CHAPTER FOUR

TELEPHONE USERS WITHIN RURAL AND REMOTE COMMUNITIES

4:1: Preamble

Eileen, an intensive telephone user living in remote New South Wales noted:

Thoughts really don't have wings; it's the telephone that transmits it all.

Clearly telephones and other telecommunications technologies, albeit in wingless fashion, do transmit massive numbers of words – words that are the articulation of people's thoughts when they enter into interpersonal communication and informal and incidental learning over the telephone. But which words, what thoughts, and what learning? Moreover, why and when do women and men go to the bother of transmitting them? Moreover, how often do they transmit them and for how long do their transmissions last? Are there *transmission* differences between the genders? Are there discernible variations between rural and remote telecommunicators and between newcomers to an area and those who have resided there for a long time? Do their motives for telecommunicating vary and is there, in fact, any evidence that they actually learn from telecommunications transmissions?

This chapter addresses those questions by auditing, through a mainly quantitative approach, the use of the *telephone* by rural and remote adults at home and at work. The telephone is the sole focus of this chapter because it remains the primary instrument for telecommunications within rural and remote communities. The chapter considers how frequently and for what duration Rural and Remote dwellers mainly use the telephone and begins to explore the purposes for which they use them. Initially, the results describe overall telephone traffic rates but later findings distinguish between incoming and outgoing calls, relational and functional calls, STD calls and locally made calls, etc. Results are predominantly descriptive in nature although a three way analysis of variance and a factor analysis are also reported.

4:2: Most Typically Selected Days for Data Recording

All telecommunications diary data were collected over a two month period. Subjects were asked to complete a telecommunications diary form for one weekend day and one week day. A frequency analysis of the days selected by subjects for diary completion showed that Sunday was the most commonly chosen weekend day and Monday was the most frequently selected weekday. However, there was a relatively even distribution of selection for all week days except for Thursday which was least selected.

Of the two weekend days, 60% of subjects selected the Sunday and the remaining respondents completed their diary form on the Saturday. For the weekdays, 27% of the sample completed their diary on the Monday and 22.2% selected the Tuesday but only 13.5% completed their diary on the Thursday.

TABLE 4:1: Distribution of frequency of days selected for completion of Telecommunication Diary forms

	Count	Percent
Weekday		
Monday	34	27.0
Tuesday	28	22.2
Wednesday	23	18.3
Thursday	17	13.5
Friday	24	19.0
Weekend		
Saturday	42	39.6
Sunday	64	60.4

While generating a *fulsome* explanation of why subjects mainly chose Sundays, Mondays and Tuesdays (and not Thursdays) for completing their telecommunications diary sheets is not really possible, the qualitative data highlighted the tendency of subjects to mainly make contact with distant family members and friends on a Sunday. From the interview data there was no doubt that many callers deliberately took advantage of cheaper Sunday calling rates, and therefore it can be suggested that they quite consciously selected Sunday for logging weekend day calls. It seems as though the argument was akin to saying, "After all, as we're were going to be making calls to family members and distant friends on a Sunday, we might as well log all the calls we make at the same time.". The following extracts from four interview transcripts typify the gravitation towards long distance calling on Sundays.

Kimberley, a Remote Newcomer from the USA lives in remote New South Wales and is married to a Remote Newcomer Australian who manages a large cattle station. Before this interview segment, Kimberley had been discussing how she maintains telephone contact with her family of origin in the USA by frequently making her calls during cheaper calling periods. The discussion now focuses on her spouse's phone calls to his family and friends:

Jens: What about your husband? Does he contact his family?

Kimberley: His family? Yes. (Very loud and sustained laughter.) Oh yeah. Normally every other Sunday evening.

Jens: So he's aware of the cost factor too?

Kimberley: Yeah. Yeah. And he'll talk an easy ... to his parents ... for an easy half hour. Most of it, to his mother.

Jens: So what is it? A dollar for five minutes; so that's five dollars.

Kimberley: Yeah. But then, he'll call other people on a Sunday night too that are real good friends

Tim, lives in a town that is normatively considered to be a part of remote New South Wales but for this research, he is classified as a Rural Newcomer. He is the father of nine children and he comments here on the regular telephone contact that both he and his wife maintain with those of his children who have left home and with both his parents and the parents of his wife. He's been asked who mainly initiates the phone contacts:

Tim: A little bit of each. Mainly we generate one a week and we also have calls back from them – another one a week.

Jens: So when they phone do they phone on a Sunday?

Tim: Yes, usually.

Jens: And what about yourself?

Tim: It varies. Mainly Sundays or on the weekends, Friday after school or Saturday or Sunday.

Sharon is also a Rural Newcomer and after some discussion about the amount of her family's typical telephone bill, she noted that economic considerations shape her family's calling patterns and that extended telephone conversations frequently tend to occur on a Sunday:

Jens: Uhmm. So does that mean you're not a particularly heavy phone user?

Sharon: A careful ... no ... not ... I wouldn't say we're heavy, and I'd say that we're rather careful. So we do try and take advantage of Sunday, so when those itemised bills come in, they might be 40 or 50 minute conversations, so they're on a Sunday so we think, it's a good rate, we can talk. About things that are not that important. We'd have a nice time.

However Betty, a Remote Native from the far west outback of New South Wales, while exploiting the cheaper Sunday calling rate, also vigorously declares her frustration at the Sunday congestion that can occur when remote callers try to contact their kin:

Betty: Oh it's unbelievable! It's always congested on a Sunday but this Sunday is just something else! ... Well I've got a sister in the 067 area and I usually ring her each Sunday. And you can bet your bottom dollar, every time I try it's always engaged – well, engaged for half an hour or so. So I delay the call. But I've been trying to dial into that 067 area for nearly three hours now ... and on Sunday nights it is unbelievable.

When asked about her reasons for calling on a Sunday her response was:

> *Betty: Well. Because we're isolated and my family are all away – that's one reason – and you try to ring up on Sundays and it's congested like the problems we've had tonight.*

Economic determinism, therefore, appears to be at play in encouraging people to make use of their telephone on Sundays and this factor has probably influenced many subjects to choose Sunday as their weekend day for logging telecommunications interactions. But the other trend which emerged from the excerpts above was that many of these calls were relational and were targeted at, or received from, family and/or friends.

With respect to the marginally higher incidence of subjects completing their weekday diary form on either a Monday or a Tuesday, it can be speculated that because Wednesdays and Thursdays are very often the traditional days set aside for conducting livestock markets, people are simply not at home. Equally, Thursdays especially, and Fridays to a lesser extent, are the traditional days during which Rural and Remote subjects 'go to town'. In other words, Mondays and Tuesdays appear to be the modal 'at home days' and the conjecture can be offered that this accounts for the somewhat higher selection rate of Monday and Tuesday and the lesser rate for Thursdays.

4:3: An Overview of Call Length and Frequency

The quantitative data were analysed using MANOVA techniques to identify group differences in length of call and number of incoming and outgoing calls where gender, residency and location were the grouping factors. The means and standard deviations for each group are given in Table 4:2 for length of calls; in Table 4:3 for number of incoming calls and Table 4:4 for the number of outgoing calls.

The MANOVA results indicated that for the composite variable there were no significant differences (α=0.05) using the Wilks, Pillais and Hotellings criteria (p=0.204). In the three way effect (gender by residency by location), no significant differences for any of the two way effects were found (i.e. residency by location; gender by location; gender by residency) and no significant differences were discovered for the main effects (gender, residency and location). Consequently, the univariate results for the individual dependent variables (i.e. length of call, number of incoming and outgoing calls) were not examined.

In short, it was demonstrated that there were no significant differences between females and males, between Rurals and Remotes and between Newcomers and Natives with respect to the number of incoming and outgoing calls made and with respect to the overall amount of time spent on the telephone. However, although the MANOVA results indicated

that there were no significant differences between groupings examined by gender, location and residency variables, it was decided to investigate calling patterns further by considering both the descriptive quantitative data and the qualitative data in detail.

TABLE 4:2: Total Time (in seconds) spent on Telephone Calls for one weekday and one weekend day

	Residency			
	Newcomer		Native	
Location	**Male**	**Female**	**Male**	**Female**
Rural $\bar{x}$	69249.25	80899.5	44475.7	58683.0
Rural SD	52387.9	44766.7	53746.56	45510.46
Remote $\bar{x}$	47529.2	50371.5	28127.78	41958.4
Remote SD	41874.1	56559.2	29904.8	30449.2

TABLE 4:3: Total Number of Incoming Telephone Calls

	Residency			
	Newcomer		Native	
Location	**Male**	**Female**	**Male**	**Female**
Rural $\bar{x}$	8.13	5.3	1.57	3.5
Rural SD	8.8	3.2	1.4	2.8
Remote $\bar{x}$	3.8	3.5	4.56	3.4
Remote SD	6.01	3.6	5.07	2.4

TABLE 4:4: Total Number of Outwards Telephone Calls

	Residency			
	Newcomer		Native	
Location	**Male**	**Female**	**Male**	**Female**
Rural $\bar{x}$	6.5	5.5	3.4	4.6
Rural SD	6.8	3.17	3.9	6.3
Remote $\bar{x}$	5.8	4.8	4.3	3.0
Remote SD	6.0	6.4	4.7	2.7

4:4: Overall Volume of Telephone Traffic

Telecommunications interactions potentially occur right throughout the week, for a variety of reasons and for 365 days each year. For this study, 1 124 telecommunications transmissions were logged in the telecommunications diaries. Of these, 967 involved the

telephone. Telephone calls, therefore, constituted 86% of all diaried telecommunications transmissions.

Females, whom it may be recalled comprised 53.7% of the overall sample, initiated and/or received slightly more than half of all telephone transmissions (i.e. 514 or 53.2% of all calls). In comparison, males, who made up the remaining 46.3% of the research sample, were involved in a total of 451 telephone transmissions (or 46.8% of all calls). As the MANOVA results attest, females and males in this study, therefore, made and/or received virtually the same number of calls per person during the two day diary periods, that is, males made or received an average of 6.5 calls (SD=8.3) while females made or received an average of 6.6 (SD=6.1) calls. However, the average time spent per call was slightly longer for females than for males with females spending a mean of 6.8 minutes per call (SD=7.6 minutes) and males 5.6 minutes per call (SD=8.9 minutes).

From the qualitative data, however, it was apparent that many subjects felt that there are gender differences in the use of the telephone. For example, all but two of the nineteen senior high school students (9 male and 10 female students) from one of the discussion groups held at Griffith High School were quite clear in their views that women use the phone more often than men. Below is a portion of the discussion group notes that were recorded immediately after the meeting with students:

> *In all but two cases the group agreed that mothers did most of the telephone talking within their families. The two exceptions each felt that their father was the prime family telephone user.*

Allan, who was typical in his guarded commentary on sex differences, did not directly emphasise gender differences in either calling frequency or call duration. But he did *infer* that there were such differences when he noted that women used the phone mainly for chatting:

> *Jens: What do they use it for Allan?*
>
> *Allan: For just yappin'. (laughter)*
>
> *Jens: For yapping? So if blokes use it, they use it differently?*
>
> *Allan: They use it differently. They use all that stuff differently to women. They don't ring up just to have a chat.*

Hence, many people who participated in this study had perceptions of the gendered use of the telephone that were inconsistent with the actual behaviour demonstrated by telecommunications diary subjects. It short, despite perceptions to the contrary, female and male subjects participated in telephone episodes at a uniform rate and therefore uniformly participated in episodes from which, potentially they could learn.

