
| | 28 | 22 | 25 | **15** | F |
| | 30 | 28 | 27 | **26** | SF |
| 31-45 | 35 | **20** | 26 | 22 | F |
| | 35 | 22 | 19 | **6** | ILL |
| | 36 | **20** | 26 | 22 | F |
| | 36 | 28 | 25 | **12** | B |
| | 37 | 28 | **21** | 30 | F |
| | 37 | 23 | 25 | **12** | B |
| | 38 | **22** | 26 | 30 | SF |
| | 38 | 28 | 26 | **17** | F |
| | 45 | **11** | 21 | 16 | B |
| 46+ | 50 | 20 | 25 | **18** | F |
| | 50 | 28 | 21 | **16** | F |
| | 52 | 28 | **25** | 26 | SF |
| | 57 | 28 | **24** | 30 | SF |
| | 62 | 19 | 25 | **11** | B |
| | 63 | 23 | 24 | **17** | F |
| | 68 | 25 | 26 | **12** | B |
| | 70 | 8 | 21 | **7** | ILL |

Table 80 Literacy test scores and literacy proficiency level (Females only)

The entries in Table 81 show the numbers of female subjects in each age category who obtained their lowest score on a particular test. The percentage figures in parentheses express those frequencies as a percentage of the row total.

| | | Literacy Test | | | |
|---|---|---|---|---|---|
| | | **Reading Test** | **Writing Test** | **Numeracy Test** | **Total** |
| **Age group** | **15-30** | 1 (9%) | 6 (55%) | 4 (36%) | 11 (100%) |
| | **31-45** | 4 (44%) | 1 (11%) | 4 (44%) | 9 (100%) |
| | **46+** | 0 (0%) | 2 (25%) | 6 (75%) | 8 (100%) |
| | **Total** | 5 (18%) | 9 (32%) | 14 (50%) | 28 (100%) |

Table 81 Tests on which subjects obtained their lowest score (Females only)

As the final row of Table 81 shows, 14/28 [50%] of the subjects obtained their lowest mark on the numeracy test. The pattern displayed in the final row, namely that the reading test accounted for the lowest marks of fewer subjects which in turn accounted for fewer than the numeracy test is entirely in keeping with the a priori expectation that subjects would be more proficient at reading than they would at writing and more proficient at writing than at calculating.

The entries in Table 82 show the numbers of female subjects in a particular age group attaining a particular level of literacy proficiency. The percentages in parentheses express these frequencies as a percentage of the row total.

| | Literacy Level | | | | |
|---|---|---|---|---|---|
| **Age group** | **Illiterate** | **Basic** | **Functional** | **Sustained Functional** | **Total** |
| **15-30** | 1 (9%) | 0 (0%) | 1 (9%) | 9 (82%) | 11 (100%) |
| **31-45** | 1 (11%) | 3 (33%) | 4 (44%) | 1 (11%) | 9 (100%) |
| **46+** | 1 (12%) | 2 (25%) | 3 (38%) | 2 (25%) | 8 (100%) |
| **Total** | 3 (11%) | 5 (18%) | 7 (25%) | 13 (46%) | 28 (100%) |

Table 82 Literacy levels by age group (Females only)

It must be noted that because the subjects were selected from a sub-set of the adult population, namely those Khuen speakers who claim to be able to read and write, the entries in Table 82 do not directly equate to literacy rates for the adult population. So for example the first percentage figure in Table 82 gives the proportion of 15-30 year-old Khuen-speaking subjects who claim to be literate but whose test results place them in the 'Illiterate' category. The distribution of subjects across the various levels of literacy proficiency is very similar for the older two age groups. The most striking entry in the table is that 9/11 [82%] of subjects in the youngest age group attain the highest level of literacy proficiency

in Khuen. In Table 75 this group of subjects stands out in that they had all spent time in formal education, with the median time of 5 years being twice as long as the next nearest group. Even though this would be Burmese-medium education it would involve learning generic skills that would boost literacy proficiency in Khuen.

