

CHAPTER 4 RESULTS AND DISCUSSION

4.1 INTRODUCTION

The results of the study are discussed in this chapter, in terms of the length of the recorded samples and the coding of communication segments. The results of the topic analysis are discussed under each of the three referential frames (time, person and content). The frequency with which the topic categories under each of these frames are referenced is discussed. As the content frame contained many categories (43 different categories), the range of categories referenced in each of the two work contexts as well as the pattern with which they were referenced across the 11 samples are also discussed. Differences and similarities in topic referencing between the two work contexts are highlighted under each of the frames. Comparisons are also made to previous studies on topic referencing, specifically Balandin and Iacono's study (1998a) and, to a lesser extent, the studies by Marvin, Beukelman, Brockhaus and Kast (1994) and Stuart et al. (1993).

4.2 CONVERSATION SAMPLES

4.2.1 Recording time

The recording time for each sample differed. As the recorders were not voice-activated, the silences between conversations were also recorded. In order to eliminate these from the samples, a random cut-off time of 30 seconds was chosen - silences of more than 30 seconds were timed and subtracted from the total recording time. The resulting times as well as the number of communication segments for the samples are contained in Table 4.1.

Of the samples, ten were longer than 10 minutes, while sample A9 consisted of a very short recording of only 4 minutes. The average recording time was 20 minutes, 43 seconds, with a standard deviation of 10 minutes, 26 seconds.

Table 4.1 Recording time and number of communication segments of the samples

Daily samples	A1	A2	A3	A4	A5	A6	A7	A8	A9	B1	B2
Time (in minutes and seconds)	11,30	20,50	20,45	19,30	10,50	29,10	17,00	20,10	4,00	36,30	37,43
No. of communication segments	126	240	230	206	184	213	119	338	43	321	297
Total time of recordings per context	Total: Context A: 153, 45									Total: Context B: 74, 13	
Total number of communication segments per context	Total: Context A: 1700									Total: Context B: 618	
Total recording time	227.58 = 3 hours, 47 minutes, 58 seconds										
Average recording time per sample	20.43										
Standard deviation	10.26										
Total number of communication segments	2318										
Average number of communication segments per sample	210.7										
Standard deviation	90.3										

4.2.2 Segments coded

A total of 2318 communication segments were coded. Due to the shorter recording time, sample A9 had significantly fewer segments than the other samples. The average number of communication segments was ~210.7 per sample, with a standard deviation of 90,28 segments. The topic analysis of the 2318 segments according to the frames *time*, *person* and *content* yielded a total of 61 different topic categories. Some categories were subdivided to yield a total of 119 classification possibilities. Each of the categories (and sub-categories) is described in Appendix E.

4.2.3 Segments not coded

An additional 472 segments were not coded (see Appendix D for definitions of the 5 categories of segments not coded). Table 4.2 gives a breakdown of the segments that were not coded.

TABLE 4.2: Segments not coded

Description	Number of segments
Unintelligible	335
Lack of context	50
Etiquette	54
Request for clarification	23
Calling	10

4.3 TOPIC FRAME REFERENCING

4.3.1 Time frame

The time frame contained five categories. The category 'intermediate past' combined the categories 'year past' and 'decade past' identified in Balandin and Iacono's study (1998a, p.136), and consequently spanned a wide time range. This adaptation was necessary as it was often not clear when exactly the events referenced took place. The other four time frames were defined identically to those of Balandin and Iacono (1998a). A summary of the participants' referencing of the different time frames for each day's sample as well as for the composite sample is provided in Table 4.3 as a percentage of the total communication segments per sample.

Table 4.3: Participants' referencing of the time frame categories, expressed as a percentage of the total communication segments per sample

<i>Time frame</i>	<i>A1</i>	<i>A2</i>	<i>A3</i>	<i>A4</i>	<i>A5</i>	<i>A6</i>	<i>A7</i>	<i>A8</i>	<i>A9</i>	<i>B1</i>	<i>B2</i>	<i>Totals across all samples</i>
1. Distant past	4.8	0	0	0	0	0	1.7	2.4	0	0	0	0.7
2. Intermediate past	23.8	16.3	14.3	30.6	25.5	48.3	25.2	16.3	20.9	66.1	22.8	29.7
3. Recent past	15.1	8.3	17	17.4	7.6	0	16.8	14.8	2.3	0.9	19.1	11.2
4. Present	46.8	67.5	54.8	47.1	57.1	40.4	49.6	60.3	53.5	31.5	55.4	51.7
5. Future	9.5	7.9	13.9	4.9	9.8	11.3	6.7	6.2	23.3	1.5	2.7	7.2
<i>Total</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>

The present followed by intermediate past (happenings more than one week, but less than 10 years ago) were the most frequently referenced time frames in the composite sample. These two time frames ranked top two in 10 of the recordings. The present was referenced most frequently in 10 of the 11 samples, and in these samples, took up more than 40 % of the communication segments. In sample B1 the intermediate past was referenced significantly more frequently than the present. This variation might be accounted for by the fact that participants did not reference the work process or jobs during this day (a content frame category that was usually referenced in the present tense), but spent the most part of the conversation discussing suicides of a media figure, colleague and a family member that had occurred in the intermediate past. In sample A9, the present was referenced most, followed by the future, which was referenced slightly more often than the intermediate past. Participants discussed the

future of the South African cricket team after the match fixing scandal during this sample, which accounted for many references to the future. Following the present and the intermediate past, the overall order of the remaining time frames (from more to less frequently referenced) was: recent past, future, distant past. The distant past was referenced least in all samples, and was not referenced at all in 9 of the 11 recordings. In Figure 4.1, participants' use of time frame categories is given for each context, expressed as a percentage of the total number of communication segments obtained for each context. Similar tendencies were observed in both contexts, except that references to the intermediate past ranked slightly higher than references to the present in Context B. This order was reversed in Context A. The discussion of past suicides could have been the influence.

