

# Chapter 6

## Statistical analysis of the Delphi surveys

### Introduction

This chapter presents the results from the statistical analysis of the Delphi survey questionnaires. The first section describes the characteristics of the participants, followed by the descriptive analyses of the responses to each of the statements in the first Delphi survey. Non-parametric statistics were used to determine if there were any significant relationships between the independent variables identified in the participants' socio-demographic data and their responses to the statements in the first Delphi survey questionnaire. This process is then repeated to analyse the second Delphi survey questionnaire, which is discussed in sections four and five.

### Section 1 - Socio-demographic profile

As explained previously, of the 112 study participants, ten undertook group interviews and the remaining 102 were assigned to the Delphi survey phase of the study. One hundred and two questionnaires (n = 102) were sent to participants in the first round of the Delphi survey with a return of 100% (n = 102).

The first part of the questionnaire was designed to collect socio-demographic data in order to describe the general characteristics of the participants. The information sought concerned gender, age, registered nurse or non-nurse, years of registration, qualifications, professional background (if non-nurse), organ donation and transplantation qualifications, type of organ donation and transplantation qualification, role type – donor coordinator or recipient coordinator, organs retrieved, organs transplanted, years of transplant coordination experience, employer, employment status – full-time or part-time and on call commitments.

From the responses to these questions an overview of the study participants (n = 102) is provided.

**Gender:** Of the study participants 89.2% (n = 91) were female and 10.8% (n = 11) were male.

**Age:** The mean age of the participants was 39.3 years with a mode of 36 years. The standard deviation was 8.16 years. The mean age of the female participants was 39.09 years with a mode of 36 years. The mean age of the male participants was 41.18 years with a mode of 49 years. Table 6.1 summarises the age groups represented in the study. The age group most represented is 31 - 40 years.

**Table 6.1: Age groups**

<b>Age groups in years</b>	<b>Percentages</b>
21 – 30	12.7% (n = 13)
31 – 40	48.0% (n = 49)
41 – 50	27.5% (n = 28)
51 – 60	11.8% (n = 12)

**Registered nurse or non-nurse:** Of the participants 95.1% (n = 97) indicated they were registered nurses and 4.9% (n = 5) indicated they were not registered nurses.

**Years registered:** Of those who were registered nurses the mean number of years of registration was 16.22 years with a mode of 10 years, a minimum of 5 years and maximum of 36 years. This represented a range of 31 years.

**Qualifications:** Participants were asked to list their qualifications. The combined qualifications from nurses and non-nurses are summarised in Table 6.2. All participants had some form of hospital and/or tertiary qualifications.

**Professional background of non-nurses:** Of the study participants 4.9% (n = 5) came from non-nursing backgrounds. All had qualifications and work experience relating to the health care system. For reasons of confidentiality the actual professional backgrounds of these participants have not been disclosed as it may identify them in the study.

**Table 6.2: Qualifications**

Qualifications	Percentages
Hospital certificate	3.9% (n = 4)
Post-hospital certificate	13.7% (n = 14)
Hospital certificate(s) & tertiary postgraduate	19.6 % (n = 20)
Tertiary undergraduate	7.8 % (n = 8)
Tertiary undergraduate & postgraduate	22.6 % (n = 23)
Tertiary undergraduate & hospital certificate(s)	19.6 % (n = 20)
Hospital certificate tertiary undergraduate & postgraduate	8.8 % (n = 9)
Tertiary undergraduate & TAFE certificate	2.0 % (n = 2)
Hospital certificate & TAFE certificate	1.0 % (n = 1)
Postgraduate certificate	1.0 % (n = 1)

**Organ donation and transplantation qualifications:** Of the participants 66.6% (n = 68) indicated that they had no organ donation and transplantation qualifications and 31.4% (n = 32) did have these qualifications. There was no answer from 2.0% (n = 2) of the participants. The participants' organ donation and transplantation qualifications are summarised in Table 6.3.

**Table 6.3: Organ donation and transplantation qualifications**

Type of organ donation and transplant qualifications	Percentages
No qualifications	66.7% (n = 68)
Australian course only	16.7% (n = 17)
American course only	3.9% (n = 4)
In other course	2.9% (n = 3)
Australian course & in other course	1.9% (n = 2)
American & Spanish course	1.0% (n = 1)
Workshops & short courses	3.9% (n = 4)
Australian course & tissue course	1.0% (n = 1)
No Answer	2.0% (n = 2)

**Role type – donor coordinator or recipient coordinator:** Donor coordinators accounted for 51% (n = 52) of the participants and 49% (n = 50) were recipient coordinators.

**Organs retrieved:** Organs the donor coordinators were involved in retrieving included 3.8% (n = 2) heart and lung retrievals, 7.7% (n = 4) multiple solid organ retrievals, 86.6% (n = 45) multiple solid organ and tissue retrievals and 1.9% (n = 1) did not respond to this question in the survey.

**Organs transplanted:** Table 6.4 summarises the areas of organ transplantation that the recipient coordinators are employed in.

**Table 6.4: Organs transplanted**

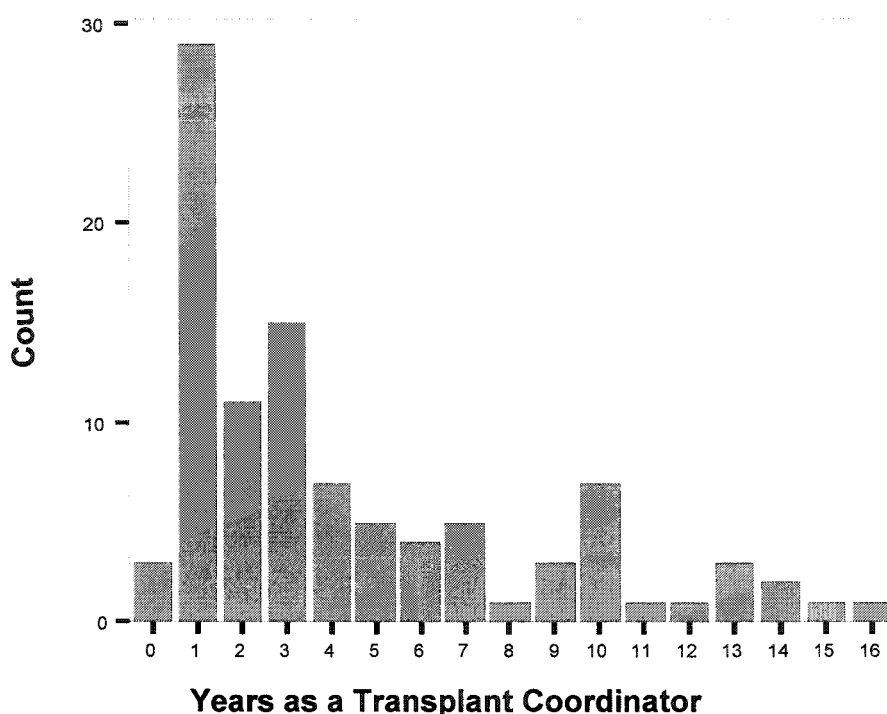
<b>Organs transplanted</b>	<b>Percentages</b>
Heart	12.0% (n = 6)
Heart & lungs	40.0% (n = 20)
Liver	24.0% (n = 12)
Kidneys	12.0% (n = 6)
Kidneys & pancreas	8.0% (n = 4)
Multiple solid organs	4.0% (n = 2)

**Years of experience as a transplant coordinator:** Transplant coordinators had a mean of 4.38 years of experience. The median was 3 years and the mode was 1 year. The standard deviation was 4.02. The minimum was 0 years (three transplant coordinators had been in the role less than 1 year) and the maximum was 16 years. This represented a range of 16 years. Figure 6.1 summarises the transplant coordinators' years of experience.

The donor coordinators had a mean of 4.14 years of experience. The median was 3 years and the mode was 1 year. The standard deviation was 4.02. The minimum was 0 years of experience, representing the three participants 2.9% (n = 3) who had been employed less than 1 year, and the maximum was 16 years. The range was also 16 years. Of the participants 2.9% (n = 3) did not respond to this question.

