

Chapter 4: Research Methodology

4.1 Introduction

In order to address the research questions set out in the previous chapter, a quantitative research design through self-administered questionnaires was used to investigate work-family conflict in the context of this study.

4.2 The Sample and the Participants

The unit of analysis of this research study was individuals in a working environment, with specific focus on working women with children. As it would be impossible to include the entire population of all working individuals, it was decided to focus on a smaller subset of the larger population. The study was conducted among brewing, sales and distribution employees of a large South African fast-moving consumer goods organisation. The organisation was easily accessible for doing the research study, as the researcher has a standing relationship with it. A major advantage of using this organisation is the significant business footprint it has in South Africa. Six of the company's regions, each consisting of various departments, were selected, to ensure a diverse and representative range of individuals included in the study.

The sampling frame was compiled by obtaining a complete list of white-collar employees in the six regions from the Human Resource Department of the selected organisation. The reason for focusing on white-collar employees was the centrality of the role that work plays in their lives (De Klerk et al., 2006). The list of workers included people working in the following regions: Egoli, North, East Coast, Cape, Central regions and Central Office.

The popular Hay Job Evaluation grading system developed by Hay (1943) was used to distinguish between the various managerial categories within the six regions. Individuals in positions with a Hay Job Evaluation grade of 1 to 5

(blue-collar workers) were excluded from participating in this study. The reasons for excluding these employees (grades 1 to 5) were language and literacy barriers, as well as lack of access to a computer. Only grades FA (senior management), PE (middle management), OE (junior management), and A-F (supervisory and clerical) employees were included in this study. Names and Hay Job Evaluation grades of all the potential respondents within the various regions were arranged alphabetically through systematic sampling. Every second name was selected from the alphabetical list for each region. Specific attention was paid to including as many women with children as possible, as this group formed the focus of this study. For this reason, all women with children (within the specified grades) who had access to a computer and who had a company e-mail address were included in the final sample.

Babbie (1998) suggests that surveys are excellent vehicles for assessing beliefs and orientations within a large population, and for this reason a survey was considered the most appropriate selection for this research study. The appropriate research methodology used for this sample group was self-administered electronic questionnaires. The rationale for selecting this method was based on the following reasons. Firstly, electronic questionnaires are easily accessible for respondents to access over vast geographies than paper-based questionnaires. Secondly, all respondents selected to participate in this study had access to a computer and were adequately computer literate. The selected organisation conducts electronic surveys on a regular basis for assessing organisational effectiveness. Individuals were thus expected to be more receptive to participating in electronic questionnaires than to paper-based questionnaires. The sampling methodology rendered 1095 potential respondents, to whom the questionnaires were sent out electronically. Babbie (1998) suggests that a 50% response rate is adequate for investigation and reporting, a 60% response rate is satisfactory, and a 70% response rate is highly recommended. The researcher aimed for a response rate of at least 50%.

The total sample and the response rates from the six regions are reflected in Table 4 and illustrated in Figure 7

Table 4

Questionnaire response rates (N = 1095)

Regions	Questionnaires		Percentage Returned	
	Sent out	Returned	% Region	%Total returned
Egoli Region	138	65	47.1	11.9
North Region	125	69	55.2	12.6
Cape Region	136	72	52.9	13.2
East Coast Region	111	40	36.0	7.3
Central Region	142	71	50.0	13.0
Central Office	443	228	51.4	41.8
Total	1095	545	49.8	100.0

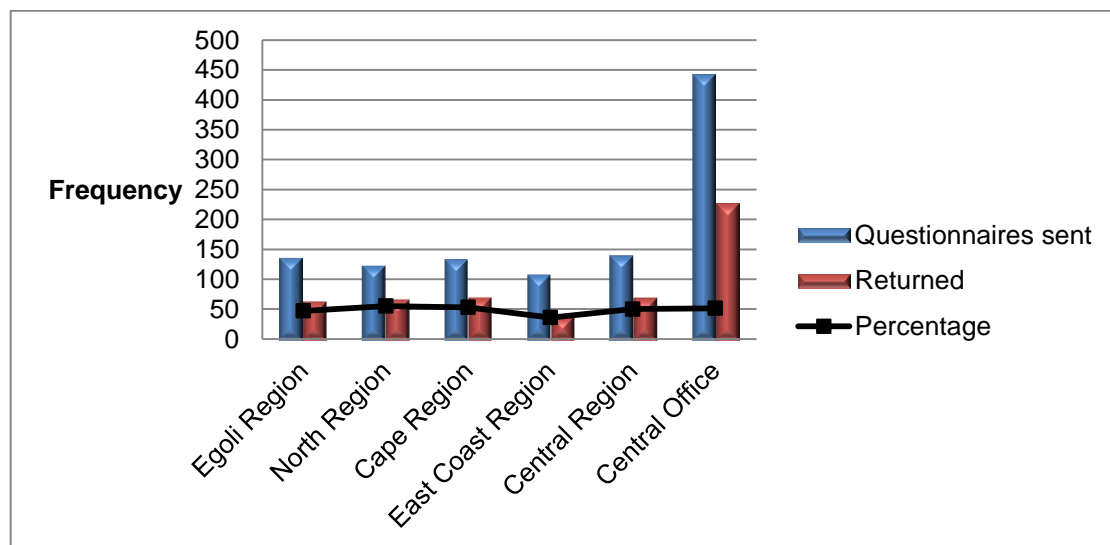


Figure 7. Questionnaire response rates

It can be seen that the overall response rate was adequate (Babbie, 1998), as 545 (49.8%) of the initial 1095 questionnaires were returned. The response rate for each of the six regions included in the sample differed slightly, with North region reflecting the highest return rate of 55.2% (69 responses out of a sample of 125); the lowest response rate of 36% (40 responses out of a sample of 111) was obtained from East Coast region.

The biographical questions were the first component of the questionnaire, as these questions would be less threatening to participants. Details of the biographical and family characteristics of the sample are discussed next in order to obtain a picture of the sample group. Majority of the information is illustrated in both table and graphic formats. The number of missing responses in the total questionnaire was considered very low.

Table 5 and Figure 8 indicate the age distribution of the sample respondents.

Table 5

Age distribution of respondents (N = 545)

Age	Frequency	Percentage	Cumulative Frequency	Cumulative Percentage
21	3	0.6	3	0.5
22	2	0.4	5	0.9
23	7	1.3	12	2.2
24	15	2.8	27	5.0
25	23	4.2	50	9.2
26	20	3.7	70	12.8
27	21	3.9	91	16.7
28	30	5.5	121	22.2
29	28	5.1	149	27.3
30	19	3.5	168	30.8
31	24	4.4	192	35.2
32	25	4.6	217	39.8
33	28	5.1	245	45.0
34	26	4.8	271	49.7
35	27	5.0	298	54.7
36	19	3.5	317	58.2
37	12	2.2	329	60.4
38	32	5.9	361	66.2
39	22	4.0	383	70.3
40	21	3.9	404	74.1
41	10	1.8	414	76.0
42	13	2.4	427	78.4
43	15	2.8	442	81.1
44	11	2.0	453	83.1
45	13	2.4	466	85.5
46	11	2.0	477	87.5
47	10	1.8	487	89.4
48	9	1.7	496	91.0
49	11	2.0	507	93.0
50	6	1.1	513	94.1
51	5	0.9	518	95.1
52	6	1.1	524	96.2
53	3	0.6	527	96.7
54	3	0.6	530	97.3
55	2	0.4	532	97.6
56	5	0.9	537	98.5
57	2	0.4	539	98.9
59	2	0.4	541	99.3
60	1	0.2	542	99.5
62	2	0.4	544	99.8
63	1	0.2	545	100
Total	545	100.0		

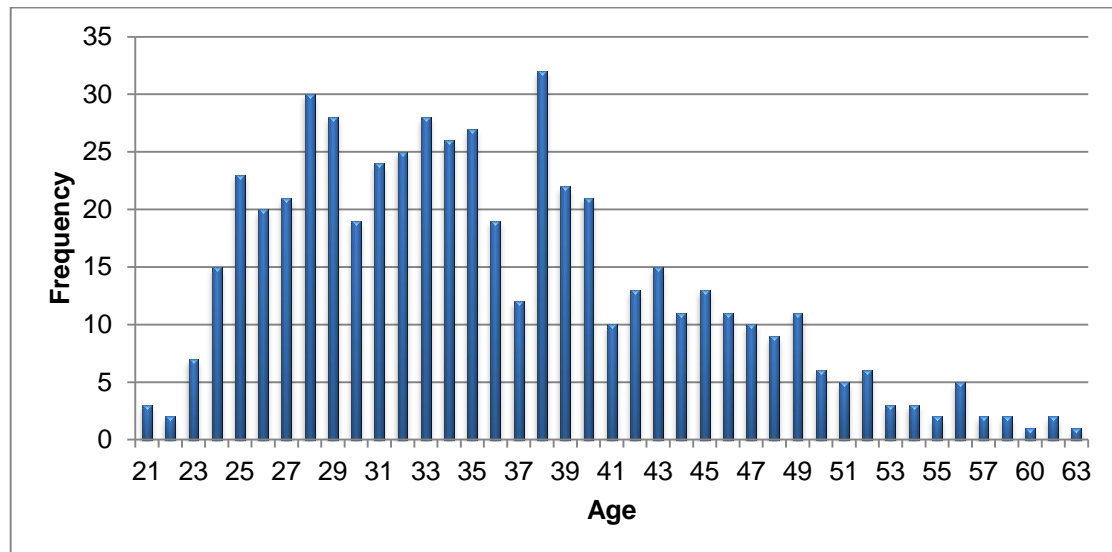


Figure 8. Age distribution of respondents

The mean age of respondents ($N = 545$) was 35.8 Standard Deviation ($SD = 8.4$), suggesting that the respondents are relatively young. The youngest respondent was 21 years old ($N = 3$) while the oldest respondent was 63 years old ($N = 1$). Additional information (Table 6 and Figure 9) was provided to categorise the respondents' ages into cohorts in order to provide better clarity on the age distribution trend.

Table 6

Age cohorts of respondents ($N = 545$)

Age Cohorts	Frequency	Percentage
≤ 29	149	27.3
30-39	234	43.0
40-49	124	22.8
50-59	34	6.2
>60	4	0.7
Total	545	100.0

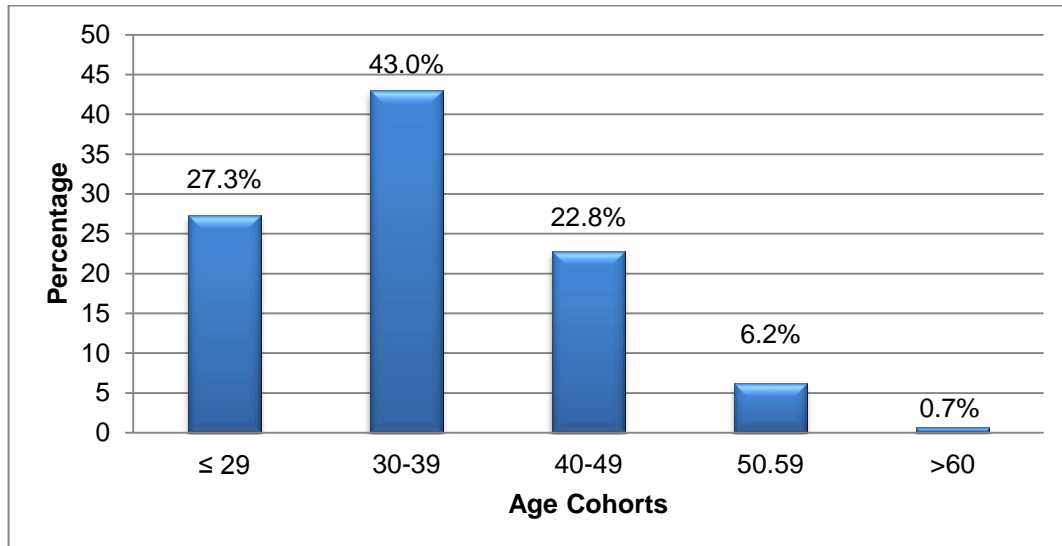


Figure 9. Age cohorts of respondents

Respondents in the largest age cohort are aged between 30 and 39 years old and make up 43.0% ($N = 234$) of the sample. Respondents who are 29 years old constitute 27.3% ($N = 149$), while 22.8% ($N = 124$) are between the ages of 40 and 49. Only 6.9% ($N = 38$) of respondents are older than 50 years. According to Remery, Schippers, and Ekamper (2003), productivity levels of workers tend to decrease at around the age of 50 years. However, the majority of the workforce (43%) in this study are between 30 and 39 years old.

The gender distribution of the respondents is illustrated in Table 7.

Table 7

Gender distribution ($N = 545$)

Gender	Frequency	Percentage	Cumulative Frequency	Cumulative Percentage
Female	290	53.2	289	53.0
Male	255	46.7	545	100
Total	545	100.0		

All the respondents (100%) provided information on their gender. Female respondents constitute a slightly larger portion of the sample than males

(53.1%, $N = 290$). Male respondents constitute 46.9% ($N = 255$) of the sample.

Table 8 illustrates the number of women with children compared with women without children and men.