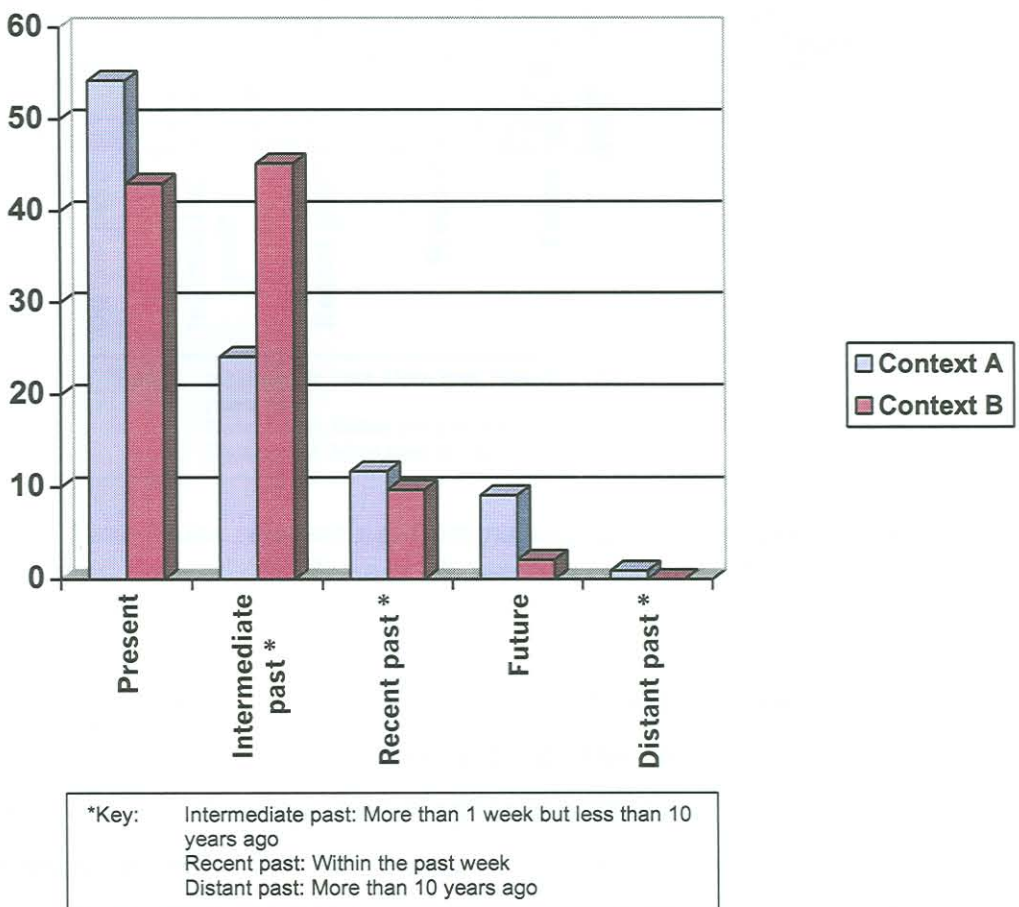


Figure 4.1: Percentage of references to time frame categories for Contexts A and B

Figure 4.2 gives a comparison between the overall time frame referencing found in the present study and the time frame referencing found in Australian meal-break

conversations (Balandin & Iacono, 1998a) as well as conversations of elderly American women (Stuart et al., 1993). For the purpose of the comparison, the two frames ‘year past’ and ‘decade past’ identified in the two latter studies were grouped together as ‘intermediate past.’

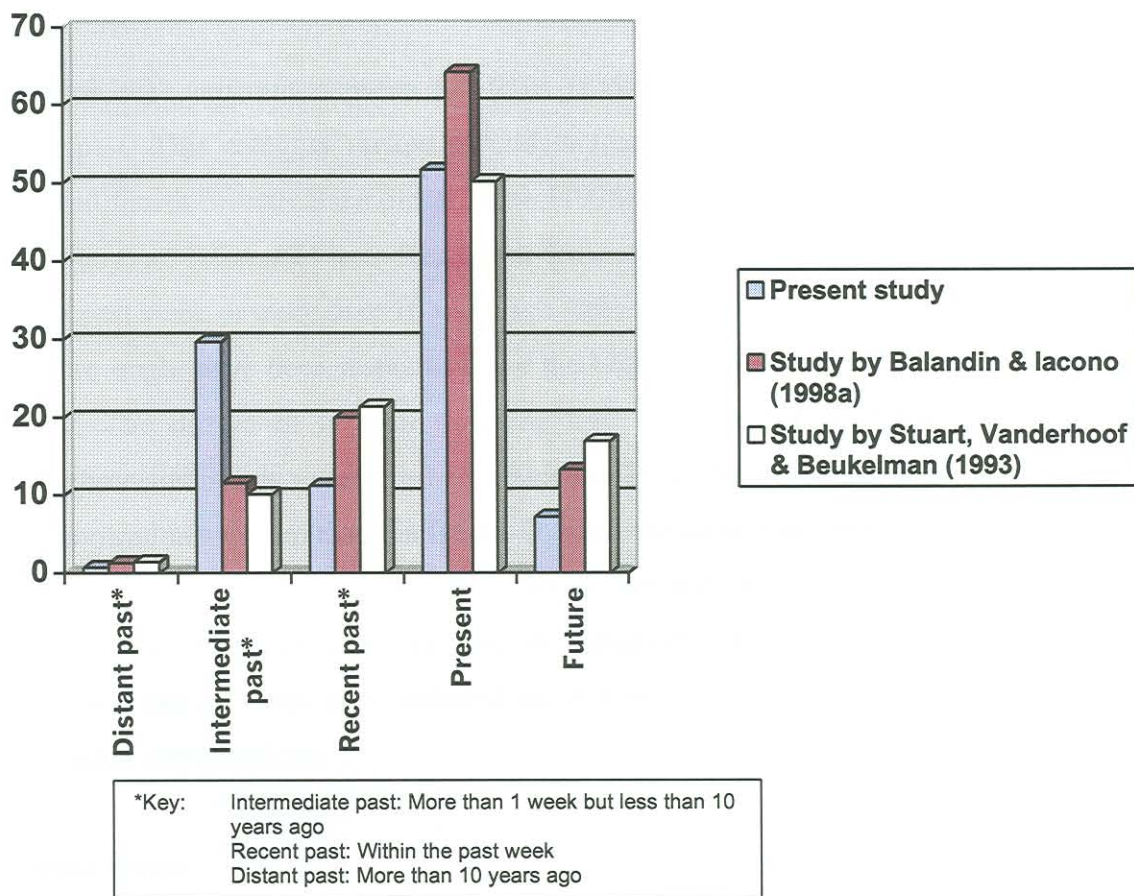


Figure 4.2 Time frame referencing: Comparison between the present study and the study by Balandin & Iacono (1998a) and Stuart, Vanderhoof & Beukelman (1993)

Most frequent reference to the present and least reference to the distant past was a phenomenon observed in all three studies, and can thus be identified as a general trend in social conversations, regardless of age or context of the participants. It seems that participants reference current events or states frequently. One possible explanation is that current matters might be of greater interest to the communication partner than past events which were not shared by participants. McLaughlin (1984) makes mention of a ‘shared knowledge base’ (p. 47) between speaker and listener upon which new knowledge and meaning is constructed. References to the present events or objects would in all likelihood be shared by participants. Reference to past

events not shared by communication partners necessitate the speaker to give more background information to create the shared knowledge base. References to the future, in turn, would be limited to plans and speculations - many other communication functions, such as observations about the environment, procedural discourse or story-telling rarely occur in the future tense.

Some variation was apparent between the three studies in the referencing of the intermediate past. This category ranked second in frequency in the present study, while it ranked fourth in both Balandin & Iacon (1998a) and Stuart et al. (1993). In the present study, all references to events where the exact time was not stipulated to be within the past week or more than 10 years ago were scored as 'intermediate past'. This procedure might have been responsible for the high frequency of occurrence of this category. The difference in total sampling time and number of participants between the three studies also needs to be considered. In all three studies, the recent past was referenced more often than the future. Overall, the pattern of 'present - past - future' was observed in all three studies. The same order was observed in preschool children's conversations (Marvin, Beukelman, Brockhaus & Kast, 1994), except that the time frame 'fantasy' was also included in that study, a frame that was not identified in adult conversations.

