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ICT Women Professionals’ Perceptions of Workplace Ethical Problems

A Quantitative Survey

Yeslam Al-Saggaf *and* Kim M. Thompson

Abstract

Which ethical problems are most frequently experienced by ICT women professionals? Which ethical problems experienced by ICT women professionals are of most concern to them as individuals? A quantitative survey of 2,315 Australian ICT professionals of whom 15.4 percent were females revealed that the top 15 most frequently faced ethical problems that the females identified were nearly identical to those identified by males. Of these 15 problems, five were judged to affect females personally. These are overworking staff, blaming others for own mistakes, bullying, unprofessional behavior, and discrimination. Of these five problems, gender only predicted three problems that affect females personally, namely overworking staff, bullying, and discrimination, which women also believed occur more frequently than other problems. Compared to males, a higher percentage of females who selected overworking staff, bullying, and discrimination believed unethical behavior either occurs occasionally or frequently. More importantly, a higher proportion of females compared to males (especially managers and consultants) witnessed or experienced staff being overworked in their workplaces. Similarly, a higher proportion of females compared to males (especially managers and consultants) witnessed or experienced bullying in their workplaces. Finally, a higher proportion of females compared to males (especially man-



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agers and consultants) witnessed or experienced discrimination in their workplaces. The fact that female consultants and managers selected these problems as of most concern to them may suggest that the experienced women professionals have a greater concern about these problems than women in junior roles. Regardless, these results are both surprising and concerning and therefore deserving of attention in a future study.

Introduction

That females represent less than 20 percent of the workforce in the Australian Information and Communication Technology (ICT) industry raises a question about the attractiveness of this industry to women. To say that workplaces that are not ethical may not succeed in attracting, recruiting, and retaining employees is to state the obvious. According to a 2006 LRN report, one in three employed Americans reported that they had left a job because they disagreed with a company's business ethics. At the same time, research indicates that women and men put different emphasis on ethical workplace issues (Dawson, 1992; Lucas & Mason, 2008; Suar & Gochhayat, 2016). Today's workplace is becoming more and more technically complex and logistically challenging, which exposes businesses to more ethical decisions and contexts than ever. There is a need for better identification and understanding of gendered approaches to business ethics to ensure an ethically advanced workplace that creates an inviting and engaging environment for both women and men.

Professional ethics include regulations, duties, and moral principles and practices that govern professional behavior and activities and ethical problems can include piracy, conflict of interest, fraud, security breaches, blaming others for own mistakes, discrimination, bullying, overwork, and so forth. Every workplace is unique and has its own social dynamics and workplace culture. As a result, the ethical workplace behaviors are subject to variables which may have either a positive or negative impact on overall performance. This study provides insights into specific differences between women's and men's ethical concerns in the ICT workplace, with a concentrated focus on what ethical issues are of most concern to women. The goal of the research is to understand the conditions of a more ethically inviting workplace for women.

The purpose of the current study is to identify ethical issues indicated as being of most concern to women in the Australian ICT workforce in order to move toward a more ethical workplace. The following research questions will be addressed:

1. Which ethical problems are the most frequently experienced by ICT professionals?
2. What differences exist between female and male selections of most common ethical problems?

3. What is the relationship between perceived frequencies of occurrence of unethical behaviors?
4. What differences exist between female and male selections of ethical problems of most concern to them as individuals?

As the first of its kind, this exploratory study hopes to pave the way for future research into women's experiences in the ICT workplace.

Related Work

In their meta-analysis of gender-based ethics research, Suar and Gochhayat (2016) note that while some studies have found women to have higher levels of ethicality than men and some have found women and men to be equal in terms of ethicality in the workplace, no studies have found men to have a higher standard of ethicality than women. In some studies, differences between ethicality of women and men have appeared to be significant (Beltramini, Peterson, & Kozmetsky, 1984; Ruegger & King, 1992; Sikula & Costa, 1994) but others have noted that males and females show little difference in moral reasoning (Donenberg & Hoffman, 1988; Rest, 1986) and ethicality (Roxas & Stoneback, 2004; Robin & Babin, 1997). Still other studies indicate that although there are similar levels of ethicality between genders, women and men have differing approaches or judgments as to what is acceptable as ethical workplace behavior (Dawson, 1992; Lucas & Mason, 2008; Suar & Gochhayat, 2016). That there are gendered differences seems clear, but in which areas do the two genders differ?