Table 83 gives point and interval estimates for the proportions of female Khuen speakers who claim to be able to read and write who would also obtain test scores that classify them as having 'Basic' literacy proficiency or better.

| Estimate | 15-30 | 31-45 | 46+ |
|---|---|---|---|
| **Point estimate** | 91% | 89% | 88% |
| **95% Confidence interval** | (62.3%, 98.4%) | (56.5%, 98.0%) | (52.9%, 97.8%) |

Table 83 Proportions of literates among those who claim to be literate (Females only)

The wide confidence intervals are due to the small sample size – there are 11; 9 and 8 subjects in the 15-30; 31-45 and 46+ age groups respectively. The point estimates are very consistent across the three age groups. Looking at the distributions of subjects across the various literacy levels for each age group in Table 82 however, it may be seen that the 15-30 age group is skewed away from the 'Illiterate' end of the table whereas the other two age groups are more uniformly distributed. It might therefore be expected that in a larger sample the numbers of illiterates would be greater in the two older age groups than in the 15-30 age group. This would result in greater differences in the point estimates between the age groups.

In order to estimate the literacy rate in the adult population of Khuen speakers, the results from the sociolinguistic survey are used to estimate the numbers who claim to be illiterate. It is assumed that none of those who claim to be illiterate would be able to obtain enough marks on each literacy test to be classified as anything other then 'Illiterate'. The final column of Table 84 gives point estimates of the adult female literacy rates for the three age groups.

| Age group | Reported literacy rate $P_R$ | Proportion tested literate $P_T$ | Estimate of literacy rate $P_R \times P_T$ |
|---|---|---|---|
| **15-30** | 5/10 (50%) | 10/11 (91%) | 5/11 (45%) |
| **31-45** | 4/10 (40%) | 8/9 (89%) | 16/45 (36%) |
| **46+** | 5/10 (50%) | 7/8 (88%) | 7/16 (44%) |

Table 84 Tested Khuen adult literacy rates (Females only)

The first data column gives the proportions of subjects who claimed to be able to read and write in the sociolinguistic survey and which in turn are the best estimates of reported adult female literacy rates for the three age groups (see Table 56.) These proportions are labelled $P_R$. The second data column gives the proportions of those who claim to be literate who actually attain one of the non-Illiterate proficiency levels in the tests. These proportions are labelled $P_T$. The entries in the final column are obtained by multiplying together the entries in the previous two columns, i.e., $P_R \times P_T$. Interval estimates are not readily available because of the fact that the point estimates are the products of two other estimates. However, given that each of the components has considerable variability associated with it, the combination (i.e. the point estimates given in the final column of Table 84) is expected to have a similar amount of variability associated with them. These rates will be discussed in more detail alongside the corresponding results for male subjects in Section 8.4.2.5.

### 8.4.2.4 Tested literacy proficiency rates - male

In this section the analysis of the previous section is repeated but for the literacy test scores of male subjects. Table 85 gives the raw scores attained by male subjects for reading, writing and numeracy tests as well as the level of literacy determined by the minimum score among the three tests for each subject. The minimum test score in each row (i.e. for each subject) is highlighted in boldface type. The entries are ordered by age which is shown in the second column.

| Age group | Age | Reading test | Writing test | Numeracy test | Literacy level |
|---|---|---|---|---|---|
| 15-30 | 19 | 30 | 26 | **15** | F |
| | 21 | 30 | **23** | 26 | SF |
| | 21 | 30 | 29 | **28** | SF |
| | 22 | 22 | 25 | **15** | F |
| | 23 | 30 | **27** | 29 | SF |
| | 23 | 28 | 25 | **18** | F |
| | 24 | 30 | **29** | **29** | SF |
| | 26 | 28 | 26 | **14** | F |
| | 30 | **21** | 25 | 30 | F |
| 31-45 | 31 | 30 | 30 | **28** | SF |
| | 31 | 30 | **25** | 30 | SF |
| | 33 | 30 | **27** | 30 | SF |
| | 34 | 28 | **27** | 30 | SF |
| | 34 | **22** | 25 | **22** | SF |
| | 38 | 30 | 25 | **18** | F |
| | 38 | **19** | 25 | 30 | F |
| | 40 | **20** | 28 | 22 | F |
| | 45 | 23 | 27 | **17** | F |
| 46+ | 47 | **24** | 25 | 30 | SF |
| | 47 | 28 | **25** | 30 | SF |
| | 48 | 28 | 27 | **15** | F |
| | 48 | **24** | 26 | 28 | SF |
| | 50 | 30 | 27 | **16** | F |
| | 54 | **22** | 27 | **22** | SF |
| | 60 | 22 | 24 | **15** | F |
| | 60 | 27 | **25** | 28 | SF |
| | 61 | **20** | 25 | 30 | F |
| | 70 | 21 | 25 | **18** | F |
| | 72 | 30 | 26 | **17** | F |

