

A Higher Degree of the Chilly Climate

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Abstract

The defined phenomenological constructs of the chilly climate environment (CCE), exist within a classroom environment and predominantly focus on sexual discrimination rather than women and multiple roles. Women enrolled in a Higher Degree by Research program complete the majority of study outside the classroom. With an increasing focus on time to completion, women need to sustain a raised level of commitment to maintain adequate progress, whilst in conflict with their multiple roles. This research posits that the CCE may be aggravated by the actors within role strain (spouse, work and family and friends), in addition to the existing actors within the CCE (Male Peers, Faculty and Lecturer/Supervisor). Women participants completed the CCE peer questionnaire and participated in a focus group. A triangulation method was applied to explore the hypothesis that the actors within role strain, contribute to the chilly climate. The CCE phenomenon is not confined to a classroom environment implicating sexual disparity, but is a gender based holistic and encompassing phenomenon, inclusive of many actors and exists within multiple realities for women undertaking higher degree studies. Recommendations include a revised tool to measure the CCE experiences for women and other strategic measures for adoption within Higher Education institutions.

Gender Diversity, Chilly Climate Environment, Higher Degrees by Research, Women

Introduction

Co-education and gender specific learning styles and gender equality within education have sparked debate since 1875 (Clark, 1875), with most modern literature responding to Sadker & Sadker's (1982) research into gender diversity within school aged children and Sandler's (1982) and Sandler and Hall's (1986) research into the 'Chilly Climate' classroom environment in post-secondary education (Salter, 2003).

Women studying degrees externally and situated outside the classroom setting are faced with multiple realities and influences. Previous research concludes that women undertaking a Higher Degree by Research experience role strain and the actors within role strain are incorporated into the chilly climate environment, and that the chilly climate is more complex for women undertaking studies outside the classroom (Bovingdon & Bretherton, 2005, Bovingdon, *et. al.*, 2005). The existing phenomenological constructs of the chilly climate environment are defined as interactions and inferences between male peers and female students and the Faculty's commitment to monitoring gender diversity within the classroom (Crombie, Pyke, Silverthorn, Jones & Piccinin, 2003). Integrating role strain theory (Home, 2000) into the chilly climate environment seeks to expand the understanding of the disadvantages women may experience undertaking self directed study. This paper hypothesises that the actors within role strain, contribute to the chilly climate, if affective and tangible support is not received.

This paper extends previous studies which explored the chilly climate, incorporating role strain for female distance education students and women at different stages of a Higher Degree by Research program (Bovingdon & Bretherton, 2005, Bovingdon, *et.al*, 2005). In addition, the previous studies have explored the chilly climate for women within disciplines of marketing and management, extending the main body of Australian literature, which predominantly focuses on the discipline of Engineering. Conclusions from this previous research indicate that the defined phenomenological constructs of the chilly climate environment (Crombie, Pyke, Silverthorn, Jones & Piccinin, 2003) and the existing chilly climate questionnaires (Sandler, 2004) need to be revised to enable higher education institutions to develop strategies suited to the current social climate aimed at recruitment, retention and on time completions for women undertaking a higher degree by research program, particularly within business disciplines.

Literature Review

The chilly climate environment is posited as a phenomenon experienced by women within a classroom environment. The interactions between the three sets of actors (male peers, the Faculty and the lecturer) cause disparity within this pluralistic framework and result in gender inequality within the classroom (Salter, 2003). Interactions exist at four levels: Faculty-student interactions, male-female peer interactions, the Faculty's commitment to monitoring gender diversity within the classroom and the Faculty-male peer interaction when gender bias is induced by the male peer within the classroom (Allen & Madden, 2003). This construct is deemed to be the result of an accumulation of micro-inequalities and discrimination experienced within the classroom, with the major implication being that women are disadvantaged within an academic environment (Crombie, *et. al.* 2003).

However, Pascarella *et al.*'s (1997, p111) research postulates that the chilly climate can have negative implications on women's cognitive ability and '*women who perceive a chilly climate were more likely to have higher scores on academic and social integration measures.*' This can be further supported by Darab's (2004) study of Kember's (1999) accommodation mechanisms where women who could successfully negotiate and sacrifice their non-study time were less likely to withdraw than women who had difficulty negotiating and sacrificing their time. In addition, Bovington, *et. al.*'s (2005) qualitative study infers that there was at least more than one area of non-support for completion of their program.