Table 8

Distribution of women with children, other women and men ($N = 545$)

Sample Distribution	Frequency	Percentage
Women with children	204	37.4
Women	86	15.8
Men	255	46.8
Total	545	100.0

It can be seen from Table 8 that women with children constitute 37.4% ($N = 204$), other women constitute 15.8% ($N = 86$) and men constitute 46.8% ($N = 255$) of the sample group. Although women's total representation in the sample (53.2%, $N = 290$) is higher than men's (46.7%, $N = 255$), a substantial number of the women in the sample have children.

Table 9 and Figure 10 indicate the distribution of respondents' Hay Job Evaluation Grades in the selected organisation.

Table 9

Hay Job Evaluation grades of respondents ($N = 545$)

Grade	Frequency	Percentage	Cumulative Frequency	Cumulative Percentage
Senior management	213	39.1	213	39.1
Middle management	67	12.3	280	51.4
Junior management	36	6.6	316	57.9
Supervisory & clerical	229	42.0	545	100
Total	545	100.0		

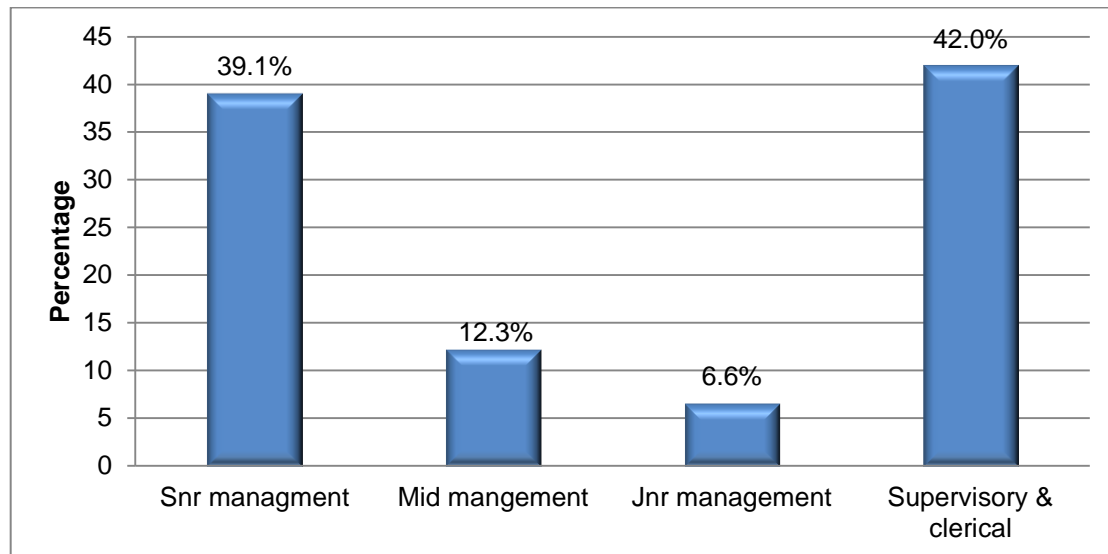


Figure 10. Hay Job Evaluation grade distribution of respondents

The distribution of respondents' job categories indicates that 42.0% ($N = 229$) come from supervisory and clerical positions. Senior management levels represent 39.1% ($N = 213$) as the second-largest category. Middle management constitutes 12.3% ($N = 67$) and junior management 6.6% ($N = 36$). The high representation of supervisory and clerical categories was expected, as this category makes up the larger proportion of the population and therefore the sample.

The distribution of ethnic grouping of respondents is illustrated in Table 10 and Figure 11.

Table 10

Distribution of ethnic grouping of respondents ($N = 545$)

Ethnic Grouping	Frequency	Percentage	Cumulative Frequency	Cumulative Percentage
African	162	29.7	162	29.7
White	249	45.7	411	75.4
Coloured	65	11.9	476	87.3
Indian/Asian	66	12.1	542	99.5
Other	3	0.6	545	100
Total	545	100.0		

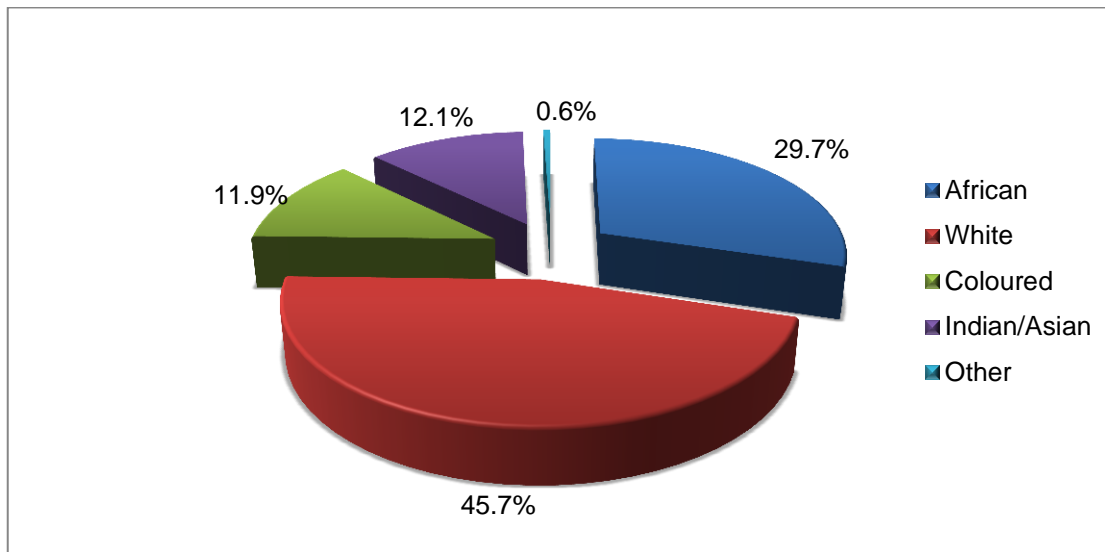


Figure 11. Distribution of ethnic grouping of respondents

All respondents (100%, $N = 545$) provided information on their ethnic grouping. The sample consist predominately (45.7%, $N = 249$) of white people. The second-largest group (29.7%, $N = 162$) is represented by African people. The other ethnic groups of respondents are respectively Indian or Asian (12.1%, $N = 66$), Coloured (11.9%, $N = 65$) and “Other or non-defined” (0.6%, $N = 3$). For the purposes of this study, the African, Indian and Asian, Coloured and Other groups are referred to as the Previously Disadvantaged Group. This sample group constitutes 54.3% ($N = 296$) of total respondents.

Table 11 and Figure 12 indicate the distribution of qualifications held by respondents.

Table 11

Highest qualification obtained by respondents ($N = 545$)

Qualification	Frequency	Percentage	Cumulative Frequency	Cumulative Percentage
Secondary School	18	3.3	18	3.3
Standard 10	89	16.3	107	19.6
Post School Certificate	105	19.3	212	38.9
Diploma/Degree	142	26.1	354	64.9
Honours Degree	110	20.2	464	85.1
Masters Degree	76	13.9	540	99.1
Doctorate	5	0.92	545	100
Total	545	100.0		

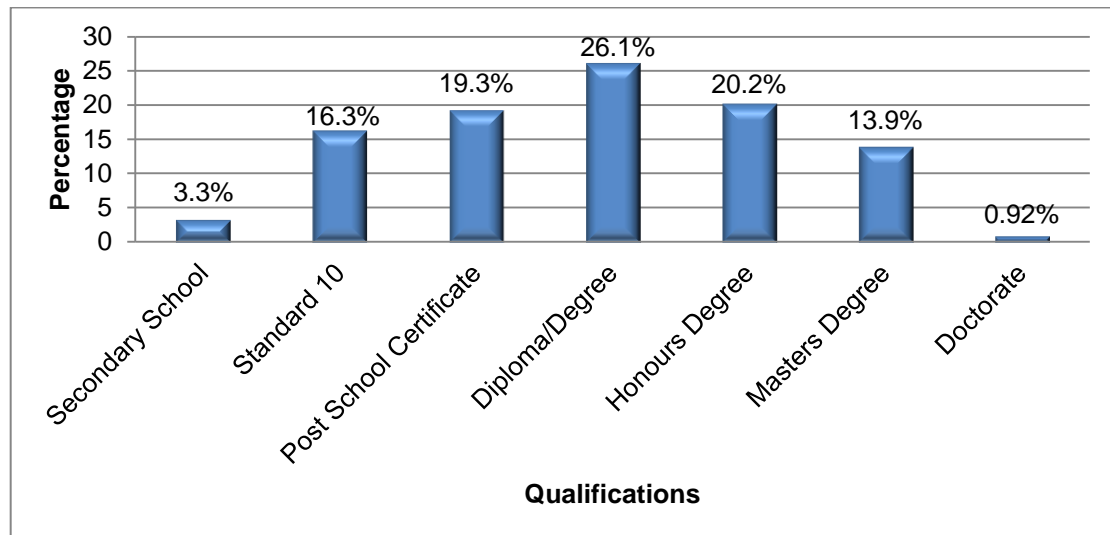


Figure 12. Highest qualification obtained by respondents

The majority of the respondents (26.1%, $N = 142$) have a diploma or a bachelor's degree, while a large portion of the respondents (20.2%, $N = 110$) have an honours degree as their highest qualification. Nearly a fifth of the sample (19.3%, $N = 105$) are in possession of a post-school certificate. Respondents who have a Standard 10 (Grade 12) constitute 16.3% ($N = 89$). Respondents with a secondary school qualification lower than Standard 10 or Grade 12 represent 3.3% ($N = 18$). Respondents with a masters degree or doctorate degree represent 14.9% ($N = 81$) of the sample. It is clear from Table 11 and Figure 14 that a large proportion of the respondents in the sample (61.1%, $N = 333$) have tertiary diplomas and degrees and can be seen as a highly educated group of workers.

The marital status of the sample group at the time of the survey is indicated in Table 12 and Figure 13.

Table 12

Distribution of marital status of respondents (N = 545)

Marital Status	Frequency	Percentage	Cumulative Frequency	Cumulative Percentage
Single	148	27.2	148	27.2
Cohabiting	48	8.8	196	35.9
Married	298	54.7	494	90.6
Married & Separated	4	0.7	498	91.4
Divorced	33	6.1	531	97.4
Divorced & Cohabiting	6	1.1	537	98.5
Separated	3	0.6	540	99.1
Widowed	4	0.7	544	99.8
Widowed & Cohabiting	1	0.2	545	100
Total	545	100.0		

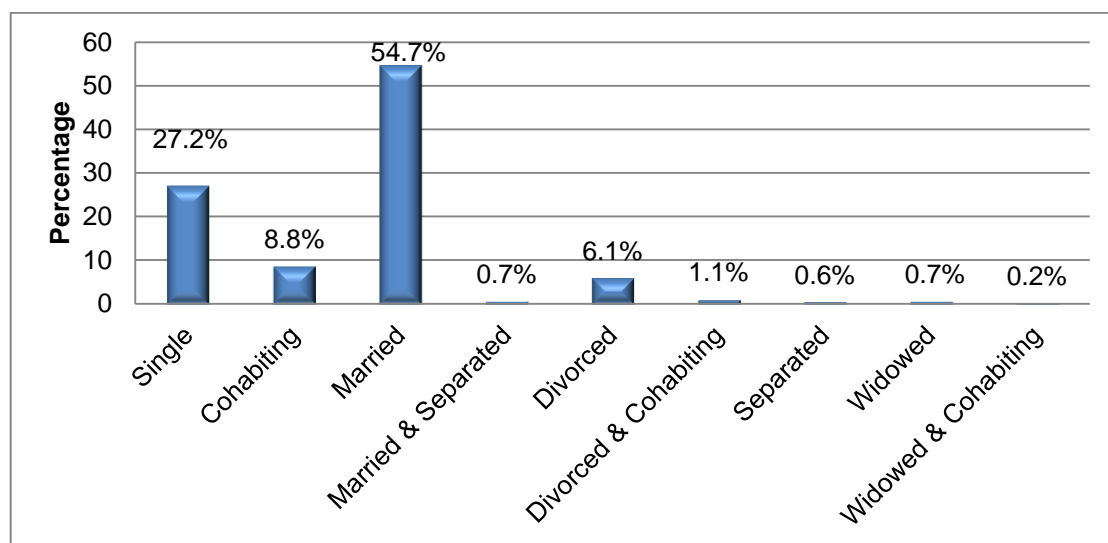


Figure 13. Distribution of marital status of respondents

More than half of the respondents (54.7%, $N = 298$) in the sample group are married, while of the remaining respondents (45.3%, $N = 247$) are either single, cohabiting, married but separated, divorced, divorced or cohabiting, separated, widowed or widowed and cohabiting. The variations in marital status are required in the context of this study. Previous research indicates that variations in marital status are common variables in the work-family

literature. For example, married individuals with children are often suggested to have more family-role responsibilities that interfere with work responsibilities than non-married individuals (Michel, Kotrba et al., 2010).

Table 13 indicate respondents in the sample who are the primary breadwinners in their households.

Table 13

Primary breadwinner in household (N = 545)

Primary Breadwinner	Frequency	Percentage	Cumulative Frequency	Cumulative Percentage
Yes	368	67.5	368	67.5
No	177	32.5	545	100
Total	545	100.0		

It is clear from Table 13 that the majority of respondents in the sample group are the primary breadwinners in their households (67.5%, $N = 368$).