The recipient coordinators had a mean of 4.62 years of experience as transplant coordinators. The median was 3 years and the mode was 1 year. The standard

deviation was 4.05. The minimum was 1 year of experience and the maximum was 15 years. The range was 14 years.

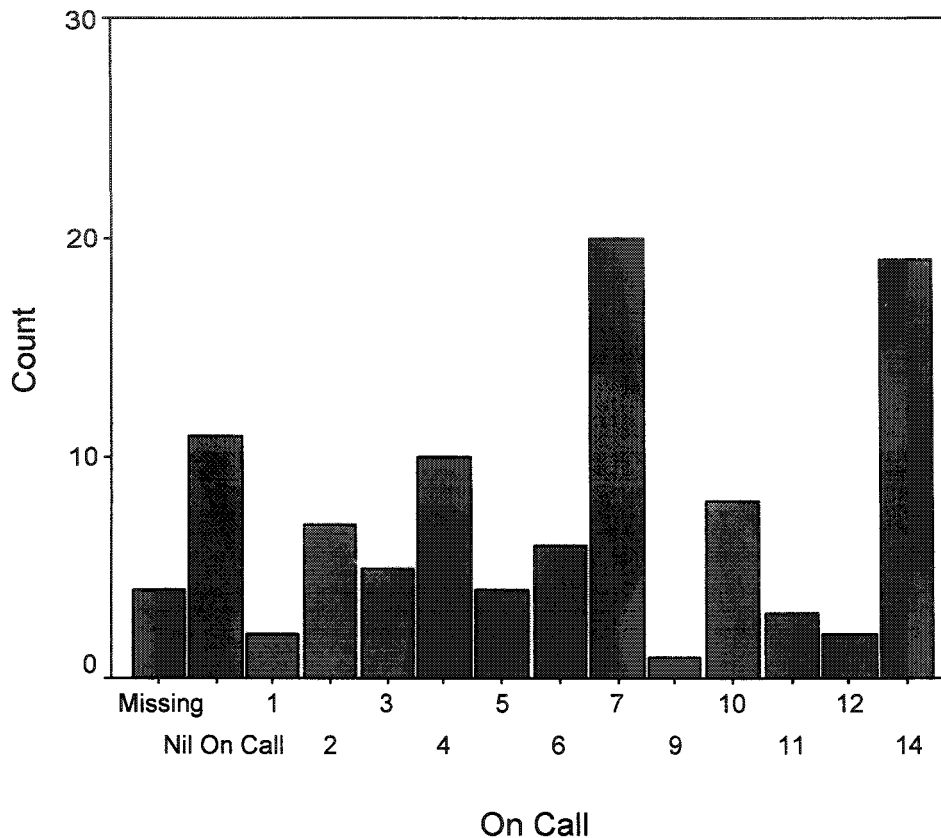


**Figure 6.1: Transplant coordinators' years of experience**

**Employer:** In the study 65.7% (n = 67) of the transplant coordinators were employed in a hospital environment and 17.6% (n = 18) were employed by agencies. The remaining participants 9.8% (n = 10) were employed by other organisations such as the Australian Red Cross Blood Service and 6.9% (n = 7) of participants did not respond to this question.

**Employment status:** In the study 67.6% (n = 69) of transplant coordinators were employed full-time whilst 31.4% (n = 32) were employed on a part-time basis or as relievers. One participant did not complete this question.

**On call commitments:** Analysis of the transplant coordinators' on call commitments per fortnight identified a mean of 6.93 days on call. The mode and the median score were 7 days per fortnight. The standard deviation was 4.63. The minimum was 0 days on call and the maximum was 14 days on call. Of the participants 4 did not respond to this question and 11 were not required to participate in on call duties. Figure 6.2 summarises the transplant coordinators' on call commitments.



**Figure 6.2: Transplant coordinators' on call commitments per fortnight**

## **Section 2 - Descriptive analysis of Delphi survey - one**

Data from the Delphi survey questionnaire was entered into a database and statistical analysis was undertaken using the Statistical Package for Social Sciences (SPSS) version 10.0 for Windows.

The primary focus of this section of data analysis is on the descriptive analysis of the participants' responses to the statements in the first Delphi survey questionnaire. Descriptive statistics are used to analyse the central tendencies of data and are discussed under the mean, median and mode. These statistics provide a broad description and summary of the data.

A five point Likert scale was used in the Delphi survey statements 1 – 28 with strongly disagree coded as a 1, disagree as a 2, unsure as a 3, agree as a 4 and strongly agree as a 5 for this research. This detected any significant spread of responses across each of the scales. Following statistical analysis of the data it was evident that the distribution of the respondents' scores fell within the scales – mostly disagree, which was coded as a 2 and agree which was coded as a 4.

For practical purposes of analysis the participants' strongly disagree and disagree responses were grouped together and were recoded as 1, the unsure statements were coded as 2 and agree and strongly agree responses were grouped and recoded as a 3. The unsure response remained unchanged in the process of aggregation. Appendix 32 provides a summary of Likert scale responses to the statements in the first Delphi survey questionnaire.

### **Section 3 – Non-parametric statistical analysis**

The purpose of this section is to identify any relationships existing between the independent variables, shown below, and the participants' responses to the Delphi survey questionnaire. The independent variables were identified in the socio-demographic data in part 1 of the questionnaire (Appendix 16). The data measurement scales, the research question and the assumptions for each statistical test determined the type of non-parametric statistical calculations performed in this research.

As this was a purposive sample, non-parametric statistical analysis was undertaken. The tests used were Spearman's Rank Order Correlation Coefficient ( $\rho$ ) and the Kruskal-Wallis test. Spearman's  $\rho$  is used to calculate the strength and direction of the relationship, if any, between two continuous variables where both variables are at least ordinal scales (Dawson & Trapp 2004; Pallant 2001).

The Kruskal-Wallis test is used to compare the scores of a continuous variable for two or more groups (Pallant 2001). Therefore it determines if there are significant differences between two or more sets of data. It can be employed when using ordinal, interval or ratio scale data (Argyrous 1996).

Levels of significance for both these statistical tests were set at a  $p < 0.05$  indicating that the researcher was willing to accept five times out of one hundred the results may have occurred due to random error or chance (Clifford & Harkin 1997, p. 42).

The independent variables used in the analysis, together with their data measurement scales, are listed below:

- Gender (female/male) (nominal data)
- Age (ratio data)

- Age groups (interval data)
- Registered nurse (yes/no) (nominal data)
- Years registered (ratio data)
- Non-nursing background (nominal data)
- Qualifications (nominal data)
- Organ donation & transplantation qualifications (nominal data)
- Type of organ donation & transplantation qualifications (nominal data)
- Type of coordinator (donor/recipient) (nominal data)
- Years as a transplant coordinator (ratio data)
- Employer (hospital/agency) (nominal data)
- Employment status (full-time/part-time) (nominal data)
- On call (interval data)
- Country (Australia/New Zealand) (nominal data).

Only the strong correlations that are statistically significant are reported in the body of the thesis. The weak and moderate correlations are reported in Appendix 33. The non-statistically significant results have not been included. It must be noted here that the data is purely an indication of beliefs and behaviour within this sphere of research and is reported as such.

The correlation scale used for Spearman's Rank Order Correlation Coefficient in this study is  $r_s$  0.1 – 0.29 indicating a weak correlation,  $r_s$  0.3 – 0.49 is a moderate correlation and  $r_s$  0.5 – 1.0 is considered to be a strong correlation (Pallant 2001). These values apply regardless of whether the correlation is positive or negative. For example  $r_s = .860$ ,  $n = 5$ ,  $p = .031$  would indicate a strong positive correlation between the two variables being analysed compared to a strong negative correlation between the two variables in the second example  $r_s = -.782$ ,  $n = 10$ ,  $p = .008$

### **General analysis**

There was no strong correlation found between the following participant variables **age, years as a transplant coordinator** and **on call** and the responses to the



Delphi survey statements. The weak and moderate correlations are reported in Appendix 33. No significant correlation was found between the variable **years registered** and the participants' responses to the Delphi survey statements.