Table 85 Literacy test scores and literacy proficiency level (Males only)

As can be seen from the boldface entries in the table, the numeracy test score is most often the lowest score for all age groups. Further analysis of the test on which subjects obtained their lowest scores is given in Table 86. The other striking thing about the entries in Table 85 is that all male subjects are tested to have either functional or sustained functional literacy skills.

The entries in Table 86 show the numbers of male subjects in each age category who obtained their lowest score on a particular test. In cases where subjects lowest

two marks were equal each was counted as 0.5 in the table. The percentage figures in parentheses express those frequencies as a percentage of the row total.

| | | Literacy Test | | | |
|---|---|---|---|---|---|
| | | **Reading Test** | **Writing Test** | **Numeracy Test** | **Total** |
| **Age group** | **15-30** | 1 (11%) | 2.5 (28%) | 5.5 (61%) | 9 (100%) |
| | **31-45** | 2.5 (28%) | 3 (33%) | 3.5 (39%) | 9 (100%) |
| | **46+** | 3.5 (32%) | 2 (18%) | 5.5 (50%) | 11 (100%) |
| | **Total** | 7 (24%) | 7.5 (26%) | 14.5 (50%) | 29 (100%) |

Table 86 Tests on which subjects obtained their lowest score (Males only)

As the final row of Table 86 shows, 14.5/29 (50%) of the subjects obtained their lowest mark on the numeracy test. The pattern displayed in the final row, namely that the reading test accounted for the lowest marks of fewer subjects which in turn accounted for fewer than the numeracy test is entirely in keeping with the a priori expectation that subjects would be more proficient at reading than they would at writing and more proficient at writing than at calculating. In contrast to the data from female subjects, the reading and writing tests accounted for approximately the same number of lowest scores. This suggests that male subjects study writing more thoroughly than their female counterparts.

Table 87 shows the numbers of male subjects in a particular age group attaining a particular level of literacy proficiency. The percentages in parentheses express these frequencies as a percentage of the row total.

| | Literacy Level | | | | |
|---|---|---|---|---|---|
| **Age group** | **Illiterate** | **Basic** | **Functional** | **Sustained Functional** | **Total** |
| **15-30** | 0 (0%) | 0 (0%) | 5 (56%) | 4 (44%) | 9 (100%) |
| **31-45** | 0 (0%) | 0 (0%) | 4 (44%) | 5 (56%) | 9 (100%) |
| **46+** | 0 (0%) | 0 (0%) | 6 (55%) | 5 (45%) | 11 (100%) |
| **Total** | 0 (0%) | 0 (0%) | 15 (52%) | 14 (48%) | 29 (100%) |

Table 87 Literacy levels by age group (Males only)

It must be noted that because the subjects were selected from a sub-set of the adult population, namely those Khuen speakers who claim to be able to read and write, the entries in Table 87 do not directly equate to literacy rates for the whole

population. So for example the first percentage figure in Table 87 gives the proportion of 15-30 year-old Khuen-speaking male subjects who claim to be literate but whose test results place them in the 'Illiterate' category. The distribution of subjects across the various levels of literacy proficiency is very similar for all three age groups.