The next part of this discussion deals with the respondents' dependants (children, spouses or partners, and elderly persons). For the purpose of this study the word "dependant" will be defined as an individual (regardless of age) who relies on another individual for support. This support may be of a financial, emotional or physical nature. All respondents answered the questions concerning the various types of dependants "living with me" and "not living with". Because of the different family scenarios that individuals might have, the following situations were included in the questionnaire: (a) dependants living with respondents, (b) dependants not living with respondents, (c) no dependants.

Table 14 and Figure 14 indicate the number of dependent children living in the same household as respondents.

Table 14

Dependants (children) living in same household (N = 545)

Dependants	Frequency	Percentage	Cumulative Frequency	Cumulative Percentage
No children	208	38.2	208	38.2
One child	135	24.8	343	62.9
Two children	129	23.7	472	86.6
Three children	55	10.1	527	96.7
Four or more children	18	3.3	545	100
Total	545	100.0		

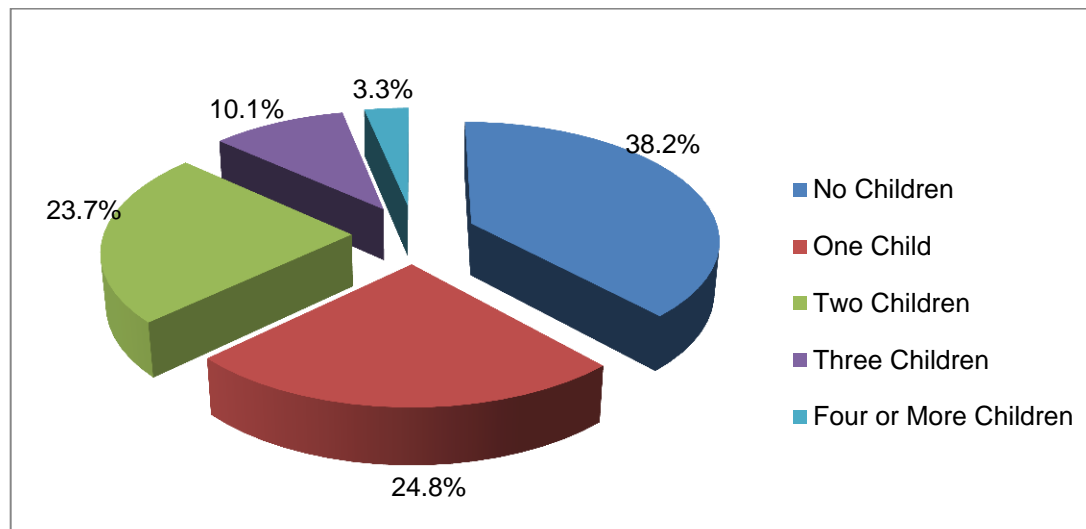


Figure 14. Dependants (children) living in same household

This information indicates that 38.2% ($N = 208$) of respondents have no children, while 61.8% ($N = 337$) have either one or more children who are dependent upon respondents and live in the same household. Previous research indicates that both large numbers of children and the presence of young children living at home are associated with work-family conflict (Hosking & Western, 2008).

Table 15 and Figure 15 indicate the number of children who are dependent upon respondents, but do not live in the same household as respondents. Various scenarios exist for circumstances in which some respondents have dependent children living with a divorced parent, or have assumed responsibility for the children of a new partner, or inherited children living with a guardian. Regardless of the situation, there are some instances where children are in some way financially or emotionally dependent on respondents, but do not necessarily share the same household.

Table 15

Dependants (children) not living in same household (N = 545)

Dependants	Frequency	Percentage	Cumulative Frequency	Cumulative Percentage
No children	400	73.4	400	73.4
One child	55	10.1	455	83.5
Two children	69	12.7	524	96.2
Three children	12	2.2	536	98.4
Four or more children	9	1.7	545	100
Total	545	100.0		

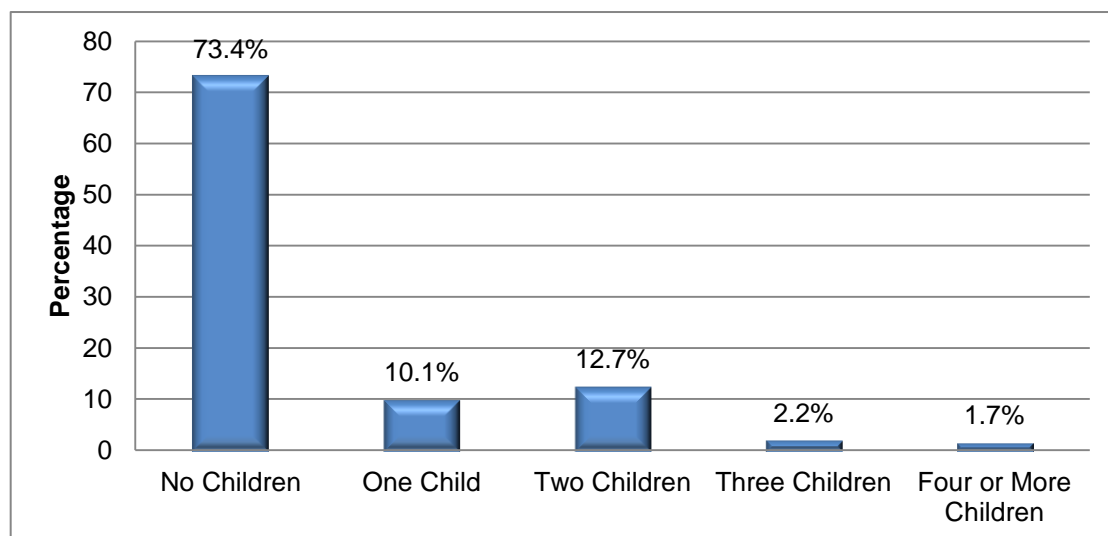


Figure 15. Dependants (children) not living in same household

This information indicates that the majority of the respondents (73.4%, $N = 400$) do not have dependent children living with them in the same household. This does not rule out the fact that these respondents do have children; it is just that these children do not rely on respondents financially, emotionally and or physically. The remaining respondents (26.6%, $N = 145$) have either one or more dependent children living in separate households. One can assume that these children are living with another parent or guardian who holds the responsibility for looking after them. These children could also be in boarding school, attending university, or living abroad, but are still dependent on respondents in some way.

Table 16 indicates whether respondents have a spouse or partner who is dependent on them and whether they live together in the same household.

Table 16

Dependants (spouse/partner) living in same household (N = 545)

Dependants	Frequency	Percentage	Cumulative Frequency	Cumulative Percentage
Spouse	145	26.6	145	26.6
Partner	27	5.0	172	31.6
Neither Spouse nor Partner	373	68.4	545	100
Total	545	100.0		

Table 16 shows that 68.4% ($N = 373$) of respondents do not have a dependent spouse or partner living with them in the same household. The remaining 31.6% ($N = 172$) have a dependent spouse or partner living in the same household. It is important to note that respondents were asked to indicate whether they had a “dependent” spouse or partner living with them. This is different from respondents’ answers to the questions concerning marital status which are reflected in Table 12 and Figure 13. The work-family literature indicates that one of the differences between married and cohabiting couples is that individuals who are cohabiting tend to have limited economic

and social resources at their disposal to cope with their family and work demands (Eggebeen, 2005).

Table 17 indicates respondents' answers as to whether they have spouses or partners who are dependent on them financially, emotionally or physically but live in separate households. As with the previous question, a number of possible scenarios exist for such circumstances. For example, a spouse or partner who is regarded as the breadwinner of the family unit may be working in another geographical location but still supporting the other dependent spouse or partner.

Table 17

Spouse or partner not living in same household (N = 545)

Dependants	Frequency	Percentage	Cumulative Frequency	Cumulative Percentage
Spouse	5	0.9	5	0.9
Partner	5	0.9	10	1.8
Neither Spouse or Partner	535	98.2	545	100
Total	545	100.0		

Table 17 indicates that the majority of respondents (98.2%, $N = 535$) do not have a dependent spouse or partner living with them in the same household. The remaining 1.8% ($N = 10$) of the respondents have a spouse or partner who is dependent upon them but does not share the same household as the respondent.

Table 18 and Figure 16 indicate respondents' answers as to whether they have any elderly dependants, and whether they live with the respondents or not.

Table 18

Elderly persons living in same household or not (N = 545)

Dependents	Frequency	Percentage	Cumulative Frequency	Cumulative Percentage
Elderly person/s living with respondents	43	7.9	43	7.9
Elderly person/s not living with respondents	73	13.4	116	21.3
No Elderly person/s	429	78.7	545	100
Total	545	100		

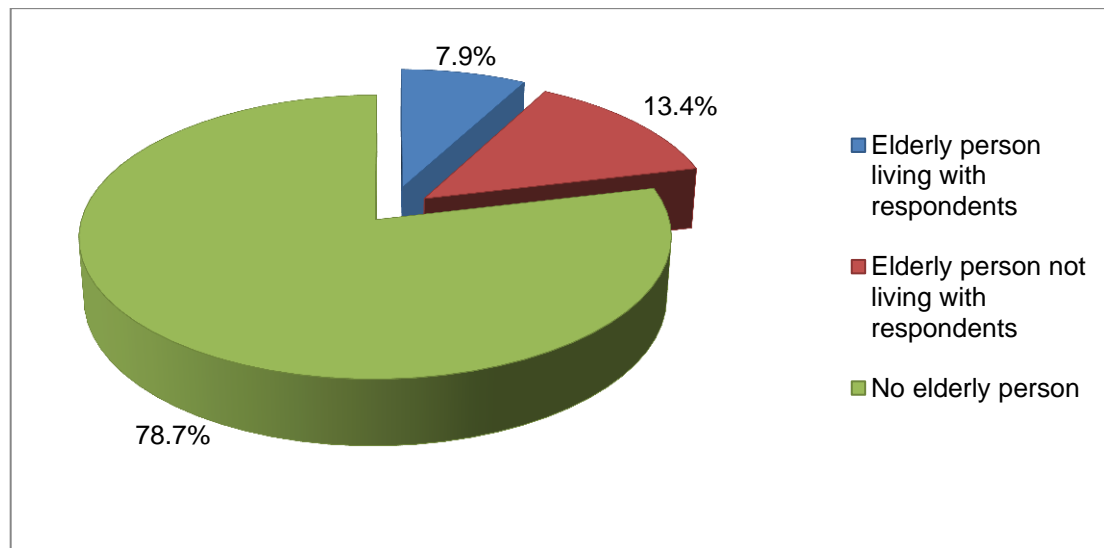


Figure 16. Dependants (elderly persons) living in same household or not

A clear majority of the respondents (78.7%, $N = 429$) indicated that they have no elderly dependants. A small percentage of the respondents (7.9%, $N = 43$) indicated that they have an elderly person or persons dependent upon them and living in the same household. Respondents who indicated that they have an elderly person or persons dependent on them but not living in the same household represent 13.4% ($N = 73$). Various scenarios exist for such circumstances, such as an elderly person who depends on the respondents financially but lives in an old-aged home or elsewhere.

Table 19 and Figure 17 indicate the number of years that the sample group have been employed by their current employer.

Table 19

Number of years with current employer (N = 545)

Years	Frequency	Percentage	Cumulative Frequency	Cumulative Percentage
0	16	2.9	16	2.9
1	70	12.8	86	15.8
2	67	12.3	153	28.1
3	67	12.3	220	40.4
4	38	7.0	258	47.3
5	40	7.3	298	54.7
6	22	4.0	320	58.7
7	24	4.4	344	63.1
8	34	6.2	378	69.4
9	14	2.6	392	71.9
10	21	3.9	413	75.8
11	21	3.9	434	79.6
12	19	3.5	453	83.1
13	8	1.5	461	84.6
14	7	1.3	468	85.9
15	11	2.0	479	87.9
16	4	0.7	483	88.6
17	3	0.6	486	89.2
18	2	0.4	488	89.5
19	5	0.9	493	90.5
20	14	2.6	507	93.0
21	7	1.3	514	94.3
22	3	0.6	517	94.9
23	4	0.8	521	95.6
24	3	0.6	524	96.2
25	2	0.4	526	96.5
26	4	0.7	530	97.3
27	1	0.2	531	97.4
28	6	1.1	537	98.5
29	1	0.2	538	98.7
30	1	0.2	539	98.9
31	1	0.2	540	99.1
32	1	0.2	541	99.3
34	1	0.2	542	99.5
35	1	0.2	543	99.6
36	1	0.2	544	99.8
38	1	0.2	545	100
Total	545	100.0		

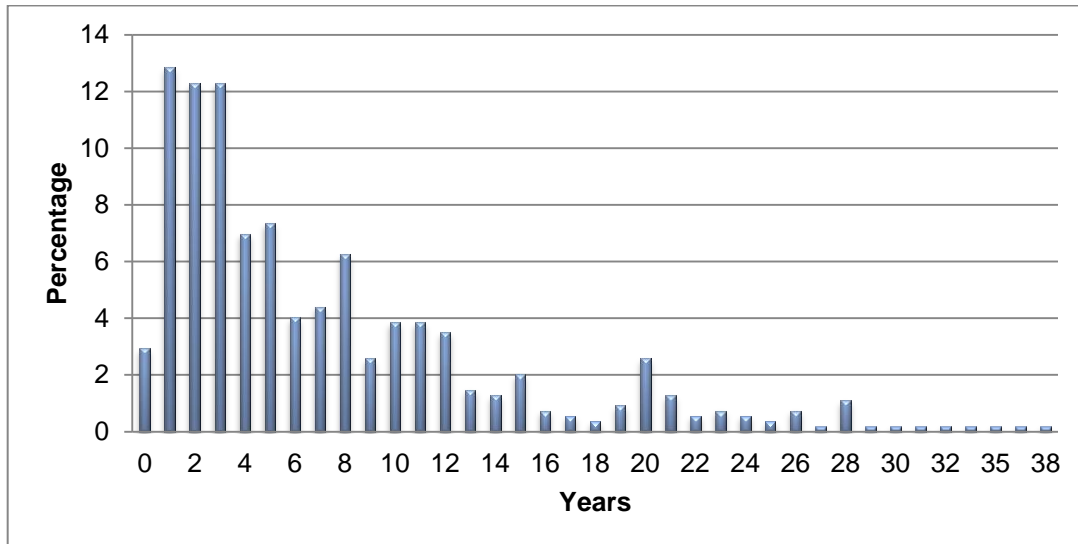


Figure 17. Number of years with current employer

From Table 19 and Figure 17 it is clear that respondents tend to have short- to medium-term relationships with their current employer. The majority of the respondents (83.1%, $N = 453$) have less than 12 years' service with their current employer, and there is a mean employment term of 7.4 years ($SD = 7.10$). The longest employment history is 38 years of service.