### **Stratified statistical analysis**

It appeared there may be some group differences within the data so stratified statistical analysis was undertaken using the group variables listed below:

- Gender (female/male)
- Professional background (nurse/non-nurse)
- Organ donation and transplantation qualifications (yes/no)
- Role type (donor coordinator/recipient coordinator)
- Employer (hospital/agency)
- Employment status (full-time/part-time)
- Country (Australia/New Zealand).

#### **Gender – female**

No significant correlation was found between the variables **age** and **years registered** and the female participants' responses to the Delphi survey statements.

There was no strong correlation found between the variables **years as a transplant coordinator** and **on call** and the female participants' responses to the Delphi survey statements. The weak and moderate correlations are reported in Appendix 33.

#### **Gender – male**

The sample size in this group is small and therefore statistically significant results should be viewed with caution.

There was a strong positive correlation between **age** and the male participants' responses to statement **21. The management of organ donation and transplantation has moved from being an altruistic endeavour to one that is managed or dictated by bureaucracy.** As the male coordinators' age increased so did their belief that organ donation and transplantation has moved

from an altruistic activity to a system dominated by bureaucracy. The results were  $r_s = .648$ ,  $n = 11$ ,  $p = .031$

There was a strong positive correlation between **years registered** and the male participants' responses to statement **4. My work responsibilities encroach on my private life.** The longer the male coordinators had been registered the more likely they were to feel that the responsibilities of their role encroached on their private lives. The results were  $r_s = .724$ ,  $n = 9$ ,  $p = .027$

As shown in Table 6.5 there was a strong negative correlation between **years as a transplant coordinator** and the male participants' responses to statement **2** suggesting that the longer they were in the job the less support they felt they received.

There were strong positive correlations between the male participants' **years as a transplant coordinator** and the responses to statements **4, 7** and **21** as is shown in Table 6.5. As their years of experience in the role increased the more likely they were to feel that their work responsibilities encroached on their private lives. There was also an increased perception that there were occupational health and safety issues in their area of employment and a belief that organ donation and transplantation was becoming more bureaucratic.

**Table 6.5: Summary of correlations by years as a transplant coordinator for male coordinators**

(S = statement in questionnaire)

Delphi survey statements		Spearman's rho correlations
S2.	There are support people in my job.	$r_s = -.781$ , $n = 10$ , $p = .007$
S4.	My work responsibilities encroach on my private life.	$r_s = .709$ , $n = 11$ , $p = .014$
S7.	There are occupational health and safety issues in my role.	$r_s = .641$ , $n = 11$ , $p = .033$
S21.	The management of organ donation and transplantations has moved from being an altruistic endeavour to one that is managed or dictated by bureaucracy.	$r_s = .683$ , $n = 11$ , $p = .020$

There were strong positive correlations between **on call** and the male participants' responses to statements **7, 12** and **21** as shown in Table 6.6 suggesting that as on call commitments increased so did their belief that there were occupational health and safety issues in the work environment. There were

also increases in the perceptions that a high level of specific knowledge was required to perform the role and that organ donation and transplantation was becoming more bureaucratic.

**Table 6.6: Summary of correlations by on call for males**

(S = statement in questionnaire)

Delphi survey statements		Spearman's rho correlation
S7.	There are occupational health and safety issues in my role.	$r_s = .676, n = 10, p = .031$
S12.	A high level of organ donation and transplantation knowledge is required in my position.	$r_s = .643, n = 10, p = .044$
S21.	The management of organ donation and transplantation has moved from being an altruistic endeavour to one that is managed/dictated by bureaucracy.	$r_s = .769, n = 10, p = .009$

### Professional background – registered nurse

No significant correlation was found between the variable **age** and the registered nurses responses to the Delphi survey statements.

There were no strong correlations found between the variables **years as a transplant coordinator** and **on call** and the registered nurses responses. The weak and moderate correlations are reported in Appendix 33.

### Professional background – non-nurse

The sample size in this group is small and therefore statistically significant results should be viewed with caution.

There was a strong positive correlation between **age** and the non-nursing participants' responses to statement **5 - I experience professional isolation** indicating that the older non-nursing health professionals were more likely to feel professionally isolated. The results were  $r_s = .948, n = 5, p = .013$

There was a strong positive correlation between **years of transplant coordinator experience** and the responses from those with a non-nursing background to statement **15 - The coordinator role is one that can be done by non-nursing health professionals**. As the non-nursing health professionals' experience in the role increased they were more likely to believe that they and

other non-nursing professionals could perform the role. The results were  $r_s = .888$ ,  $n = 5$ ,  $p = .043$

No significant correlation was found between the non-nurses' responses to the Delphi survey statements and the variable **on call**.

### **Organ donation and transplantation qualifications**

No strong correlations were found between the variables **age** and **years registered** and the responses to the Delphi survey statements from the participants with organ donation and transplantation qualifications. The weak and moderate correlations are reported in Appendix 33.

There was a strong negative correlation between **years of transplant coordination experience** amongst participants with organ donation and transplantation qualifications and their responses to statement **25 - Recipient and donor coordinators do not have a good understanding of each other's roles**. As the experience of coordinators with organ donation and transplantation qualifications increased, the more likely they were to consider that recipient and donor coordinators have a good understanding of each other's roles. The results were  $r_s = -.546$ ,  $n = 32$ ,  $p = .001$

There was a strong positive correlation between **on call** for the participants with organ donation and transplantation qualifications and their responses to statement **1 - Debriefing is important to me**. The more on call the coordinators with these qualifications are required to undertake the more important debriefing is to them. The results were  $r_s = .594$ ,  $n = 30$ ,  $p = .000$

### **No organ donation and transplantation qualifications**

No strong correlations were found between the variables **age**, **years registered** and **years as a transplant coordinator** and the responses to the Delphi survey statements from the participants with no organ donation and transplantation qualifications. The weak and moderate correlations are reported in Appendix 33.

No significant correlation was found between the variable **on call** and responses to the Delphi survey statements from the participants with no organ donation and transplantation qualifications.

### **Role type – donor coordinator**

No significant correlations were found between the variables **age** and **years registered** and the responses to the Delphi survey statements by the donor coordinators in the study.

No strong correlations were found between the variables **years as a transplant coordinator** and **on call** and responses to the Delphi survey statements by the donor coordinators. The weak and moderate correlations are reported in Appendix 33.

### **Role type – recipient coordinator**

No significant correlations were found between the variables **age** and **years registered** and responses to the Delphi survey statements by the recipient coordinators in the study.

No strong correlations were found between the variables **years as a transplant coordinator** and **on call** and responses to the Delphi survey statements by the recipient coordinators. The weak and moderate correlations are reported in Appendix 33.

### **Employer – hospital**

No strong correlations were found between the variables **age**, **years as a transplant coordinator** and **on call** and responses to the Delphi survey statements by hospital employed coordinators. The weak and moderate correlations are reported in Appendix 33.

No significant correlation was found between **years registered** amongst hospital employed transplant coordinators and their responses to the Delphi survey statements.

### **Employer – agency**

The sample size in this group is small and therefore statistically significant results should be viewed cautiously.

There were two strong negative correlations between the **age** of the participants who were employed by agencies and the responses to statements **17** and **28** as shown in Table 6.7. Older coordinators employed by agencies found the role less frustrating than their younger colleagues and were more likely to feel they were professionally acknowledged in the role.

**Table 6.7: Summary of correlations by age for coordinators employed by an agency**

(S = statement in questionnaire)

Delphi survey statements	Spearman's rho correlation
S17. There are aspects of my role that can be frustrating.	$r_s = -.569, n = 18, p = .013$
S28. There is a lack of professional acknowledgement in my job.	$r_s = -.524, n = 18, p = .025$

There were four strong negative correlations between **years registered** and the responses to statements **6, 7, 17** and **28** by participants employed in agencies as shown in Table 6.8. The more nursing experience these coordinators had the more likely they were to disagree with the statement that the monetary reward they receive does not reflect their responsibilities. They were also more likely to be satisfied with the occupational health and safety aspects of the role, to feel professionally acknowledged and less frustrated in their positions.