Table 88 gives point and interval estimates for the proportions of male Khuen speakers who claim to be able to read and write who would also obtain test scores that classify them as having 'Basic' literacy proficiency or better. The wide confidence intervals are due to the small sample size – there are 9; 9 and 11 subjects in the 15-30; 31-45 and 46+ age groups respectively. The point estimates are identical across the three age groups.

| Estimate | 15-30 | 31-45 | 46+ |
|---|---|---|---|
| **Point estimate** | 100% | 100% | 100% |
| **95% Confidence interval** | (70.1%, 100%) | (70.1%, 100%) | (74.1%, 100%) |

Table 88 Proportions of literates among those who claim to be literate (Males only)

In order to estimate the literacy rate in the adult population of Khuen speakers the results from the sociolinguistic survey are used to estimate the numbers who claim to be illiterate. It is assumed that none of those who claim to be illiterate would be able to obtain enough marks on each literacy test to be classified as anything other than 'Illiterate'. The entries in the final column of Table 89 give point estimates of the adult literacy rates for the three age groups.

| Age group | Reported literacy rate $P_R$ | Proportion tested literate $P_T$ | Estimate of literacy rate $P_R \times P_T$ |
|---|---|---|---|
| **15-30** | 10/10 (100%) | 9/9 (100%) | 10/10 (100%) |
| **31-45** | 8/8 (100%) | 9/9 (100%) | 8/8 (100%) |
| **46+** | 11/12 (92%) | 11/11 (100%) | 11/12 (92%) |

Table 89 Tested Khuen adult literacy rates (Males only)

The first data column in Table 89 gives the proportions of male subjects who claimed to be able to read and write in the sociolinguistic survey and which in turn are the best estimates of reported adult male literacy rates for the three age groups

(see Table 56.) These proportions are labelled $P_R$. The second data column gives the proportions of those male subjects who claim to be literate who actually attain one of the non-Illiterate proficiency levels in the tests. These proportions are labelled $P_T$. The entries in the final column are obtained by multiplying together the entries in the previous two columns, i.e., $P_R \times P_T$. Interval estimates are not readily available because of the fact that the point estimates are the products of two other estimates. However, given that each of the components has considerable variability associated with it, the combination (i.e. the point estimates given in the final column of Table 89) is expected to have a similar amount of variability associated with them.

### 8.4.2.5 Discussion of tested literacy proficiency rates

As described in Section 2.4 there were large discrepancies between the tested and reported literacy rates in the Lao National Literacy Survey (Lao People's Democratic Republic 2004). The details were given in Table 10 which is reproduced here for ease of reference.

| | Total | Male | Female |
|---|---|---|---|
| **Tested basic literacy rate (15-59)** | 45.2% | 53.7% | 36.9% |
| **Reported literacy rate (15-59)** | 72.3% | 79.5% | 65.6% |
| **Difference (reported-tested)** | 27.1% | 25.8% | 28.6% |

Table 90 Basic literacy rates in Lao PDR (Lao People's Democratic Republic 2004:58)

The entries in Table 91 compare the tested and reported literacy rates in Khuen for the three age groups for males and females.

| | Male | | | Female | | |
|---|---|---|---|---|---|---|
| | **15-30** | **31-45** | **46+** | **15-30** | **31-45** | **46+** |
| **Tested basic literacy rate** | 100% | 100% | 92% | 45% | 36% | 44% |
| **Reported literacy rate** | 100% | 100% | 92% | 50% | 40% | 50% |
| **Difference (reported-tested)** | 0% | 0% | 0% | 5% | 4% | 6% |

Table 91 Reported and tested literacy rates in Khuen

As the first three columns of Table 91 show, there are no discrepancies between reported and tested rates for males. This is a remarkable result but as shown by the

distributions of tested literacy proficiency levels for males in Table 87, the test results were so strong that all males tested at the functional literacy level or the sustained functional level. This means that all subjects were well above the threshold to be classified as literate providing strong evidence that males who claim to be literate genuinely are literate.

The final three columns in Table 91 show the rates for female subjects in different age groups. The final row shows discrepancies between the two rates of 4%-6% with the reported rate always higher than the tested rate.

Comparing the discrepancies between reported and tested rates from the Khuen survey in Table 91 with those from the LNLS in Table 90 the discrepancies in the Khuen survey are much smaller. Although on the existing evidence it is not possible to prove the reasons for this, the present author ventures to suggest that it is due both to the design of the studies and differences between the two situations. As far as the design of the studies is concerned, the Khuen survey deliberately asked subjects separate questions about their ability to read, write and calculate whereas the LNLS asked only one question to cover all three skills. Furthermore the Khuen survey asked subjects about their own literacy ability whereas the LNLS asked the head of the household to answer on behalf of the members of the household. The authors of the LNLS themselves note that 'This proxy reporting might blur the actual literacy rate' (Lao People's Democratic Republic 2004:43).