In Lucas and Mason's (2008) study of ethics in the Australian ICT workplace, women reported that they had more ethical education (54 percent) than men (44 percent). This is particularly interesting in light of the observation by the authors later in the article that 75 percent of all their respondents were graduates of accredited programs that are required to have an ethics module as part of the course, so it is not clear whether the programs are not compliant in providing their ethics education units or whether the ethics training is ineffective, or whether the issue is that students are receiving the training but for reasons yet undiscovered are not cognizant of ethics education when it is provided. Lucas and Mason also found that while both male and female employees thought ethical practice to be important, female employees were much more likely than males to think ethical regulation is important and needed in the workplace. However, while some ethical issues such as copyright, piracy and software patents have quite cut and dry legal standards, other issues such as bullying and overwork can be more difficult to regulate across an organization. In fact, the range of bullying can even include "regulation bullying," which is defined as a case where "a serial bully forces their target to comply with rules,

regulations, procedures or laws regardless of their appropriateness, applicability or necessity” (Tim Field Foundation, 2006).

Hence, dealing with ethical issues in the workplace can be complicated and women and men may not only experience or observe a different set of ethical problems, but also have different preferred approaches to how these problems might best be resolved. To advance discussion of some of these gendered ethical issues, this article investigates Australian women professionals in the ICT sector and their perceptions regarding the most common ethical problems they face in the workplace. The data collection for this study included a quantitative survey listing 57 potential ethical problems in the ICT workplace. The list of ethical problems was developed based on the results of the 2006 survey conducted by Lucas and Mason (2008). The 57 problems extend from the 16 problems identified in the 2006 Lucas and Mason survey. The additional categories in the 2013 survey were based on the additional comments in the “Other” section of the open-ended questions in the 2006 survey (Lucas & Weckert, 2008, Lucas & Mason, 2008).

Method and Findings

The Quantitative Survey Procedure

This study is part of a larger research project that examines professional ethics in the ICT workplace in Australia. The project consisted of three phases with Phase 1 involving a survey questionnaire which was administered using SurveyMonkey.com; Phase 2 involving qualitative interviews; and Phase 3 involving focus group discussions. The current article only deals with data collected in Phase 1, wherein all 18,600 active Australian Computer Society (ACS) members were invited to participate in a web-based survey by direct email sent to them by the ACS in late 2013. The online questionnaire was prefaced by an ethics information sheet. The survey comprised both closed and open-ended questions. This study reports only on the closed questions. The survey was ended when it achieved a response rate of 12.4 percent.

Sample

A total of 2,315 participants completed the questionnaire of which 356 (15.4 percent) were females. The average number of years of experience for female respondents was 16.6 years; smaller by three years than the average number of years of experience for males (19.8 years). Table 1 shows a summary of the demographic information of all female participants. It should be noted that not all percentages in Table 1 add up to 100 because respondents’ choices with smaller percentages are not shown.

Table 1: A Summary of the Demographic Information of the Female Respondents

<i>Demographic information</i>		<i>Female participants</i>
Age	26 and 30 years	13.5 percent (N= 48)
	41 and 45 years	14.0 percent (N=50)
	46 and 50 years	12.1 percent (N=43)
	51 and 55 years	14.6 percent (N=52)
State	ACT	9.8 percent (N=35)
	NSW	32.0 percent (N=114)
	QLD	9.8 percent (N=35)
	SA	5.1 percent (N=18)
	VIC	23.9 percent (N=85)
	WA	12.6 percent (N=45)
Occupational Category	Managers	30.3 percent (N=108)
	Developers	10.4 percent (N=37)
	Consultants	19.9 percent (N=71)
	Technical Support	9.8 percent (N=35)
Geographical Location	Capital City Or Metropolitan	89.6 percent (N=319)
	Regional Areas	9.6 percent (N=34)
Industry Type	Education	12.6 percent (N= 45)
	Finance	11.0 percent (N=39)
	Government	12.6 percent (N=45)
	ICT	29.8 percent (N=106)
Industry Sector	Private Sector	51.4 percent (N=183)
	Public Sector	26.7 percent (N=95)
Job Classification	Permanent Full-Time Employees	53.7 percent (N=191)
	Independent Consultants	3.7 percent (N= 13)
	Fixed Project Contractors	4.2 percent (N=15)
Qualifications	Bachelor Degree	34.8 percent (N=124)
	Higher Degrees	32.3 percent (N=115)