FAMILY-WORK CONFLICT, JOB SATISFACTION AND BURNOUT OF WORKING WOMEN WITH CHILDREN

The number of hours that respondents work per day, both during office hours and after hours, is reflected in Table 20 and Figure 18.

Table 20

Average office hours and after-hours worked per day (N = 545)

Average Hours Worked	Frequency	Percentage	Cumulative Frequency	Cumulative Percentage
2	2	0.4	2	0.37
5	1	0.2	3	0.55
6	2	0.4	5	0.92
7	3	0.6	8	1.47
8	72	13.2	80	14.68
9	67	12.3	147	26.97
10	146	26.8	293	53.76
11	71	13.0	364	66.79
12	102	18.7	466	85.50
13	22	4.0	488	89.54
14	28	5.1	516	94.68
15	12	2.2	528	96.88
16	9	1.7	537	98.53
17	1	0.2	538	98.72
18	2	0.4	540	99.08
20	1	0.2	541	99.27
25	4	0.7	545	100
Total	545	100.0		

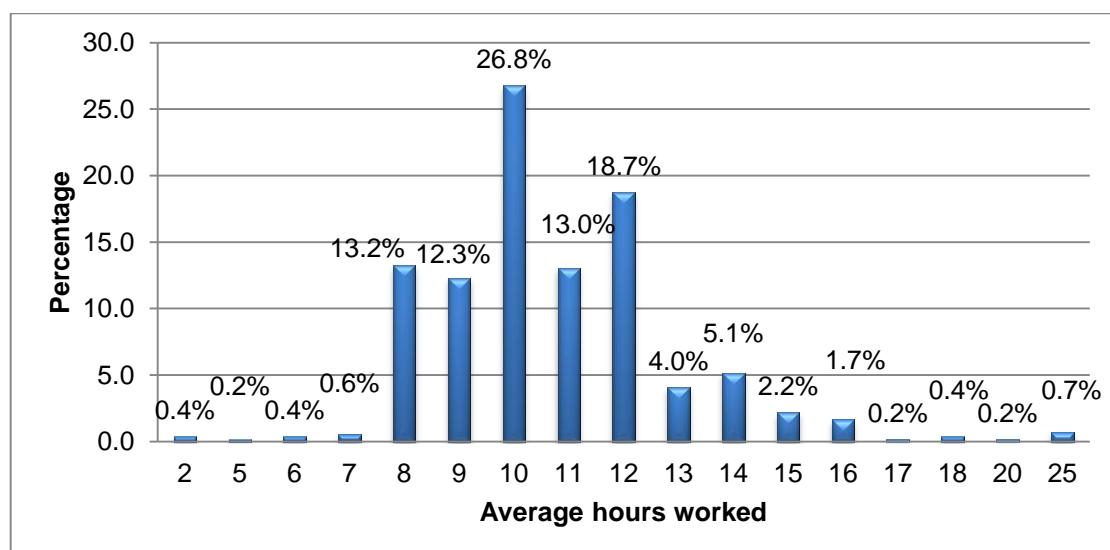


Figure 18. Average office hours and after-hours worked per day

It is evident from Table 20 and Figure 18 that respondents tend to work long hours, with the mean reported working hours being 10.75 per day ($SD = 2.41$). The largest group of the respondents (26.8%, $N = 146$) indicated that they work 10 hours per day. Of all the respondents, 84.6% ($N = 461$) work between 7 and 12 hours per day (this includes both office and after hours). The highest reported number of working hours per day was 25 hours and the lowest reported number of working hours per day was 2 hours. Caution should be taken with the interpretation of answers that indicate that respondents work between 18 and 25 hours a day. It is also not plausible that respondents would work 2 hours per day, even if they had flexible working arrangements. This data may be speculative.

The number of respondents who work over weekends is shown in Table 21

Table 21

Respondents who work over weekends (N = 545)

Work Over Weekends	Frequency	Percentage	Cumulative Frequency	Cumulative Percentage
Regularly	295	54.1	295	54.1
Seldom	193	35.4	488	89.5
Never	41	7.5	529	97.1
Not applicable	16	3.0	545	100
Total	545	100.0		

Slightly more than half of the respondents (54.1%, $N = 295$) reported that they regularly work over weekends. The majority of the respondents who indicated working regularly over weekends (42%, $N = 229$) form part of the supervisory and clerical Hay Job Evaluation grade A–F. However, 35.4% ($N = 193$) seldom work over weekends, and a very small proportion of the respondents (7.5%, $N = 41$) do not work at all over the weekends.

Respondents' indications of the time they spend travelling to and from work daily are represented in Table 22.

Table 22

Average daily travel time (in minutes) to and from work (N = 545)

Minutes	Frequency	Percentage	Cumulative Frequency	Cumulative Percentage
1	1	0.2	1	0.2
2	4	0.7	5	0.9
4	2	0.4	7	1.3
5	8	1.5	15	2.8
6	1	0.2	16	2.9
7	1	0.2	17	3.1
10	24	4.4	41	7.5
12	1	0.2	42	7.7
15	20	3.7	62	11.4
16	1	0.2	63	11.6
20	47	8.6	110	20.2
25	4	0.7	114	20.9
30	62	11.4	176	32.3
35	9	1.7	185	33.9
40	45	8.3	230	42.2
45	32	5.9	262	48.1
49	1	0.2	263	48.3
50	15	2.8	278	51.0
55	1	0.2	279	51.2
60	76	13.9	355	65.1
70	6	1.1	361	66.2
75	6	1.1	367	67.3
80	18	3.3	385	70.6
90	49	9.0	434	79.6
100	6	1.1	440	80.7
110	2	0.4	442	81.1
115	1	0.2	443	81.3
120	54	9.9	497	91.2
130	3	0.6	500	91.7
140	2	0.4	502	92.1
150	12	2.2	514	94.3
160	3	0.6	517	94.9
165	1	0.2	518	95.1
180	20	3.7	538	98.7
225	1	0.2	539	98.9
240	6	1.1	545	100
Total	545	100.0		

In order to better interpret the information obtained about respondents' travelling time, the travel time has been grouped into minute cohorts, namely (≤ 30 , 31-60, 61-90, 91-120, 121-150, 151-180, > 180). The minute cohorts are indicated in Table 23 and Figure 19. Caution should be taken with the interpretation of answers that indicate travel times such as 1 minute or 240 minutes to and from work; this data may be speculative.

Table 23 and Figure 19 illustrate the aggregate travel time respondents spent travelling to and from work each day.

Table 23

Aggregated travel time to and from work (in minutes) (N = 545)

Minutes in Travel Time	Frequency	Percentage
≤ 30	176	32.4
31 -60	179	32.8
61-90	79	14.4
91-120	63	11.6
121-150	17	3.1
151-180	24	4.4
> 180	7	1.3
Total	545	100.0

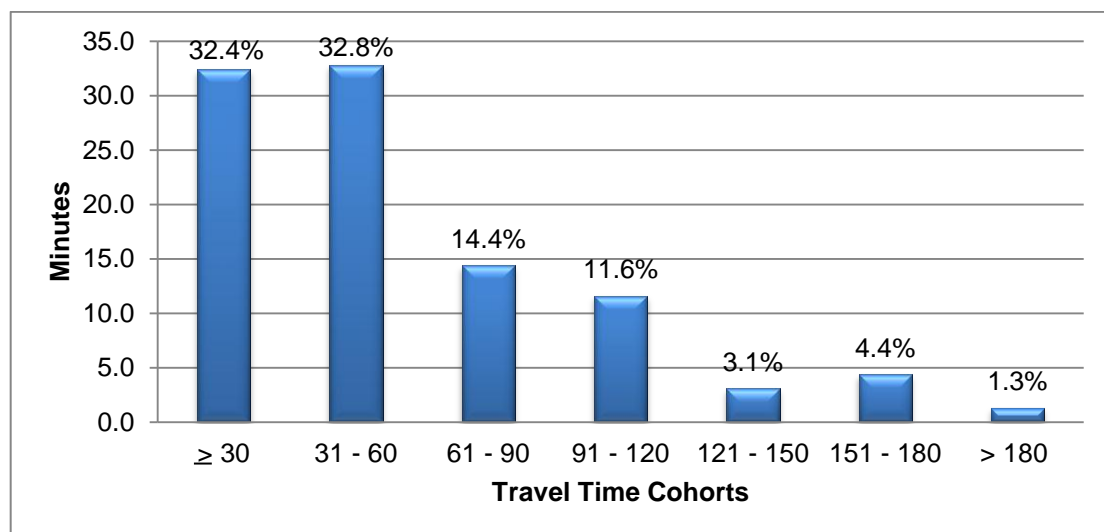


Figure 19. Aggregated travel time to and from work (in minutes)

Respondents who reported spending less than 30 minutes driving to and from work constitute 32.4% ($N = 176$). Respondents who indicated spending between 31 and 60 minutes travelling to and from work constitute 32.8% ($N = 179$). Those who spend between 61 and 120 minutes travelling constitute 26.0% ($N = 142$). Respondents who spend more than 121 minutes travelling constitute 8.8% ($N = 48$). The mean reported travel time is 64.26 ($SD = 48.06$). It is clear from Table 23 and Figure 19 that the majority of respondents (65.1%, $N = 355$) travel for up to 60 minutes per day to and from work.

Respondents taking part in flexible working arrangements are indicated in Table 24.

Table 24

Flexible working arrangements (N = 545)

Flexible Working Arrangements	Frequency	Percentage	Cumulative Frequency	Cumulative Percentage
Yes	193	35.4	193	35.4
No	352	64.6	545	100
Total	545	100.0		

The majority of respondents (64.6%, $N = 352$) do not take part in flexible working arrangements, while 35.4% ($N = 193$) of respondents do take part in the flexible working arrangements offered by the organisation. The work-family conflict literature postulates that flexitime may be more effective than flexiplace, which permits individuals to select the location where work is carried out, in reducing work-family conflict (McNall et al., 2010; Shockley & Allen, 2007).

Table 25 indicates the after-hours utilisation of a desktop computer for work purposes.

Table 25

Desktop computer utilisation after hours (N = 545)

Desktop	Frequency	Percentage	Cumulative Frequency	Cumulative Percentage
No	446	81.8	446	81.8
Yes	99	18.2	545	100
Total	545	100.0		

Table 25 shows that the majority of the respondents (81.8%, $N = 446$) do not use a desktop after hours for work purposes. A probable reason why so many respondents do not use a desktop after hours is that a desktop is not as portable as a laptop and cannot be taken home.

Table 26 indicates respondents' answers to the questions of whether or not they use a BlackBerry for work purposes after hours.

Table 26

BlackBerry utilisation after hours (N = 545)

BlackBerry	Frequency	Percentage	Cumulative Frequency	Cumulative Percentage
No	298	54.7	298	54.7
Yes	247	45.3	545	100
Total	545	100.0		

Slightly more than half of the respondents (54.7%, $N = 298$) indicated that they do not use a BlackBerry after hours for work purposes, but nearly half of them do so. Work-family conflict literature within the telecommunication environment (Golden, Veiga, & Simsek, 2006) does not reflect the pervasive

nature of mobile technology, nor does it reflect the nature of work that is extending beyond office hours (Menzies, 2005).

Table 27 indicates respondent's utilisation of laptop computers for work purposes after hours.

Table 27

Laptop computer utilisation after hours (N = 545)

Laptop	Frequency	Percentage	Cumulative Frequency	Cumulative Percentage
No	238	43.7	238	43.7
Yes	307	56.3	545	100
Total	545	100.0		

Slightly more than half of the respondents, 56.3% ($N = 307$), indicated that they use a laptop after hours for work purposes.

The amount of paperwork done for work purposes after hours is shown in Table 28.

Table 28

Paperwork done after hours (N = 545)

Paperwork	Frequency	Percentage	Cumulative Frequency	Cumulative Percentage
No	229	42.0	229	42.0
Yes	316	58.0	545	100
Total	545	100.0		

Slightly more than half of the respondents (58.0%, $N = 316$) do some form of paper-based work after hours. Paperwork refers to any form of work that involves the handling of reports, forms, correspondents, documents and letters. The remaining 42.0% ($N = 299$) do not use any form of paper-based work to work after hours. It is clear from Tables 25, 26 and 27 that even

though a large proportion of respondents rely on technology to perform daily job tasks, paperwork is still an important tool which individuals use after hours.