4:5: Estimated and Actual Volume of Telephone Traffic

One of the Telecommunications Questionnaire items asked respondents to estimate how many inwards and outwards telephone calls they thought they were typically involved in per week. It was found that subjects generally offered imprecise estimations of how frequently they used the telephone in a week.

Table 4:5 below presents a summary of responses. The first six lines of the table detail the average number of calls which questionnaire respondents *thought* that they made in a typical week and the last three rows specify the average number of *actual* calls recorded over the two day period during which they completed Telecommunications Diary sheets. In other words, the table shows the *estimated* and *actual* telephone frequency behaviours of the same subjects although results presented are for two different time intervals (i.e. estimated calls per week and actual number of calls over two days).

TABLE 4:5: Estimated Average Number of Phone calls per week compared to Actual Average Number of Phone Calls for two days of Diary Keeping – Females and Males

	Mean	Std. Dev.	Count
Estimated Ph.Out/wk, All subjects	16.3	22.1	112
Estimated Ph.Out/wk, Females	14.1	12.0	58
Estimated Ph.Out/wk, Males	18.8	29.3	54
Estimated Ph.In/wk, All subjects	15.0	22.0	113
Estimated Ph.In/wk, Females	12.8	9.4	59
Estimated Ph.In/wk, Males	17.5	30.3	54
Actual no. Ph calls, All subjects	6.5	7.2	135
Actual no.Ph calls, Female	6.6	6.1	72
Actual no.Ph calls, Male	6.5	8.3	62

In order to obtain an equivalent expression of number of calls for a uniform time interval, it would be a simple exercise to either divide both the estimated and the actual number of telephone calls by seven and two respectively, or, alternatively, to factor the actual mean number of calls by 3.5 However, this would be a very imprecise means of call comparison. Hence, it was decided to examine the qualitative data to see what could be learned about estimated call frequency.

It was found that when the matter of estimated calling frequency was raised either intentionally, or surfaced incidentally during interview, subjects were not only sometimes unsure about their personal volume of telephone traffic, but they also pointed out that their rate of making and receiving calls varied according to their shifting circumstances. These interview excerpts – the first from an interview with Betty, a Remote female Native from the far western outback of New South Wales, and the second from an interview with Eric, a Remote male Native from north west New South Wales – illustrate how imprecise the perceptions of research respondents were about their volume of telephone traffic. The

excerpts also demonstrate how, when circumstances shift for individuals, their rates of making and receiving telephone calls alter. Betty was commenting on how important the telephone is for her when the matter of calling frequency surfaced:

> *Betty: But I also find because I don't see any females out here, that I need female company. So therefore I need to talk to females.*
>
> *Jens: Right ...*
>
> *Betty: That's over and above the other people ...*
>
> *Jens: And yet you say in the survey that you only make about twenty-five to thirty calls in a week...*
>
> *Betty: Twenty five to thirty calls of my own?*
>
> *Jens: Yeah – that's what you were saying in the survey.*
>
> *Betty: Is that all together?*
>
> *Jens: My question was, 'Please estimate how many times in a typical week you make and receive telephone calls,' and you reckon you make about twenty-five to thirty calls and you probably receive about 25 to 30 a week.*
>
> *Betty: Hmmn. 25 to 30. What's that looking at? ... About four a day. (Pause) Yeah. (Pause) Sometimes it'd be a lot more than that – a lot more ... sometimes it'd be a lot less because I'm not here a lot of the time.*

Clearly, what Betty was indicating was that her rate of telephone usage fluctuates and is dependent upon a variable as simple and straight forward as whether or not she is home. In the following excerpt Betty explained why she was often absent from the homestead and therefore away from the telephone:

> *Betty: You know, Craig might go off to – he might play cricket at the weekend sometimes; but then I'm still doing water runs or you know, going to collect the mail which means doing the book-work. Because you've got such distances to travel here, I mean, I've got to go six miles to collect the mail twice a week. I'm going 24 miles just to collect the post. I mean, I added all that in as part of the work is the travelling just to and from.*
>
> *Jens: Yeah. What I wanted to do was to clarify those sorts of things.*
>
> *Betty: Right. And if I do a water run it takes me five hours.*
>
> *Jens: What do you mean by a water run?*
>
> *Betty: Well I go to check the tanks and the troughs. We've got 17 troughs on the place that get fed by supply tanks and it's ... they've got to be checked every second day because if the float gets stuck or a sheep falls in on it or it gets overloaded with frogs it'll overflow and runs all your water away. And I go in a vehicle with a few tools and things or a broom to clean the troughs out with. And that's a five hour run. And I do that every second day and that ... and I could be getting home in the dark or I could be leaving in the dark to go out to get that done. So, you know, I just consider that my day is (except for when I'm cooking I suppose) is all to do with the place. Is either maintenance or actual stock work or the book work.*

Equally, Eric's rate of telephone calling varied according to changing circumstances and needs – in this case, the need to find out about wool prices. Initially during the interview Eric, after the discussion had focused upon his seemingly higher than normal telephone bill, indicated that he made very few calls on the telephone:

> *Eric: They (telephones) are (expensive). I tried to get a Dick Smith one and they wouldn't allow it or ... take the answer for that. I wouldn't use the phone any more than five or six ... ooh I wouldn't use it any more than about ... probably two dollars a week ... three dollars at the most.*

But later, seemingly in contradiction to his earlier statement, Eric indicated that under special circumstances, such as urgently needing information about wool prices, the whole family's rate of telephone calling was very high:

> *Jens: So in this instance you actually phoned up to get information ...*
>
> *Eric: We did then. That was when we'd use the phone every-time we went near it. And I was not objecting to that one bill of a $1000. That was only for a short period of time. It was during the Christmas and December period one year.*

Thus, it would seem, circumstances for individuals were seldom constant – rather they were in a state of flux and it can therefore be surmised that this contributed to subjects having difficulty in accurately estimating their own rates of telephone traffic.

Nevertheless, despite the apparent fickleness of people's capacity to accurately estimate their rate of telephone traffic, there appears to be a remarkable consistency between the rate of calling by Rural and Remote subjects and Natives and Newcomers. Only very slight differences were discernible between groups and thus it was found that during the two days in which they recorded Telecommunications Diary data, Remote females used the phone slightly more frequently ($\bar{x}$=7.4 calls, SD=5.9), than Rural females ($\bar{x}$=6.4 calls, SD=6.5). Further, Remote males ($\bar{x}$=5.8 calls, SD=1.1) recorded the lowest frequency of telephone usage over the two day recording period but Rural males ($\bar{x}$=6.8 calls, SD=8.3) reported a higher user frequency (or greater volume of telephone traffic) than Rural females.

4:6: Differences in the Transmission and Receiving of Calls

Given the consistency in the overall telephone transceiving rate described above, the question arises of whether or not there is also a consistency between groups with respect to the rate at which calls are lodged and received. In other words, given that all successful telephone connections comprise the dual elements of call transmission and call receiving, are differences between groups discernible with respect to telephone transmission rates as opposed to the rate of receiving calls?

In this study, subjects reported that they initiated 550 (53.7%) outwards telephone calls and recorded that they had participated in a total of 473 (46.3%) inwards calls. There were no noticeable gender differences insofar as the rate of making and receiving of calls was concerned. Females received an average of 3.4 calls (SD=3.2) and made an average of 3.9 calls (SD=4.8) while males made an average of 3.7 calls (SD=5.4) and received an average of 4.3 calls (SD=5.1).

However, minor differences in the number of calls received and made began to emerge when the variables of location and residential status were examined. Remote subjects recorded slightly more inwards ($\bar{x}$=3.9, SD=4.7) and outwards ($\bar{x}$=4.5, SD=4.9).calls than Rural subjects (viz. $\bar{x}$=3.3; SD=4.2 inwards and $\bar{x}$=4.0, SD=4.0 outwards calls). Moreover, Remote Males received marginally more calls ($\bar{x}$=4.0, SD=6.3 inwards calls) than Remote females ($\bar{x}$=3.9, SD=3.1 inwards calls). At the same time, the data showed that Remote females made more calls than Remote males (viz. $\bar{x}$=4.9, SD=4.7 outwards calls for females cf. $\bar{x}$=4.0, SD=5.2 outwards calls for males).

Remote Newcomer males received the greatest number of calls ($\bar{x}$=6.0, SD=7.8 inwards calls) and Remote Native females received the greatest number of calls of the female subgroups ($\bar{x}$=4.7, SD=3.1 inwards calls). Remote Natives made the highest number of calls ($\bar{x}$=5.2, SD=3.1 Remote Native females outwards calls cf. $\bar{x}$=5.0, SD=6.0 outwards calls for Remote Native).

In summary, there was a marked consistency between groups with respect to both the frequency of generating and receiving calls although Remote subjects appeared to use the telephone more frequently than Rural subjects.

4:7: Call Duration for Rurals and Remotes, Newcomers and Natives

Although there were no significant differences between groups with respect to call duration, there was a trend for Remote telephone users, on average, to spent more time per call than Rural users – viz. – Remote users spent an average of 7.2 minutes per call (SD=9.6 minutes) compared to Rural subjects who spent an average of 5.4 minutes (SD=6.9 minutes) per call. Moreover, on average, both Remote males and females spent more time per call than their Rural counterparts. While Rural females ($\bar{x}$=6.3 minutes, SD=7.8 minutes) spent more time on the phone per call than Rural males ($\bar{x}$=4.7 minutes, SD=6.0 minutes), it was apparent that Remote female phone users, on average, spent the longest time per call out of all subgroups. It also appears that the duration of Remote female calls ($\bar{x}$=7.3 minutes, SD=7.4 minutes) were fairly consistent whereas Remote males, while not spending as much time per call, reported a far wider range of call times ($\bar{x}$=7.2 minutes, SD=12.5 minutes).

Thus far, results have indicated that, on average, females spent no more time on the telephone per call than males; that Remote subjects spent slightly more time per telephone call than Rural subjects; that female Remotes typically seemed to spend the greatest amount of time on the phone per call (although male Remotes logged a greater range of call times); and that Rural males typically spent the least amount of time per call (although Rural females spent more time per call than Rural males). What then, (if anything) can be noted about the amount of time spent on telephone calls by Newcomers and Natives?

The data suggest that there were only minor overall differences between the average length of phone calls made by all Newcomers ($\bar{x}$=6.4 minutes, SD=7.7 minutes) and all Natives ($\bar{x}$=6.2 minutes, SD=8.5 minutes). Further, there were only minor differences between male and female Newcomers and Natives in the average duration of phone calls. The descriptive quantitative data examined indicated that Newcomer males made the shortest length calls ($\bar{x}$=4.9 minutes, SD=7.1 minutes) and that Native males ($\bar{x}$=5.8 minutes, SD=9.4 minutes), on average, made and received calls which were shorter in duration than calls made by both groups of females. Female Newcomers made the longest calls on average ($\bar{x}$=7.3 minutes, SD=7.9 minutes) and their calls were also longer than those of female Natives ($\bar{x}$=6.5 minutes, SD=7.4 minutes).