**Table 6.8: Summary of correlations by years registered for agency employed transplant coordinators**

(S = statement in questionnaire)

Delphi survey statements	Spearman's rho correlation
S6. The monetary reward does not reflect the responsibility of my position.	$r_s = -.527, n = 16, p = .035$
S7. There are occupational health and safety issues in my role.	$r_s = -.611, n = 16, p = .011$
S17. There are aspects of my role that can be frustrating.	$r_s = -.638, n = 16, p = .007$
S28. There is a lack of professional acknowledgement in my job.	$r_s = -.624, n = 16, p = .009$

There was a strong negative correlation between **years as a transplant coordinator** in the agency employed group and the responses to statement **16 - The roles of transplant coordinators throughout Australia and New Zealand need to be standardised**. The more experienced coordinators were less likely to believe that the roles needed to be standardised. The results were  $r_s = -.672, n = 16, p = .004$

There was a strong positive correlation between **on call** in the agency employed group and the responses to statement **6 - The monetary reward does not reflect the responsibility of my position** indicating that as on call commitments

increased so did the participants' belief that the money they received did not reflect their responsibilities. The results were  $r_s = .524$ ,  $n = 17$ ,  $p = .030$

### **Employment status – full-time**

No strong correlations were found between the variables **age, years registered, years as a transplant coordinator** and **on call** and the responses to the Delphi survey statements by the full-time coordinators. The weak and moderate correlations are reported in Appendix 33.

### **Employment status – part-time**

No strong correlations were found between the variables **age, years registered, years as a transplant coordinator** and **on call** and the responses to the Delphi survey statements of the part-time coordinators. The weak and moderate correlations are reported in Appendix 33.

### **Country – Australia**

No significant correlation was found between the **age** of the Australian transplant coordinators and their responses to the Delphi survey statements.

No strong correlations were found between the variables **years registered, years as a transplant coordinator** and **on call** and the responses to the Delphi survey statements by the Australian coordinators. The weak and moderate correlations are reported in Appendix 33.

### **Country – New Zealand**

The sample size in this group is small and therefore statistically significant results should be viewed with caution.

As shown in Table 6.9 there was a strong positive correlation between the **age** of the New Zealand participants and the responses to statement **3**. As the age of the coordinators increased so did their belief that networking with colleagues was an essential component of the role.

There was a strong negative correlation between the **age** of the New Zealand participants and the responses to statement **28** as shown in Table 6.9 indicating the older New Zealand coordinators were more likely to feel they received professional acknowledgement in the role.

**Table 6.9: Summary of correlations by age for the New Zealand participants**

(S = statement in questionnaire)

Delphi survey statements		Spearman's rho correlations
S3.	Networking with my colleagues is an essential component of my role.	$r_s = .786, n = 9, p = .012$
S28.	There is a lack of professional acknowledgement in my job.	$r_s = -.673, n = 9, p = .046$

There were three strong negative correlations between **years registered** and the responses to statements **17, 22** and **25** by the New Zealand participants as shown in Table 6.10. The longer the New Zealand coordinators had been registered the less frustration they were likely to experience. They were also more unlikely to support donor families and recipients having unrestricted contact with each other. The coordinators who had been registered longer also felt that recipient and donor coordinators had a good understanding of each other's roles.

**Table 6.10: Summary of correlations by years registered for the New Zealand participants**

(S = statement in questionnaire)

Delphi survey statements		Spearman's rho correlation
S17.	There are aspects of my role that can be frustrating.	$r_s = -.768, n = 8, p = .025$
S22.	Donor families and recipients should be allowed unrestricted contact with each other.	$r_s = -.760, n = 8, p = .028$
S25.	Recipient and donor coordinators do not have a good understanding of each other's roles.	$r_s = -.809, n = 8, p = .014$

There were two strong negative correlations between **years of transplant coordinator experience** in the New Zealand participant group and the responses to statements **12** and **22** as shown in Table 6.11. The more experienced transplant coordinators believed the need for a high level of organ donation and transplantation knowledge was not necessary and that donor families and recipients should not have unrestricted contact with each other.



**Table 6.11: Summary of correlations by years as a transplant coordinator for the New Zealand participants**

(S = statement in questionnaire)

Delphi survey statements	Spearman's rho correlation
S12. A high level of organ donation and transplantation knowledge is required in my position.	$r_s = -.698, n = 9, p = .036$
S22. Donor families and recipients should be allowed unrestricted contact with each other.	$r_s = -.730, n = 9, p = .025$

No significant correlation was found between the New Zealand participants on call commitments and their responses to the Delphi survey statements.

### Kruskal-Wallis test

The Kruskal-Wallis test was used in this study to compare participant groups and their responses to the Delphi survey statements. The groups compared were:

- Age groups (21-30 / 31-40 / 41-50 / 51-60)
- Gender (female/male)
- Professional background (nurse/non-nurse)
- Organ donation and transplantation qualifications (yes/no)
- Role type (donor coordinator/recipient coordinator)
- Employer (hospital/agency/other)
- Employment status (full-time/part-time)
- Country (Australia/New Zealand).

For each of the tables shown below there was a significant difference in the rank of the participant groups and their responses to the Delphi survey statements. Contingency tables for each of the significant results discussed below are shown in Appendix 34.

### Age groups

There were statistically significant differences (KW = 10.26, df = 3, p = .016) between the age groups of the participants and the responses to statement 6 as shown in Table 6.12. **The monetary reward does not reflect the**

**responsibility of my position.** The 41 – 50 age group is less likely to agree or strongly agree with the statement when compared to the other age groups.

**Table 6.12: Mean ranks for age groups and responses to statement 6**

Observations	Age groups	Frequency	Mean rank
1	21 – 30	13	57.73
2	31 – 40	49	58.07
3	41 – 50	28	37.82
4	51 – 60	12	49.83

The following tables contain data that has been stratified by gender and within the stratification is a sub-group of male participants. The number of male participants is small and therefore results should be viewed cautiously.

### Gender

There was a statistically significant difference (KW = 4.92, df = 1, p = .026) between females and males and the responses to statement 4 as shown in Table 6.13. **My work responsibilities encroach on my private life** indicating that males are more likely to agree or strongly agree with the statement when compared to females.

**Table 6.13: Mean ranks for gender and responses to statement 4**

Observations	Gender	Frequency	Mean rank
1	Female	91	49.39
2	Male	11	68.95

There was a statistically significant difference (KW = 4.88, df = 1, p = .027) between females and males and the responses to statement 24 as shown in Table 6.14. **The teamwork between the transplant coordinators is excellent,** suggesting that males are more likely than females to agree or strongly agree with this statement.

**Table 6.14: Mean ranks for gender and responses to statement 24**

Observations	Gender	Frequency	Mean rank
1	Female	91	49.48
2	Male	11	68.13

A statistically significant difference ( $KW = 4.46$ ,  $df = 1$ ,  $p = .034$ ) was found between females and males and the responses to statement 1 as shown in Table 6.15. **Debriefing is important to me.** The female coordinators are more likely to agree or strongly agree with this statement when compared with the male coordinators in the study.

**Table 6.15: Mean ranks for gender and responses to statement 1**

Observations	Gender	Frequency	Mean rank
1	Female	91	52.86
2	Male	10	34.00

Frequency missing = 1

There was a statistically significant difference ( $KW = 4.07$ ,  $df = 1$ ,  $p = .043$ ) between females and males and the responses to statement 16 as shown in Table 6.16. **The roles of transplant coordinators throughout Australia and New Zealand need to be standardised.** The female coordinators are more likely to agree or strongly agree with this statement when compared with their male counterparts.

**Table 6.16: Mean ranks for gender and responses to statement 16**

Observations	Gender	Frequency	Mean rank
1	Female	88	51.98
2	Male	11	34.13

Frequency missing = 3

A statistically significant difference ( $KW = 3.90$ ,  $df = 1$ ,  $p = .048$ ) was found between females and males and the responses to statement 23 as shown in Table 6.17. **Relationships with intensivists or transplant surgeons and physicians can be difficult at times.** The male participants are more likely to agree or strongly agree with this statement when compared with female participants.

**Table 6.17: Mean ranks for gender and responses to statement 23**

Observations	Gender	Frequency	Mean rank
1	Female	91	49.67
2	Male	11	66.59

### **Professional background**

The following tables contain data that has been stratified by professional background (nurse/non-nurse) and within the stratification is a sub-group of non-nurse participants. The number of non-nurse participants is small and therefore results should be viewed cautiously.