As far as differences between the two situations is concerned, the LNLS examined literacy in the national language, Lao, as taught in the formal and non-formal education systems, whereas the Khuen survey examined a minority language that is not taught in the government school system. Whereas the Khuen survey focused on Khuen speakers, the LNLS included all ethnic groups in the population which meant that 28.9% of the sample did not speak Lao at home (Lao People's Democratic Republic 2004:19). Mother tongue was found to be correlated with level of literacy in the LNLS, although as the following analysis shows mother tongue alone does not account for the discrepancies (Lao People's Democratic

Republic 2004:68). Table 92 compares reported and tested literacy rates by ethnic group in the LNLS. The reported rates presented in Table 92 come from Table 4.1 and tested rates are from Table 4.14 (respectively Lao Democratic People's Republic 2004:43 & 56).

| Ethnic Group | Reported – Tested Literacy rates (%) (Ages 15-59) | | |
|---|---|---|---|
| | Male | Female | Total |
| **Tai-Kadai** | 85.1 – 63.5 = 21.6 | 77.1 – 48.1 = 29.0 | 81.0 – 55.6 = 25.4 |
| **Austroasiatic** | 72.2 – 45.3 = 26.9 | 51.2 – 28.5 = 22.7 | 61.5 – 36.7 = 24.8 |
| **Sino-Tibetan** | 52.7 – 32.2 = 20.5 | 34.5 – 19.7 = 14.8 | 43.5 – 26.0 = 17.5 |
| **Hmong-Yao** | 69.5 – 49.6 = 19.9 | 24.8 – 13.2 = 11.6 | 47.7 – 32.2 = 15.5 |

Table 92 Discrepancies between reported and tested rates by ethnic group in LNLS

Table 92 shows large differences between reported rates for different ethnic groups: males range from 85.1 down to 52.7 and females range from 77.1 down to 24.8. There are similarly large differences between tested rates for different groups. However, for males the discrepancies are all between 19.9 and 26.9. For females the discrepancies range from 11.6 to 29.0. The data presented in the LNLS report are insufficient to compare L1 versus L2 literacy, i.e. literacy in the mother tongue versus literacy in a second language.

In the LNLS socio-economic status was also found to be correlated with level of literacy (Lao People's Democratic Republic 2004:68). Although socio-economic status was not investigated in the Khuen survey, the general impression from the survey team was that there were no great differences in socio-economic status between the subjects in the survey.

Another big difference between the two situations is that Khuen literacy education is closely linked to the Buddhist religion: men spend on average 7 years living in a temple and while they are there they learn Khuen literacy. Women do not live in the temple but attend literacy classes at the temple. Buddhist religious events are an important part of Khuen culture so the ability to read and write the language and script used in the temple is useful in community life. There are therefore religious and community associations with and motivations for Khuen literacy that

are present to a lesser degree in the Lao situation where literacy is more often gained through the government education system.

One final point of to address in this discussion of literacy rates concerns the validity of the estimates of Khuen literacy rates presented in Table 84 and Table 89. In the sociolinguistic survey subjects were only asked about their ability to read and write so the definition of literacy used on the sociolinguistic survey of necessity included only reading and writing proficiency. The literacy survey on the other hand followed the LNLS and also included numeracy proficiency in the definition of literacy. Despite these different definitions of literacy the combined estimates of the tested literacy rates for various age-gender categories are valid because of the screening questions for the subjects in the literacy survey. This is illustrated in Figure 62 below. The criteria used to define 'literate' in the first survey are used as screening questions for the literacy survey so in Figure 62 these cancel each other out.

| **Estimate from first survey** | | **Estimate from second survey** | | **Combined estimate of literacy rate** |
|---|---|---|---|---|
| Read & Write YES | × | Pass all three tests | = | Pass all three tests |
| Read & Write YES + Read & Write NO | | Read & Write YES | | Read & Write YES + Read & Write NO |

Figure 62 Combined estimate of literacy rate

The effect of using a less stringent definition of literacy for the reported rate and a more stringent definition for the tested rate would be to increase the discrepancy. If the less stringent definition is used for both, then no females are classed as 'illiterate' which leads to the conclusion that there is 100% agreement between reported and tested rates for both males and females. This gives an even closer agreement between the reported and tested rates.