TABLE 4:6: Mean Length of Phone calls split by Rural and Remote Natives and Newcomers

	Count	Mean	Std. Dev.
Remote, Newcomer	167	7.4	8.2
Remote, Native	252	7.1	10.5
Rural, Newcomer	137	5.1	6.8
Rural, Native	394	5.6	6.9

Table 4:6 above, indicates that Remote Natives and Remote Newcomers, on average, spend more time per call than Rural Natives and Rural Newcomers. However, as Table 4:7 below shows, the major difference in reported call duration occurred between male Rural Newcomers and male Remote Newcomers with the former making and receiving the shortest calls ($\bar{x}$=3.5, SD=4.4 minutes) and the latter making and receiving the longest calls ($\bar{x}$=8.3, SD=10.9 minutes). Male Remote Newcomers, therefore, on average, appeared to spend twice as long per call as male Rural Newcomers. Rural Native males, while not spending as much time per call, reported the greatest variation in call duration. In other words, the data for Remote Native males indicated some call lengths of twenty minutes or greater in duration ($\bar{x}$=6.9, SD=13.0 minutes). Although the differences between the various groupings of females indicated that there was little variation in call duration, female Rural Newcomers, ($\bar{x}$=7.6, SD=9.0 minutes), reported having engaged in slightly longer calls, on average, than the other clusters of females (viz. – Remote Native females $\bar{x}$=7.6, SD=7.4 minutes; Remote Newcomer females $\bar{x}$=7.2, SD=7.4 minutes; Rural Native females $\bar{x}$=6.0,

SD=7.4 minutes). However, ultimately, while the descriptive qualitative data suggested some differences in phone call duration between Remote Natives and Newcomers and between Rural Natives and Newcomers, these differences were not great.

TABLE 4:7: Mean Length of Phone calls split by Gender for Rural and Remote Natives and Newcomers

	Count	Mean	Std. Dev.
Female, Remote, Newcomer	135	7.2	7.4
Female, Remote, Native	128	7.4	7.4
Female, Rural, Newcomer	52	7.6	9.0
Female, Rural, Native	185	6.0	7.4
Male, Remote, Newcomer	32	8.3	10.9
Male, Remote, Native	124	6.9	13.0
Male, Rural, Newcomer	85	3.5	4.4
Male, Rural, Native	209	5.2	6.4

4:8: Frequency of Calling for Rurals and Remotes, Newcomers and Natives

It would seem that, overall, there was a trend for Natives to use the telephone most frequently during the recording period ($\bar{x}$=7.4, SD=7.8) when compared to Newcomers ($\bar{x}$=5.9, SD=6.0). Concomitantly, it was found that male Newcomers ($\bar{x}$=4.7, SD=6.2) and female Newcomers ($\bar{x}$=6.8, SD=5.9) recorded less frequent usage of the telephone during the recording periods than female Natives ($\bar{x}$=7.0, SD=6.4) and logged fewer calls than male Natives ($\bar{x}$=7.8, SD=9.2).

But when the data concerning telephone traffic rates for female and male Rural and Remote Natives and Newcomers were examined, it was found that Remote Newcomer males engaged in the fewest calls ($\bar{x}$=2.4, SD=2.1) and that Remote Native males engaged in the most calls ($\bar{x}$=8.5, SD=9.0). As well, Remote Native females ($\bar{x}$=8.2, SD=4.9) participated in a greater number of telephone episodes than Remote Newcomer females ($\bar{x}$=6.9, SD=6.8).

Rural Newcomer males reported a lower frequency of telephone traffic than their Rural Native male counterparts but the difference in calling frequencies between these two groups was not as pronounced as between the two groups of Remote males (viz. – $\bar{x}$=6.5, SD=7.7 for Rural Newcomer males cf. $\bar{x}$=7.2, SD=9.7 for Rural Native males). Similarly, there appeared to be little difference between the volume of telephone traffic reported for Rural Newcomer females and Rural Native females (viz. – $\bar{x}$=6.7, SD=4.2 for Rural Newcomer females cf $\bar{x}$=6.3, SD=7.2 for Rural Native females). Equally, the descriptive data suggests that there was little difference between the volume of telephone traffic of Rural and Remote Newcomer females (viz. – $\bar{x}$=6.7, SD=4.2 for Rural Newcomer females cf. $\bar{x}$=6.9, SD=6.8 for Remote Newcomer females).

In summary therefore, it would appear that there was little difference between genders in the frequency of telephone interactions although there were some minor differences in duration with females speaking for slightly longer than males. While more marked trends began to emerge between males and females when the data was split into categories of Rural, Remote, Newcomer and Native it must be pointed out that the repeated subdivision of any sample must lead to a marked reduction in the number of respondents who fall into each subdivision. Hence, it is as well to treat the descriptive results that were generated with a degree of caution even though trends appeared to become more distinctive when more than one sorting category was applied to each gender. Given the MANOVA result which was reported at the outset of this chapter (see Section 4:3), it is, therefore, only possible to cautiously suggest of the subjects in this study that while Remote male Newcomers made the least number of calls, they also appeared to spend the most amount of time per each of those calls. This, it must be pointed out, is at variance with the overall trend of females generally spending more time on the telephone than males and this trend also differs from earlier findings of Noble et al. who demonstrated that females tend to talk on the telephone more frequently, and for longer periods of time than males (Noble, Rajendra and Hansen, 1991).

4:9: Call Locations

Subjects were asked to identify where they were when they made or received a telecommunication transaction and this data was sorted so that the location that they were at during the time of their telephone calls could be analysed. Three responses were possible – subjects were either at home, or at work or they were in transit (i.e. mobile). As there were no responses in this last category, subjects were found to be either at home or at work when they initiated or received their calls

The results in Table 4:8 illustrates, respondents were far more likely to classify their calls as taking place at home rather than at work.

TABLE 4:8: Calls Made and/or Received at home and at work

	n.Hom	n.Wrk
Mean	5.7	1.7
Std. Dev.	7.0	5.7
Count	135	135
Minimum	0.0	0.0
Maximum	39.0	44.0

A frequency count of calls shows that at work, in just over 91% of cases, a range of zero to five calls were logged. By contrast, accounting for the same percentage of all calls within the home involved a calling frequency of between zero and 15 calls. Thus the home

was the most probable venue for initiating and receiving phone calls. (See Tables 4:9 and 4:10)

TABLE 4:9: Distribution of frequency of calls at work

From (≥)	To (<)	Count	Percent
0.0	5.0	123	91.1
5.0	10.0	4	3.0
10.0	15.0	3	2.2
15.0	20.0	2	1.5
20.0	25.0	0	0.0
25.0	30.0	1	.7
30.0	35.0	1	.7
35.0	40.0	0	0.0
40.0	45.0	1	.7
	Total	135	100.0

TABLE 4:10: Distribution of frequency of calls at home

From (≥)	To (<)	Count	Percent
0.0	5.0	81	60.0
5.0	10.0	29	21.5
10.0	15.0	12	8.9
15.0	20.0	6	4.4
20.0	25.0	3	2.2
25.0	30.0	1	.7
30.0	35.0	2	1.5
35.0	40.0	1	.7
	Total	135	100.0

When the above data were sorted first by gender and then, separately, by location and by residency, three trends became clear. The first was that females were the principal users of the telephone within the *home* and they reported making and receiving very few *work* calls (See Table 4:11). The second was that Remote subjects used the phone more at home than Rural respondents and equally, Rural callers made marginally greater use of the telephone at their work location than did Remote subjects (See Table 4:12). The third tendency to emerge was that Natives, when compared to Newcomers, appeared to use the phone more at work and at home (See Table 4:13).

TABLE 4:11: Number of calls made and/or received at work and home by gender

	Mean	Std. Dev.	Count	Minimum	Maximum
n.Work, Total	1.7	5.7	135	0.0	44.0
n.Work, Female	.7	2.3	72	0.0	13.0
n.Work, Male	2.9	7.9	62	0.0	44.0
n.Home, Total	5.7	7.0	135	0.0	39.0
n.Home, Female	6.4	7.2	72	0.0	32.0
n.Home, Male	4.9	6.8	62	0.0	39.0

TABLE 4:12: Number of calls made and/or received at work and home by location

	Mean	Std. Dev.	Count	Minimum	Maximum
n.Work, Total	17	5.7	135	0.0	44.0
n.Work, Remote	15	4.5	50	0.0	26.0
n.Work, Rural	21	6.8	71	0.0	44.0
n.Home, Total	57	7.0	135	0.0	39.0
n.Home, Remote	68	7.9	50	0.0	39.0
n.Home, Rural	50	6.4	71	0.0	32.0

TABLE 4:13: Distribution of frequency of calls at work & home by residency

	Mean	Std. Dev.	Count	Minimum	Maximum
n.Work, Total	17	5.7	135	0.0	44.0
n.Work, Native	20	6.3	83	0.0	44.0
n.Work, Newcomer	15	5.0	43	0.0	31.0
n.Home, Total	57	7.0	135	0.0	39.0
n.Home, Native	64	7.5	83	0.0	39.0
n.Home, Newcomer	53	6.4	43	0.0	30.0

When the above data were subsequently sorted by one or more additional variables, it was found that Rural males appeared to engage in more work calls than Remote males. It also appeared that females (Remote and Rural) were involved in very few work calls although, as the qualitative data demonstrates, Remote women especially, made frequent business calls over the home telephone on behalf of their spouse. In that regard therefore, it is not surprising that females from Remote settings reported the greatest frequency of home phone use and Remote Native females in particular reported high home usage.

The two interview extracts below illustrate these two phenomena. The first extract has been taken from a teleconference during which the use of the telephone for problem solving is being discussed with three remote women from the far western outback of New South Wales. It was reported that initially, somebody who is away from the home makes contact through UHF radio with the home base. The relayed message to the home then initiates a business phone call from the home so that the problem may be addressed:

> *Jens: Right. Now if the phone... I mean, we've talked about the phone for receiving and giving information, because you receive information, for instance, from the doctor, but you also give information so that he or she can make a diagnosis – have you been able to use it, for instance for problem solving? For instance, if a vehicle breaks down, can you get on the telephone, and phone a mechanic and then hold the speaker or the microphone of a UHF ... close to the phone so that someone can relay how to fix up the land rover?*
>
> *Gwen: Yeah, normally we just transfer messages. You know, like we'll take it and give it to either the husband or whatever over the radio. Or he'll come in and actually ring the mechanic himself. Yeah. So yeah, we've done that.*

Jens: OK. Now what about for you, Irene?

Irene: Yes. We've done that in the same way.

Jens: Right. And Heather?

Heather: Yes. We've done it too.

Dennis, a Rural Native, however, typifies not only male telephone apprehension, but also recognises that he uses the instrument differently at work and at home. At home he responds to a ringing phone reluctantly:

> *Dennis: Now there's just something interesting. At home, I reluctantly ever answer the phone except at breakfast time because I know it's a work call – like this morning Jackie rang at quarter past seven and said, 'won't be in.' Now that becomes an entirely different matter. See I'm not a phone person. I wonder if it stems from the fact that I never had a phone in the home until I had one in my own home.*

But a little later in the interview Dennis, who is being interviewed in his work situation, acknowledges how important the telephone is for him there:

Dennis: Oh they're essential here for work.

4:10: Estimated and Actual Relational, Functional and Mixed calling rates :

4:10:1: Clarifying terms used:

As noted in Chapter One, *functional* calls refer to mainly business cum administrative interactions whereas *relational* telecommunications episodes refer to personal affective interactions with family and friends. *Functional* episodes are typically crisper and of shorter duration calls than *relational* interactions and men typically make more functional calls whereas women tend to engage more frequently in relational calls (Noble, Rajendra and Hansen, 1991, p.4).