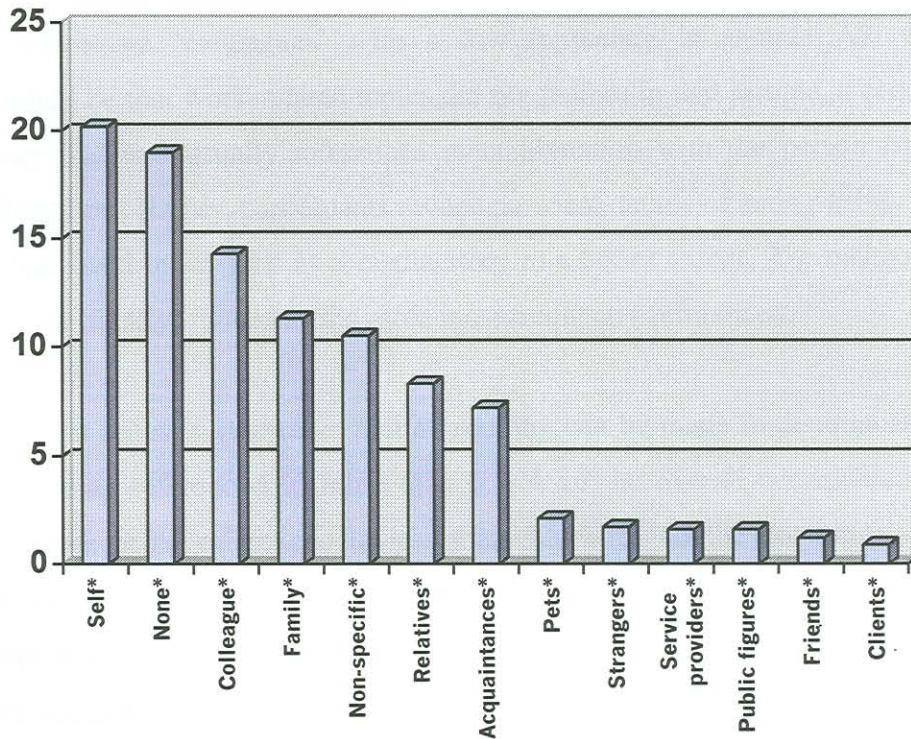
4.3.2 Person frame

This frame contained 13 categories. Table 4.4 provides a summary of the references made to the categories in the person frame. Figure 4.3 presents the data of the right-hand column of Table 4.4 graphically. Overall, participants referenced themselves most frequently in conversations. 'Self' was ranked the most frequently referenced person frame category in 3 of the 11 samples, joint first in one sample, second in one sample, joint second in two and third in one sample. The percentages established for this category in each of the individual samples ranged from 2.3 % to 24.2 %. In samples A9 and B1, 'self' did not rank first, second or third. In sample A9, conversation revolved around the cricket scandal. Consequently, the category public figures ranked highest. In sample B1, the suicide of a former colleague was discussed in great detail, resulting in many references to the category 'colleague'.

Table 4.4: Participants' referencing of the person frame categories, expressed as a percentage of the total communication segments per sample

Person frame	A1	A2	A3	A4	A5	A6	A7	A8	A9	B1	B2	Totals across all samples
1. None	23.8	28.3	14.3	18.9	19.6	12.7	20.2	20.7	14	15.3	19.8	19.0
2. Non-specific	8.8	10.8	10.0	8.7	7.6	6.1	11.8	8.3	23.3	15.0	13.1	10.5
3. Self	23	24.8	21.7	18.4	19.6	27.7	20.2	21.6	2.3	8.7	21.2	20.2
4. Family	19	17.5	15.2	8.7	2.2	10.3	30.3	12.4	0	6.2	6.7	11.3
5. Relatives	0	4.6	0	20.9	4.3	21.1	3.4	4.1	27.9	9.7	8.4	8.3
6. Colleague	14.3	2.5	21.7	12.1	26.6	10.8	0.8	16.9	2.3	17.8	14.8	14.3
7. Acquaintances	7.1	11.6	8.3	1.9	9.2	8.0	5	9.5	0	5.0	6.4	7.2
8. Friends	0.8	0	0	0	2.2	0	0	3.8	0	1.9	1.3	1.2
9. Service provider	1.6	0.4	4.8	1	0.5	1.9	0	2.4	0	1.2	1.0	1.6
10. Public figures	1.6	0	0	0.5	0.5	0	6.7	0	30.2	3.4	0	1.6
11. Clients	0	0	0.9	0.5	6.5	0.5	0	0	0	0	2.0	0.9
12. Strangers	0	0	3	0	1.1	0.9	1.7	0.3	0	5.9	2.3	1.7
13. Pets	0	0	0	8.3	0	0	0	0	0	10.0	0	2.1
	100	99.9*	99.9*	99.9*	99.9*	100	100.1*	100	100	100.1*	100	100.1*

* Percentages did not always add up to 100 % exactly due to rounding up/down of the percentages of the individual frames



* See Appendix E for definitions of the categories

Figure 4.3: Percentage of references to person frame categories across contexts

References to the category 'none' ranked second overall. It was ranked highest in two samples, second in four and joint second in two. It was ranked third in one sample. Once again, this category did not rank among the top three in two samples. In sample A3, participants referenced 'family' frequently, as they spoke about the beauty therapy treatment of a spouse, family computer habits and going for a walk with the family. In sample A9, conversation revolved around the cricket scandal, which led to public figures being most frequently referenced. During discussion of the cricket, many generalisations and opinion statements were made, resulting in the category 'non-specific' being referenced frequently. Some conversation in this sample was also concerned with the child-rearing philosophies of relatives. Relatives were thus also referenced frequently. The percentages established for this category in each of the individual samples ranged from 12.7 % to 28.3 %.

Participants referenced the person frame category 'colleagues' with the third highest overall frequency. This category ranked first in two samples, joint first in one and third in two. Ranking in the other six categories was more variable, although the topic was ranked amongst the top seven for five of the remaining six categories. Participants referenced 'colleagues' with a low frequency in sample A7. One explanation might be that work-related topics did not feature in that sample, a content frame category that was usually referenced in combination with the person frame category 'colleagues'. Rather, participants related personal details of eating habits and houses they had lived in, as well as a media story to a lesser extent. The categories 'self', 'none' and 'family' ranked as the three most frequently referenced.

From Figure 4.3 it seems furthermore that a grouping can be made in distinguishing the categories being referenced in more than 5.5 % of the overall communication samples and those being referenced in less than 5.5 % of all the communication samples. Group 1 (referenced in more than 5.5 % of the total communication segments) would contain the categories self, none, colleagues, family, non-specific, relatives and acquaintances, while group 2 (referenced in less than 5.5 % of the segments) consists of the categories pets, strangers, service providers, public figures, friends and pets. This grouping (disregarding the percentage values but considering merely the hierarchies) holds true for four of the 11 samples, and with the exception of one category respectively, also for each of the other seven samples. There seems to

be relative consistency regarding the main trends in person frame category referencing across all samples.