### 8.4.3 Self-assessed literacy proficiency

In this section evidence is presented to answer the following research question.

**Research Question 5.4:** To what extent do Khuen speakers' assessments of their level of literacy proficiency correlate with test results?

On the Individual Literacy Questionnaire subjects were asked to rate, separately, their current proficiency in reading (Q31), writing (Q36) and numeracy (Q39). As with the analysis in the previous section, the results for reading and writing display very similar patterns whereas numeracy displays a different pattern. Reading and writing are therefore discussed together in the following section and numeracy in the section after that.

### 8.4.3.1 Self-assessed reading (and writing) proficiency

On the Individual Literacy Questionnaire subjects were asked to rate, separately, their current proficiency in reading (Q31) and writing (Q36). Subjects were asked to choose one of three levels: a – almost everything; b – most things; c – some things. Figure 63 shows parallel boxplots of reading test scores for groups of female subjects determined by how they had assessed their own reading proficiency. The test scores of subjects in group 'a' are similar to those in group 'b'. Since there are only two subjects in group 'a' these are grouped with 'b' and the resulting boxplots shown in Figure 64.


Figure 63 Boxplots of reading test scores versus a, b, c self-assessment (Females only)


Figure 64 Boxplots of reading test scores versus a or b, c self-assessment (Females only)

Comparing the mean values of reading test score between groups 'a or b' and 'c', the difference is significant (2-sample t-test, p=0.021). However, because of the overlap between the range of scores for group 'a or b' and group 'c', the self-assessment is not completely reliable as a predictor of tested reading proficiency. The 'problem' is caused by those subjects who assess their proficiency as 'c' but then attain a high score in their reading test. The extent of this pattern is seen more clearly in Figure 65 where 7/19 [37%] of subjects scored 28/30 [93%] in the test. In his study of oral proficiency in the regional language by mother tongue speakers of a minority language, Quakenbush (1992) also found several female subjects grossly underestimating their proficiency.

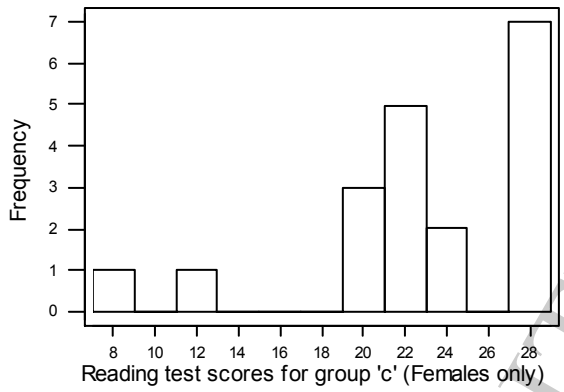



Figure 65 Histogram of reading test scores for group 'c' (Females only)

The self-assessments of male subjects exhibit a different pattern with most subjects assessing their proficiency as either ‘a’ or ‘b’. The ratios of numbers of subjects in the groups a:b:c are 11:12:6. Figure 66 shows parallel boxplots of reading scores for groups ‘a’, ‘b’ and ‘c’.

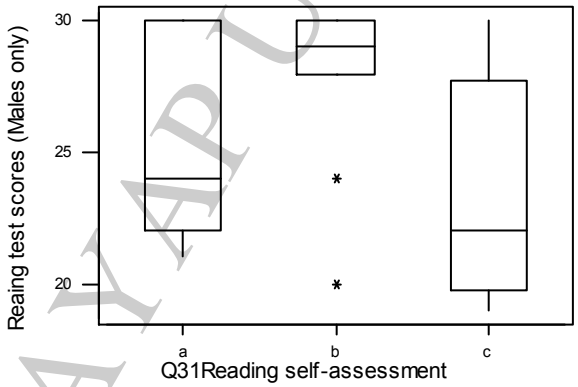



Figure 66 Boxplots of reading test scores versus a, b, c self-assessment (Males only)

The overlap between ranges of reading scores in the different groups makes the self-assessment an unreliable predictor of tested reading proficiency. However, in this case the ‘problems’ stem from both overestimation and underestimation of one’s proficiency.