The argument that Faculty interactions are the cause or inadvertently contribute to the chilly climate environment (Sandler, Silverberg & Hall, 1996) has sparked a debate within the literature (Allan & Madden, 2003; Drew & Work, 1998; Canada & Pringle, 1995). Classroom biases within the Faculty include; lecturer's giving more attention to men, focusing on the woman's appearance rather than her academic work, attributing the achievements of women to outside factors, rather than their abilities, the coursework materials using male specific language to describe situations and teaching and assessment methods being constructed to the male learning style (Allan & Madden, 2003; Brady & Eisler, 1999; Riordon, 1994).

Classroom biases with the student peer group include; men sitting at the front of the class more, men dominating conversation within the classroom and having longer speaking time, men assuming that their women counterparts cannot (or should not) participate, if what is being undertaken is presumed masculine (Allan & Madden, 2003).

Research based on the chilly climate environment indicates that women may feel less confident about their abilities, more devalued, and less acknowledged than their male counterparts (PennState University, 2004). This experience also dampens career aspirations and results in women avoiding certain classes, which further disadvantages women students. Conversely, Riordon (1994) acknowledges that women from co-educational universities are more likely to pursue post-graduate education, than women attending a single sex university.

Women studying degrees externally face multiple realities and influences. This paper posits that a different reality exists for these women, as opposed to the defined phenomenological constructs of the chilly climate environment, existing within a classroom environment. With an increasing focus on time to completion, women need to sustain a raised level of commitment to maintain adequate progress, whilst in conflict with their multiple roles. From this type of situation, the chilly climate may be aggravated by the actors within role strain (spouse, work and family and friends), in addition to the existing actors within the chilly climate environment (Male Peers, Faculty and Lecturer/Supervisor) (Bovington & Bretherton, 2005, Home, 2000).

The definition of role strain is "perceived difficulty in meeting role demands on three separate levels" incorporating role conflict (simultaneous, but incompatible demands), role overload (inadequate time to meet multiple demands) and contagion (attention focused on one role while

actively performing another) (Goode, 1960 cited in Darab p.3, 2004). Women with multiple roles are more susceptible to role strain and personal and institutional support can alleviate role strain (Home, 2000, Darab, 2004).

Rationale for the Study

Whilst there appears to be a plethora of research relating to the chilly climate for students within a classroom setting, there appears to be an absence of literature pertaining to the chilly climate in relation to candidates undertaking Higher Degree by Research (HDR) programs. However, studies exploring work/family life balance and postgraduate and higher education (Darab, 2004, McCormack & Pamphilon, 2000, Home, 1998) provide support to the hypothesis that the actors within role strain are also constructed within the chilly climate framework. (Jacobs, 1996, p.154) purports that the authors within the chilly climate literature “*treat all aspects of education as working to the disadvantage of women*” and higher education brings to women a sphere of social life. In contrast, Darab’s (2004) study of women and work/life balance, posits that many women have little time for leisure. To negate withdrawal from study, women need to successfully negotiate and/or sacrifice family, work and leisure time.

The chilly climate environment literature within Australia, mainly focuses on the discipline of engineering (Mills & Ayre, 2003; Burrowes, 2001; Lewis & Copeland, 1998; Goodell, 1998; Copeland, 1995). There appears to be an absence of literature pertaining to gender discrimination within the Business related disciplines, particularly for HDR programs.

Within Australia, HDR program enrolments consist of 50.6% men and 49.4% women. However, within the Business and Information Technology disciplines, a wider disparity emerges with 64% of men and 36% of women enrolled in HDR programs (DEST, 2004a). Gender disproportion also occurs within Academia. Within Australia, 75% of full time staff employed as Senior Lecturer or above, were men (ABS, 2002). These statistics also indicate reduced opportunities for female candidates to engage with other women as research supervisors, particularly in non-traditional areas of study.