There was a statistically significant difference (KW = 10.97, df = 1, p = .000) between nurses and non-nurses in relation to their responses to statement 15 as shown in Table 6.18. **The coordinator role is one that can be done by non-nursing health professionals.** Non-nurses are more likely to agree or strongly agree with the statement when compared to the registered nurses.

**Table 6.18: Mean ranks for nurse - non-nurse and responses to statement 15**

Observations	Nurse	Frequency	Mean rank
1	No	5	93.00
2	Yes	97	49.36

There was a statistically significant difference (KW = 5.24, df = 1, p = .021) between nurses and non-nurses in relation to their responses to statement 9 as shown in Table 6.19. **In my position there is considerable autonomy.** Non-nurses are more likely to disagree or strongly disagree with this statement when compared with the registered nurses.

**Table 6.19: Mean ranks for nurse - non-nurse and responses to statement 9**

Observations	Nurse	Frequency	Mean rank
1	No	5	25.00
2	Yes	97	52.86

A statistically significant difference (KW = 4.00, df = 1, p = .045) was found between nurses and non-nurses and the responses to statement **10** as shown in Table 6.20. **I have power in my position.** Non-nurses are more likely to disagree or strongly disagree with this statement when compared with their nursing colleagues.

**Table 6.20: Mean ranks for nurse - non-nurse and responses to statement 10**

Observations	Nurse	Frequency	Mean rank
1	No	5	26.70
2	Yes	96	52.26

Frequency missing = 1

### **Organ donation and transplantation qualifications**

There was a statistically significant difference (KW = 5.57, df = 1, p = .018) between those who had or did not have organ donation and transplantation qualifications in relation to their responses to statement **24** as shown in Table 6.21. **The teamwork between the transplant coordinators is excellent.** Coordinators without the qualifications were more likely to agree or strongly agree with the statement when compared to those with the organ donation and transplantation qualifications.

**Table 6.21: Mean ranks for organ donation and transplantation qualifications and responses to statement 24**

Observations	OD & T Qualifications	Frequency	Mean rank
1	No	68	56.08
2	Yes	32	42.67

Frequency missing = 2

A statistically significant difference (KW = 4.54, df = 1, p = .033) was found between those who had or did not have organ donation and transplantation qualifications and the responses to statement **15** as shown in Table 6.22. **The coordinator role is one that can be done by non-nursing health professionals.** Coordinators with organ donation and transplantation qualifications were more likely to agree or strongly agree with the statement when compared to coordinators without such qualifications.

**Table 6.22: Mean ranks for organ donation and transplantation qualifications and responses to statement 15**

Observations	OD & T Qualifications	Frequency	Mean rank
1	No	68	47.75
2	Yes	32	60.92

Frequency missing = 2

### Role type

There was a statistically significant difference (KW = 10.66, df = 1, p = .001) between role types and the responses to statement 15 as shown in Table 6.23. **The coordinator role is one that can be done by non-nursing health professionals.** Donor coordinators were more likely to agree or strongly agree with the statement when compared to the recipient coordinators.

**Table 6.23: Mean ranks for role type and responses to statement 15**

Observations	Coordinator role type	Frequency	Mean rank
1	Donor	52	60.60
2	Recipient	50	42.03

A statistically significant difference (KW = 5.52, df = 1, p = .018) was found between donor and recipient coordinators and the responses they gave to statement 6 as is shown in Table 6.24. **The monetary reward does not reflect the responsibility of my position.** This indicates that recipient coordinators are more likely to agree with this statement than donor coordinators.

**Table 6.24: Mean ranks for role type and responses to statement 6**

Observations	Coordinator role type	Frequency	Mean rank
1	Donor	52	45.17
2	Recipient	50	58.08

There was a statistically significant difference (KW = 4.57, df = 1, p = .032) between the donor and recipient coordinators in relation to their responses to statement 24 as is shown in Table 6.25. **The teamwork between the transplant coordinators is excellent.** Recipient coordinators are more likely to agree or strongly agree with this statement when compared to the donor coordinators.

**Table 6.25: Mean ranks for role type and responses to statement 24**

Observations	Coordinator role type	Frequency	Mean rank
1	Donor	52	46.00
2	Recipient	50	57.21

### **Employer**

The following tables contain data that has been stratified by employer and within the stratification are two small sub-groups of participants, these being 'other' and agency. Therefore results should be viewed cautiously.

There were statistically significant differences (KW = 9.15, df = 2, p = .010) between where the participants were employed and the responses to statement 4 as shown in Table 6.26. **My work responsibilities encroach on my private life.** Participants in the group described as 'other' were more likely to disagree or strongly disagree with this statement when compared to the hospital or agency employed coordinators.

**Table 6.26: Mean ranks for employer and responses to statement 4**

Observations	Employer	Frequency	Mean rank
1	Hospital	67	55.23
2	Agency	18	56.94
3	Other	10	27.90

Frequency missing = 7

There were statistically significant differences (KW = 7.80, df = 2, p = .020) between where the participants were employed and the responses to statement 24 as shown in Table 6.27. **The teamwork between the transplant coordinators is excellent.** The hospital-employed coordinators were more likely to agree or strongly agree with this statement when compared to the other groups. The results also suggest that the agency-employed coordinators were more likely to disagree with this statement when compared to the other groups.

**Table 6.27: Mean ranks for employer and responses to statement 24**

Observations	Employer	Frequency	Mean rank
1	Hospital	67	56.94
2	Agency	18	39.13
3	Other	10	44.20

Frequency missing = 7

The results ( $KW = 7.42$ ,  $df = 2$ ,  $p = .024$ ) show statistically significant differences between where the participants were employed and the responses to statement 6 as shown in Table 6.28. **The monetary reward does not reflect the responsibility of my position.** This indicates that the group described as 'other' was the most likely to disagree or strongly disagree with the statement when compared to the hospital or agency groups.

**Table 6.28: Mean ranks for employer and responses to statement 6**

Observations	Employer	Frequency	Mean rank
1	Hospital	67	55.35
2	Agency	18	54.94
3	Other	10	30.05

Frequency missing = 7

### Employment status

A statistically significant difference ( $KW = 5.83$ ,  $df = 1$ ,  $p = .015$ ) was found between full-time and part-time coordinators and the responses they gave to statement 19 as shown in Table 6.29. **I experience difficulties with other coordinators.** Full-time coordinators were more likely to agree or strongly agree with this statement when compared to the part-time employees.

**Table 6.29: Mean ranks for employment status and responses to statement 19**

Observations	Employment status	Frequency	Mean rank
1	Full-time	68	55.55
2	Part-time	32	41.07

Frequency missing = 2



There was a statistically significant difference (KW = 4.09, df = 1, p = .043) between the full-time and part-time coordinators in relation to their responses to statement 15 as shown in Table 6.30. **The coordinator role is one that can be done by non-nursing health professionals.** The full-time coordinators were more likely to demonstrate agreement with this statement when compared to the part-time coordinators.

**Table 6.30: Mean ranks for employment status and responses to statement 15**

Observations	Employment status	Frequency	Mean rank
1	Full-time	69	55.04
2	Part-time	32	42.71

Frequency missing = 1

### Country

The following tables contain data that has been stratified by country and within the stratification is a sub-group of New Zealand participants. The number of New Zealand participants is small and therefore results should be viewed with caution.

The results (KW = 5.14, df = 1, p = .023) show statistically significant differences between the Australian and New Zealand participants and their responses to statement 7 as shown in Table 6.31. **There are occupational health and safety issues in my role.** New Zealand coordinators are more likely to disagree or strongly disagree with this statement when compared to the Australian coordinators.

**Table 6.31: Mean ranks for country and responses to statement 7**

Observations	Country	Frequency	Mean rank
1	Australia	93	53.43
2	New Zealand	9	31.55

There was a statistically significant difference (KW = 4.93, df = 1, p = .026) between the Australian and New Zealand coordinators in relation to their responses to statement 28 as shown in Table 6.32. **There is a lack of professional acknowledgement in my job.** New Zealand coordinators were more likely to disagree or strongly disagree with this statement when compared to their Australian colleagues.