However, as Claisse and Rowe (1987) and Murray (1994) have pointed out, many calls encompass both of these motives. Murray argues that participants vacillate between functional and relational emphases several times during the one episode in completing what he refers to as the *autonomous* call. The validity of Murray's construct appears to be well founded but emerged after the research design for this study had been constructed and data gathering had been commenced. Nevertheless, for this study, even though the Claisse and Rowe typology of *mixed* calls were explored, is was found that only 13% of all calls logged by respondents fell into this category. Furthermore, of the 130 mixed calls made, 58 were categorised by subjects as *More Relational than Functional* and 72 were labelled as *More*

Functional than Relational. It was recognised, therefore that because only small numbers of calls were involved in these two *mixed* categories, accurate analysis would be unlikely when the *mixed* calls data were sorted still further by gender and/or location and/or residency. Hence, in the analysis that follows *mixed* calls were not considered although the fact that subjects were able to differentiate between the two categories of mixed calls, tends to support Murray's (1994) stated intention of conducting research that will empirically explore the concept of an autonomous call Accordingly, the functional and relational typologies were the principal components used within this research for analysing telecommunications motives.

4:10:2: Estimated Proportion of Relational, Functional and Mixed Calls

Subjects, were asked to estimate the percentages of their telephone calls which were Relational, Functional or a combination of both. They estimated that 58% of their calls were Relational, almost 36% were Functional and that the remaining 10% of calls were a blend of the two.

When call category estimates were sorted by gender, it became apparent that females thought that slightly more than two thirds of their calls were Relational (68.6%) and that they thought that slightly more than one quarter of their calls were Functional (26.7%). Females also thought that less than five percent (4.7%) of their calls were mixed. Males however, estimated that their use of the phone for Relational and Functional purposes were roughly equivalent (i.e. 46.2% Relational; 45.7% Functional) with the estimated remainder of calls classified as Mixed (i.e. 9.1% Mixed).

When the data were sorted still further to account for gender differences across location and residency variables, it appeared that Remote females did not think that they made as many Relational calls as Rural females thought that they had made. It also appeared that Remote males felt that they had made more Functional calls than Rural males thought they had made. Moreover, female Newcomers in particular felt that they engaged in a higher rate of both Relational and Functional calls than Native females. As well, Native males thought that they had been the least involved in making and receiving Relational calls.

4:10:3: Comparing Estimated and Actual Proportions of Calls by Type

Data concerning estimated percentages of call types were compared to the actual percentages of Relational, Functional and Mixed calls after calls which subjects in this study had labelled as either Relational or Functional or as a blend of those two, had been sorted. Thus a total of 989 calls that had been labelled by subjects were sorted into 302 Relational calls (30.5%) and 557 Functional calls (56.3%). There were also 130 mixed calls but as

indicated above, because of perceived difficulties in analysing these calls accurately, it was decided not to include them in the analysis. It can therefore be concluded that the subjects in this study estimated that they made a roughly equal proportion of Relational and Functional calls whereas they actually made considerably more Functional calls than Relational.

When the frequency of the number of Relational calls made and received was examined, it was found that almost half of the subjects (47.4%) registered only one or two calls and that the upper limit of calls recorded over the two day period was 16 Relational calls. In fact, six Relational calls or less were logged by 93.4% of subjects and only 6.6% of respondents registered more than six Relational calls. (See Table 4:14 below.) But during the same period, nearly three quarters of the subjects (73.3%) logged between zero and five Functional calls. It was found that only 5.1% of subjects logged 15 or more Functional calls during the recording interval. (See Table 4:15 below.)

TABLE 4:14: Number of Relational calls made by subjects during two day diary period

From (≥)	To (<)	Count	Percent
0.0	2.0	64	47.4
2.0	4.0	38	28.1
4.0	6.0	24	17.8
6.0	8.0	5	3.7
8.0	10.0	1	.7
10.0	12.0	2	1.5
12.0	14.0	0	0.0
14.0	16.0	0	0.0
16.0	18.0	1	.7
	Total	135	100.0

TABLE 4:15: Number of Functional calls made by subjects during two day diary period

From ≥)	To (<)	Count	Percent
0.0	5.0	99	73.3
5.0	10.0	19	14.1
10.0	15.0	10	7.4
15.0	20.0	1	.7
20.0	25.0	3	2.2
25.0	30.0	0	0.0
30.0	35.0	2	1.5
35.0	40.0	0	0.0
40.0	45.0	1	.7
	Total	135	100.0

Three observations flow from the three tables below (Tables 4:16 to 4:18 inclusive). First, it is appears that females engaged in a greater number of Relational calls than males and conversely, it also seems that males participated in a greater number of Functional calls than females. Secondly, Remote subjects, on average, participated in a greater number of

Relational and Functional calls thar Rural subjects. Thirdly, there was little variation in the number of Relational or Functional calls made by Newcomers and Natives

TABLE 4:16: Mean duration of Relational calls by gender

	Mean	Std. Dev.	Count	Minimum	Maximum
n.Relational, Total	2.2	2.4	135	0.0	16.0
n.Relational, Female	2.6	2.7	72	0.0	16.0
n.Relational, Male	1.8	2.1	62	0.0	10.0
n.Funtional, Total	4.1	6.7	135	0.0	43.0
n.Funtional, Female	3.3	4.9	72	0.0	24.0
n.Funtional, Male	5.2	8.3	62	0.0	43.0

TABLE 4:17: Mean duration of Relational calls by location

	Mean	Std. Dev.	Count	Minimum	Maximum
n.Relational, Total	2.2	2.4	135	0.0	16.0
n.Relational, Remote	2.9	3.0	50	0.0	16.0
n.Relational, Rural	1.8	1.8	71	0.0	7.0
n.Functional, Total	4.1	6.7	135	0.0	43.0
n.Functional, Remote	4.6	6.3	50	0.0	32.0
n.Functional, Rural	4.1	7.4	71	0.0	43.0

TABLE 4:18: Mean duration of Relational calls by residency

	Mean	Std. Dev.	Count	Minimum	Maximum
n.Relational, Total	2.2	2.4	135	0.0	16.0
n.Relational, Native	2.3	2.1	83	0.0	10.0
n.Rel, Newcomer	2.4	3.1	43	0.0	16.0
n.Functional, Total	4.1	6.7	135	0.0	43.0
n.Functional, Native	4.7	7.4	83	0.0	43.0
n.Functional, Newcomer	3.9	5.7	43	0.0	31.0

From the data presented in Table 4:19 below, it is clear that Remote Females not only reported being involved in more Relational calls than males, but also logged more Relational calls ($\bar{x}$=3.7, SD=3.3 Relational calls) than Rural females ($\bar{x}$=1.9, SD=1.8 Relational calls). However, Remote females reported only a slightly greater frequency of Functional calls than Rural females. Remote males reported the highest number of Functional calls ($\bar{x}$=5.8, SD=8.3 Functional calls) and Rural males also reported a higher number of Functional calls ($\bar{x}$=4.7, SD=8.9) than women.

It was also apparent that Remote Newcomers as a group appeared to engage in the greatest number of Relational calls ($\bar{x}$=3.1, SD=3.7) and that Remote Natives reported having participated in the greatest number of Functional calls ($\bar{x}$=6.3, SD=7.7). By contrast,

Rural Newcomers reported the fewest Relational calls and Remote Newcomers recorded involvement in the fewest Functional calls.

TABLE 4:19: Mean duration of Relational calls by gender & location

	Mean	Std. Dev.	Count	Minimum	Maximum
n.Relational, Total	2.2	2.4	135	0.0	16.0
n.Relational, Remote, Female	3.7	3.3	29	0.0	16.0
n.Relational, Remote, Male	1.8	2.0	21	0.0	6.0
n.Relational, Rural, Female	1.9	1.8	35	0.0	7.0
n.Relational, Rural, Male	1.7	1.8	36	0.0	6.0
n.Functional, Total	4.1	6.7	135	0.0	43.0
n.Functional, Remote, Female	3.8	4.5	29	0.0	14.0
n.Functional, Remote, Male	5.8	8.3	21	0.0	32.0
n.Functional, Rural, Female	3.4	5.6	35	0.0	24.0
n.Functional, Rural, Male	4.7	8.9	36	0.0	43.0

A number of points emerged when these data were sorted by gender. First, Remote Newcomer females reported more Relational calls than any other group of females ($\bar{x}$=4.0, SD=4.2) while Rural Native females reported the fewest ($\bar{x}$=1.8, SD=1.7)[1]. Secondly, Remote Native males ($\bar{x}$=8.2, SD=10.0) reported more Functional calls than any other group and Remote Newcomer males reported the lowest mean number of functional calls. Thirdly, while Remote Native males ($\bar{x}$=2.2, SD=2.4) also reported the highest male level of Relational calling, it was the Remote Newcomer male who recorded the fewest Relational calls ($\bar{x}$=1.4, SD=1.3). Fourthly, while the mean number of Functional calls reported by Remote female Natives ($\bar{x}$=4.5, SD=.4) was higher than for any other female category, the mean number of Functional calls logged by all female groups did not vary greatly (viz. – range 3.3-3.6).

4:11: Calls to Family Members

4:11:1: Call type needed to Contact Family Members

A strong impression derived from the data was that Remote subjects, perhaps as a function of their remoteness, needed to make STD and ISTD[2] calls to a greater extent than Rural subjects and an analysis of both the number of Local calls versus STD calls plus the amount of money spent on telephone bills verified this.

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[1] As will be shown when the importance of networks are discussed in Chapter Six, the networking patterns of Rural dwellers can, to a certain extent, be linked with this finding. In Chapter Six it is pointed out that Rurals prefer face-to-face networking over telecommunications.

[2] STD refers to Subscriber Trunk Dialling and ISTD refers to International Subscriber Trunk Dialling. In other words STD calls are Australian continent tolls and ISTD are overseas toll calls. Although ISTD as a term has recently been replaced by the term ISDD (which refers to International Subscriber Direct Dialling) only ISTD is used in this thesis.

Less than 10% of the sample were able to make telephone contact with family through local calls alone. The other 90% of the sample needed to generate some form of trunk call for all or part of their kin maintenance (See Table 4:20 below).

TABLE 4:20: Calling requirements for contacting Kin

	Total Count	Total Percent	Remote Count	Remote Percent	Rural Count	Rural Percent
Local only	12	9.7	3	6.2	6	9.2
STD only	45	36.3	27	56.2	13	20.0
ISTD only	1	.8	0	0.0	1	1.5
Local & STD	39	31.5	8	16.7	28	43.1
Local & ISTD	2	1.6	1	2.1	1	1.5
STD & ISTD	8	6.5	1	2.1	7	10.8
All three	17	13.7	8	16.7	9	13.8
Total	124	100.0	48	100.0	65	100.0

A frequency analysis was completed of all Local, STD and ISTD calls which had been recorded by respondents and the resultant data were then sorted by the categories (and category combinations) of gender, location and residency. It was found that the number of Local and STD calls made by Remote and Rural subjects were inversely proportionate – i.e. that Remote respondents engaged in less Local calls and more STD calls whereas Rurals participated in more Local calls and in less STD calls. Females and Males appeared to demonstrate similar Local and STD calling frequencies. Newcomers, on average, made marginally fewer Local calls than Natives but their reported STD rate was similar to that reported by Natives (i.e. Native STD $\bar{x}$=3.4, SD=4.8 calls; cf. Newcomer STD $\bar{x}$=3.0, SD=5.0 calls).

Thus it can be surmised that even though 90% of all respondents had to make STD calls when contacting family, Remote subjects needed, necessarily and not surprisingly, to make more STD calls than Rurals for this kind of contact. (Details of telephone costs are presented in the next section of this chapter.)