Statistical Analysis

MULTIPLE RESPONSE FREQUENCY (MRF) ANALYSIS

The first question this project tried to answer was which ethical problems were the most frequently experienced by ICT professionals. Since the question allowed respondents to select more than one answer, a Multiple Response Frequency (MRF) analysis was used to rank the 57 ethical problems that the participants were asked about. The top 15 most frequently faced ethical problems identified by females are shown in Table 2 below. To allow comparisons to be made the top 15 most frequently faced ethical problems according to males are also shown in Table 2. As can be seen from Table 2, the MRF analysis revealed that, with the exception of a few, the top 15 problems across the two genders are essentially identical, which agrees with prior research of how both genders

have ethical interests in the workplace, with some differences in the nuances of that ethicality (Dawson, 1992; Donenberg & Hoffman, 1988; Lucas & Mason, 2008; Rest, 1986; Robin & Babin, 1997; Roxas & Stoneback, 2004; Suar & Gochhayat, 2016).

Table 2: The Top 15 Most Frequently Faced Ethical Problems

Females

<i>Ethical problem</i>	<i>Number of responses</i>	<i>Percentage of responses</i>
Compromising quality to meet deadlines	172	5.90%
Overworking staff	154	5.20%
Blaming others for own mistakes	142	4.80%
Compromising functionality to meet deadlines	134	4.60%
Bullying	113	3.80%
Unprofessional Behavior	105	3.60%
Incompetence	105	3.60%
Compromising user requirements to meet deadlines	101	3.40%
Conflict of Interest	89	3.00%
Compromising security to meet deadlines or make things work	84	2.90%
Lying on Resume	81	2.80%
Inadequate Policies	80	2.70%
Misrepresenting Skills	79	2.70%
Discrimination	79	2.70%
False Promises	76	2.60%

Males

<i>Ethical problem</i>	<i>Number of responses</i>	<i>Percentage of responses</i>
Compromising quality to meet deadlines	927	5.30%
Blaming others for own mistakes	809	4.70%
Compromising functionality to meet deadlines	709	4.10%
Incompetence	641	3.70%
Overworking staff	603	3.50%
Conflict of Interest	592	3.40%
Compromising user requirements to meet deadlines	530	3.10%
Unprofessional Behavior	525	3.00%
Compromising security to meet deadlines or make things work	524	3.00%
Bullying	513	3.00%
False Promises	477	2.80%
Awarding Contracts Without due process	484	2.80%
Lying On Resume	432	2.50%
Copyright	412	2.40%
Misrepresenting Skills	420	2.40%

Given that the focus of this article is on Australian women's personal experiences as ICT professionals, the top 15 most frequently faced ethical problems identified by females were classified into two groups: problems that affect females personally and problems that affect the projects in which they were involved. Five problems (out of the top 15 most frequently faced ethical problems identified by females) were judged to affect females personally. These are overworking staff, blaming others for own mistakes, bullying, unprofessional behavior, and discrimination. The other 10 problems were considered to affect the projects in which the females were involved. This article focuses only on the problems that affect females personally. For this reason the next Generalized Linear Models will investigate if gender predicts the selection of these problems as responses in the survey.

GENERALIZED LINEAR MODELS

To investigate the relationship between males and females, selections of the most common ethical problems and the demographic variable gender, Generalized Linear Models (GLMs) were used as a statistical tool. The responses to the most common ethical problems question are binomial (recorded as a Yes=1/No=0), whereas the demographic variable gender is categorical (recorded as a Male=1/Female =2). For this reason GLMs were fitted to investigate the relationships between the predictor variable (gender) and the binomial response variables. The GLMs were carried out on the data using R (version 3.0.2) open-source statistical software. It is a requirement of this analysis that there is no evidence of over-dispersion in the models. In all cases this requirement was verified.

The analysis of deviance revealed that there is a significant relationship between the predictor variable gender and respondents' selection of 17, out of 57, commonly experienced ethical problems. The other 40 ethical problems showed no evidence of a relationship with the predictor variable gender. That is, gender predicted the selection of 17 ethical problems as responses in the survey. Table 3 lists the 17 ethical problems that gender predicted their selection. Of particular interest to this article is gender's prediction of overworking staff (Deviance = 19.49, Df = 1, $p = 0.000$), bullying (Deviance = 4.15, Df = 1, $p = 0.0416$), and discrimination (Deviance = 17.97, Df = 1, $p = 0.000$). Since gender did not predict the selection of blaming others for own mistakes, and unprofessional behavior, these two ethical problems were dropped from further analysis.