When comparing the frequencies with which person frame categories were referenced across the two contexts, the groupings discussed above hold true for both contexts (see Table 4.5). The range in frequency for the categories belonging to Group 2 is 1 to 5.2 % for Context B, and 0.8 to 1.7 % for Context A. A bigger range for Context B might be ascribed to less segments being coded for this context, which would make the likelihood of statistical variation bigger. From Table 4.5 it is furthermore clear that the Group 1 categories for Contexts A and B do not differ more than two hierarchical positions, whereas Group 2 categories display more variation. Overall tendencies regarding frequency of referencing were thus similar across contexts for the seven most frequently referenced person frame categories.

Table 4.5: Hierarchies of person frame category referencing (in descending order) for Contexts A and B and the total across all samples

	<i>Context A</i>	<i>Context B</i>	<i>Total</i>
Group 1: Referenced in more than 5 % of the communication samples	Self	None	Self
	None	Colleagues	None
	Colleagues	Self	Colleagues
	Family	Non-specific	Family
	Non-Specific	Relatives	Non-specific
	Relatives	Family	Relatives
	Acquaintances	Acquaintances	Acquaintances
Group 2: referenced in less than 5.5 % of the communication samples	Service providers	Pets	Pets
	Public figures	Strangers	Strangers
	Friends	Public figures	Service providers
	Pets	Friends	Public figures
	Clients	Service providers	Friends
	Strangers	Clients	Clients

In order to compare results of the current study with those obtained by Balandin and Iacono (1998a), it was necessary to regroup the following categories of the present study: ‘Colleagues’ and ‘friends’ were combined under the heading ‘close friends’, while, ‘acquaintances’, ‘non-specific’ and ‘clients’ were grouped under the heading ‘acquaintances’. Figure 4.4 summarises the comparison.

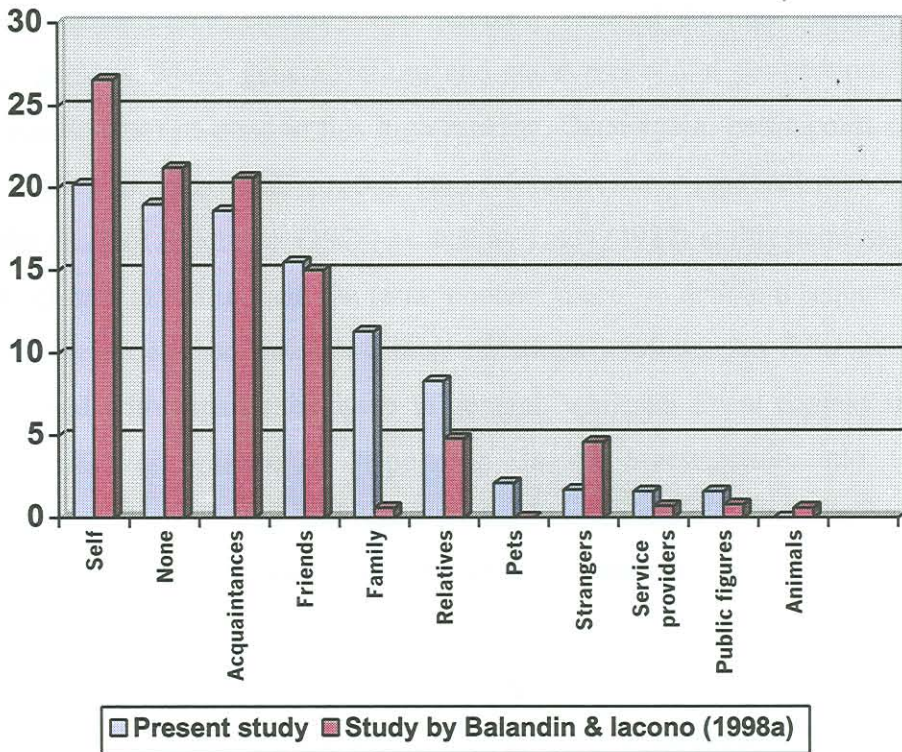


Figure 4.4: Person frame referencing: Comparison between the present study and the study by Balandin & Iacono (1998a)

From the figure it seems that tendencies regarding person frame category referencing were very similar, especially regarding the more frequently referenced categories. In both studies, ‘self’ was the most frequently referenced person frame category. This tendency was also observed in conversations of elderly American women (Stuart et al., 1993), and preschoolers’ conversations (Marvin, Beukelman, Brockhaus & Kast, 1994). Sharing one’s own experiences and opinions is an important part of establishing and maintaining familiarity within social relationships. Todman et al. (1999) reports topics to be selected based on, firstly, shared interests and, secondly, the desire to bring communication partners up to date with recent life events. The second aim would entail references to ‘self’, which are reflected in the current data.

Reference to inanimate things (‘none’) ranked second in both studies. As in Balandin and Iacono’s study (1998a), many content frame categories such as ‘food’, ‘clothes’, ‘business’ and ‘household equipment’ referred to inanimate things. One reason for frequent reference to inanimate things might be the tendency of employees to

converse about more general issues rather than personal matters. Similarly, the high ranking of the ‘acquaintance’ category was indeed a result of the high reference to ‘non-specific’ persons. Many generalisations and some procedural descriptions (i.e. *you do this, you do that*) resulted in this high ranking. Once again, participants often seemed to converse more generally, rather than reference many personal matters. A reference to the work of Reichman (1978) as well as Tracy (1982) at this point may be of interest. Reichman (1978) coined the term ‘context space’ to denote a sequence of conversational utterances that, taken together, constitute a whole. An *Issue* context space is concerned with a particular issue in general, while an *Event* context space relates to a particular episode or happening. In an investigation into topic continuation, Tracy (1982) found that *Issue*-oriented continuations were rated more appropriate than *Event*-oriented continuations. Thus the conversational partner was rated as more appropriate when he/she responded to a previous utterance by referring to an *Issue* rather than a specific *Event*. The reason for the preference of an *Issue* contribution rather than an *Event* contribution might be the attempt to support the conversational partner, and to give opportunities for collaboration (Crow, 1983). In discussing *Issues*, partners may have more equal opportunities for contributions, while the relating of an *Event* would tend to be more of a monologue, with a narrator and a listener who do not share in the conversation to the same extent. *Issues* might enable the communicator to adhere more closely to Grice’s (1975) maxim of relation or being relevant, in the sense that they are responding to the central issue directly, rather than the issue being ‘disguised’ in a personal event. A high reference to non-specific persons in the present study can be seen as an attempt by conversational partners to respond generally to the issue that was discussed, in an attempt to be relevant and to create equal opportunities for contribution by all conversational partners.

Frequent reference to the ‘close friends’ category is a result of the high frequency with which ‘colleagues’ were referenced. Employees at a work place seem to talk about persons who are familiar to communication partners (i.e. other colleagues and mutual friends) more than referencing family and relatives. Clark and Haviland’s (1977) notion of the given-new-contract suggests that speakers need to establish a shared knowledge base with the listener prior to adding new knowledge to this foundation (p. 4). Reference to familiar persons makes this task of the speaker easier, as the familiar person is a shared knowledge base between speaker and listener.

One significant difference between the two studies is a more frequent reference to family in the present study. One reason might be the fact that 10 of the 12 participants in the present study were married and had their own families, while 16 of the 34 participants in Balandin and Iacono's study (1998a) were single. The influence of the speaker's background on conversational topic might thus be illustrated.