4:11:2: Frequency and Duration of Calls to Family

There were, however, gender differences in the means of the number of calls made to, and received from, family. Females made or received an average of 2.2 (SD=2.8) calls from family compared to males ($\bar{x}$=1.4, SD=1.6 calls). There were also differences between Rural and Remote subjects with respect to the means for the reported frequency of calls made to and from family. Remote subjects reported making and receiving more family calls ($\bar{x}$=2.7, SD=3.1 calls) than Rural respondents ($\bar{x}$=1.2, SD=1.4 calls). However, Newcomers ($\bar{x}$=1.7, SD=2.6 calls) and Natives ($\bar{x}$=1.9, SD=2.3 calls) made and received practically an equivalent number of family calls.

It was found that Remote females maintained the highest level of contact with family members ($\bar{x}$=3.5, SD=3.6 calls) while Rural females, by comparison, logged fewer family calls ($\bar{x}$=1.2, SD=1.3 calls). Remote males ($\bar{x}$=1.6, SD=1.8 calls) recorded marginally more family calls than either Rural males ($\bar{x}$=1.3, SD=1.5 calls) and also marginally more family calls than did Rural females.

The mean time spent by females on family calls was close to 10 minutes per call ($\bar{x}$=9.7, SD=7.1 minutes) whereas for males the time spent was closer to eight minutes per call ($\bar{x}$=8.3, SD=6.4 minutes). When the data concerning the total amount of time spent on family calls was examined, it was found that females spent, on average, a total of almost 21 minutes ($\bar{x}$=20.5, SD=30.2 minutes) engaged in family calls compared to almost 11 minutes for males ($\bar{x}$=10.7, SD=16.5 minutes).

The mean time spent and the total time spent on family calls by Natives and Newcomers was analysed and it was evident that there was little variation between these groups. Equally, the difference in the mean time spent on family calls by Remotes and Rurals was not great (See Tables 4:21-4:23 below). However, while there was not any marked difference in the total time spent on family calls by Newcomers and Natives (see Table 4:24), there were considerable differences between Rural and Remote subjects insofar as the total amount of time they spent on family calls was concerned. Remote subjects ($\bar{x}$=26.0, SD=32.5 minutes) spent nearly three times as much time in total as Rural respondents ($\bar{x}$=9.0, SD=15.3 minutes) in conducting their family calls (see Table 4:26).

TABLE 4:21: Mean time spent on calls to and from family split by gender

	Count	Mean	Std. Dev.
Female	42	9.7	7.1
Male	29	8.3	6.4

TABLE 4:22: Total time spent on calls to and from family split by gender

	Count	Mean	Std. Dev.
Female	63	20.5	30.2
Male	55	10.7	16.5

TABLE 4:23: Mean time spent on calls to and from family split by residential status

	Count	Mean	Std. Dev.
Native	48	8.7	6.8
Newcomer	23	10.1	6.9

TABLE 4:24: Total time spent on calls to and from family split by residential status

	Count	Mean	Std. Dev.
Native	75	16.9	25.9
Newcomer	43	14.2	24.0

TABLE 4:25: Mean time spent on calls to and from family split by location

	Count	Mean	Std. Dev.
Remote	35	10.6	5.9
Rural	36	7.7	7.5

TABLE 4:26 Total time spent on calls to and from family split by location

	Count	Mean	Std. Dev.
Remote	48	26.0	32.5
Rural	70	9.0	15.3

When the data were again sorted, variously, by gender and location, by gender and residency, by location and residency, and finally, by gender, location and residency, it was found that, in general, there was little variation in the mean amounts of time spent on family calls. (Range=6.7 minutes to 11.2 minutes.) It was found, however, that when the data were again sorted as above, but this time with respect to the total time spent on family calls (i.e. on Local, STD and ISTD calls) there was a substantial variation between groupings. It appeared that females spent more time engaged in family calls than their male counter parts; that Remote subjects spent more time than their Rural counterparts, and; that Remote Native females, on average, spent the greatest total time engaged in family calls ($\bar{x}$=43.0, SD=42.6 minutes); while Remote Newcomer males, overall, spent the least time ($\bar{x}$=3.0, SD=9.3 minutes).

Although earlier data indicated that males and females participated in similar numbers of STD calls, the total time females spent on STD calls to and from family ($\bar{x}$=12.9, SD=24.5 minutes) was greater than the total time which males spent on STD calls to and from family ($\bar{x}$=7.7, SD=15.2 minutes). Equally, there were substantial differences between the means for the total amount of time spent on family calls for Rural and Remote subjects (viz. Rurals $\bar{x}$=6.3, SD=14.4 minutes cf.; Remotes $\bar{x}$=16.1, SD=26.2 minutes). However, Natives and Newcomers appeared to spend virtually equal time (in total) engaged in STD calls to family.

When Rural and Remote subjects were sorted by gender, it became apparent that the means for total time spent on STD calls (to and from family) differed markedly between Rural and Remote women (viz. Rural females $\bar{x}$=6.5, SD=15.5 minutes cf.; Remote females

$\bar{x}$=20.7, SD=30.4 minutes). However, the means for the total time spent on calls to and from family did not differ greatly for Rural and Remote males (Rural males $\bar{x}$=6.1, SD=13.3 minutes cf.; Remotes $\bar{x}$=9.8, SD=17 3 minutes).

The frequency of STD calls made to and received from family members was also analysed and it was found that females made and received more calls than males. While, the difference in the means between Newcomers and Natives for the number of STD calls made to and from family did not vary much over the two day recording period, it was found that there was some slight difference in the means for the number of STD calls to and from family that had been logged by Rural and Remote subjects (Remote subjects $\bar{x}$=1.6, SD=2.6 calls cf.; Rural subjects $\bar{x}$=0.6, SD= .1 calls).

Finally, locally made calls to and from family were examined. It was discovered that females in this study spent more time on local family calls than male subjects (viz. females $\bar{x}$ total time=7.6, SD=15.5 minutes cf.; males $\bar{x}$ total time =2.9, SD=6.0 minutes). It was further found that the mean total time spent on making and receiving family calls did not vary greatly between Newcomers and Natives (viz. – Newcomers $\bar{x}$=4.2, SD=10.1 minutes cf. Natives $\bar{x}$=6.1, SD=15.9 minutes total time local calls). However, Rural subjects, on average, spent less total time than Remote respondents on local calls (viz. – Rural $\bar{x}$=2.6, SD=5.7 minutes cf.; Remote subjects total time local calls $\bar{x}$=9.6, SD=20.4 minutes).

4:12: Telephone Costs

4:12:1: Differences between Typical and Most Recent Telephone Accounts

One representative from each household was asked to provide details about the amount of their most recent telephone account and about the amount of their usual telephone bill. Because only one person per household completed these questions, gender comparisons were not possible.

From data provided it was apparent that respondents' thought their usual telephone ($\bar{x}$=$380.20, SD=$429.8) bill was higher than the most recent account they had received ($\bar{x}$=$310.70, SD=$269.0). Data indicated that the mean cost of their most recent telephone account was 18.5% lower than the perceived mean cost of a typical telephone account.

There were obvious differences between Rural and Remote subjects with Remote subjects not only indicating that they paid more for their 'average' telephone bill, but also reporting that they had paid more, on average, for their most recent phone bill (see Table 4:27 below). However differences between Natives and Newcomers were not marked (see

Table 4:28 below) with Natives reporting slightly greater means than Newcomers for both typical telephone accounts and for their most recent account.

TABLE 4:27: Mean amount of most recent phone bill & of average phone bill split by location

	Mean	Std. Dev.	Count	Minimum	Maximum
Ph.$.c, Total	310.7	269.0	60	0.0	1400.0
Ph.$.c, Remote	443.2	340.8	23	45.0	1400.0
Ph.$.c, Rural	234.3	177.5	34	0.0	984.0
AvPh$.c, Total	380.2	429.8	59	0.0	2500.0
AvPh$.c, Remote	584.6	585.3	23	110.0	2500.0
AvPh$.c, Rural	253.1	219.5	34	0.0	1058.0

Note: Ph.$.c, = Amount paid for last phone bill;
Av Ph.$.c, = Estimate of amount of typical bill.

TABLE 4:28: Mean amount of most recent phone bill & of average phone bill split by residency

	Mean	Std Dev.	Count	Minimum	Maximum
Ph.$.c, Total	310.7	269.0	60	0.0	1400.0
Ph.$.c, Native	347.3	288.9	40	0.0	1400.0
Ph.$.c, Newcomer	243.3	216.1	19	26.0	984.0
AvPh$.c, Total	380.2	429.8	59	0.0	2500.0
AvPh$.c, Native	383.0	429.4	41	0.0	2500.0
AvPh$.c, Newcomer	373.9	443.1	18	80.0	1800.0

Note: Ph.$.c, = Amount paid for last phone bill;
Av Ph.$.c, = Estimate of amount of typical bill.

4:12:2: Differences between Rural and Remote Telephone Costs

When the data were sorted by location and residency (see 4:29) it appeared that Remote Natives had paid more than any other group for their most recent telephone account and typically paid more for their telephone bill than any of the other groups. Furthermore, the data indicated that Rural Natives and Newcomers typically paid less than their Remote counter parts and had paid less for their most recent account.

TABLE 4:29: Mean amount of most recent phone bill & of average phone bill split by location & residency

	Mean	Std. Dev.	Count	Minimum	Maximum
AvPh$.c, Total	380.2	429.8	59	0.0	2500.0
AvPh$.c, Remote, Native	627.8	599.7	16	110.0	2500.0
AvPh$.c, Remote, Newcomer	485.9	583.9	7	180.0	1800.0
AvPh$.c, Rural, Native	229.4	135.1	23	0.0	700.0
AvPh$.c, Rural, Newcomer	302.5	338.9	11	80.0	1058.0

It can be argued that findings about telephone utilisation should be considered in conjunction with the costs borne by different groups of users of telecommunication services because even though the levels of utilisation of the telephone are similar, expenditure rates

appear to be dissimilar. According y, it was decided to examine the telephone expenditure patterns of Rural and Remote subjects using ANOVA techniques where the dependent variable was the cost of telephone calls (derived from the most recent account) and the independent variables were resider cy and location. The group means are given in Table 4:30 below.

TABLE 4: 30: Expenditure on Telephone Calls

	Residency		
Location	**Newcomer**	**Native**	**Σ**
Rural $\bar{x}$ $ c	302.54	229.41	265.07
Rural SD $ c	124.17	85.87	75.49
Remote $\bar{x}$ $ c	485.93	627.80	556.87
Remote SD $ c	155.66	102.96	93.32
All subjects $\bar{x}$ $ c	394.24	428.61	411.43
All subjects SD $ c	99.56	67.04	83.30

The ANOVA procedure y elded an F ratio of 0.8 (p=0.374) for the two way interaction between residency and location; an F ratio of 0.08 (p=0.776) for the residency main effect, and an F ratio of 5.874 (p=0.019) for the location effect. That is, there is a significant (α=0.05) difference in the mean levels of expenditure between Rurals and Remotes. As is evident from Ta ble 4:30, Remotes spend significantly more on phone services than do Rurals ($\bar{x}$ for Remc tes = $556.00; $\bar{x}$ for Rurals = $265.00).