Further, *to examine whether there is a relationship between the perceived frequency of occurrence of unethical behavior and the respondents' selection of overworking staff, bullying, and discrimination, GLMs were also fitted to investigate this relationship since the predictor is also a categorical variable. The analysis of deviance revealed that there is a significant relationship between the perceived frequency of occurrence of unethical behavior and respondents'*

Table 3: The 17 Ethical Problems Predicted by Gender

<i>Ethical problems</i>	
Piracy	Developing unethical software
Copyright	Bullying
Phishing	“Bait and switch”
Conflict of Interest	Security breaches
Computer Fraud	Awarding contracts without due process
Selling customers things they don't need.	Anti-competitive practices
Overworking staff	Abuse of monopoly
Software Patents	Discrimination
User support issues	

selection of overworking staff (Deviance = 70.49, Df = 4, p = 0.0000), bullying (Deviance = 143.29, Df = 4, p = 0.0000), and discrimination (Deviance = 108.07, Df = 4, p = 0.0000) suggesting that this variable is also a predictor for respondents’ selection of overworking staff, bullying, and discrimination and that female participants believed these problems occur frequently. *To compare the percentages of females and males who selected overworking staff, bullying, and discrimination and responded to the question about the frequency of the occurrence of unethical behavior*, cross tabulation analyses were used. An inspection of the results of the cross tabulations revealed that a higher percentage of females who selected overworking staff, bullying, and discrimination than males believed unethical behavior either occurs occasionally or frequently (Tables 4–6). It should be noted that the reason percentages in Tables 4–6 do not add up to 100 is because respondents’ other choices with smaller percentages, such as rarely and never, are not shown.

Table 4: Occurrence of Unethical Behavior and Respondents’ Selection of Overworking Staff

		<i>Overworking Staff</i>	
		<i>Occasionally</i>	<i>Frequently</i>
Gender	Male	51%	17%
	Female	50.3%	22.5%

Table 5: Occurrence of Unethical Behavior and Respondents’ Selection of Bullying

		<i>Bullying</i>	
		<i>Occasionally</i>	<i>Frequently</i>
Gender	Male	49%	21.6%
	Female	49.1%	32.1%

Table 6: Occurrence of Unethical Behavior and Respondents' Selection of Discrimination

		<i>Discrimination</i>	
		<i>Occasionally</i>	<i>Frequently</i>
Gender	Male	47.5%	25.9%
	Female	60.3%	21.8%

Using Chi Square tests and cross tabulations the next analysis will compare the proportions of females who selected overworking staff, bullying, and discrimination with the proportions of males who selected these ethical problems.

CHI SQUARE AND CROSS TABULATIONS

Overworking Staff

To compare the proportions of females who selected overworking staff, bullying, and discrimination with the proportions of males who selected these ethical problems, Chi Square tests and cross tabulations were used. The $\chi^2(1, N=2296) = 20.179, p = .000$ test indicated significant differences between females and males who selected overworking staff as one of the most common problems they experience in their workplaces. Table 7 shows that 43.3 percent of females selected overworking staff as a frequently experienced problem compared to only 31.1 percent of males who responded to this question. This indicates that a higher proportion of females compared to males witnessed or experienced this problem in their workplaces. By self-described occupational category, Table 8 shows that 38.6 percent of the females who selected overworking staff were managers, 25.7 percent were consultants and 13.6 percent were developers. It was expected that females in technical support and administration would select overworking staff as a major problem. Instead, the cross table analysis showed a higher proportion of senior female ICT professionals who selected this problem. This is a surprising finding and should be examined in depth in the future.