Time spent working after hours using the various tools (desktop, laptop, or BlackBerry, and doing paperwork) has been grouped into hour cohorts, namely (≤ 10 , 11-20, 21-30, > 31) hours. This is shown in Table 29 and Figure 20.

Table 29

Average after-hour use on various tools (N = 545)

Hours spent	Frequency	Percentage
≤ 10	429	78.8
11-20	82	15.0
21-30	18	3.3
> 31	16	2.9
Total	545	100.0

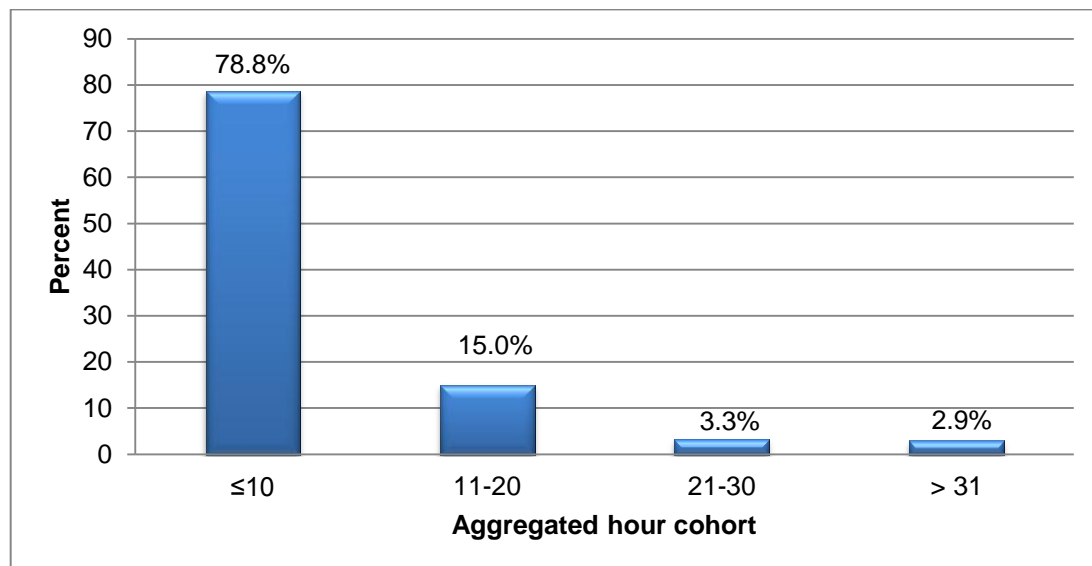


Figure 20. Aggregated time spent after hours using various work tools

It is clearly indicated that the majority of respondents (78.8%, $N = 429$) spend up to 10 hours (after hours) per week using a desktop, BlackBerry, laptop and/or doing paperwork. The mean reported hours are 7.7 and the $SD = 8.4$.

Furthermore, 15.0% ($N = 82$) of respondents spend on average between 11 and 20 hours (after hours) per week, which is considerably longer than stipulated. Respondents who spend between 21 and 30 hours after hours in this way constitute 3.3% ($N = 18$), while those who spend more than 31 hours after hours on average per week utilising the tools for work purposes constitute 2.9% ($N = 16$). These results could be indicative of a high performance and work ethic within the organisation. However, caution should be taken with the interpretation of some responses, as the data may be speculative. For example, some respondents indicated working 35 to 40 hours per week (after hours).

Respondents were required to indicate the reasons why they work. These are illustrated in Table 30 and Figure 21.

Table 30

Reasons for working (N = 545)

Why do You Work?	Frequency	Percentage	Cumulative Frequency	Cumulative Percentage
Income	72	13.2	72	13.2
Self-development	71	13.0	143	26.2
Both income & self-development	399	73.2	542	99.5
None of the above	3	0.6	545	100
Total	545	100.0		

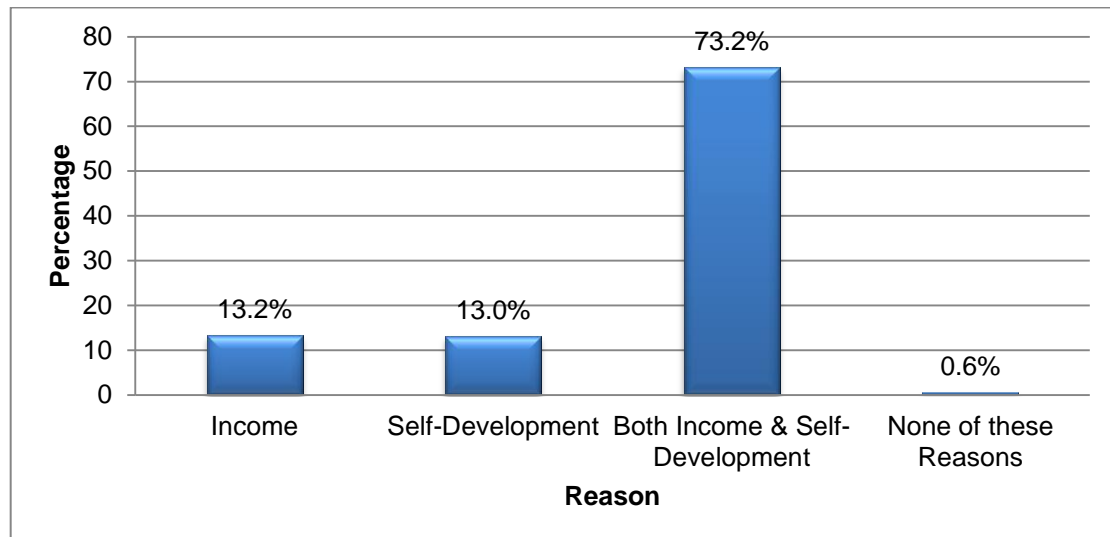


Figure 21. Reasons for working

Almost three-quarters of the respondents (73.2%, $N = 399$) indicated that they work both for income and self-development purposes. Respondents who engage in work solely because of the financial element constitute 13.2% ($N = 72$) of the sample group, while those who work for self-development purposes constitute 13.0% ($N = 71$).

Table 31 indicates how frequently respondents sleep eight hours at night.

Table 31

Respondents' sleeping eight hours per night ($N = 545$)

Hours of Sleep	Frequency	Percentage	Cumulative Frequency	Cumulative Percentage
Regularly	127	23.3	127	23.3
Seldom	281	51.6	408	74.9
Never	137	25.1	545	100
Total	545	100.0		

It is clear from the information provided that slightly more than half of the respondents (51.6%, $N = 281$) indicated that they seldom sleep for eight hours a night, while 25.1% ($N = 137$) of respondents never sleep for eight hours a night. Respondents who regularly sleep for eight hours a night constitute 23.3% ($N = 127$).

Table 32 and Figure 22 contain information regarding the assistance respondents receive with childcare from a child minder, domestic helper, family member or au pair worker.

Table 32

Assistance with childcare (N = 545)

Assistance with childcare	Frequency	Percentage	Cumulative Frequency	Cumulative Percentage
Regularly	184	33.8	184	33.8
Seldom	35	6.4	219	40.3
Never	74	13.7	293	53.9
Not applicable	251	46.1	544	100
Total	545	99.9		
Missing	1	100.0		

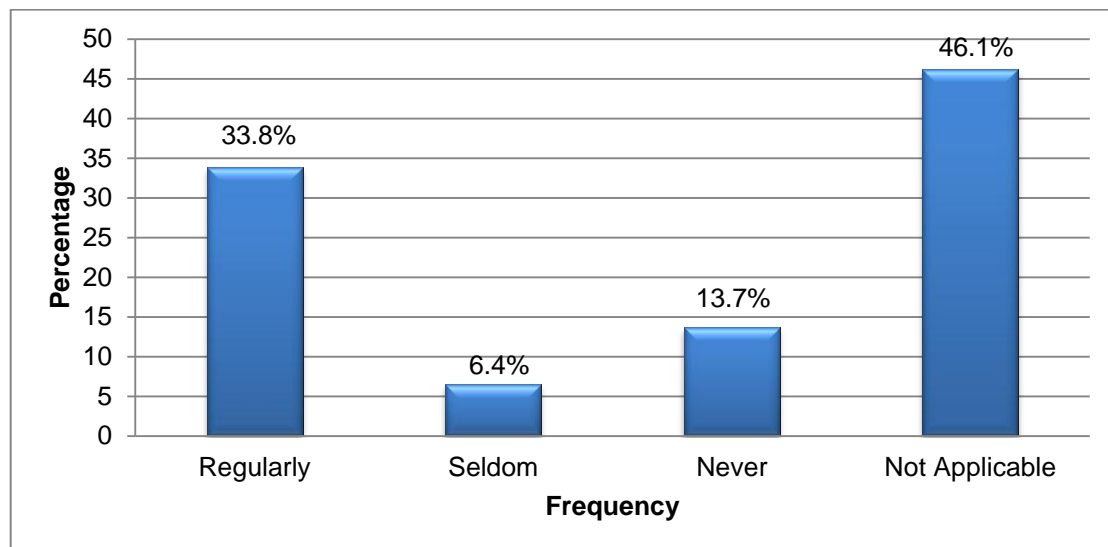


Figure 22. Assistance of respondents with childcare

Table 32 and Figure 22 show that 46.1% ($N = 251$) of respondents indicated that assistance received with childcare is not applicable to them. This could be due to the fact that these respondents do not have children living with them or that their children are older and do not require assistance. Respondents who indicated that they regularly receive assistance with their children constitute 33.8% ($N = 184$), while those who seldom receive assistance

constitute 6.4% ($N = 35$). The respondents who never receive any assistance with childcare constitute 13.7% ($N = 74$).

Table 33 contains information regarding assistance with household chores that respondents receive from a child minder, domestic helper, family member or au pair worker.

Table 33

Assistance with household chores ($N = 545$)

Assistance with Household Chores	Frequency	Percentage	Cumulative Frequency	Cumulative Percentage
Regularly	251	46.1	251	46.1
Seldom	48	8.8	299	54.9
Never	71	13.0	370	67.9
Not applicable	175	32.1	545	100
Total	545	100.0		

The results indicate that 46.1% ($N = 251$) of respondents regularly receive assistance with household chores. Those who seldom receive such assistance constitute 8.8% ($N = 48$). Respondents who never receive household assistance constitute 13.0% ($N = 71$). Almost a third (32.1%, $N = 175$) of respondents indicated that assistance with household chores was not applicable to them.

Table 34 indicates the number of annual leave days that respondents take to look after a sick child or children.

Table 34

Annual leave taken to look after sick children (N = 545)

Annual Leave Days	Frequency	Percentage	Cumulative Frequency	Cumulative Percentage
<2	117	21.5	117	21.5
3-4	53	9.7	170	31.2
5-6	30	5.5	200	36.7
7-8	9	1.7	209	38.4
>8	14	2.6	223	40.9
Not applicable	322	59.1	545	100
Total	545	100.0		

Slightly more than half of the respondents (59.1%, $N = 322$) indicated that taking annual leave to take care of sick children was not applicable to them. One can assume either that these respondents do not have any children or that they have a good support structure at home that assists when a child is sick. Respondents who take more than two annual leave days constitute 21.5% ($N = 117$), while those who take between three and four days constitute 9.7% ($N = 53$). Between five and six annual leave days are taken by 5.5% ($N = 30$), of respondents, while between seven and eight days per year are taken by 1.7% ($N = 9$). The remaining 2.6% ($N = 14$) take more than eight days annual leave to take care of their sick children per year. This information shows that respondents are tapping into their annual leave days to look after their sick children.

Respondents were asked to indicate how many special leave days they had taken in the past year to take care of children or a family emergency. Special leave days taken by respondents per year are indicated in Table 35.

Table 35

Special leave taken to look after sick children (N = 545)

Special Leave Days	Frequency	Percentage	Cumulative Frequency	Cumulative Percentage
<2	115	21.1	115	21.1
3-4	55	10.1	170	31.2
5-6	30	5.5	200	36.7
7-8	6	1.1	206	37.8
>8	10	1.8	216	39.6
Not applicable	329	60.4	545	100
Total	545	100.0		

Possible reasons why this question may not be applicable to 60.4% ($N = 329$) of the respondents may be that they do not have any children, or that they have a support structure in place that will care for their children when they are ill. Of the respondents who answered this question, 31.2% ($N = 170$) took between one and four special leave days, while 8.5% ($N = 46$) took between five and eight special leave days in the past year to look after a sick child. An example of family interference with work is a child or children who prevent a parent from attending work (Boyar, Maertz, & Pearson, 2005).

Table 36 and Figure 23 indicate whether respondents feel that their children keep them too busy to participate in recreational activities.