4:12:3: Costs as a Determinant of T elephone Behaviour

Given the significant differe nce in telephone expenditure between Rural and Remote subjects, it was not surprising that the qualitative data showed that both Rural and Remote telephone subjects were ambivalent about costs and that their telephone behaviour was shaped by their awareness of econ omic factors. On the one hand, they were conscious of the need to minimise costs but they also wanted sustained telephone contact with whoever they were talking with. The following excerpt, in this instance derived from an interview with a Remote subject, typified the ambivalence over costs:

> *Colleen: I ... uhm ... get to the point where I say, 'bugger the cost,' and it's more important for those human relations to continue and to feel, you know, to feel the warmth of a voice down the phone line. They take precedence over money really in the end.*
>
> *Jens: Right. Does the ... s it irksome or is it something you're aware of... the cost factor?*
>
> *Colleen: The cost factor is irksome, yes.*

But those who either phone, or are phoned by Rural and Remote people are also 'cost conscious.' Kate is a distance education teacher of pre-school children and liaising with Remote parents, often by telephone, is an integral part of her job. She recounts a recent experience with a Remote mother and comments on how that experience generated within her, a reticence towards inviting parents to telephone her in order to discuss elements of their children's learning – even though the policy of her school is to phone the caller back immediately so that parental expenses can be minimised:

> *Kate: See another complication there now is ... I know we were out at a workshop not long ago ... and the lady of the house said, 'our phone bill is $800 a quarter.' And we went 'ahhh', and every phone call she makes is an STD phone call. So the cost of phone calls would be interfering with that general pattern that I expect you to find (of parents phoning me up). And I know I now make fewer phone calls than I used to because of that.*

A little later in the interview, Kate, who was still quite agitated about the whole matter of costs, comments about the seeming absence of governmental support for Remote parents:

> *Kate: Yes. Yes. Yes. Yes. The lady with the $800:00 a quarter phone bill. Every phone call is an STD call and there'd be no recognition at all in government policy of how significant that is.*

Still later in the interview, when Kate was asked how important 'chit chat' is when liaising with Remote parents, she again raised the matter of costs only this time her comment demonstrated that others are cost conscious too:

> *Kate: I don't know. I would think so. It'd have to be. I'd say this lady with the $800:00 phone bill ... and this lady that got flooded, tracked me down ... that I was at this property ... and rang. And the lady of the household with the $800:00 phone bill was walking past saying, 'don't talk for too long – this is her phone bill'. Yeah, so she was aware of that ... and I mean, I was too, but I really couldn't hang up and say, 'Look I can't talk now. Bye.' This lady wanted to talk. So we had a chat. It's quite amazing.*

Thus, in this instance, the costs of telecommunications appear to inhibit the frequency and duration of telephone episodes which are initiated between remotely based home supervisors and distance education teachers. Being cost conscious can also shape the duration of other forms of telephone calls. For example, this can occur when offspring contact their parent/s by means of STD. Sharon's comment explains this:

> *Sharon: (Pause.) Uhm .. say with Don's mother (Don's parents are divorced) say with his mother, she would ring more often because she's working and she said, oh, she can afford it and she likes to speak to the grand-daughters. Rather than if we ring, she thinks, 'Oh, I'd better hurry.' (Chuckles.) So it's just a cost factor. But she would ring every ... every week, really.*

Again, therefore, the observation can be made that telecommunications costs hasten the telecommunications process. Remote adults who are studying by means of the distance education mode are also cost sensitive as Heather illustrates:

> *Heather: I find the biggest problem with the system at the moment is the cost involved. I'm studying through Orange and when I have to ring lecturers with a problem, or I have to try and get information because I can't run down to a local TAFE or library, on the phone, I find the phone bill goes through the roof.*

4:12:4: The Importance of the Telephone for Remote Women

But while it was clear from the qualitative data that Remote telephone users felt that their high telephone bills were principally attributable to their isolation, and while it was equally apparent that high telephone costs are seen as a source of irritation, the telephone is also seen as essential and as irreplaceable. Both the quantitative and qualitative data clearly demonstrated this. Subjects were asked to complete a seven point Likert Scale which assessed how reliant they felt that they were upon the telephone (where 1=very reliant, 7= hardly at all, and 8=not applicable). Figures 4:1a-d below reveal that most subjects were, generally speaking, telephone reliant but Remote respondents felt that they were more reliant upon the telephone than Rural subjects and those subjects (n=20) who had adult female children living away from home were, as a sub-group, the most reliant.

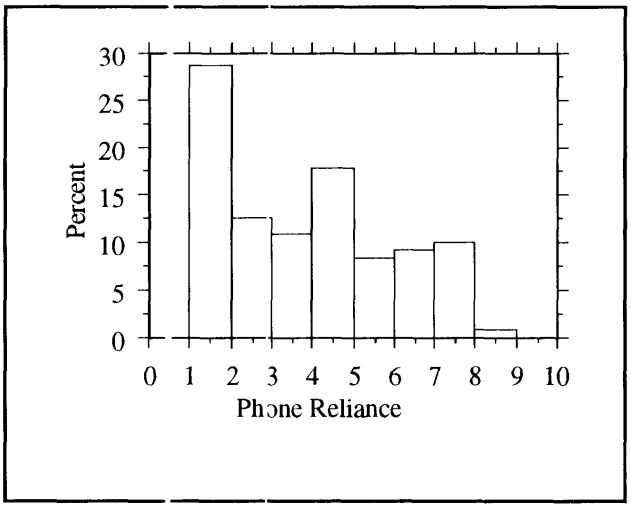

FIGURE 4:1a: Frequency of responses – all subjects – to Likert Assessment of Phone Reliance

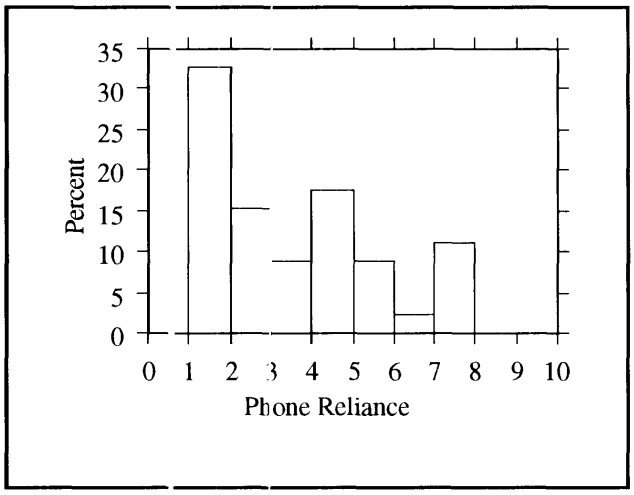

FIGURE 4:1b: Frequency of responses – Remote only – to Likert Assessment of Phone Reliance

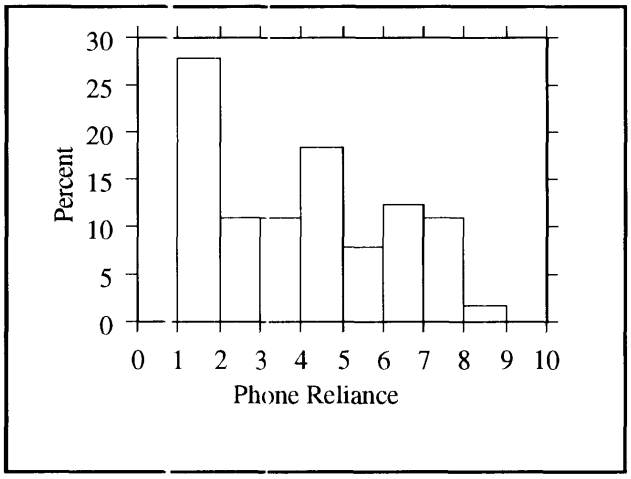

FIGURE 4:1c: Frequency of responses – Rurals only – to Likert Assessment of Phone Reliance

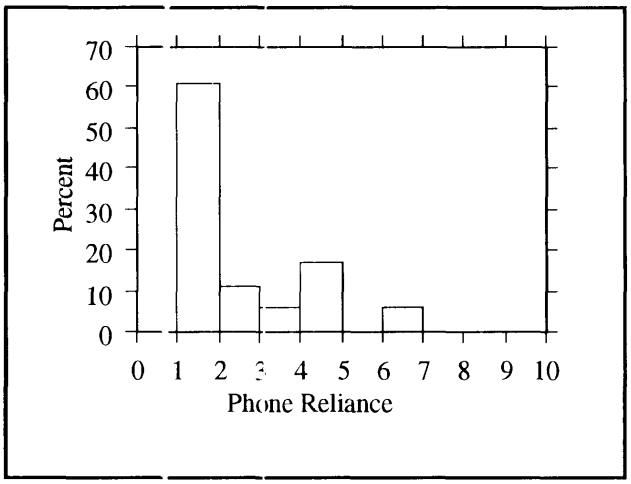

FIGURE 4:1d: Frequency of responses – subjects with adult female children living away – to Likert Assessment of Phone Reliance

Comments made by respondents in the open ended section of the questionnaire repeatedly attested to telephone reliance and Betty's comment below typifies how remote respondents felt about the importance of the telephone despite costs:

> *Jens: All right. Let me move onto the telephone. About $1 225 is very high as you said, with an average of a $1 000.*
>
> *Betty: Yes. I've got another one right now for $! 225. Came yesterday.*
>
> *Jens: Are you disadvantaged by your isolation insofar as the phone is concerned?*
>
> *Betty: Ah yes! As in because it costs so much you mean?*
>
> *Jens: Yeah.*
>
> *Betty: Yeah definitely.*
>
> *Jens: But does the isolation shape or in any way govern the length of your phone calls?*
>
> *Betty: I'm sure it does, yeah.*
>
> *Jens: So you're penny wise and penny conscious?*
>
> *Betty: Yeah. Well you know. Yes. I think what happens when the phone bill comes like now, we've got this big phone bill and I think 'gee whiz, you know, what's Craig going to say about this?' And then I think, well I've always said, 'I'll cut down on everything else.' I couldn't stay out here and cut down – I could cut down on it but I couldn't say bring my phone bill back to half. Not very successfully. I'd rather go without buying clothes or even cutting down on the grocery bill. And I think we would find ... I would find, that the women I talk to would feel the same way because we all talk about our phone bills and say the same thing. But it's so important to us sanity wise, social wise, information wise, that it's the last we'd do without. Its the last thing I'd do without. I'd do without my beer; I'd do without my groceries; I'd do without clothes; but the telephone is the last thing I'd do without.*

Kimberley (from the USA) and Louise (an Australian born governess) echoed Betty's sentiments. Louise felt that costs encouraged phone users to limit their calling but Kimberley felt that the cost was not an impediment when the phone was used for maintaining contact with family:

> *Jens: Now one of the comments that came through last night during the discussion group was that people were actually cutting back on their phone calls because of the cost factor which means that they were keeping less in touch with friends – less in touch with family. Do you agree that that's what happening?*
>
> *Louise: Definitely.*
>
> *Jens: (to Kimberley) But you're saying that's not the case.*
>
> *Kimberley: Well in our case, no.*
>
> *Jens: Right. Is that a conscious decision? I mean are you aware, you know, hey, there really is a lot of money and I'm going to be careful when I call?*

Kimberley: Oh we know that ... but I mean, I suppose, especially with ... in regard to our international calls ... because I only get to see my family ... oh it averages out about once a year ... the cost of the call is trivial. That's nothing ... to us ... but that's nothing because, uhm, we believe ... it's important to keep in touch

Despite the above comment, it became clear later in the interview that Kimberley was conscious of trying to minimise costs. However, there was also an expectation that her time on the phone, because it involves such a great distance, should be 'quality time'. In fact, there was evidence that because of the cost factors, phone calls were sometimes pre-planned in order to try to deliberately minimise circumlocutory 'chit chat' even though, ironically, 'chit chat' almost certainly cements the affective calibre of the call. Indeed, it is contended that 'chit chat' is an important vehicle for informal learning about the well being of the family and that it is the '*chit chat factor*' which ensures that the telephonic experience become one of 'quality time'. Mary, a Remote Newcomer from north west New South Wales informally pre-plans her ISTD phone agenda and here she explains why. She also concurs that chit chat is a mechanism for discovering how her relatives are:

Mary: Well when we make calls, my daughter's back in England now. I don't just spend two or three minutes talking to her because to me it's extremely important to keep that communication going. She's only just 21, so I would probably talk for half an hour I suppose, which I know is expensive. And it's not always on a Saturday when I know there's a cheaper rate because it doesn't fit in with day-time over there or her program or whatever. The same when I talk to my parents. I feel if I'm on a limited time and if I don't work out what I'm going to say beforehand, that I can't relax and say any thing that's sensible and I keep repeating what I've said. You know, 'how are you today'' and about the weather and trivialities instead of talking about things that might have some meaning to them.