Table 7: The Proportion of Females vs. Males Who Selected Overworking Staff

		<i>Overworking Staff</i>	
		<i>No</i>	<i>Yes</i>
Gender	Male	68.9%	31.1%
	Female	56.7%	43.3%

Table 8: The Proportion of Females vs. Males Who Selected Overworking Staff According to Self-Described Occupational Category

<i>Self-described occupational category</i>	<i>Overworking staff</i>
Manager	38.6%
Developer	13.6%
Consultant	25.7%
Administrator	5.7%
Technical Support	7.1%
Education	9.3%
Total	100.0%

Bullying

The $\chi^2(1, N=2296) = 4.258, p = .039$ test indicated significant differences between females and males who selected bullying staff as one of the most common problems they experience in their workplaces. Table 9 shows that 31.7 percent of females selected bullying as a frequently experienced problem compared to only 26.4 percent of males who responded to this question. This indicates that a higher proportion of females compared to males witnessed or experienced this problem in their workplaces. By self-described occupational category, Table 10 shows that 42.6 percent of the females who selected bullying were managers and 22.8 percent were consultants. But the cross tabulations analysis also showed that a higher proportion of females who selected bullying as a major problem in their workplaces were in technical support (11.9 percent) and in education (10.9 percent). While it is unusual that a higher percentage of female managers and consultants reported witnessing or experiencing bullying, it is a concerning finding that relatively higher percentages of females in technical support and education than those in development and administration reported witnessing or experiencing bullying. Both of these findings are deserving of attention in a future study.

Table 9: The Proportion of Females vs. Males Who Selected Bullying

		<i>Bullying</i>	
		<i>No</i>	<i>Yes</i>
Gender	Male	73.6%	26.4%
	Female	68.3%	31.7%

Discrimination

The $\chi^2(1, N=2296) = 19.804, p = .000$ test indicated significant differences between females and males who selected discrimination as one of the most common problems they experience in their workplaces. Table 11 shows that 22.2 percent of females selected discrimination as a frequently experienced

Table 10: The Proportion of Females Who Selected Bullying According to Self-Described Occupational Category

<i>Self-described occupational category</i>	<i>Bullying</i>
Manager	42.6%
Developer	7.9%
Consultant	22.8%
Administrator	4.0%
Technical Support	11.9%
Education	10.9%
Total	100.0%

problem compared to only 13.1 percent of males who responded to this question. This indicates that a higher proportion of females compared to males witnessed or experienced this problem in their workplaces. By self-described occupational category, Table 12 shows that 38.0 percent of the females who selected discrimination were managers and 22.5 percent were consultants. However, the contingency table analysis showed a higher proportion of females who selected discrimination as a major problem in their workplaces were in technical support (12.7 percent) and in education (15.5 percent). That a higher percentage of female managers and consultants reported witnessing or experiencing discrimination is unexpected, because females in senior roles are not the likely victims of discrimination in the workplace unless they are reporting this problem as observers. On the other hand, it is a concerning finding that relatively higher percentages of females in technical support and education than those in development and administration reported witnessing or experiencing discrimination. Again, both of these findings are deserving of attention in a future study.

Table 11: The Proportion of Females vs. Males Who Selected Discrimination

		<i>Discrimination</i>	
		<i>No</i>	<i>Yes</i>
Gender	Male	86.9%	13.1%
	Female	77.8%	22.2%

Table 12: The Proportion of Females Who Selected Discrimination According to Self-Described Occupational Category

<i>Self-described occupational category</i>	<i>Discrimination</i>
Manager	38.0%
Developer	8.5%
Consultant	22.5%
Administrator	2.8%
Technical Support	12.7%
Education	15.5%
Total	100.0%

Discussion

A total of 2,315 participants completed the survey questionnaire of which 356 (15.4 percent) were females. The most recent Australia Bureau of Statistics data reports that the ICT industry is less than 20 percent female (Australian Workplace and Productivity Agency, 2013), so this proportion, while not a perfect representation, is a reasonable reflection of the gender imbalance in the ICT workforce. The focus of the survey was to explore ethical problems frequently experienced by ICT professionals in their workplaces. The survey participants were presented with a list of 57 ethical problems to choose from. A Multiple Response Frequency (MRF) analysis was used to rank the 57 ethical problems that the participants were asked about; this was done for both males and females. The MRF analysis revealed that the top 15 most frequently faced ethical problems that the females identified were nearly identical to those identified by males.

Given that the focus of this article is on Australian women's personal experiences as ICT professionals, the top 15 most frequently faced ethical problems identified by females were classified into two groups: problems that affect females personally and problems that affect the projects in which they were involved. Five problems (out of the top 15 most frequently faced ethical problems identified by females) were judged to affect females personally. These are overworking staff, blaming others for own mistakes, bullying, unprofessional behavior, and discrimination. The other 10 problems were considered to affect the projects in which the females were involved. This article focuses only on the problems that affect females personally.