Table 36

Responses to children preventing participation in recreational activities (N = 545)

Time Constraints	Frequency	Percentage	Cumulative Frequency	Cumulative Percentage
Regularly	111	20.4	111	20.4
Seldom	108	19.8	219	40.2
Never	84	15.4	303	55.7
Not applicable	242	44.4	545	100
Total	545	100.0		

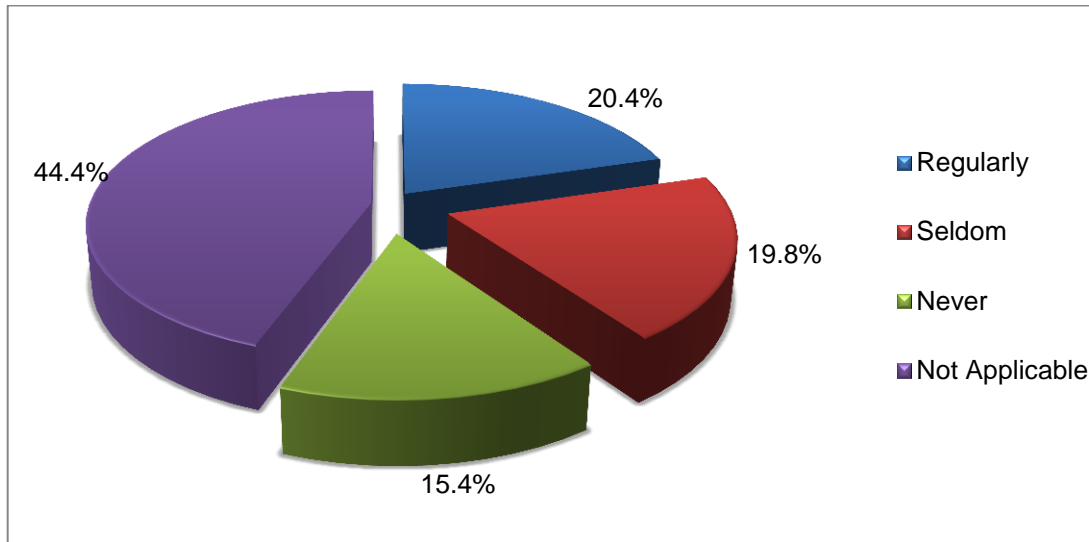


Figure 23. Childcare preventing participation in recreational activities

Respondents who feel that their children regularly keep them too busy to participate in recreational activities comprise 20.4% ($N = 111$) of the sample group, while 19.8% ($N = 108$) of respondents indicated that their children seldom keep them too busy to participate in recreational activities. Of the respondents, 15.4% ($N = 84$) reported that they never experience their children keeping them too busy to take part in recreational activities. The remaining 44.4% ($N = 242$) indicated that this question was not applicable to them. One can assume either that these respondents do not have children, or that their children may be older and do not require so much of the respondents' time.

Table 37 indicates whether travelling far distances is required as a work prerequisite.

Table 37

Travel away from home for work purposes (N = 545)

Travelling Prerequisite	Frequency	Percentage	Cumulative Frequency	Cumulative Percentage
Regularly	115	21.0	115	21.1
Seldom	178	32.7	293	53.8
Never	74	13.6	367	67.3
Not applicable	178	32.7	545	100
Total	545	100.0		

The results indicate that 13.6% ($N = 74$) of respondents are never required to travel as part of their jobs. However, 53.7% ($N = 293$) are required to travel either on a regular or occasional basis. Respondents who reported that travelling was not applicable to them constitute 32.7% ($N = 178$) of the sample.

Responses to the question asking whether respondents had a child or children suffering from a mental, physical, emotional or life-threatening condition is illustrated in Table 38. According to Stevens et al. (2007), having young or disabled children is related to family-work conflict.

Table 38

Children with mental illnesses or other condition ($N = 545$)

Responses to Child with Mental Illness	Frequency	Percentage	Cumulative Frequency	Cumulative Percentage
Yes	21	3.9	21	3.9
No	278	51.0	299	54.9
Not applicable	246	45.1	545	100
Total	545	100.0		

A little more than half of the respondents (51.0%, $N = 278$) indicated that they do not have any children who suffer from a mental, physical, emotional or life-threatening condition. The respondents that do have children who suffer from some form of disability constitute 3.9% ($N = 21$). Parents who raise children with disabilities are often emotionally burdened (McKeever & Miller, 2004).

4.3 Measuring Instruments

4.3.1 General.

The aim of the present study is to investigate whether significant differences or relationships exist between the work-family conflict experienced by working women with children, working women without children and men, and the impact of this conflict on job satisfaction and burnout. Furthermore, men and women's experiences of work-family conflict differ, with various implications on their burnout and job satisfaction levels. The measures used in this study were selected from existing standardised psychometric instruments. The instruments used in this study have undergone extensive development and have displayed acceptable psychometric properties, as demonstrated elsewhere in this chapter. The following instruments were used to measure the variables in the study:

- The Survey Work-Home Interaction-NjmeGen (SWING), developed by Geurts et al. (2005)
 - Measures the differentiation between the quality of influence of conflict (negative influence versus positive influence) and direction of interaction (influence from work to family and influence from family to work).
- The Work-Family Conflict and Family-Work Conflict Scale, developed by Netemeyer et al. (1996)
 - Measures work-family conflict and family-work conflict based on time-based, strain-based, and behaviour-based conflict.
- The Minnesota Satisfaction Questionnaire (MSQ), developed by Weiss et al. (1967)
 - Measures general job satisfaction.
- The Maslach Burnout Inventory Questionnaire (MBI), developed by Maslach et al. (1996)

- Measures individual burnout based on three dimensions: emotional exhaustion, cynicism and professional efficacy.
- Role Identity Measurement, adapted from Burke and Tully (1977)
 - The Burke-Tully (1977) principles were incorporated into the measurement of role identity; however, the procedure was adapted to suit the specific needs of this study.

4.3.2 SWING questionnaire (Geurts et al., 2005).

Geurts et al. (2005) developed and validated the SWING, an instrument for measuring work-home interaction that could measure both negative and positive interactions between work and home domains. A four-step procedure was applied in developing the instrument. Firstly, certain components were validated and defined, based on the general definition of work interference with family (WIF) and family interference with work (FIW). Secondly, an item pool of 187 items was obtained from seventeen existing instruments that measured WIF and FIW from an item generation. Thirdly, 30 items were discarded due to duplication with other items, based on an evaluation.

According to Geurts et al., (2005), the validation procedure mentioned in step one, found four types of interactions (negative WIF, negative FIW, positive WIF and positive FIW). Negative work interference with family (-WIF) refers to the negative load reactions experienced at work that affect an individual's functioning within the family or home domain. This factor consists of eight items (for example, "How often does it happen that your work schedule makes it difficult to fulfil domestic obligations?") Negative family interference with work (-FIW) refers to the negative load reactions experienced within the family or home domain that affect an individual's functioning at work. This factor consists of four items (for example, "How often does it happen that you have difficulty concentrating on your work because you are preoccupied with domestic matters?") Positive work interference with family (+WIF) refers to the positive load reactions experienced at work that facilitate an individual's

functioning within family or home domain (Geurts et al., 2005). This factor consists of five items (for example, “You manage your time at home more efficiently as a result of the way you do your job?”) Positive family interference with work (+FIW) refers to the positive load reactions experienced at home or in the family that facilitate an individual’s functioning at work. This factor consists of five items (for example “After spending a pleasant weekend with your spouse/family/friends, you have more fun in your job?”) (Geurts et al., 2005).

Based on the item evaluation mentioned in step three, the remaining 157 items were selected according to the following criteria (Geurts et al., 2005):

- There must be an appropriate fit to the four dimensions of WIF and FIW.
- Clear line of sight needs to be established with regard to the item’s origin in one domain and the impact on the other domain; that is, the quality of the interference must be either negatively or positively stated.
- Items should not be confounded with external variables such as fatigue, or antecedents such as social support.
- Items should not include jargon that is difficult to interpret into other languages.
- All items should be applicable to all working individuals, regardless of their marital or parental status.

With regard to the fourth and final step in the development of the instrument, four researchers from the field of occupational health psychology were selected. These researchers were required to determine independently whether each item was an adequate fit for one of the four types of interference, and to determine whether items met the criteria mentioned above (Geurts et al., 2005).

The results of the SWING instrument development obtained a four-factor model. Confirmatory factor analysis conducted by Geurts et al., (2005) further confirmed the proposed four-factor structure of the SWING for their sample Table 39 indicates the inter-correlations, means, standard deviations and reliabilities of the four-factor SWING scales.

Table 39

Means, SD, inter-correlations and reliabilities SWING (N = 1857)

	(1)	(2)	(3)	(4)	M	SD	α
(1) Negative WIF	1.00				.86	.48	.84
(2) Negative FIW	.30	1.00			.47	.41	.75
(3) Positive WIF	.12	.12	1.00		.83	.57	.75
(4) Positive FIW	.03*	.11	.56	1.00	1.15	.74	.81

Note. All correlations significant at $p < .01$, except*.

From “Work-home interaction from a work psychological perspective: Development and validation of a new questionnaire, the SWING”, by S.A.E. Geurts, T.W. Taris, M.A.J. Kompier, J.S.E. Dikkers, M.L.M. Van Hooff, and U.M. Kinnunen, 2008, *Work and Stress*, 19(4) p. 331. Copyright 2008 by Copyright Holder. Reprinted with permission.

It is clear from Table 39 that the alphas are relatively high, suggesting the robustness of the four-factor structure of the SWING. Cronbach’s Alpha coefficients for all four scales demonstrated acceptable internal consistency for each factor. The inter-correlations are the highest between the two negative scales (negative WIF and FIW) ($r = .30$, $p < .001$) and between the two positive scales (positive WIF and FIW) ($r = .56$, $p < .001$). Pieterse and Mostert (2005) examined the psychometric properties of the SWING instrument within a South African context. Confirmatory factor analyses with Direct Oblimin rotation supported the four-scale structure of the SWING. Items loaded on the first factor relate to negative WIF and the second factor deals with positive WIF. Items loaded on the third factor relate to negative FIW, while the fourth factor consists of items that represent positive FIW. Pieterse and Mostert (2005) noted Cronbach’s Alpha coefficients of .87 (negative WIF), .79 (negative FIW), .79 (positive WIF) and .76 (positive FIW) in their psychometric analysis of the SWING in the South African environment.

According to Pieterse and Mostert (2005), the SWING instrument's ability to capture both the negative and, the positive dimensions of the work-to-family interference makes it unique. The SWING instrument uses the word "home" instead of "family" because not every individual has a family (consisting of spouse and children) and the intention is to ensure that the instrument is suitable for every individual.

The SWING instrument was administered to the sample in the current study in its original format. Once all the respondents had completed all the questions, this researcher obtained express permission from the original author and developer of the SWING questionnaire, Sabine Geurts, of the Radboud University, Nijmegen, to replace the word "home" as used in the SWING instrument with "family" for the purposes of this study (S.A.E. Geurts, personal communication, 23 March, 2011). Thus, work interference with home (WIH) now becomes work interference with family (WIF), and home interference with work (HIW) becomes family interference with work (FIW). The changes of the word "home" to "family" have only been made in the review of the literature and the results within the current study and not in the original SWING instrument.

4.3.3 The Work-Family and Family-Work Conflict Questionnaire Netemeyer et al., 1996).

Work-family conflict and family-work conflict were measured using the work-family and family-work conflict questionnaire designed by Netemeyer et al. (1996). The instrument consists of two scales, which measure work-family conflict (WFC) and family-work conflict (FWC) respectively. Five of the items in the instrument measure work-family conflict, while the other five items measure family-work conflict. Responses to these items are provided through a seven-point Likert scale. Larger numbers relate to greater inter-domain conflict within each scale, in which 1 represents "strongly disagree" and 7 equates to "strongly agree" (Netemeyer et al., 1996).

Certain procedures were carried out by Netemeyer et al. (1996) in the development and validation of the work-family and family-work conflict instrument. Item generation and judging accumulated a large pool of items that were selected to reproduce the conceptualisation of work-family and family-work conflict respectively. Certain items were slightly modified to suit the Likert format utilised. A total of 110 items supplied the preliminary pool of statements. Of the 110 items, 18 were generated to represent general demands of WFC and general demands of FWC. A panel of four faculty members from various universities, whose primary area of research was organisational behaviour, judged the items for representativeness. The responsibility of the four faculty members was to reduce the number of items to a more manageable number. Inter-rater reliability coefficients were thus created and a variation of Cohen's kappa was used. The coefficient varied from high (1) to low (0) (Jones, Johnson, Butler, & Main, 1983). Additional exploratory analyses reduced the item pool to 43 items for the three sample groups. Using iterative confirmatory procedure with LISREL VII (Jöreskog & Sörbom, 1989), Netemeyer et al. (1996) obtained the final forms of the work-family and family-work conflict scales. The 43 items were specific to a correlated two-factor confirmatory model for every sample, the two factors representing a 22-item work-family conflict factor and a 21-item family-work conflict factor. The next iteration was to reduce the number of items to those that met certain criteria. Items were removed if (Netemeyer et al., 1996):

- they constantly resulted in within-factor correlated assessment error, across-factor correlated assessment error, or both
- they consisted of entirely standardised factor loadings $< .50$
- they were highly unsuitable in terms of wording with other items
- they were exceptionally high standardised factor loadings (i.e., $> .90$), or
- their expected values failed to load higher on their intended factor.

Items that consisted of very high factor loadings were removed and this resulted in within-factor correlated measurement error. After this iteration, 13

work-family conflict and 11 family-work conflict items were reserved for the next iteration, for which a different set of processes was utilised. Items were removed if they did not meet the next set of criteria, i.e. if they (Netemeyer et al., 1996):

- still displayed correlated measurement errors
- consisted of cross-factor loadings that were comparatively equal to within-factor loadings
- consisted of standardised factor loadings $< .60$
- represented redundancy in terms of functioning with other items.