Jens: Those trivialities are fairly important things that are part and parcel of the telephone behaviour though, aren't they?

Mary: Well to me they are. That's how I find out how they're keeping. I also keep up a continual communication with my parents through correspondence, so we have letters regularly every week as well as, my mother's suddenly taken to ringing me as well and if she doesn't, I usually try and ring her at some stage. You know, they're getting into their eighties, so times running out as far as they're concerned and hence I keep that communication going and it's terribly important.

Thus it seems that pro-active planning occurs for what amount to directed informal learning episodes which are scheduled to occur over the telephone. But despite this pro-active planning, incidental informal learning also occurs, in tandem and perhaps unwittingly during the 'chit chat' process. However, because cost factors are perceived as intruding upon the phone process, the telephone call agenda, to a greater or lesser extent, may become pro-actively planned. This planning, arguably, reshapes (and therefore perhaps impinges upon) the informal and incidental learning processes which transpire over the telephone between separated family members. Again, Mary's comment is apposite:

Jens: If you have a half hour call, which is what you're describing to me, are you aware of the cost?

Mary: Oh yes. About $60 a time. I'm quite aware of that, yes. And we don't do it all the time. In fact mother and I ... she'll ring me one time and I'll ring her another. My daughter will ring me from England and say, 'mum, can you ring me back?' because she can't afford the call. But there comes a time when I've been talking for probably 15-20 minutes when I begin to realise, you know, that we have been talking long enough. But as I say, if I think about the time that it's going to take to make a call, when it's for general communication and find out how they are, and what they're doing and all this sort of thing, I can't relax enough if I'm trying to do it in three minutes or limiting myself to a very short time. I don't know how other people cope with it, there may be a better technique to use I suppose.

Indeed, it appears that both Rural and Remote telephone users contemplate and adopt a variety of strategies for minimising telephone costs. The interview excerpts below demonstrate some of their strategies. Helen, a Rural Newcomer, for example, has bought into a discount scheme:

Helen: Flexi-plans. Basically, you pay so much per telephone bill, and it might be say ten dollars, and then you get a ten percent reduction on all the calls that you make to nominated family members and so, you know, if you make quite frequent phone calls, then you get quite a considerable saving. A couple of dollars per bill There's also others that you can get. There's a flexi plan that we're on where I think it's that any calls after six o'clock go into the night rate rather than the after hours rates. So at six at night it actually goes into night rates. So you get a bigger reduction there.

Others make use of the UHF radio to try to minimise the cost of using the telephone. Findings about this technology will be discussed in detail in the next chapter but it is appropriate here to note that the *public* or *non private* nature of radio is clearly perceived as an important factor to be considered when it is being used in lieu of the telephone. Allan points this out after he's been asked about what he typically talks about over the UHF radio:

Allan: Oh, all sorts of blasted things I suppose. It wouldn't be personal things. You know, it's not very personal sort of stuff. But the daughter and the son-in-law, they've got two-way as well as the phone ... and uhm ... well, she can call up his relations and that type of stuff around the place. She can call them up without the cost of a phone call. And call and ask them to get so and so or do so and so, or just have a yarn to them and there's no charge for the telephone.

Thus informal learning that occurs over radio tends to be non-private and functional rather than relational and therefore private. In fact, the absence of privacy over both radio networks and the former party line networks which were commonplace in Remote communities, was one reason why Remote people welcomed the introduction of automatic exchanges. Betty's reply to my comment on the use of UHF radio is apt:

Jens: OK. If you want to talk to someone isn't this a way of bringing your telephone bill down?

Betty: Yes it is. But the reason that we were dying to go automatic was because we could have private conversations.

However, the introduction of automatic exchanges and the attendant individual phone lines has not only seen the demise of the party line, but has also, apparently, had the latent consequence of diminishing contact between neighbours and party line members. This reduced frequency of tele-interactions has arguably, therefore, diminished the number of informal and incidental learning episodes which occur between those same people especially given that tele-interactions are a requisite for this form of informal and incidental 'tele-learning' occurring in the first place. Again, Betty, who was a key informant, summarises the matter succinctly:

Betty: But we find now – I know a neighbour over here whose about 20 miles from here – we were on the same phone line as them and we used to talk to each other nearly every day. Now I don't talk to them at all and we make a special effort to talk to each other once a week because we don't see each other.

Jens: And it now costs you more – whereas before you could pick it up and it wouldn't cost you anything.

Betty: Yeah exactly! And we've lost a hell of a lot of contact. Our kids are the same age and they've all gone away now. And we just don't see each other. We were saying that ourselves, you know, we're actually more isolated now because we don't talk to our neighbours as much as we used to.

Hence it is hardly surprising that Remote women in particular view the telephone as indispensable. Throughout this study it was found that Remote women use the telephone not only for networking with kin, but also for networking with other women. Some felt that Remote men were more likely to make face to face contact with visitors who came to the farm and were more likely to see 'mates' when they, the males, visited town. By contrast, women on the farm were more likely to be engaged in matters such as providing home based supervision of their children's distance education and were more likely to be doing the shopping when they were in town:

Nadine: I guess, uhm, being a woman even in the country, there's sort of a different attitude towards women. People come in and want to speak to my husband, or ring up ... if it's official they usually like to talk to my husband. I guess that's the way of life. Uhm, yes I find, when we lived on our property, we had no telephone for five or six years and I found it probably the hardest thing to live without. So yes, I think it's really important.

Jens: For women?

Nadine: Particularly if you have a family and you want to go somewhere ... it's much better to find out if it's all happening than just pack up and drive two hours and find out there's nothing there. And with children's schooling and being sick, yes I think the telephone is of vital importance.

Jens: Right. What about you, Pat?

Pat: Yes I think so. Uhm I find, uhm, now my husband, as an example, might get to town a couple of times in a week. He might call at the local pub and have a beer and meet some of his friends and have a talk. I find, when I go to town, you know, sort of once throughout the week and once in a weekend to visit family or friends, uhm, well that once through the week, you're too busy shopping and paying bills and watching after the children, so you don't get that chance. So I find that most of my social contacts would nearly be through the phone.

The implication, therefore, is that the telephone is especially important for women maintaining contact with, and learning from, other women. Ruth adds another dimension to the matter when she comments about the increasing amount of farm work which Remote women now undertake. Ruth notes that, in her view, Remote living is increasingly stressful and this elevates the importance of the telephone. Her comments here typify sentiments which were expressed by a number of women during the course of this study:

Ruth: Every family's different. Uhhm. But there's more stress there so they're taking on more. Most of the women are taking on far more than they did three years ago – as well as teaching... The comment I hear quite often too is 'Oh I haven't got time to do the teaching as well'. And so they're not as involved with their children and they see less of women than they used to. So the telephone's vital – yes.

But, Ruth, like many other women also see telephone expenses as a barrier to Remote women contacting other women:

Ruth: I've cut down on the telephone. But I decided that it wasn't doing me any good. Ha!

4:13: Using the DACOM Taxonomy for Classifying Telephone Calls

It has been established in this chapter that the volume of telephone traffic generated by Rural and Remote male and female subjects is not significantly different. Moreover, the duration of telephone calls made by all groups is relatively similar. However when call motives are analysed it becomes clear that females tend to spend more time talking to family members and this is especially so for Remote females even though Remote subjects pay significantly more for their telecommunications activities than Rural people.

The qualitative data were mined in order to demonstrate that Remote women in particular are sensitive to the inhibiting effects of telephone costs. Analysis of these data showed women consciously try to modify their telephone behaviour because of their awareness of costs. Thus they frequently try to shorten their calls and they tend to minimise 'chit chat'. Remote women in this study also acutely felt that their sense of isolation was

exacerbated by high telecommunications costs and aside from expressing the need to converse with other women, they also strongly argued that the telephone is an indispensable item for them as Remote women. The quantitative data were supportive of these sentiments.

These arguments and comments can be interpreted as a social equity issue. The claim here is that although Remote people theoretically have equal access to telecommunications, the significantly higher costs incurred by Remote users constitute a barrier which prevents them from participating on an equal footing in telecommunications based informal and incidental learning activities.

Central to this claim is the assumption that the telephone is an instrument for informal and incidental learning. It was decided to explore data gathered about the DACOM taxonomy to confirm this. As outlined in Chapter One, the DACOM functions (*Description and Classification of Meetings*) were devised by Pye and his associates as a checklist for categorising procedures and processes which occur within face-to-face business meetings (see Short,Williams and Christie, 1976, pp.36-41). Pye's checklist was later modified and used by Johansen et al. (1976, 1978) for gauging how satisfactorily computer technologies could be used for performing functions such as giving and receiving information, exchanging opinions, resolving disagreements, giving and receiving instructions, etc.

An item was included in the survey form used in this study in order to gather data about how well the telephone can be used for performing the DACOM functions. The question, adapted from Johansen's (1978) modified version of Pye's DACOM checklist, employed a seven point Likert scale and asked respondents to assess how satisfactory they found the telephone to be for:

- giving information
- problem solving
- decision making
- resolving disagreements
- giving or receiving instructions
- exchanging opinions
- receiving information
- bargaining or negotiating
- persuasion
- getting to know someone
- maintaining friendly relations

In addition, respondents were asked to identify and assess any other function which they wished to add to the given DACOM taxonomy.

A preliminary examination of Likert Scale responses suggested that subjects perceived the telephone to be especially useful for maintaining friendly relationships, for exchanging opinions, for information exchange, and for transceiving instructions. By

contrast, the telephone was seen to be not as useful for getting to know someone and for resolving disagreements. A number of subjects (n=21; 17.4%) indicated that the telephone had utility beyond the DACOM functions listed in the questionnaire and uniformly, each of these subjects nominated the telephone as vital for making contact with others in the event of an emergency. The frequency of responses to each of the DACOM categories and a summarising table which shows means and standard deviations is presented in Appendix I When these data were further examined by the categories of gender, location and residency, it was found that there was little variation to the trends already noted and the same functions (i.e. maintaining friendly relationships, exchanging opinions, information exchange, transceiving instructions and emergency contact) were repeatedly perceived as the most useful telephone functions.[1] Hence, in order to further explore the usefulness of the DACOM categories, and especially its relationship to a number of the other key variables which had been canvassed during this study and found to be important, a principal component analysis (PCA) form of factor analysis was undertaken.