To investigate the relationship between male and female selections of the most common ethical problems and the demographic variable gender, Generalized Linear Models (GLMs) were used as a statistical tool. The analysis of deviance revealed that there is a significant relationship between the predictor variable gender and respondents' selection of overworking staff, bullying, and discrimination. That is, gender was found to predict three of the five problems that affect females personally, namely overworking staff, bullying, and discrimination, but not blaming others for own mistakes or unprofessional behavior, which is why these last two problems were dropped from further analysis.

The relationship between the frequency of occurrence of unethical behavior (in general) and respondents' selection of overworking staff, bullying, and discrimination was also investigated using GLMs. The analysis of deviance revealed that there is a significant relationship between the perceived frequency of occurrence of unethical behavior and respondents' selection of overworking staff, bullying, and discrimination suggesting female participants believed these problems occur frequently. To compare the percentages of females who selected overworking staff, bullying and discrimination and responded to the question about the frequency of the occurrence of unethical behavior with males, cross

tabulation analyses were used. An inspection of the results of the cross tabulations revealed that a higher percentage of females who selected overworking staff, bullying and discrimination than males believed unethical behavior either occurs occasionally or frequently.

To compare the proportions of females who selected overworking staff, bullying, and discrimination with the proportions of males who selected these ethical problems, Chi Square tests and cross tabulations were used. An inspection of the results of the cross tabulations revealed that a higher proportion of females compared to males witnessed or experienced staff being overworked in their workplaces. By self-described occupational category, 38.6 percent of the females who selected overworking staff were managers, 25.7 percent were consultants and 13.6 percent were developers. Similarly, the cross tabulations revealed that a higher proportion of females compared to males witnessed or experienced bullying in their workplaces. By self-described occupational category, 42.6 percent of the females who selected bullying were managers and 22.8 percent were consultants. But the cross tabulations analysis also showed that a higher proportion of females who selected bullying as a major problem in their workplaces were in technical support (11.9 percent) and in education (10.9 percent). Finally, the cross tabulations revealed that a higher proportion of females compared to males witnessed or experienced discrimination in their workplaces. By self-described occupational category, 38.0 percent of the females who selected discrimination were managers and 22.5 percent were consultants. However, the contingency table analysis showed a higher proportion of females who selected discrimination as a major problem in their workplaces were in technical support (12.7 percent) and in education (15.5 percent). The fact that female consultants and managers selected these problems as of most concern to them may suggest that the experienced women professionals have a greater concern about these problems than women in junior roles. Regardless, these results are both surprising and concerning and therefore deserving of attention in a future study.

As noted in our review of relevant literature, women are more likely than men to feel that regulation can improve workplace ethics (Lucas & Mason, 2008). This is interesting in light of how bureaucratic systems have traditionally been seen by feminists as masculine structures that subordinate women in organizations (Acker, 1990; Ferguson, 1984); however, Lucas and Mason's (2008) finding syncs with DeHart-Davis' (2009) study of the benefits of bureaucracy for women, wherein she found that in more recent years "bureaucratic standardization may humanize some employees by reducing the degree of subservience and responsiveness inherent in certain jobs, particularly supported positions dominated by organizational women" (p. 345). So it could be that as workplace standards and regulations have shifted in recent decades with an eye for equity and inclusion of women in the workforce, the bureaucratic nature of regulation has shifted to be of greater benefit to women than it was in the

past, and may be an important mechanism for improving ethical conditions as well. And to re-emphasize the complexity of how best to respond to ethical issues, the same DeHart-Davis study found patterns of men being resistant to “the excessive restraints of bureaucratic control” because “bureaucratic control contradicts notions of cultural masculinity” (p. 351). In other words, the solution that might be of great benefit to women may not extend the same perceived benefit to their male counterparts in the workplace.

Conclusion

Data from this study bring to light some interesting insights related to women’s perceptions of unethical behavior in the Australian ICT workplace. Female respondents noted that they perceive higher rates of unethical behavior in terms of overwork, bullying, and discrimination in particular. As the question asked if they had experienced or witnessed this unethical behavior, it is not clear whether they themselves feel overworked, bullied, or discriminated against, or whether these are behaviors they have witnessed occurring to others. We recommend further study to investigate these two aspects of ethicality in the ICT workplace. In either case, senior female ICT professionals selected overwork as a particularly troubling issue, while technical and educational support staff reported witnessing or experiencing bullying and discrimination more than women in other ICT roles, although women in managing and consulting roles also noted this as markedly problematic.

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