4.3.3 Content frame

As the content frame contained many categories (43 different categories), The results obtained for this frame are discussed under separate headings, regarding the frequency, range and pattern with which these topic categories were referenced. The results of the comparison between the current data and the data obtained by Balandin and Iacono (1998a) are also discussed under a separate heading.

4.3.3.1 Frequency of content frame referencing

The content frame comprised of 43 categories, some of which were subdivided to yield a total of 101 classification possibilities (Appendix E). In order to get an overview of the content frame category referencing, the samples were analysed according to the 43 main categories first. Figure 4.5 provides an overview of the content frame categories referenced across all the samples, expressed as a percentage of the total communication segments. The graph shows that, although the content frame contained the most categories, some of these were infrequently referenced (e.g. only one reference was made to 'toys' in the composite sample). A relatively limited number of topics seemed to take up the bulk part of the conversation. In fact, only six content frame categories (~ 14 %) were referenced with a frequency of 5 % or higher, whereas 20 categories (~ 47 %) were referenced with a frequency of less than 1 %. The terms 'core' and 'fringe' which are applied to vocabulary (Beukelman & Mirenda, 1998, p.33 - 35) might thus also be applied to topics, with less frequent topics being regarded as 'fringe', while those topics referenced frequently might be regarded as 'core' topics. These findings are similar to those of Balandin and Iacono (1998a, p.137).

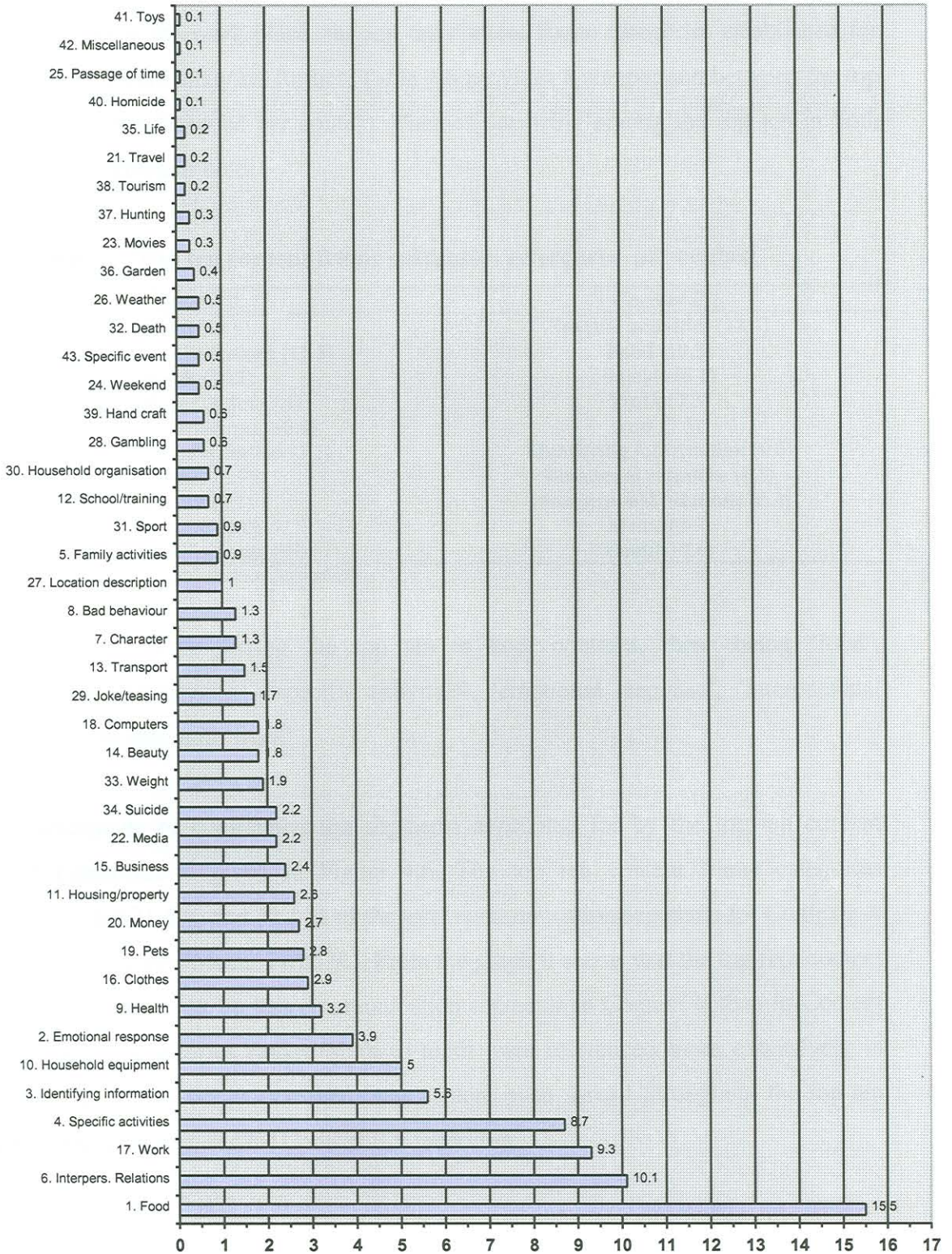


Figure 4.5: Percentage distribution of content frame categories across all samples

(for definitions of the categories refer to Appendix E)

In order to obtain information about the topics most likely to occur in social conversation at the work place, the top ten content frame categories established for each context were analysed further. Table 4.6 provides a comparison between the top ten categories referenced per context. Themes occurring among the top ten in both contexts are given in bold.

Table 4.6: Top ten content frame categories referenced per context

<i>Context A</i>	<i>Context B</i>
Food (17.4)	Specific activities (12.4)
Interpersonal relations (11.5)	Food (10.3)
Work (10.1)	Suicide (8.1)
Specific activities (7.4)	Work (7.3)
Household equipment (6.8)	Pets (7.3)
Identifying information (5.2)	Identifying information (6.6)
Clothes (3.9)	Emotional response (6.5)
Health (3.1)	Interpersonal relations (6.3)
Business (3.0)	Media (3.7)
Emotional response (3.0)	Health (2.6)

* For definitions of the categories refer to Appendix E

Seven themes were among the top ten in both contexts, these being ‘food’, ‘identifying information’, ‘specific activities’, ‘emotional response’, ‘interpersonal relations’, ‘health’ and ‘work’.

The percentage of communication segments accounted for by the top ten content frame categories is given in Figure 4.6. The top ten content frame categories accounted for 71.4 % and 71.1 % of the total communication segments for Contexts A and B respectively (Mean: 71.25 %). From the graph it seems that the top five content frame categories took up less communication segments in Context B than in Context A, while the categories ranked sixth to tenth were referenced more extensively in Context B. It thus seems that there was a more even spread throughout the top ten content frame categories for Context B’s recording.