4:14: Principal Component Analysis

A set of 26 variables was selected from the database for further examination using the PCA form of factor analysis. The specific variables listed in Table 4:31 below were selected in order to investigate the interrelationship between demographic factors, telephone behaviours, UHF usage[2] and the DACOM taxonomy.

PCA was used because the examination was neither closely informed by existing communications behaviour theory nor adult learning theory (Tabachnick, 1989; Hair, 1995). Instead the PCA was essentially driven by a need to systematically explore the correlation matrix so as to adduce the most influential factors.

The correlation matrix showing the pattern of partial correlations and the squared multiple correlations in the set of 26 variables is given in Appendix J. These matrices were analysed using the Statview implementation of PCA. This yielded a Bartlett chi-squared value of 2949.4 (N=133, DF=350) which was highly significant ($p<0.0001$) and a matrix sampling adequacy index of 0.8. This indicates that the pattern of correlations between variables will allow for a factorable solution. Using a combination of two criteria, latent roots greater than 1 and a Scree Test to detect the point of inflection on the graph of latent root values against the number of factors (see Figure 4:2 below), eight factors were

[1] Of interest, and informing the subsequent factor analysis, were the Likert responses of subjects who had adult female children living away from home. These subjects rated maintaining friendly relations, exchanging opinions and giving information as the most valued functions of the telephone.

[2] UHF factors were included in this factor analysis because it had been discovered repeatedly throughout the study that this is an important communications technology within rural and remote localities. Aside from the PCA findings reported here, other UHF data are presented in the following chapter.

extracted using an oblique solution. The primary pattern matrix which is consistent with the structure matrix for that solution is given in Appendix J and the table of factor loadings is shown in Table 4:32 below.

TABLE 4:31: Variables used for Principal Components Analysis

Theme	Specific Variables
Demographic factors	Gender (female, male) Location (Rural, Remote) Residency (Newcomer, Native) SES Adult female children living away from home
Telephone behaviours	Phone Reliance Number of STD calls Number of calls to family Estimated number of inwards calls Estimated number of outwards calls Total time spent on phone
DACOM functions	Giving information Receiving information Problem solving Negotiating Decision making Persuasion Resolving disagreements Getting to know someone Giving or receiving instructions Maintaining friendly relations Exchanging opinions
UHF Behaviours	UHF Reliance Duration of UHF ownership Number of UHF received Number of UHF calls made

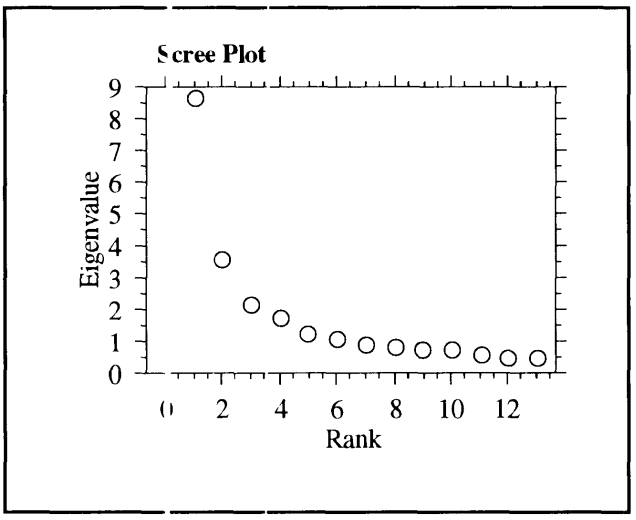

FIGURE 4:2: Scree Test showing point of inflection on graph of latent root values against number of factors

TABLE 4:32: Factor Loading for set of selected variables

	F1	F2	F3	F4	F5	F6	F7	F8
Demographic factors								
Gender				0.8				
Location					0.7			
Residency						0.8		
SES								0.9
Adult female chn living away				0.8				
Telephone behaviours								
Phone Reliance	0.5							
Number of STD calls							0.8	
Number of calls to family							0.7	
Estimated no. inwards calls			0.9					
Estimated no. outwards calls			1.0					
Total time spent on phone							0.8	
DACOM Functions								
Giving Information	0.9							
Receiving Information	0.9							
Problem Solving	0.9							
Bargaining & Negotiating	0.8							
Decision Making	0.9							
Persuasion	0.8							
Resolving Disagreements	0.8							
Getting to Know Someone	0.6				0.6			
Giving/Receiving Instructions	0.9							
Maintaining Friendly Relations	0.9							
Exchanging Opinions	0.8							
UHF Behaviours								
Reliance on UHF		0.8						
UHF outwards calls		0.9						
UHF inwards calls		0.9						
Duration UHF ownership		0.7						

Factor One, which accounts for 30% of the unique and joint variance, represents 12 variables. These include the 11 modified DACOM variables which were reported in the previous section of this chapter and the variable of telephone reliance. Clearly subjects identified with the telephone functions identified in the DACOM taxonomy and given that the taxonomy was included in order to identify specific functions which might be aligned with the use of the telephone for informal and incidental learning, it is apparent that the telephone is a powerful learning instrument for rural and remote subjects alike. Moreover, it is clear that both rural and remote subjects feel that they are very reliant upon the telephone and this is consistent with the descriptive data about telephone reliance which were presented earlier in this chapter.

Factor Two, which accounts for 10% of the unique and joint variance represents four variables each of which are concerned with UHF radio (i.e. reliance upon UHF, the number of outwards UHF transmissions, the number of inwards UHF transmissions and, the duration of UHF ownership). Although detailed data concerning UHF radio will be presented in the next chapter, it is appropriate here to note that in this study the UHF radio is predominantly used by Remote subjects. It is also relevant to highlight that there are significant differences between the number of functional and relational calls made through UHF (see pp.159-160) and that UHF is almost exclusively used for functional communication. Given these points, the principal component analysis confirms the importance of this technology to Rural and Remote dwellers. Given that UHF affords a symbolic proximity between Rural and Remote workers and their work-base, which is often the home, it is not surprising that there appears to be a significant reliance upon this technology.

Factor Three, which also accounts for 10% of the unique and joint variance, represents two variables which are concerned with the estimated number of calls subjects thought that they had made (i.e. the estimated number of inwards calls and the estimated number of outwards calls). As has been noted previously in this chapter, there was a considerable discrepancy between the number of calls which subjects actually made and the number of calls that they thought they made and received in a typical week. It appears that subjects uniformly over-estimated the number of calls that they felt that they made and this factor suggests that there was a uniformity of over-estimation between inwards and outwards calls.

Factor Four, represents two variables which are concerned with gender and with having adult female children who live away from the family home. This factor also accounts for 10% of the unique and joint variance found in this solution. This finding concerns the theme of *kin keeping* and is, therefore, consistent with findings which have emerged from a number of previous studies (see for instance Moyal, 1989b, 1992; Cox, 1993; George, 1994). The finding reaffirms that it is women who are the most likely to make contact with kin and that the most likely *kin keeping* connections are those which occur between mothers and their daughters. In short, it can be reasoned here that the telephone is used by women as an instrument for learning about the welfare of family. Both the interview data and the descriptive quantitative data strongly confirmed that mothers in particular make deliberate contact with their children although it was also found that older daughters frequently made intentional contact with their elderly mother in order to learn about her well-being.

Factors Five to Eight together account for 40% of the unique and joint variance found in this solution. Factor Five represents two variables (location and the DACOM function of *Getting To Know Someone*); Factor Six represents one variable (residency); Factor Seven represents three variables (number of STD calls, number of calls to family and total time spent on the telephone); and finally, Factor Eight represents one variable (SES).

Factor Five links the DACOM function of Getting To Know Someone with location. Two interpretations are equally plausible here. The first of these suggests that using the telephone for Getting To Know Someone is a product of a person's remoteness. The reality is that Remote subjects have little choice but to use the telephone for social intercourse and hence getting to know somebody better over the phone is normative for isolated people. In stark contrast, the second interpretation proposes that the telephone is not deliberately not used for getting to know someone by rural people because they choose, where possible, to socialise on a face-to-face basis. The qualitative data suggests that for Rural people this is the preferred approach to socialising but for Remotes, that choice typically involves a greater travel component.

Factors Six and Eight each account for a single variable, residency and SES, respectively. This indicates that each of these variables is essentially unconnected with other variables in this data set.

Factor Seven reinforces the interpretation attributed to Factor Four – namely – that the telephone is especially important to Remote women for *kin keeping*. More pointedly, this factor is also consistent with the discovery that there are significant differences between Remote and Rural subjects with respect to the cost of their telephone accounts. Several Remote respondents in this study ($n \approx 12$) indicated that they were unable to make untimed local calls – i.e. all of their calls were classified as 'toll calls' and this factor is consistent with that observation. But it is also reasonable to argue that many *kin keeping* calls routinely involve STD. Hence, given that women adopt or are given the role of primary *kin keeper* in many families, it can be reasoned that women make more *kin keeping* toll calls. This also accounts for the greater amount of time Remote women in this study spent in talking to family members over the telephone even though, as the qualitative data established, time saving strategies are adopted and the humanising *chit chat* process is often deliberately diminished. Thus using the telephone as an instrument for learning about the well being of family members typically involves the lodging of toll calls. It is, therefore, an expensive exercise for both Rural and Remote women, but it is especially expensive for Remote women which is why many subjects sought to make use of the cheaper calling rates which are in force on Sundays.

4:16: Concluding Comments

The focus of this chapter has been on the telephone behaviours of the Rural and Remote subjects who were recruited for this study. Evidence has been presented to show that there was a remarkable consistency in terms of telephone traffic by frequency of call and call length. There was also evidence to show that the majority of telephone calls lodged and/or received had *functional* rather than *relational* motives. Again, there appeared to be a degree of uniformity between sexes and across groups with respect to this matter.

However, quantitative evidence was also presented which demonstrated that despite telephone traffic consistency and calling motive uniformity, Remote telephone subscribers in this study paid significantly more for their telephone services than did Rural respondents. Moreover, it was found that Remote subscribers expressed a greater level of dependence upon the telephone than their Rural counterparts. Women in particular, repeatedly stressed the importance of the telephone for them as 'women who needed to talk to other women' and for them as women completing their many and varied roles as *kin keepers*. Arguably therefore, while the telephone is clearly used for information exchange during functional telephone calls (which is one form of informal and incidental learning) it is also used affectively – i.e. for learning about the welfare of other people during relational telephone calls. It was discovered, however that in trying to minimise costs, Remote subscribers had devised and learnt to employ a number of telephone strategies which appeared to improve the *functionality* of their telephone call, whilst at the same time appearing to diminish, or at least put pressure on *relational* aspects of their call.

In order to explore specific telecommunications functions which might usefully be aligned to the process of learning informally and incidentally over the telephone, the DACOM taxonomy was explored. However, because of perceived limitations of the descriptive data which were generated, it was decided to explore the DACOM variables (and their relationship to a number of other variables) by means of the PCA form of factor analysis. A highly significant solution was achieved which verified the contention that the DACOM criteria used in this research provide a useful taxonomy of telecommunications functions. Furthermore, the PCA results confirmed the importance of the telephone for Remote subjects and also supported the argument that the telephone is an important instrument for maintaining contact with family members – especially adult female offspring who have left home. Finally, the PCA data suggested that UHF radio is an important technology within the Rural and Remote landscape and it is to this that our attention now turns. In the chapter which follows, Rural and Remote uses of UHF radio and other ancillary telecommunications technologies are explored. As well, the matter of privacy and how this affects telecommunications messages is also considered.