



Antarctic station life: The first 15 years of mixed expeditions to the Antarctic



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ABSTRACT

This study examined the experiences of women who lived and worked on remote and isolated Antarctic stations for up to 15 months at a time. The study employed purposeful sampling and a longitudinal – processual approach to study women's experiences over the first 15 years of mixed gender Antarctic expeditions. The retrospective analysis was based on a semi-structured interview administered to 14 women upon their return to Australia. The results showed that women referred to the natural physical Antarctic environment as one of the best aspects of their experience and the reason they would recommend the Antarctic to their friends as a good place to work. In describing the worst aspect of their experience, women referred to aspects of Antarctic station life, including: (i) the male dominated nature of station culture; (ii) the impact of interpersonal conflict, including gender based conflict and friction between scientists and trades workers; and (iii) the lack of anonymity associated with living and working with the same group of individuals, mainly men, for up to 12 months or more. The results are discussed within the context of the evolution of Antarctic station culture and recommendations are made in terms of the demography of expeditions, expeditioner selection and recruitment and the ongoing monitoring of Antarctic station culture. The study presents a framework that can be applied to groups and teams living and working in analogous isolated, confined and extreme work environments, including outer space missions.

1. Introduction

Geographically, the Antarctic is the coldest, driest, windiest, highest and southern most extremity of the world. Although the continent has no permanent inhabitants, literally hundreds of expeditioners representing over a dozen nations travel to the Antarctic annually to live and work on the continent for up to 15 months at a time.

The Antarctic represents an isolated, confined and extreme environment that differs physically and psychologically from settings in society and has long been considered an analogue for other extreme environments, including space missions which have similar features. Similarities include heterogenous crews, similar scientific research objectives and comparable physical and psychological challenges for crew members who are expected to live and work together for extended periods in confined settings, away from family, friends, and their social networks [1,2].

Available research on Antarctic station life suggests that individual adjustment to the social environment of stations, rather than to the harsh physical environment of the Antarctic continent, may be the most important challenge for polar sojourners. This is consistent with research conducted on numerous international Antarctic sites, includ-

ing US Antarctic bases [3,4] Australian Antarctic stations [1,5,6,7–9] and French polar bases [10,11].

Much of the published social and psychological research relating to the Antarctic has explored individual adjustment issues and coping, with much of the early research suggesting that prolonged exposure to the extreme physical Antarctic environment resulted in adverse health consequences, with a range of psychological and physiological symptoms identified. However, more recent research has focussed on the social environment and the organisational culture of Antarctic bases, including the extent to which it is possible to assess person-culture fit [1,12]. This research suggests that sojourners that consider themselves to fit in better report better satisfaction with the experience, an increased likelihood of returning, and describe Antarctic station culture more positively in terms of behavioural norms and expectations [1]. Research has also shown that within the context of Australian Antarctic station life, fit is affected by demographic variables, particularly gender, with men reporting better fit with Antarctic station culture than women, consistent with the notion that demographic similarity is an important component of person-culture fit [1,8,12].

Much of the existing research on the social environment of Antarctic stations has focussed on all-male crews because the majority

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of expeditions to the Antarctic have comprised all male contingents or mixed expeditions in which the majority of personnel were men. Available research on the social environment of Antarctic stations has also reported gender differences in perceptions of Antarctic stations norms and expectations, with men describing Antarctic station culture as open and team-oriented and women reporting it as rule-oriented, hierarchical and non-participatory [1]. Further research examining the experiences and perceptions of women in mixed Antarctic expeditions would be beneficial, however, given the increasing number of mixed gender Antarctic crews [1,8] and crews to other isolated, confined and extreme work environments, including under sea and outer space missions.

Historically, the first women who went to the Antarctic and sub-Antarctic islands were the wives or partners of whaling captains. Although women had contact with the Antarctic and sub-Antarctic islands as early as the late 18th century, it was in the twentieth century that women actually stepped onto the Antarctic continent [13]. Records show that in 1947 two American women, Edith “Jackie” Ronne, the wife of the Ronne Antarctic expedition Captain Finn Ronne, and Jennie Darlington, wife of Harry Darlington, one of the expedition’s pilots, spent the winter with their husbands on the Antarctic Peninsula becoming among the first women to winter in the Antarctic [13]. It was not until 1974, however, that women actually wintered in the Antarctic as scientists on Antarctic bases [13].