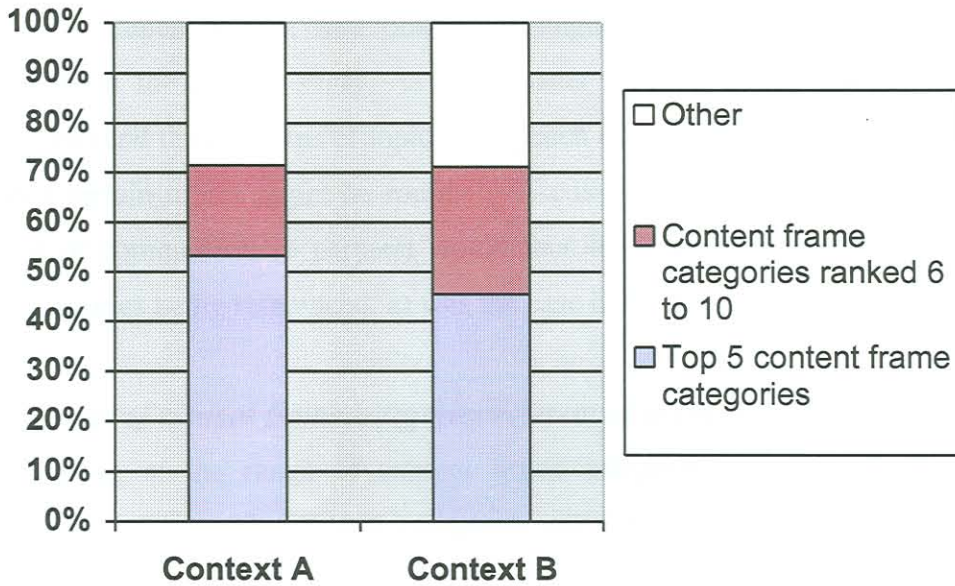


Figure 4.6: Percentage of communication segments accounted for by the top 10 content frame categories established for each context

A similar analysis was done by Balandin and Iacono (1998a), where the top ten content frame categories for each composite weekday sample were established. However, there are important differences in the sampling procedure which need to be taken into account when comparing the findings by Balandin and Iacono (1998a) and those of the present study. A summary of these differences is given in Appendix G.

In the Australian study, the top 10 content frame categories established for each composite weekday file accounted for 58 to 61 % (mean: 60 %) of the communication segments within that file, compared to the 71.1 to 71.4 % established for each context's recording in this study. Each of the composite weekday samples analysed in the Australian study comprised of 720 minutes of recording, and there was a greater variation of participants and contexts contained within one sample. One might therefore expect a wider range of topics per sample, resulting in a lower percentage of communication segments being taken up by the top ten categories.

Differences in the employment sites sampled for the two studies might also have had an influence. At the sites sampled in the present study, six and nine permanent staff members were employed at the time the recordings were done. The sites sampled in the Australian study had 140, 560, 42 and 36 employees respectively. Participants in

the latter study thus had a potentially wider selection of communication partners during their lunch breaks, and possibly changed partners more often than the participants of the present study. As participants seem to share certain patterns of information (and thus patterns of topics) with each other over time (Sigman, 1983:, p. 88), only certain topics might be routinely discussed with certain persons. A wider selection of communicative partners would thus lead to a wider variety of content frame categories being referenced, as was the case in the Australian study.

4.3.3.2 Range of content frame categories referenced in the samples

When looking at the range of content frame categories referenced within each context's recordings, 37 different categories occurred in the composite sample of context A, while 36 different categories occurred in the composite sample of Context B (see Table 4.8). This finding is rather surprising, as the recording time for Context B was less than half that of Context A (71 minutes, 13 seconds versus 153 minutes, 45 seconds respectively), and one might expect less topics to be mentioned in the sample of Context B. It seems that participants in Context A referenced a relatively smaller number of categories across time than participants at Context B. Participants in Context A thus seemed to reference a content frame category more extensively in general.

The comparison between the variety of topics referenced at each of the contexts is, however, limited by the difference in sampling procedures between contexts A and B. Whereas only two recordings were made at Context B, nine were made at contextT A. As certain themes occurred repeatedly over consecutive days, the increased number of days on which the recordings were done would have led to a proportional decrease in the number of 'different' categories as repetitive themes were not counted as different themes. However, the relation between the number of different content frame categories referenced each day and the total number of communication segments identified for each sample was explored. Appendix G provides the results and a detailed discussion thereof. Suffice it here to say that results did confirm that fewer topics were referenced during conversations in Context A, and these topics took up more communication segments on average than in Context B.

Factors contributing to this phenomenon are a matter of speculation. Conversations in Context A might have been more intense. Indeed, some participants in Context A seemed to know each other very well and would engage in very personal conversation. Perhaps the working area (one large room with employees working in relative proximity most of the time) was more conducive to frequent conversations and thus led to closer relationships. The period of time participants had been working together would also be an influence.

The highest level of education for participants in Context A was Grade 10, equivalent to 3 years of secondary education. No employee had completed High School. All except for one participant in Context B had completed High School, and two had had tertiary training and completed a diploma. In general, employees at the second context thus had higher qualifications. One might speculate that the greater variety of topics introduced over time at this context might be reflective of a broader range of interests, stimulated by increased exposure to educational programmes.

A third possible explanation might be the fact that the second recording in Context B was done after a long weekend, and employees spent a considerable amount of time relating their weekend activities, introducing such topics as gambling and hunting, which were referenced only on that particular day. A greater variety of topics might be a result of the need to bring the communication partner up to date with recent life events (Todman, et al., 1999).

The range of content frame categories referenced per composite weekday file in the Australian study is given as 53 and 55. The range of content frame categories referenced per context in the present study was 37 for Context A and 36 for Context B. Once again comparisons are complicated by different sampling procedures. The potentially wider variety of communication partners for participants in the Australian study might again have contributed to a wider range of topics being referenced.

4.3.3.3 Patterns of content frame referencing

Table 4.7 gives an indication of the patterns of content frame category referencing across the 11 samples.

Table 4.7 Number of samples and number of content frame categories occurring in these

<i>Amount of categories (percentage of total given in brackets)</i>	3 (7)	2 (4.7)	1 (2.3)	4 (9.3)	2 (4.7)	6 (14)	5 (11.7)	2 (4.7)	4 (9.3)	3 (7)	11 (25.6)	<i>Total</i> 43 (100)
<i>Number of samples within which the category appeared</i>	11	10	9	8	7	6	5	4	3	2	1	

Only three categories ('identifying information', 'specific activities' and 'interpersonal relations') were referenced in all 11 samples. Two were referenced in 10 samples (food and work) and one in nine samples (emotional response). These six topic categories all ranked amongst the top ten for the overall sample. Eleven categories (25.6 %) were referenced on only one day. The pattern of referencing the overall top ten content frame categories is given in Table 4.8.

Table 4.8: Number of samples in which the top 10 content frame categories were referenced

<i>Category</i>	<i>Overall frequency expressed as a percentage of the total number of communication segments</i>	<i>Number of samples within which the category occurs</i>
1. Food	15.5	10
2. Interpersonal relations	10.1	11
3. Work	9.3	10
4. Specific activities	8.7	11
5. Identifying information	5.6	11
6. Household equipment	5.0	5
7. Emotional response	3.9	9
8. Health	3.2	8
9. Clothing	2.9	5
10. Pets	2.8	2

From this table it is clear that the five most frequently referenced topics are also the five which were spread most widely across the 11 samples (three occurred in all 11 samples, while the other two occurred in 10). More variation occurred within the categories ranked sixth to tenth in overall frequency. While two had a relatively wide spread (referenced in eight and nine samples respectively), the other three occurred in less than half the samples. One topic occurred in a mere two samples. It thus seems that there were topics which were referenced only in a limited number of samples, but within these samples they were referenced frequently.