The motivation for examining the relationship between self-assessment and test results is the search for a 'cheaper' alternative to conducting the literacy tests which are time-consuming. Self-assessment is rapid and many more subjects can be sampled if self-assessment is used than if each subject has to be tested. However as shown above, self-assessment is not a reliable predictor of test scores. About all that can be said from the comparison of self-assessed proficiency with tested proficiency is that female subjects who assess their proficiency as 'a' or 'b' tend to get high marks.

Reflecting on the wording of the questions that elicit the self-assessment, there is an inherent relativity in the questions. For example, in Q31 subjects are asked whether they can read 'almost everything *that you see*'. Their assessment is therefore relative to the range of materials they encounter. Two subjects of equal reading ability might rate themselves differently if one is aware of complicated materials that are beyond their ability whereas the other is not aware of such materials. One way of countering this type of relativity would be to follow up the question on self-assessment with a mini test asking subjects to report whether they can read and understand three short texts of increasing complexity. No attempt need be made to verify whether the subject can indeed read the texts. Responses to these questions could be used to validate their self-assessment.

### 8.4.3.2 Self-assessed numeracy proficiency

Subjects were asked to rate, separately, their current proficiency in numeracy (Q39). Subjects were asked to choose one of four levels: a – almost any calculation; b – many types of calculation; c – some types of calculation; d – can't do calculations at all. Figure 67 shows parallel boxplots of numeracy test scores for groups 'b', 'c' and 'd'. None of the female subjects assessed their numeracy proficiency as group 'a'.

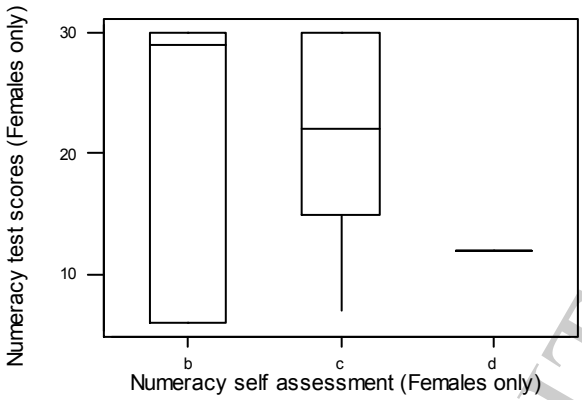



Figure 67 Boxplots of numeracy test scores versus self-assessment (Females only)

What is not obvious from the boxplots in Figure 67 is that only 3 subjects are in group 'b' and one subject is in group 'd'. In keeping with the results from the reading self-assessment there appears to be much underestimation of proficiency among females. One of the subjects in the 'b' group overestimates her ability but the other two give an accurate assessment. Since so many subjects assess themselves the same despite a wide range of tested scores, the self-assessment is of little value in this case.

Figure 68 shows parallel boxplots for the numeracy test scores of male subjects by self-assessed numeracy proficiency. Only one subject claimed to be in group 'a' so groups 'a' and 'b' have been combined.

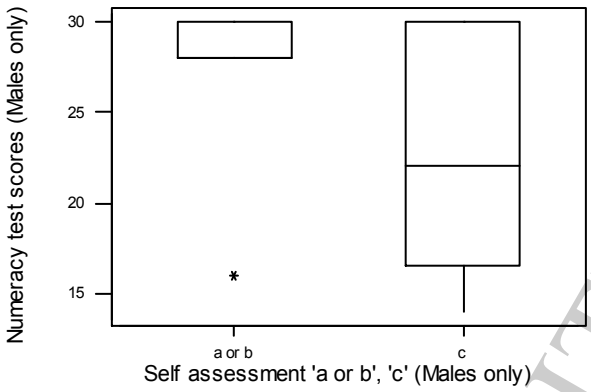



Figure 68 Boxplots of numeracy scores versus a or b, c self-assessment (Males only)

On the whole the marks attained by the ‘a or b’ group are consistent with their self-assessment although one subject only scored 16/30 which was out of keeping with the rest of the subjects. There were 7 subjects in ‘a or b’ and 22 in group ‘c’. Group ‘c’ subjects attained a wide range of scores, which can be seen in more detail in Figure 69.