Following the second iteration, seven work-family conflict and six family-work conflict items were reserved. The third iteration deleted three more items, based on the redundancy of item functioning. Finally, ten-item forms of the scale were established (Netemeyer et al., 1996). Confirmatory factor analysis was carried out by Netemeyer et al., (1996) to measure scale dimensionality, discriminant validity, and internal consistency of the work-family and family-work instrument (Anderson & Gerbing, 1988). A two-factor model displayed values that were higher than .90 across the three samples. Confirmation of internal consistency is offered by construct reliability, coefficient alpha, and average variances, as indicated in Table 40 (Netemeyer et al., 1996). Scale reliability for family-work conflict is .94; scale reliability for family-work conflict is .82 (Boles et al., 2001).

Table 40

Internal consistency for WFC and FWC scales

Sample	WFC			FWC		
	Construct α	Coefficient α	Ave	Construct α	Coefficient α	Ave
1	.88	.88	.60	.87	.86	.58
2	.89	.89	.60	.82	.83	.48
3	.88	.88	.59	.90	.89	.64

Note. From “Development and validation of work-family conflict and family-work conflict scales”, by R.G. Netemeyer, R. McMurrin, and J.S. Boles, 2005, Journal of Applied Psychology, 81(4), p. 405. Copyright 2005 by Copyright Holder. Reprinted with permission.

Table 40 indicates that the two alpha estimates varied from .82 to .90. Average variance-extracted estimates measure the amount of variance captured by a construct’s measure comparative to random measurement error. Average variance showed estimates of .50 or above, suggesting further confirmation of internal consistency for the constructs’ measure (Fornell & Larcker, 1981).

4.3.4 Weiss et al. (1967) Minnesota Satisfaction Questionnaire (MSQ).

The MSQ was developed by Weiss et al. (1967) in order to measure an individual’s satisfaction with his or her work. The MSQ measures satisfaction with a number of aspects of work. The MSQ questionnaire makes it possible to gain a more holistic picture of employee satisfaction by using an overall measure of satisfaction with the job in totality. Two individuals may possibly display the same level of general satisfaction, but for completely different reasons; therefore this individualised measurement of job satisfaction is useful. Furthermore, individuals find satisfaction in different aspects of their jobs, and in order to better understand these differences, it is useful to measure satisfaction within the various aspects of their work and their working environment (Weiss et al., 1967). The MSQ consists of three dimensions, namely intrinsic satisfaction, extrinsic satisfaction, and general satisfaction. The MSQ Short-Form was used in the context of this study.

In the development and validation of the MSQ instrument, Weiss et al. (1967) gathered and utilised a total pool of 80 items to develop a multi-scale satisfaction measure for various occupational groups (assemblers, clerks, engineers, janitors and maintenance men, machinists and salesmen). The outcomes of the measures had suitable reliabilities, but were cumbersome to score. In addition, the developed scales predominately assessed satisfaction with environmental or extrinsic reinforcement factors, such as working conditions, manager and colleagues. All the extrinsic factors excluded intrinsic reinforcement factors such as nature of work, attainment, and utilisation of abilities. To correct these measures, Weiss et al. (1967) constructed a new 20-point Likert scale format instrument. The new questionnaire was developed to measure both intrinsic and extrinsic reinforcement dimensions (Weiss et al., 1967).

A factor analysis was conducted on the various dimensions measured by the instrument, namely intrinsic, extrinsic and total (general) job satisfaction. Inter-correlations of the 21 MSQ items were generated for 14 sample groups, each group consisting of at least 100 individuals from various occupational groups. The correlations of the 20 items within the general satisfaction scale characterise part-whole correlations. Therefore, the general satisfaction scale according to Weiss et al. (1964) was excluded from the factor analysis. Weiss et al. (1967) carried out another factor analysis using a principal factor solution on the inter-correlations matrix. Kaiser criterion was utilised for the number of factors to extract and rotate to a varimax solution. Two factors were obtained for the sample groups, with the first factor explaining 58% of the total variance and the second factor explaining 55% of the total variance.

The results of the factor analysis propose a two-factor structure. Factor one represents intrinsic satisfaction, which is satisfaction with the work itself. Factor two represents extrinsic satisfaction, which relates to the supervision factor. It appears, according to Weiss et al. (1964), that job satisfaction is composed primarily of satisfaction with the job and the supervision, for this sample group of workers.

The MSQ has been widely utilised within South African samples: Adonisi (2003); Boshoff and Hoole (1998); Buitendag and De Witte (2005); Kamfer, Venter, and Boshoff (1998); Van der Walt (2007). A study by Kamfer et al. (1998) reported that all 20 items of the original items in the instrument resulted in a two-factor solution. Cronbach's Alpha coefficients were concluded as .87 and .75, explaining 40.6% of the total variance. Other studies, conducted by Adonis (2003) and Buidendach and De Witte (2005), resulted in findings similar to those of Kamfer et al. (1998), indicating that the MSQ consisted of two factors, namely intrinsic and extrinsic job satisfaction. A study conducted by Van der Walt (2007) also indicated a two-factor structure, with Cronbach's Alpha coefficients of .91 and .90, and factor correlations of .54. Factor one in Van der Walt's (2007) study explained 39.4% of the total variance, and factor two explained 6.4% of the total variance. Due to the high correlation between the two factors and the higher variance by one factor, Van der Walt (2007) executed a further Principal Factor Analysis on a one-factor solution.

A one-factor solution was clearly identified for Van der Walt's (2007) study. Factor one displays a Cronbach Alpha coefficient of .93 and explained 40.2% of the total variance. Van der Walt (2007) suggests that a one-factor (which is general satisfaction in a South African environment) can therefore be measured by the MSQ. This conclusion is consistent with a previous South African study measuring job satisfaction (Boshoff & Hoole, 1998). In their study Boshoff and Hoole (1998) found no differentiation between the MSQ's two factors in a sample of 1791 professional individuals. The authors concluded that the job satisfaction instrument was possibly essentially one dimensional (Adonisi, 2003).

4.3.5 The MBI-GS (Maslach et al., 1996).

The Maslach Burnout Inventory-Human Services Survey (MBI-HSS) was developed for circumstances in which respondents offer a service, care or treatment to beneficiaries (Maslach, 1982). The three-factor structure of the MBI-HSS has been demonstrated to be invariant across professions and is only pertinent to individuals who work with people (Demerouti & Bakker,

2007). In response to this limitation, Maslach et al. (1996) developed the MBI-GS, which can be utilised in contexts that do not require respondents to interact with clients. The MBI-GS was therefore used to measure burnout within the context of this study. The MBI-GS developed by Maslach et al. (1996) is seen as a valuable tool for assessing individuals' attitudes and feelings in determining whether individuals are experiencing burnout. Items regarding personal attitudes or feelings are written in statement format in this questionnaire. The statements in the instrument are designed to be rated on frequency (how often) and intensity (how strong).

The MBI-GS provides a three-dimensional perspective on burnout, as burnout is considered to consist of emotional exhaustion, cynicism and professional efficacy. High scores on exhaustion and cynicism and lower scores on professional efficacy indicate a high degree of burnout (Maslach et al., 1996). The 16 items of the instrument generate three total scores, one for each of the three dimensions. Five items assess emotional exhaustion (for example, "I feel used up at the end of the work day"); five items assess cynicism (for example, "I have become less enthusiastic about my work"); and six items assess professional efficacy (for example, "I can effectively solve problems that arise in my work"). The three dimensions of burnout are conceptualised in broader terms relating to the job and not just to the personal relationships that may be part of the job (Maslach et al., 2001). All items are scored on a seven-point frequency-rating Likert scale ranging from 0 (never) to 6 (always/daily).

Maslach et al. (2001) reported internal consistencies from .87 to .89 for exhaustion, .73 to .84 for cynicism and .76 to .84 for professional efficacy. Reliability analyses conducted by Schutte, Toppinen, Kalimo, and Schaufeli (2000) indicated that the exhaustion and professional efficacy dimensions were internally consistent. Numerous studies concerning the MBI-GS substantiated the reliability of the psychometric properties of the instrument, incorporating the variance of factor loadings as reliable and valid (Leiter &

Schaufeli, 1996; Roelofs, Verbraak, Keijsers, De Bruin, & Schmidt, 2005; Taris, Schreurs, & Schaufeli, 1999).

In determining whether the MBI-GS was relevant to various disciplines, Maslach et al. (1996) conducted a confirmatory factor analysis with four occupational groups, namely managers; clerical and maintenance workers; technologists and therapists; and nurses. A three-factor structure of the MBI-GS was established for each of the four groups, indicating that the MBI-GS is applicable to a broad range of occupations. A three-factor structure of the MBI-GS has been confirmed both in South Africa (Jackson & Rothmann, 2005; Storm & Rothmann, 2003) and in studies abroad (Roelofs et al., 2005; Schaufeli, Martínez, Pinto, Salanova, & Bakker, 2002). Schaufeli, Van Diederendonck, and Van Gorp (1996) reported internal consistencies with Cronbach Alpha coefficients ranging from .87 to .89 for emotional exhaustion, from .73 to .84 for cynicism and from .76 to .84 for professional efficacy. Test-retest reliabilities were conducted after one year, in which Cronbach Alpha coefficients were .65 for emotional exhaustion, .60 for cynicism and .67 for professional efficacy.

Suitable internal consistencies of the MBI-GS, ranging from .73 for cynicism and .91 for exhaustion, have been found internationally (Marais, Mostert, & Rothmann, 2009). Satisfactory Cronbach's Alpha coefficients were also found within various South African studies. Jackson and Rothmann (2005) reported four burnout scales to be reliable with Cronbach Alpha coefficients of .66 for exhaustion, .70 for cynicism, .66 for professional efficacy and .76 for cognitive weariness. Various studies of the MBI-GS have supported an invariance of the instrument's factor structure across a variety of occupation groups (Bakker, Demerouti, & Schaufeli, 2002; Leiter & Schaufeli, 1996). However, the MBI-GS has unfortunately one critical psychometric limitation compared with the original version of the MBI-HSS. The items in each dimension are all structured in the same direction. Consequently, all items of the exhaustion and cynicism dimension are framed negatively, while all items of the professional efficacy dimension are framed positively. From a psychometric

perspective, such one-sided dimensions are inferior to dimensions that comprise both positively and negatively phrased items (Price & Mueller, 1986). This can, for example, lead to inaccurate factor solutions in which positively and negatively phrased items are prone to group together (Doty & Glick, 1998). However, according to González-Romá et al. (2006), the core dimensions of burnout are confirmed by exhaustion and cynicism, while professional efficacy is perceived as part of an engagement factor (Naudé & Rothman, 2004; Schaufeli & Bakker, 2004; Rothmann, Steyn, & Mostert, 2005).

4.3.6 The Role Identity Questionnaire adapted from Burke-Tully (1977).

The Burke-Tully (1977) procedure was adapted for the purposes of this study to measure the identity of working women with children and other working women. Instruments for measuring role identity should meet the following criteria (Burke & Tully, 1977, p. 881):

- The measures should generate a quantitative score.
- The incorporation of the measure should include the “multi-dimensional character” of the majority of the role identities, and define the fundamental dimensions in order to ascribe meaning to the quantitative score.
- The measure should incorporate the concepts of both the self and the role.

To measure role identity effectively, according to the Burke-Tully technique (1977), one needs to establish a list of opposing adjectives that are robust enough to reflect the differences in meanings linked with the role and the pre-determined counter-role. Respondents are required to judge, against each of the adjective pairs, the roles whose meanings are to be evaluated. The pairs of adjectives against which the rating scores are most different are expected to tap the responses that are most significant in differentiating the role from the counter-role. Respondents are then required to rate self-in-role against the identical adjectives. These ratings are then multiplied by the coefficient

weightings of every adjective to generate one numerical value that represents the meaning of self in a specific role (Burke & Tully, 1977).

The Burke-Tully (1977) technique was followed for the purposes of this study; however, the social-role theory was used as an organising framework that guided the process of measuring identity within this study. The social-role theory suggests that men and women participate in various roles and are expected to have specific skills to fulfil these roles. Women are therefore expected to participate in more communal and nurturing roles than men. In contrast, men are expected to assume more competitive and domineering roles (Stuhlmacher, Citera, & Willis, 2007). The social-role theory suggests that certain situations make gender roles for men and women more or less salient.

The following steps were taken into consideration when designing the role-identity measure. The researcher identified a list of characteristics related to the role of “mother” from the social-role theory literature, as discussed in the literature review. This was then developed into sets of opposing adjectives that were deemed relevant to both the mother and employee-role identity. Ten employees within the sample organisation were selected to take part in a focus-group discussion. The participants were selected because of the commonalities they shared in relation to the topic being discussed. Krueger and Casey (2000, p. 25) refer to such individuals as being “information rich”. During the focus group, participants were asked whether the list of opposing adjectives was reflective of the mother-role and the employee-role identities. Based on the discussion and feedback from the focus-group, slight modifications were made to the list of opposing adjectives. In total, 17 adjective pairs were selected. The researcher then organised the list of adjectives in a semantically differential format on a Likert 7 point scale. Larger numbers represent relating closer to the mother-role identity, and smaller numbers relating closer to the employee-role identity. The identity measure was based on the perceived meanings that respondents attach within the specific contexts to the role of a mother and an employee. All

respondents were asked to complete the set of adjectives relating to their views on the role of identities typically expected from or ascribed to a mother, as opposed to the role identities that are typically expected from or ascribed to an employee. In addition, working women with children were asked to complete the set of adjectives relating to themselves in the roles of mother as opposed to their role as employee.