**Table 6.32: Mean ranks for country and responses to statement 28**

Observations	Country	Frequency	Mean rank
1	Australia	93	53.42
2	New Zealand	9	31.61

A statistically significant difference (KW = 4.48, df = 1, p = .034) was found between Australian and New Zealand coordinators and the responses they gave to statement 11 as shown in Table 6.33. **I am shown respect in my position.** Australian coordinators were more likely to disagree or strongly disagree with this statement when compared to the New Zealand coordinators.

**Table 6.33: Mean ranks for country and responses to statement 11**

Observations	Country	Frequency	Mean rank
1	Australia	93	49.81
2	New Zealand	9	68.94

The results (KW = 4.27, df = 1, p = .038) show statistically significant differences between the Australian and New Zealand participants and their responses to statement 17 as shown in Table 6.34. **There are aspects of my role that can be frustrating.** New Zealand coordinators are more likely to disagree or strongly disagree with this statement when compared to the Australian coordinators.

**Table 6.34: Mean ranks for country and responses to statement 17**

Observations	Country	Frequency	Mean rank
1	Australia	92	52.61
2	New Zealand	9	34.50

Frequency missing = 1

Section one presented a descriptive overview of the participants in the form of socio-demographic data. The results of the descriptive analysis on the responses to the statements in the survey were provided in section two. Section three provided the results of the inferential statistical analysis carried out using the two non-parametric tests. Spearman's Rank Order Correlation Coefficient was used to calculate the strength and direction of the relationships between the independent variables identified in the socio-demographic data and the

participants' responses to the survey statements. The Kruskal-Wallis test was used to compare groups within the data.

The following section presents the results from the statistical analysis of the second Delphi survey questionnaire. In section four the descriptive analysis of responses to each of the statements in the Delphi survey questionnaire are presented. Section five reports on the results of the non-parametric statistical analysis of the data using Spearman's Rank Order Correlation Coefficient and the Kruskal-Wallis test.

## **Section 4 – Descriptive analysis of Delphi survey – two**

One hundred and two questionnaires (n = 102) were sent to participants in the second round of the Delphi survey with a return of 100% (n = 102). Again, data was entered into a database and statistical analysis was undertaken using the Statistical Package for Social Sciences (SPSS) version 10.0 for Windows.

The main focus of this section regarded the descriptive analysis of the participants' responses to the statements 1 - 32 in the second Delphi survey questionnaire in order to provide a broad description and summary of the data. Appendix 35 provides a summary of the participants' Likert scale responses to the statements in the second Delphi survey questionnaire.

## **Section 5 – Non-parametric statistical analysis**

The purpose of this section was to identify any relationships that existed between the independent variables, shown below, and the participants' responses to the second Delphi survey questionnaire. The independent variables were identified in the socio-demographic data in part 1 of the first questionnaire (Appendix 16). The non-parametric test Spearman's Rank Order Correlation Coefficient ( $\rho$ ) was used to determine this and the Kruskal-Wallis test was used to find if there were significant differences between the groups in the study.

The independent variables used in the analysis, together with their data measurement scales, are listed below:

- Gender (female/male) (nominal data)
- Age (ratio data)
- Age groups (interval data)

- Registered nurse (yes/no) (nominal data)
- Years registered (ratio data)
- Non-nursing background (nominal data)
- Qualifications (nominal data)
- Organ donation & transplantation qualifications (nominal data)
- Type of organ donation & transplantation qualifications (nominal data)
- Type of coordinator (donor/recipient) (nominal data)
- Years as a transplant coordinator (ratio data)
- Employer (hospital/agency) (nominal data)
- Employment status (full-time/part-time) (nominal data)
- On call (interval data)
- Country (Australia/New Zealand) (nominal data).

### **General analysis**

There was no strong correlation found between the variables **age, years registered, years as a transplant coordinator** and **on call** and the participants' responses to the Delphi survey statements. The weak and moderate correlations are reported in Appendix 36.

### **Stratified statistical analysis**

As with reporting the first Delphi survey results, it appeared there may be group differences within the second Delphi survey data so stratified statistical analysis was undertaken using the group variables listed below:

- Gender (female/male)
- Professional background (nurse/non-nurse)
- Organ donation and transplantation qualifications (yes/no)
- Role type (donor coordinator/recipient coordinator)
- Employer (hospital/agency)

- Employment status (full-time/part-time)
- Country (Australia/New Zealand).

### Gender – female

No strong correlation existed between the variables **age, years registered, years as a transplant coordinator** and **on call** and the female participants' responses to the Delphi survey statements. The weak and moderate correlations are reported in Appendix 36.

### Gender – male

The sample size in this group is small and therefore statistically significant results should be viewed with caution.

There was a strong negative correlation between **age** and the male participants' responses to statement **3** as is shown in Table 6.35, indicating that the older male coordinators were less likely to find dealing with other coordinators difficult.

There were strong positive correlations between **age** and the male participants' responses to statements **9** and **12** shown in Table 6.35. The older male coordinators felt the role was unique and that coordinators are 'generalists' not 'specialists' as they wear many different hats in their role.

**Table 6.35: Summary of correlations by age for male coordinators**

(S = statement in questionnaire)

Delphi survey statements		Spearman's rho correlation
S3.	There are times when dealing with other coordinators is difficult.	$r_s = -.648, n = 11, p = .030$
S9.	The role of the transplant coordinator is unique.	$r_s = .677, n = 11, p = .022$
S12.	Transplant coordinators are 'generalists' not 'specialists' as they wear many different hats in their role.	$r_s = .626, n = 11, p = .039$

There was a strong negative correlation between **years registered** and the male participants' responses to statement **3. There are times when dealing with other coordinators is difficult.** Male coordinators, who were also experienced registered nurses, felt that dealing with other coordinators was not difficult. The results were  $r_s = -.821, n = 9, p = .006$

There were strong positive correlations between **years as a transplant coordinator** and the male participants' responses to statements **19** and **24** as shown in Table 6.36. Older male coordinators believed the amount of 'on call' for coordinators was excessive and that they have minimal time with no 'on call' commitments.

**Table 6.36: Summary of correlations by years as a transplant coordinator for male coordinators**

(S = statement in questionnaire)

Delphi survey statements		Spearman's rho correlation
S19.	The amount of 'on call' for transplant coordinators is excessive.	$r_s = .858, n = 11, p = .000$
S24.	Transplant coordinators often have minimal time with no 'on call' commitments.	$r_s = .670, n = 11, p = .023$

### Professional background – registered nurse

There was no strong correlation found between the variables **age, years registered, years as a transplant coordinator** and **on call** and the registered nurses' responses to the Delphi survey statements. The weak and moderate correlations are reported in Appendix 36.

### Professional background – non-nurse

The sample size in this group is small and therefore statistically significant results should be viewed with caution.

There was a strong positive correlation between **age** and the non-nurse participants' responses to statement **23. I often feel fatigued in this role.** The older non-nurse coordinators often felt fatigued in the role. The results were  $r_s = .974, n = 5, p = .004$

There was no significant correlation between **years as a transplant coordinator** and the non-nurse participants' responses to the Delphi survey statements.

There was a strong positive correlation between **on call** and the non-nurse participants' responses to statement **14. Agency/transplant unit managers need a transplant coordination background.** As the on call demands of the non-nurses increased, the more likely they were to believe that managers

needed to have a transplant coordination background. The results were  $r_s = 1.00$ ,  $n = 4$ ,  $p = .000$

### **Organ donation and transplantation qualifications**

There was no strong correlation found between the variables **age, years registered, years as a transplant coordinator** and **on call** and the responses to the Delphi survey statements from those with organ donation and transplantation qualifications. The weak and moderate correlations are reported in Appendix 36.

### **No organ donation and transplantation qualifications**

There was no strong correlation found between the variables **age, years registered, years as a transplant coordinator** and **on call** and the responses to the Delphi survey statements from those with no organ donation and transplantation qualifications. The weak and moderate correlations are reported in Appendix 36.

### **Role type – donor coordinator**

There was no strong correlation found between the variables **age, years registered** and **years as a transplant coordinator** and the donor coordinators' responses to the Delphi survey statements. The weak and moderate correlations are reported in Appendix 36.

No significant correlation was found between the variable **on call** and the donor coordinators' responses to the Delphi survey statements.