A similar pattern is seen when analysing the top ten categories for each of the 11 samples (described in Table 4.9).

Table 4.9: Top 10 content frame categories for each of the 11 samples

AA1	AA2	AA3	AA4	AA5	AA6	AA7	AA8	AA9	BB1	BB2	Total	
Food (41.3)	Food (39.2)	Computers (18.3)	Household equipment (22.3)	Work (30.4 %)	Interpersonal relations (39.4)	Food (38.7)	Food (27.8)	Sport (32.6)	Suicide (15.6)	Food (18.8)	Food (15.5)	
Health (19.8)	Household equipment (28.8)	Business (15.2)	Work (16.0)	Joke (12.5)	Work (18.8)	Housing and property (32.7)	Clothing (15.1)	Interpersonal relations (18.6)	Specific activities (15.3)	Work (12.8)	Interpersonal relations (10.1)	
Specific activity (9.5)	Weight (15)	Beauty (13.5)	Interpersonal relations (10.7)	Interpersonal relations (11.4)	Specific activities (9.4)	Specific activities (8.4)	Money (10.7)	Media (18.6)	Pets (14.0)	Specific activities (9.4)	Work (9.3)	
Interpersonal relations (7.9)	Specific activities (6.3)	Work (13.5)	Pets (9.7)	Identifying information (7.1)	Emotional response (7.0)	Identifying information (4.2)	Interpersonal relations (9.2)	Identifying information (9.3)	Emotional response (8.7)	Interpersonal relations (6.7)	Specific activities (8.7)	
School/training (4.8)	Interpersonal relations (2.5)	Specific activities (7.0)	Specific activities (7.8)	Handcraft (6.5)	Identifying information (4.2)	Family activities (3.4)	Specific activities (7.4)	Specific activities (7.0)	Media (7.2)	Identifying information (6.4)	Identifying information (5.6)	
Emotional response (3.2)	Emotional response (2.1)	Identifying information (6.5)	Identifying information (7.3)	Media (6.0)	Money (3.8)	Work (1.7)	Health (5.9)	Work (4.7)	Identifying information (6.7)	Health (6.0)	Household equipment (5.0)	
Identifying information (2.4)	Identifying information (2.1)	Transport (5.2)	Household organisation (4.9)	Business (5.4)	Bad behaviour/ smoking (3.3)	Media (2.5)	Identifying information (5.6)	Household organisation (4.7)	Interpersonal relations (5.9)	Gambling (5.0)	Emotional response (3.9)	
Week-end activity (2.4)	Health (1.7)	Interpersonal relations (4.8)	Emotional response (3.4)	Specific activities (4.3)	Food (2.3)	Weight (2.5)	Emotional response (2.7)	Character (2.3)	Housing/ property (3.4)	Money (4.7)	Health (3.2)	
Passage of time (2.4)	School/training (0.8)	Clothing (4.3)	Bad habits/ smoking (3.4)	Emotional response (2.7)	Character (2.3)	Interpersonal relations (1.7)	Location description (2.7)	Bad behaviour/ smoking (2.3)	Transport (3.1)	Emotional response (4.0)	Clothing (2.9)	
Clothing (1.6)	Family activities (0.8)	Family activities (3.0)	School/ training (2.4)	Travel (2.7)	Media (1.9)	Health (1.7)	Bad behaviour/ smoking (2.4)	_____	Food (2.5)	Beauty (3.4)	Pets (2.8)	
Family activities (1.6)					Housing and property (1.9)		Transport (2.4)					
<i>Total percentage for ten most frequent topics</i>	95.2	9.2	91.3	87.9	89.1	89.1	92.2	97.5	89.3	100	82.6	77.2

Only two content frame categories, namely ‘social relations’ and ‘specific activities’ occurred within the top ten in all 11 samples. The category ‘identifying information’ occurred in 10 of the 11 samples amongst the top ten, but less often in the other sample. Nine categories occurred in only one sample among the top ten. Of these nine, five occurred in only one sample overall (‘computers’, ‘travel’, ‘passage of time’, ‘suicide’ and ‘gambling’). When referring back to Table 4.9, it is interesting to note that two of these categories which were only referenced once, namely ‘computers’ and ‘suicide’ only occurred in one sample, but in the sample in which they occurred, they were referenced more frequently than any other category.

From this data it seems that some content frame categories, such as ‘food’, ‘interpersonal relations’, ‘work’, ‘specific activities’ and ‘identifying information’, had a wide spread across samples as well as a high overall frequency. Such topics were referenced with relative consistency in social conversations across both contexts. They occurred regularly and often took up a large part of the conversational sample. These topics seem to be relatively predictable, and thus an essential inclusion on pre-programmable AAC devices. The topics with a high overall frequency but limited spread (such as ‘pets’, ‘suicide’ and ‘computers’ in the present study) are the ones that would be problematic for an AAC user who needs to pre-store messages. Across a much more extensive sample of recordings these topics would be expected to have a relatively lower frequency. Yet such topics might arise in conversation, and then take up a large part of the communication segments. These topics seem to be more dependent on specific events that occurred and which are shared among communicators. The topic ‘suicide’, for example, arose because of a media story about suicide. The topic ‘computers’ was referenced as one participant explained internet access to another. The topic ‘pets’ occurred on two days, and consisted of participants telling stories about their personal pets. Such a topic would probably be more relevant to pet owners than others. Participants’ background and specific activities they engage in can thus determine certain topics of conversation.

4.3.3.4 Content frame categories: Comparison to Balandin and Iacono's study (1998a)

The categories for the present study were developed without reference to the complete list of categories established for the Australian study (Balandin & Iacono, 1998a). Merely the names of the 19 content frame categories which occurred amongst the top ten within any of the composite weekday samples were available as a guideline. However, a high level of overlap for the content frame categories could be established in retrospect, as the researcher gained access to the complete list of content frame categories with definitions used in the study by Balandin and Iacono (1998a). This list is taken from Balandin (1995). The complete list of content frame categories and sub-categories used for this study, together with a corresponding category from Balandin (1995) is given in Appendix F. It seems that only six categories did not have a similar equivalent category or similar categories in the Australian study, these being 'computers', 'passage of time', 'suicide', 'hunting', 'tourism' and 'homicide'. Around 14 % of the content frame categories established were thus unique to this study. This finding seems to indicate a high commonality of topics in meal break conversations, in spite of many differences between the two sampling contexts and the participants, such as culture, home language, country and work contexts.

From their five composite weekday samples, Balandin and Iacono (1998a) identified a total of 19 topics which occurred at least once within the top ten categories of any weekday file. To explore the overlap between the most frequently referenced content frame categories of both studies, the top 14 categories identified for the present study were taken as a point of reference, and equivalent categories were sought out among the 19 categories which occurred among the top ten in any weekday file of Balandin and Iacono's study (1998a). Table 4.10 gives a summary of the findings.