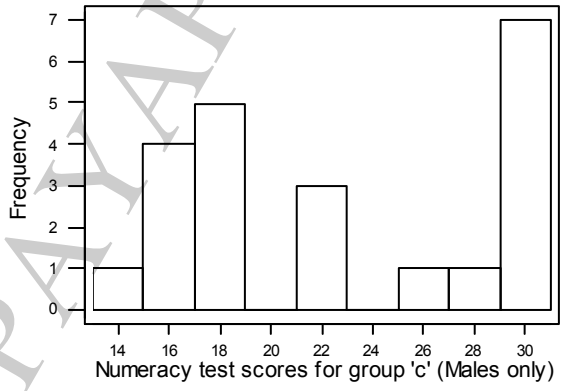



Figure 69 Histogram of numeracy test scores for self-assessment group 'c' (Males only)

As can be seen from the histogram in Figure 69, although the subjects only claimed to be able to do 'some types of calculation' 7/22 [32%] attained the maximum score of 30/30 [100%] in the test.

### 8.4.3.3 Discussion of self-assessment

In summary, the self-assessment of reading and writing as well as numeracy is of little use in predicting the tested proficiency levels. It would be interesting however to examine the performance of a refined version of the self-assessment. As described above, subjects could be asked to read samples of different levels of written material to give an idea of their level of awareness of the range of reading materials. As far as numeracy is concerned, it would appear that the question is too vague to elicit good information. As with reading and writing, perhaps if some examples were given, subjects' responses would be more informative.

## 8.5 Khuen Literacy Use

In this section evidence is presented to answer the following research question.

**Research Question 5.5:** What is Khuen literacy ability currently used for?

Subjects were asked whether they had read any Khuen materials in the last 30 days (Q32a). 54/57 [95%] responded positively. These subjects were asked to specify what they had read. The responses to this question are presented in Table 93 and give a 'snapshot' of what materials people read. The percentage figures in parentheses give the figure for that particular cell as a percentage of the row total. Some subjects specified more than one type of material so the total number of responses (65) is greater than the total number of subjects offering a response (54). The four responses represented in the 'Other' column were 'List of villagers' and 'History of the state' by male subjects and 'Stories' and 'Khuen lessons' for female subjects.

| Gender | Buddhist Scripture | Religious invitations ('Naa Bun') | Social invitations | Songs | News | Other | Total |
|---|---|---|---|---|---|---|---|
| **Male** | 15 (41%) | 13 (35%) | 1 (3%) | 3 (8%) | 3 (8%) | 2 (5%) | 37 (100%) |
| **Female** | 13 (46%) | 9 (32%) | 2 (7%) | 2 (7%) | 0 (0%) | 2 (7%) | 28 (100%) |
| **Total** | 28 (43%) | 22 (34%) | 3 (5%) | 5 (8%) | 3 (5%) | 3 (5%) | 65 (100%) |

Table 93 Q32b Khuen materials read in the last 30 days

The most striking thing about the entries in Table 93 is that 77% of the materials specified are to do with religion, the remaining 23% of responses being spread over several diverse categories. This pattern of reading points to two things. Firstly it points to the importance of Buddhist faith in Khuen society both on an individual level and a community level. Secondly it suggests that the range of materials that people read is very limited which may in turn indicate that the range of materials available for people to read is very limited. The latter raises issues of corpus planning which are beyond the scope of this thesis (see e.g. Cooper 1989:122-156.)

## 8.6 Conclusions Relating to Goal 5

In this section the findings of the previous sections are drawn on to provide an overview of the current state of Khuen literacy. Both males and females study Khuen literacy – males as initiates in the temple and females as lay students in literacy classes typically hosted by the temple. For this reason males tend to study for longer and hence gain a more thorough understanding. Khuen literacy skills are regularly used in everyday life although the range of written materials appears to be limited primarily to religious texts and information relating to religious events. Literacy rates are extremely high for males, but not surprising given the fact that the Khuen literacy is an inherent part of life as an initiate in a Khuen temple. Literacy rates for females are also surprisingly high given that females have much less opportunity to study than their male counterparts.