### **Role type – recipient coordinator**

There was no strong correlation found between the variables **age, years registered, years as a transplant coordinator** and **on call** and the recipient coordinators' responses to the Delphi survey statements. The weak and moderate correlations are reported in Appendix 36.

### **Employer – hospital**

There was no strong correlation found between the variables **age, years registered, years as a transplant coordinator** and **on call** and the responses to the Delphi survey statements by coordinators employed in hospitals. The weak and moderate correlations are reported in Appendix 36.

### **Employer – agency**

The sample size in this group is small therefore statistically significant results should be viewed with caution.

There was no strong correlation found between the variable **age**, and the responses to the Delphi survey statements by coordinators employed in agencies. The weak and moderate correlations are reported in Appendix 36.

There was a strong negative correlation between **years registered** and the responses to statement **9** by the participants employed in agencies. **The role of the transplant coordinator is unique.** The longer the coordinators had been registered the less likely they were to consider the role unique. The results were  $r_s = -.514$ ,  $n = 16$ ,  $p = .041$

There was a strong negative correlation between **years as a transplant coordinator** and the responses to statement **25** by the participants employed in agencies. **A nursing qualification should be the minimum required for transplant coordinators.** The more experienced coordinators did not believe a nursing qualification should be the minimum educational requirement to be a coordinator. The results were  $r_s = -.579$ ,  $n = 16$ ,  $p = .018$

There was a strong negative correlation between **on call** and the responses to statement **27** by the participants employed in agencies. **There needs to be a specific university qualification for transplant coordinators.** The more on call commitments coordinators had the less they believed that a specific university qualification was needed to perform the role. The results were  $r_s = -.579$ ,  $n = 15$ ,  $p = .023$

### **Employment status – full-time**

There was no strong correlation found between the variables **age**, **years registered**, **years as a transplant coordinator** and **on call** and the full-time coordinators' responses to the Delphi survey statements. The weak and moderate correlations are reported in Appendix 36.

### **Employment status – part-time**

No significant correlation was found between the variables **age** and **years registered** and the part-time coordinators' responses to the Delphi survey statements.



There was no strong correlation found between the variables **years as a transplant coordinator** and **on call** and the part coordinators' responses to the Delphi survey statements. The weak and moderate correlations are reported in Appendix 36.

### Country – Australia

There was no strong correlation found between the variables **age**, **years registered**, **years as a transplant coordinator** and **on call** and Australian coordinators' responses to the Delphi survey statements. The weak and moderate correlations are reported in Appendix 36.

### Country – New Zealand

The sample size in this group is small and therefore statistically significant results should be viewed with caution.

There was a strong positive correlation between **age** and the New Zealand participants' responses to statement **6** shown in Table 6.37. The older coordinators felt that other health professionals did not acknowledge the complexities of their role.

There was also a strong negative correlation between **age** and the New Zealand participants' responses to statement **32** shown in Table 6.37. This indicates that the older coordinators did not believe there was tension with their colleagues when marginal organs were offered to transplant units for transplantation.

**Table 6.37: Summary of correlations by age for New Zealand coordinators**  
(S = statement in questionnaire)

Delphi survey statements		Spearman's rho correlation
S6.	Other health professionals do not acknowledge the complexity of my role.	rs = .681, n = 9, p = .043
S32.	There is tension among transplant coordinators when marginal organs are offered to transplant units.	rs = -.892, n = 6, p = .016

There were strong negative correlations between **years registered** and the responses to statements **10**, **18**, **19**, **21**, **22**, **25** and **27** by the New Zealand participants as shown in Table 6.38. The more years a coordinator had been registered the more likely they were to believe there were no strong intrinsic rewards in the role, that their work is neither invisible nor difficult to quantify. It

demonstrates their belief that on call is not excessive or leading to a high turnover of staff. They were also less likely to experience horizontal violence. Finally, they did not believe that a nursing qualification should be the minimum qualification needed to perform the role and they did not consider that a specific university qualification for coordinators was necessary.

**Table 6.38: Summary of correlations by years registered for New Zealand coordinators**

(S = statement in questionnaire)

Delphi survey statements	Spearman's rho correlation
S10. There are strong intrinsic rewards in the transplant coordinator role.	$r_s = -.797, n = 7, p = .031$
S18. A large percentage of the transplant coordinators' work is invisible labour and therefore difficult to quantify.	$r_s = -.711, n = 8, p = .047$
S19. The amount of 'on call' for transplant coordinators is excessive.	$r_s = -.780, n = 8, p = .022$
S21. Transplant coordinators experience horizontal violence in their role.	$r_s = -.751, n = 8, p = .031$
S22. There is a high turn over of transplant coordinators due to the amount of 'on call' they are required to do.	$r_s = -.854, n = 7, p = .014$
S25. A nursing qualification should be the minimum required for transplant coordinators.	$r_s = -.760, n = 8, p = .028$
S27. There needs to be a specific university qualification for transplant coordinators.	$r_s = -.888, n = 8, p = .003$

There was a strong positive correlation between **years as a transplant coordinator** and the New Zealand participants' responses to statement 1 shown in Table 6.39. More experienced coordinators felt that they had control over their role and how it should be performed.

There were strong negative correlations between **years as a transplant coordinator** and the responses to statement 5, 7 and 21 by the New Zealand participants shown in Table 6.39. Such information suggests that the experienced coordinators did not believe the International Course would facilitate a greater understanding of each other's roles. They also did not agree that the cooperation from health professionals had improved as organ donation and

transplantation had become a more routine and accepted practice. Finally, they believed horizontal violence was not an issue for them in their practice.

**Table 6.39: Summary of correlations by years as a transplant coordinator for New Zealand participants**

(S = statement in questionnaire)

Delphi survey statements		Spearman's rho correlation
S1.	Transplant coordinators have control over their role and how it should be performed.	$r_s = .730, n = 9, p = .025$
S5.	The International Course for transplant coordinators held in Australia has/will help donor and recipient coordinators understand each other's roles.	$r_s = -.874, n = 7, p = .010$
S7.	As organ donation and transplantation has become more 'run of the mill' the level of cooperation from health professionals has improved.	$r_s = -.753, n = 8, p = .030$
S21.	Transplant coordinators experience horizontal violence in their role.	$r_s = -.819, n = 8, p = .012$

There were strong negative correlations between **on call** and the responses to statement **10, 28** and **30** by the New Zealand participants shown in Table 6.40. Those with increased on call commitments were less likely to report that there were strong intrinsic rewards in the role. They were also opposed to a third party facilitating meetings between donor families and recipients and believed that the wishes of the deceased in relation to organ donation could be overridden.

There were strong positive correlations between **on call** and the New Zealand participants' responses to statements **12** and **14** as shown in Table 6.40. Those with increasing on call demands believed that transplant coordinators are 'generalists' not 'specialists' and that agency and transplant unit managers should have a transplant coordination background.

**Table 6.40: Summary of correlations by on call for New Zealand participants**

(S = statement in questionnaire)

Delphi survey statements	Spearman's rho correlation
S10. There are strong intrinsic rewards in the transplant coordinators role.	$r_s = -.774, n = 8, p = .024$
S12. Transplant coordinators are 'generalists' not 'specialists' as they wear many different hats in their role.	$r_s = .783, n = 9, p = .012$
S14. Agency/transplant unit managers need a transplant coordination background.	$r_s = .828, n = 7, p = .021$
S28. An appropriate third party, other than organ donation agencies and transplant units, could facilitate the meetings between donor families and recipients if both parties agree.	$r_s = -.774, n = 9, p = .014$
S30. The pre mortem wishes of the deceased to donate their organs should not be overridden.	$r_s = -.725, n = 8, p = .041$

### Kruskal-Wallis test

The Kruskal-Wallis test was used to compare participant groups and their responses to the second Delphi survey statements. This means that it determines if there are significant differences between two or more sets of data (Argyrous 1996). The groups compared in this study were:

- Age groups (21-30 / 31-40 / 41-50 / 51-60)
- Gender (female/male)
- Professional background (nurse/non-nurse)
- Organ donation and transplantation qualifications (yes/no)
- Role type (donor coordinator/recipient coordinator)
- Employer (hospital/agency/other)
- Employment status (full-time/part-time)
- Country (Australia/New Zealand).