In terms of Australian Antarctic Territory, the first national Antarctic research expeditions took place in 1948. Australian expeditions comprised all male contingents until the late 1970s when the sub-Antarctic station on Macquarie Island was the first Australian station at which women were sent as summer expeditioners. In 1976 Dr Zoe Gardner became the first woman to winter on an Australian sub-Antarctic station. Interestingly, Dr Gardner was recruited as the medical officer to an expedition of 18 men and it was a shortage in male doctors willing to serve on Antarctic stations at that time that reportedly led to her appointment. Without a doctor the station was in danger of closing [13].

It was not until 1981 - some thirty years after the first expedition that the first woman was appointed to a mainland Australian Antarctic station. In that year Dr Louise Holliday was appointed as the medical officer at Casey station, becoming the first woman to winter on the Antarctic continent. Dr Holliday’s appointment signalled the beginning of mixed Antarctic research expeditions [13] and the end of the all-male station environment that had existed for well over 30 years.

Available published research on women in the Antarctic is limited to a few North American studies, including a study of 4 US women who skied to the South Pole [14] and a study of 36 US women scientists and field team members who participated in US Antarctic expeditions [15,16]. Apart from these studies, research on women in the Antarctic is limited to a historical account of the first women expeditioners [13] a chapter of Tim Bowden’s *The Silence Calling* [18] and a study of the pursuits of women scientists [17,19].

Given that within the context of Antarctic station life expeditioners are required to live and work together for extended periods of time, further research is needed to enable an understanding of organisational practices and processes that maintain the organisational culture and advantage men in terms of fit with station life and culture. Further research can also be used to inform our understanding of the influence of organisational demography in organisational contexts beyond society which combine work and non-work life.

1.1. The present study

The aim of this study was to examine the attitudes and experiences of returned women expeditioners toward Antarctic station life and culture using a longitudinal-processual retrospective approach [20] with purposeful sampling [21] to provide a historical ‘snap shot’ of women’s experiences in mixed expeditions. Purposeful sampling is

widely used in qualitative research to achieve relevant information rich cases by identifying and selecting participants who are knowledgeable about or experienced with a phenomenon of interest [21,22]. Retrospective interviews are also widely used in organisational research and have been a feature of studies examining adjustment to life and work in isolated and confined environments, including missions to outer space [23].

The decision to undertake this study was twofold. First, in view of the increasing number of women being recruited for Antarctic service, a better understanding of the issues that have confronted women on Antarctic stations since the introduction of mixed expeditions is needed. Second, there is a need to extend available research on Antarctic station culture which has identified differences between men and women using quantitative methodologies, with information rich qualitative data recommended for the study of organisational culture [21,24].

2. Method

The participants were 14 women who participated in mixed Australian Antarctic and sub-Antarctic expeditions over a fifteen year period. At the time of the study the women lived across Australia. Purposeful sampling strategy (criterion-i) was used to select all available cases of women who had participated in an Australian Antarctic expedition from 1985 to 2000 [21].

The group comprised women who lived and worked on an Antarctic or sub-Antarctic station between 12 and 15 months, including an Antarctic winter and women who lived and worked on a station for up to three months over summer. The women volunteered to take part in the study by completing a semi-structured interview schedule upon their return to Australia. The average age of participants was 39.8 years.

Most women had only participated in one Antarctic expedition during this time, however the number of expeditions per participant ranged from one to three. The group was representative of all positions and occupations on Australian Antarctic stations excluding trades workers - there were no trades workers among the group since trades positions (e.g., plumbers, electricians, carpenters and diesel mechanics) were typically filled by men.

Each woman was asked to respond to a series of questions, including:

1. Describe the best aspect of your experience in Antarctica.
2. Describe the worst aspect of your experience in Antarctica.
3. Would you recommend the Antarctic to your friends as a good place to work? Why?
4. Imagine that a close friend was interested in going to Antarctica as an expeditioner. If he/she asked you what they required to fit in to the culture of Antarctic stations, what advice would you give?
5. How could the culture of Antarctic stations be improved?
6. In your view, what are the most salient aspects of Australian Antarctic stations?

3. Results

The guidelines recommended by Miles, Huberman and Saldana [25] were used to facilitate data analysis and the categorisation of themes. The process involved four stages: (i) generating initial codes (open coding), (ii) searching for themes within the codes and then reviewing themes (axial coding), (iii) looking for patterns and explanations in the codes, and (iv) defining and naming themes (selective coding). The themes are presented and discussed below with extracts from participant’s responses. The letter in parentheses at the end of each response extract represents the participant and was randomly assigned.

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