4.4 Procedures

4.4.1 Administration of the questionnaire.

Bailey (1994) advocates that a questionnaire should start with the most appealing set of questions first in order to encourage the participant to complete the questionnaire. Bailey (1994) adds that the easiest questions to answer in the questionnaire should be positioned first in order to keep the participant stimulated. Most of the instruments utilised in this study could be experienced by the participants as intimidating, as they assess feelings, beliefs and preferences that individuals may consider to be extremely private. Therefore, it was decided to position the general biographical questions first. The reason for this was that the biographical questions seem less threatening to the respondents, as they require only general demographic information. The biographical questions were followed by the SWING (Geurts et al., 2005); the Work-family and Family-work Conflict Scale (Netemeyer et al., 1996); the MSQ Short-Form (Weiss et al., 1967); the MBI-GS (Maslach & Jackson, 1981); and lastly the Role Identity Measure adapted from the Burke-Tully (1977) technique. Appendix A contains a copy of the final questionnaire. The original instructions of all the instruments were followed throughout this study. To avoid ambiguity in the questionnaire, and consequently increase the response rate and quality of the responses, Babbie (1998) suggests keeping the various instruments separate. This approach was necessary in this case as the various instruments utilised different response scales. The original response scales were maintained so as not to jeopardise the validity and reliability of the response scales.

Babbie (1998) suggests that a pre-test or pilot test of a questionnaire assists in reducing the possibility of error. A pilot test was conducted to evaluate the questionnaire to eliminate any problems in answering the questions. By having participants complete the electronic questionnaire, the researcher was able to assess the online system and elicit whether the instructions were clear and that the completion time was adhered to and precise. For the pilot test, eight permanent employees who formed part of the sampling population, but not part of the final sample, were selected from various occupational groups within the sampling organisation. A face-to-face session was held with each participant to discuss the purpose of the study and to explain the instructions for completing the online questionnaire. On completion of the online questionnaires, there was an hour-long feedback session with each participant. The feedback sessions enabled the researcher to document any concerns or recommendations the participants had with regard to the flow of questions and structure of the online questionnaire. One useful benefit that arose from the feedback sessions was to change the electronic format of the answers from drop-down tabs to a bullet format. Where possible, a drop-down tab has an arrow that allows the respondent to click down on a selection of answers provided for that particular question. A bullet format, on the other hand, allows the selection of answers to be displayed next to each other. The bullet format is much easier to visualise and quicker to complete.

The self-administered electronic questionnaire was stored on a secure in-house website-based tool on the organisation's internal network, from which the questionnaire could be accessed by respondents. The reasons for using electronic questionnaires were as follows:

- All employees in the sample group had access to a computer and were computer-literate individuals who could be contacted by e-mail.
- Using electronic questionnaires via e-mail, with a personalised e-mail address for each respondent, heightened confidence that the right employee had responded.

- The likelihood of contamination or distortion of respondent's answers was low, as the questionnaire was sent to the correct respondent, and no other respondent could complete the questionnaire without the actual respondent's computer log-on details and password.
- Though the sample was geographically dispersed, electronic questionnaires could be easily distributed across various geographical locations.
- The selected organisation and the researcher agreed to carry any financial cost.
- Once all respondents had completed the questionnaire, the organisation's internal network allowed the researcher to download all the responses in electronic format, which shortened the lead-time for analysis.
- Owing to the fact that the selected organisation conducts electronic questionnaires on a regular basis, individuals were expected to be more receptive to participating in electronic questionnaires than paper-based questionnaires.

Each selected employee was e-mailed an introductory letter stating the purpose of the research. General completion guidelines were also outlined in the introductory e-mail. These are shown in Appendix A (Appendix A consists of the final copy of the online questionnaire with the introductory letter). In order to ensure anonymity, respondents were not listed on the e-mail header. Respondents were given the option of requesting feedback on the findings of the study, by sending a blank e-mail back to the researcher, with the subject heading, "feedback requested". An electronic folder was created on the researchers personal e-mail mailbox so that all received e-mails requesting feedback were stored.

If respondents chose to complete the survey, they were required to click on a link in the body of the e-mail, which took them to the first page of the questionnaire on the intranet site. The first page informed respondents that the questionnaire was confidential, and that anonymity was guaranteed. A set

of instructions was given at the top of each page. Should the respondents agree to participate in the study, they were required to click on the “start completing survey” button. Once the “start completing survey” button was activated, the respondents were taken through the following steps:

- Respondents were required to complete and submit their biographical details at the end of this section.
- Once this step was completed, an electronic screen with ten categories was shown to the respondent.
- The respondents were required to complete each category, but to avoid the last one if they did not fit into the category, “working women with children”.
- The summary screen indicated if the respondent had answered each category of questions, by showing “not started” or “started” next to each category.
- Once a category was selected, detailed instructions at the top of each category page advised respondents how to complete the section.
- If a question was “not applicable” to a respondent, the “not applicable” selection was made available for that particular question.
- After the last question of the final category, a “submit” button took respondents back to the main category page where the display showed them which categories they had completed, by indicating “started” or “not started”.
- Once all the categories had been completed, and this was reflected in the summary page, respondents were instructed to end the survey by clicking on the “end survey” button, which navigated them to a final page that thanked them for completing the survey.

Once a respondent who had completed all sections of the questionnaire clicked the “end survey” button, those answers were stored against a computer-generated random number for each respondent who had completed the questionnaire. This ensured that no user or login details of the respondents were stored, thus ensuring anonymity and confidentiality. The

responses from the completed questionnaires were then retrieved from a structured query language (SQL) database, which consisted of a number of data tables. (A data table is a structural repository where data is stored).

Babbie (1998) recommends that the return rates of questionnaires should be recorded and suggests sending a reminder if respondents have not completed their questionnaires within a certain length of time. It was therefore decided to send the respondents a reminder e-mail, to increase the rate of responses. A first reminder (which can be seen in Appendix B) was sent via e-mail with an attached letter ten days after the initial invitation to participate in the study was sent out to respondents. This reminder e-mail encouraged respondents to complete the questionnaire. A final reminder e-mail with the attached letter (which can be seen in Appendix C) was sent to respondents five days after the first reminder.

4.4.2 Ethical considerations.

Research ethics is concerned with what is deemed acceptable or unacceptable in terms of the research process. With this in mind, it is important to make it clear that this study was undertaken with the express permission, in writing, of the Human Resource Director of the organisation concerned. Owing to the questionnaire being administered electronically by means of the selected organisation's web-based tool, assistance from an administrator specialising in electronic questionnaire development was required. The questionnaire administrator is employed by the organisation and is responsible for developing and constructing electronic surveys for the organisation on an on-going basis. As part of her conditions of employment, the questionnaire administrator is required to ensure a strict level of confidentiality at all times. This means that, unavoidably, the questionnaire administrator was privy to the names of the employees selected to participate in the study. To compensate for this, when the researcher granted the questionnaire administrator the right to assist in constructing the online questionnaire, a confidentiality letter was signed by the administrator to

ensure that respondents' anonymity was protected. After the questionnaire was developed on the organisation's web-based tool, the administrator's services were no longer required. Precautionary measures were set in place to prevent respondents attempting to complete the questionnaire for a second time when the reminder e-mail was sent out. The online system was designed to block any respondents attempting to complete the online questionnaire more than once, by allocating a generated random number to each respondent upon completing the questionnaire.

While a number of processes were put in place to mitigate the risk of anonymity being breached, a breach is theoretically possible. The researcher acknowledges the fact that many loopholes exist in programming for electronic questionnaire development. It is for this reason that the data tables where the respondents' answers have been stored are password-protected with an alphanumeric password that is extremely difficult to decipher. Only the researcher has the right to access the information in the specific sequel (SQL) data tables, which are password-protected.

Once the "start completing survey" button was activated in the body of the invitation e-mail, all respondents consented to take part in this study. After the completion of the questionnaire, all the information obtained from the respondents in the data tables was deleted from the organisation's server and stored on a compact disc for a period of five years by the researcher of this study. The disc will remain in the secure possession of the researcher for prescribed data auditing purposes, should it be required. There is a possibility that the information may never be deleted from the system due to the organisation's daily memory storage processes, but even if the data tables are accessed, the data is password-protected and cannot be accessed without the secret password.

Respondents were made aware in the introductory letter that, once feedback was requested, they gave up their rights to anonymity, although confidentiality was still guaranteed.

4.4.3 Handling of data and return of questionnaires.

The statistical analysis was carried out at the Department of Statistics of the University of Pretoria. The returned questionnaire responses were coded to compensate for the reverse-score items, after the data had been captured into the computer. The BMDP and SAS programmes were utilised to conduct the statistical analysis of this study.

The five instruments were the SWING, the Work-Family and Family-work Conflict Scale, the MSQ Short-Form, the MBI-GS and the Role Identity Measure.

Factor analysis was used to investigate the dimensionality of the psychometric instruments in this South African context, which may differ from that of earlier published studies. Given the use of existing instruments, Confirmatory Factor Analysis (CFA) could have been used to test the fit of this set of data, followed by Exploratory Factor Analysis (EFA) to adjust for any mismatches (Gorsuch, 1997). Since the primary objective of this research is to explore various relationships between conflict and undesirable work outcomes rather than to measure factor fit, it was decided to use EFA immediately to explore the underlying dimensionality in the belief that EFA can provide “a more direct picture of dimensionality than goodness-of-fit measures used with CFA” (Hurley et al, 1997). Principal Factor Analysis (PFA) with Direct Quartimin rotation of the axes was used to identify dimensions or factors in the data for each of the five psychometric instruments. Aggregate scores were calculated for each of the factors identified in the EFA and these scores were used to represent the factors in the subsequent analyses of the relationships.

Principal Factor Analysis (PFA) with Direct Quartimin Rotation of the axes was used to explore the factor structures in this sample. Once the factor structures of the various instruments were established, the next step was to investigate the relationships of the biographical variables with work-family conflict. It was not the researcher’s objective to test the fit of a theoretical model on the data. Rather, the objective was to assess the respective relationships of interest as

presented in the research framework. It was therefore not deemed appropriate to run a CFA or SEM (Structural Equation Model) on the research framework summarised in Figure 6.

The procedure Analysis of Variance (ANOVA) was selected as the correct statistical procedure for this investigation. The aim of the ANOVA was to establish whether relationships existed between variables (marital status, number of dependants, assistance with household responsibilities, assistance with childcare, children with a physical, emotional or mental illness, spouse and manager support, average working hours, after-hours work, and time spent travelling) and work-family conflict.

Levene's test was carried out to determine the variance between two groups. Levene's tests are used to determine equal homogeneity of variance between two groups. If variances are significantly different, the separate variance version of the t -test is used. However, if variances are not significantly different, then the pooled variance version of the t -test is used.

- The following t -tests were used in this study: Matched t -tests were used to measure differences between gender, primary breadwinners in households, participation in flexible working arrangements and work-family conflict.
- Matched t -tests were used to measure the role identity between two distinct groups (employee and mother), to compare the differences in means of the two groups and to determine if these differences were statistically significant.
- Mann Whitney t -tests were used to determine differences in variance between the burnout of working women with children and that of other working women.
- Mann Whitney t -tests were used to determine whether differences existed between working women with children, other working women and men as regards work interfering with family conflict and family interfering with work conflict;

- Mann Whitney *t*-tests were used to assess the differences between working women and men as regards negative work interference with family conflict.
- Mann Whitney *t*-tests were used to establish differences between levels of work-family conflict among working women with children and other working women.

The next step in the statistical analysis was to investigate the relationships between independent and dependent variables. Work-family conflict is the independent variable in this research. The other constructs in this study are all dependent variables. Parametric tests were used because, although the items were scored on ordinal Likert scales, the mean score for the items in each factor was used for the statistical analysis. The Pearson's Correlation Coefficient was considered for statistical analysis for this investigation. The Pearson's Correlations Coefficient was used to investigate inter-correlations between the scores of different instruments representing the independent and dependent variables. More specifically, the following relationships were investigated:

- Family-work conflict with burnout for working women with children, other working women and men
- Work-family conflict with job satisfaction of working women with children, other working women and men
- Spouse support with work-family conflict for working women with children, other working women and men

Fisher's *z* transformation tests were conducted to indicate whether two correlations coefficients differ significantly. Fisher's *z* transformation tests were specifically used to investigate:

- Correlations between family-work conflict, work-family conflict and job satisfaction for working women with children, working women and men

- Correlations between family-work conflict, work-family conflict and burnout for working women with children, working women and men

The Central Limit Theorem explains that the larger the absolute size of a sample, the closer to the normal distribution and therefore the more robust it will be (Saunders, Lewis, & Thornhill, 2007). Therefore, given the large sample size of this study ($N = 545$) and the factor structures, the Central Limit Theorem assumes normality. Non-parametric equivalent analysis was conducted and the results are in agreement with and very similar to the parametric test results. Therefore, the Central Limit Theorem, in the context of this study, assumes normality.