For each of the tables represented below there was a significant difference in the ranking of the participant groups and their responses to the second Delphi survey statements. Contingency tables for each of the significant results discussed below are shown in Appendix 37.

### Age groups

There were statistically significant differences (KW = 9.65, df = 3, p = .021) between the age groups of the participants and the responses to statement **13** shown in Table 6.41. **There is no career structure for transplant coordinators.** The 51 – 60 age group was more likely to agree or strongly agree with the statement when compared to the other age groups.

**Table 6.41: Mean ranks for age groups and responses to statement 13**

Observations	Age groups	Frequency	Mean rank
1	21 – 30	13	47.50
2	31 – 40	49	48.68
3	41 – 50	28	48.30
4	51 – 60	12	74.79

### Gender

The following tables contain data that has been stratified by gender and within the stratification is a sub group of male participants. The number of male participants is small and therefore results should be viewed with caution.

There was a statistically significant difference (KW = 5.61, df = 1, p = .017) between females and males and the responses to statement **32** shown in Table 6.42. **There is tension among transplant coordinators when marginal organs are offered to transplant units.** This indicates that males are more likely to agree or strongly agree with the statement compared to females.

**Table 6.42: Mean ranks for gender and responses to statement 32**

Observations	Gender	Frequency	Mean rank
1	Female	86	46.70
2	Male	11	66.95

Missing frequency = 5

## Professional background

The following tables contain data that has been stratified by professional background and within the stratification is a sub-group of non-nurse transplant coordinators. The number of non-nurse participants is small and therefore results should be viewed with caution.

There was a statistically significant difference (KW = 7.92, df = 1, p = .004) between nurses and non-nurses concerning their responses to statement 25 shown in Table 6.43. **A nursing qualification should be the minimum required for transplant coordinators.** Registered nurses are more likely to agree or strongly agree with the statement when compared to their non-nurse colleagues.

**Table 6.43: Mean ranks for nurses - non-nurses and responses to statement 25**

Observations	Nurse	Frequency	Mean rank
1	No	5	17.10
2	Yes	96	52.76

Missing frequency = 1

There was a statistically significant difference (KW = 6.64, df = 1, p = .009) between nurses and non-nurses in relation to their responses to statement 7 shown in Table 6.44. **As organ donation and transplantation has become more 'run of the mill' the level of cooperation from health professionals has improved.** Registered nurses are more likely to agree or strongly agree with this statement when compared with those from a non-nursing professional background.

**Table 6.44: Mean ranks for nurses - non-nurses and responses to statement 7**

Observations	Nurse	Frequency	Mean rank
1	No	4	17.37
2	Yes	96	51.88

Frequency missing = 2

## Organ donation and transplantation qualifications

There were no statistically significant differences between those with or without organ donation and transplantation qualifications and responses to statements in the second Delphi survey.

## Role type

There were no statistically significant differences between donor and recipient coordinators and responses to statements in the second Delphi survey.

## Employer

The following tables contain data that has been stratified by employer groups. Within the stratification are two sub-groups that are small - 'other' and agency, and therefore results should be viewed with caution.

There were statistically significant differences (KW = 8.50, df = 2, p = .014) between where the participants were employed and the responses to statement 2 shown in Table 6.45. **There is a lack of national focus among coordinators.** Those employed by agencies were more likely to agree or strongly agree with this statement when compared to the group described as 'other' and the hospital employed coordinators.

**Table 6.45: Mean ranks for employer and responses to statement 2**

Observations	Employer	Frequency	Mean rank
1	Hospital	67	49.01
2	Agency	18	68.00
3	Other	10	39.80

Frequency missing = 7

There were statistically significant differences (KW = 7.11, df = 2, p = .028) between where the participants were employed and the responses to statement 28 as shown in Table 6.46. **An appropriate third party, other than organ donation agencies and transplant units, could facilitate the meetings between donor families and recipients if both parties agree.** The agency employed coordinators were more likely to agree or strongly agree with this statement when compared to the other groups.

**Table 6.46: Mean ranks for employer and responses to statement 28**

Observations	Employer	Frequency	Mean rank
1	Hospital	66	47.82
2	Agency	18	67.19
3	Other	10	51.45

Frequency missing = 8

The results (KW = 6.75, df = 2, p = .034) show statistically significant differences between where the participants were employed and the responses to statement 16 shown in Table 6.47. **The roles of transplant coordinators throughout Australia and New Zealand need industrial standardisation.** The hospital employed coordinators were more likely to agree or strongly agree with the statement when compared to the other two groups. The group described as 'other' was more likely to disagree with the statement when compared to the hospital and agency employed participants.

**Table 6.47: Mean ranks for employer and responses to statement 16**

Observations	Employer	Frequency	Mean rank
1	Hospital	66	55.37
2	Agency	18	43.55
3	Other	10	33.90

Frequency missing = 8

### **Employment status**

A statistically significant difference (KW = 6.86, df = 1, p = .008) was found between full-time and part-time coordinators and the responses they gave to statement 16 shown in Table 6.48. **The roles of transplant coordinators throughout Australia and New Zealand need industrial standardisation.** The part-time coordinators were more likely to agree or strongly agree with this statement when compared to the full-time employees.



**Table 6.48: Mean ranks for employment status and responses to statement 16**

Observations	Employment status	Frequency	Mean rank
1	Full-time	68	45.36
2	Part-time	31	60.74

Frequency missing = 3

### Country

The results (KW = 5.08, df = 1, p = .024) show statistically significant differences between the Australian and New Zealand participants and their responses to statement 6 shown in Table 6.49. **Other health professionals do not acknowledge the complexity of my role.** Australian coordinators are more likely to agree or strongly agree with this statement when compared to the New Zealand coordinators.

**Table 6.49: Mean ranks for country and responses to statement 6**

Observations	Country	Frequency	Mean rank
1	Australia	92	52.86
2	New Zealand	9	31.94

Frequency missing = 1

The results (KW = 4.95, df = 1, p = .026) show statistically significant differences between the Australian and New Zealand participants and their responses to statement 1 shown in Table 6.50. **Transplant coordinators have control over their role and how it should be performed/carried out.** New Zealand coordinators are more likely to agree or strongly agree with this statement when compared to the Australian coordinators.

**Table 6.50: Mean ranks for country and responses to statement 1**

Observations	Country	Frequency	Mean rank
1	Australia	93	49.74
2	New Zealand	9	69.61

The results (KW = 4.39, df = 1, p = .036) show statistically significant differences between the Australian and New Zealand participants and their responses to

statement 18 shown in Table 6.51. **A large percentage of the transplant coordinators' work is invisible labour and therefore difficult to quantify.** New Zealand coordinators are more likely to disagree or strongly disagree with this statement when compared to the Australian coordinators.

**Table 6.51: Mean ranks for country and responses to statement 18**

Observations	Country	Frequency	Mean rank
1	Australia	93	53.24
2	New Zealand	9	33.50

The results (KW = 4.33, df = 1, p = .037) show statistically significant differences between the Australian and New Zealand participants and their responses to statement 20 shown in Table 6.52. **I feel ambivalent about my role as a transplant coordinator.** Australian coordinators are more likely to agree or strongly agree with this statement when compared to their New Zealand colleagues.

**Table 6.52: Mean ranks for country and responses to statement 20**

Observations	Country	Frequency	Mean rank
1	Australia	90	51.77
2	New Zealand	9	32.22

Frequency missing = 3

## Summary

This chapter provided a detailed description of the statistical analysis performed on the two Delphi survey questionnaires. The first section described the participants' characteristics in the study. The descriptive analysis of the responses to the statements in the first survey, together with the non-parametric statistical analysis, was also reported. The second and third phases of this process were then repeated for the second Delphi survey and discussed accordingly.

These results will be explored further in relation to the grounded theory codes and preliminary categories, which have been discussed in the earlier chapters. The findings will also be used to expand existing codes and preliminary categories or add to future codes and categories that may emerge following

analysis of the data collected through theoretical sampling. The combined analysis of the qualitative data obtained through theoretical sampling in each of the surveys will be discussed in Chapter Seven.