Table 4.10: Content frame categories: Comparison between the current study and Balandin & Iacono's study (1998a)

<i>Top 15 categories content frame categories of the current study (presented in hierarchical order)</i>	<i>Equivalent category identified among the 19 categories occurring within the 10 most frequently referenced topics per composite weekday file (Balandin & Iacono, 1998a)*</i>
1. Food	Food, ranked 3 rd
2. Interpersonal relations	Social relations, ranked 11 th , Communications, ranked 10 th
3. Work	Work, ranked 2 nd
4. Specific activities	Family life, ranked 5 th , partially overlapping
5. Identifying information	----no equivalent category among the 19 topics----
6. Household equipment	Equipment, ranked 11 th
7. Emotional response	----no equivalent category among the 19 topics----
8. Health	Health, ranked 10 th
9. Clothes	Clothing, ranked 8 th
10. Pets	----no equivalent category among the 19 topics----
11. Money	Finances, ranked 7 th
12. Housing/property	House, ranked 10 th , partially overlapping
13. Business	Work, ranked 2 nd , partially overlapping
14. Media	Media, ranked 11 th

* Shading indicates overlap between the categories of the two studies, with darker shading denoting good overlap, while lighter shading indicates partial overlap.

**The ranking given for the categories in the Australian study refer to the ranking of that category within the composite sample of the top ten categories identified for each weekday sample, and not the overall ranking within the whole content frame. The ranking of the categories for the current study refer to the overall ranking across all the samples, as given in Figure 4.5.

From these two tables, commonly occurring categories can be identified. The categories which overlap well (shaded darkly in the table) will be discussed briefly.

The content frame 'food' ranked highest in the present study, and third in the Australian study (Balandin & Iacono, 1998a). Regardless of work context, references to eating and drinking seem to be common during social conversation. The fact that social conversations were always (Balandin & Iacono, 1998a) or often (present study) sampled during meal breaks while employees were eating and drinking, would have had an influence. However, in conversations of elderly American women, 'Food' was found to be the content frame referenced with the fourth highest frequency (Stuart et al., 1993), and it was the third most frequently referenced content frame for preschool children (Marvin, Beukelman, Brockhaus & Kast, 1994). Food can thus be seen as a universal topic. It is relevant to people regardless of age, culture or context. Such a topic would be most conducive to the process of conversation as the collaborative work towards the construction of coherent communicative text (Crow, 1983, p. 137) during which the role of speaker and hearer are frequently exchanged (McLaughlin, 1984, p. 13). Participants are able to contribute and elicit contributions from others within the framework of such a familiar and 'generic' topic.

Similarly, the content frame category ‘relations’ (termed ‘social relations’ in the Australian study and ‘interpersonal relations’ in the current study) was referenced in all samples in both studies. Even elderly American women (Stuart et al., 1993) referenced this topic with a high frequency. In spite of slightly different definitions of this category in all three studies, the wide spread of this category across all samples of both work context studies, as well as the relatively high ranking indicate that this topic, similar to the topic ‘food’, is a ‘generic’ one, relevant across contexts and ages.

‘Work’ ranked second in the Australian study, and third in the current investigation. The high ranking of this content frame in the work setting as opposed to a low ranking of this topic in elderly women’s conversations (Stuart et al., 1993) seems to confirm the conclusions drawn by Balandin and Iacono (1998a) that the context of conversation is important in predicting the likely content of adult conversations. Conversing about work processes and activities as well as work equipment also provides a shared knowledge base for all participants, making equal participation easier.

Beukelman and Mirenda (1998) note the importance of specific vocabulary as a way of asserting group membership. Use of certain topics in conversation might serve a similar function. The topic ‘work’ might allow participants to confirm their roles as employees and their ‘team membership’ as fellow employees.

The categories ‘household equipment’ (current study) and ‘equipment’ (Australian study) were ranked relatively high in the respective studies. Although definitions for these categories differed slightly (see Appendix G), it is clear that participants in both contexts referenced equipment frequently. ‘Household equipment’ occurred in four samples of the current study, and was almost exclusively referenced in Context A (only one communication segment sampled at Context B related to household equipment). Its high frequency can be attributed to the fact that participants referenced this topic extensively on two occasions, when it was introduced by a participant experiencing problems with her taps, her stove and her washing machine. Similarly, references to the topic ‘clothing’ (ranked ninth and eighth in the present and the Australian studies respectively) seemed to be mediated by the involvement of

specific participants in activities related to clothing (dressmaking in the Australian study, and selling clothes to help a friend's home business).

Balandin & Iacono (1998a) alert to the importance of taking an individual's current circumstances into consideration when predicting relevant topics. The importance of considering communicative partners in predicting topics of conversation (Lloyd et al., 1997, p. 207) is also illustrated by this finding. Preceding conversational topics should furthermore be taken into account when programming devices, illustrated by the pattern of referencing the same event and issue on two separate occasions ('household equipment' in the present study). In this case previous discourse could have served to predict a topic which was again referenced extensively two days later.

Health-related issues were referenced in both studies and ranked eighth in the current study and tenth in the Australian study. As in the Australian study, references to health conditions of others were more detailed than references to own health conditions.

'Money' ranked 11th in the present study, included references to handling of personal money finances, investments, interest rates and taxes, as well as money transactions, borrowing, lending and money safety. References to these issues were made by both male and female participants, although females seemed to reference personal money matters more often, while males seemed to reference general financial issues, such as the current interest rates, more extensively. The category 'finances' in the Australian study was defined almost identically, and was ranked seventh. Discussion of money matters thus seems to be a common topic at the workplace in Western society.

References to 'Media' were ranked 14th in the current study, and 11th in the Australian study. Shared knowledge of media events once again provides a good common knowledge base upon which meaning can be jointly built by participants.

From the above discussion it seems that, in spite of differences in home language, employment context and culture, overlap of the content of workplace conversations was relatively high. Such overlap can be partly attributed to participants generally adhering to certain conversational principles, or rules, proposing obligated, preferred

or prohibited behaviour within conversation. Selecting topics familiar to all partners allows participants to build meaning upon a firm shared knowledge base, and ensure contributions to be relevant (Maxim of relation, Grice, 1975). Topics such as 'food', 'work' and 'health' seem to be examples of such 'generally appropriate' topics. However, one should take into consideration that participants in all studies included (Balandin & Iacono, 1998a; Marvin, Beukelman, Brockhaus & Kast, 1994; Stuart et al., 1993; as well as the current study) were recorded within contexts where Western cultural norms predominated. This might result in similar topics being viewed as acceptable for the participants.

4.4 SUMMARY

The discussion of the results of the study was presented in this chapter. The length of the recorded samples and the number of communication segments which were coded or not coded was given. The results of the topic analysis were discussed under each of the three referential frames (time, person and content), and comparisons were made between the two work contexts as well as between the results of the present and previous topic research.

Throughout the discussion, hypotheses were made regarding the influence of context, culture and general conversational rules, such as the given-new contract (Haviland & Clark, 1977, p. 4) or Grice's (1975) maxim of relation on the selection and frequency of referencing certain topic categories.