Home (2000) cites financial support as a tangible support that can alleviate role strain. The Australian Federal Government Department of Education, Science and Training (DEST) introduced the Research Training Scheme (RTS) in mid 2001. The RTS scheme directly provides funding to Australian Universities for research related training activities and to provide HDR candidates with fee exempt places for the duration of a HDR program (DEST, 2004b). The tight financial timeframes for completion (four years for PhD and two years for Masters by Research) have raised concerns regarding completion times and attrition rates (Bourke, Holbrook, Lovat & Farley, 2004). This type of financial support system may aggravate the chilly climate environment and increase vulnerability to role strain. Although the RTS scheme pays for a HDR place, without a stipend, many women need to work to contribute to the family finances. Female candidates may encounter increased role strain due to the institutional pressures for time to completion. Women working in inflexible employment intolerant of outside commitments and women with children are more susceptible to increased vulnerability to role strain (Home, 2000).

With an increasing focus on time to completion, women need to sustain a raised level of commitment to maintain adequate progress, whilst in conflict with their multiple roles. In this type of situation, the chilly climate may be aggravated by the actors within role strain (spouse, work and family and friends). A reduction in quantity or quality of family, work and social activities due to an increased commitment to study may enable opportunities for microinequalities and discrimination to occur within the home, work and social life of the female candidate. Similarly, a reduction in the quantity or quality of the progress of the candidate’s program, due to an increase in commitment to family, work and social activities, may enable microinequalities and discrimination to occur within the supervisory relationship and the faculty, with the worse case scenario being the candidate transferring the candidature to another university or non-completion of the program.

Within the Faculty used for this study, enrolments within Research Higher Degree programs for the period 2003-2005, consisted of 56% men. An analysis of completions and non-completions indicates that 87.5% of completions have been men, for this period. The Faculty has experienced a 24% attrition rate for this period, excluding transfers to other Faculties or Universities. There appears to be no gender differences for non-completions, however, 69% of men withdrew from the program altogether compared to 31% for women. In contrast, 72% of transfers were women and only 28% of men chose to transfer their program to another faculty or university. After a candidate transfers, it is difficult to ascertain whether the candidate completes the program at another University, without maintaining contact with the candidate for future studies.

These statistics highlight the importance of exploring a phenomenon that may contribute to disproportionate enrolments and completions for women within business disciplines. In addition, although the proportion of women across all levels of academia has increased since 1991 (DEST 2004a), the exploration of this phenomenon for women enrolled in HDR programs, seeks to also understand a phenomenon that may pose a threat to skills development and career progression for women within academia.

Transfer is consistent with attribution theory of withdrawing students attributing withdrawal to external factors beyond their control to regain self esteem (Weiner, 1972 cited in Darab, 2004). In addition, Kember (1999) argues that students must be able to accommodate, integrate and sacrifice family, work and social demands for successful study. The main support from this study to the hypothesis that the actors from role strain aggravate the chilly climate, is not only the integration of family, work and social life, but also that sacrifice is able to be achieved from the student and the other party. Through the ability of the other to make sacrifices (Kember, 1999) affective and tangible support is received (Home, 2000). This paper draws on these previous studies to explore if the actors within role strain can aggravate the chilly climate for women in higher degree study.

Research Questions

RQ1. Is a chilly climate evident from the CCE peer questionnaire analysis?

RQ2. Is a chilly climate evident from the focus group analysis?

RQ3. Do actors within role strain aggravate the chilly climate?

Methodology

This study triangulates a quantitative survey and focus group narrative to explore the chilly climate for women within higher degree studies (Miles and Huberman, 1994). The Chilly Climate Peer Questionnaire (Sandler, 2004) was modified to reflect language consistent with that of Higher Research Degree candidates rather than for university students within a classroom environment. The questionnaires were distributed to a small group of Research candidates in various stages of their higher degree study. Six responses were received. Five women and one man responded to the questionnaire. The participants represented first, second, third and fourth year candidates. No data was collected on age or status of employment or scholarship.

A focus group interview was conducted, with four participants in various stages of HDR study, aged 25-35 years. Two candidates were single, two candidates were married and one candidate had children. All candidates were employed full time and enrolled part time at the time of the interview, with the exception of one candidate who has graduated from the program. This candidate was enrolled full time and was not employed at the time of undertaking the research higher degree program. All of the participants are also women employed within higher education, in various capacities. The focus group were given definitions and examples of the chilly climate environment and role strain at the beginning of the interview and questions and answers regarding the phenomenon were discussed prior to the research questions being addressed. As focus group participation incorporates a conversation style and set a social setting that enables women to share

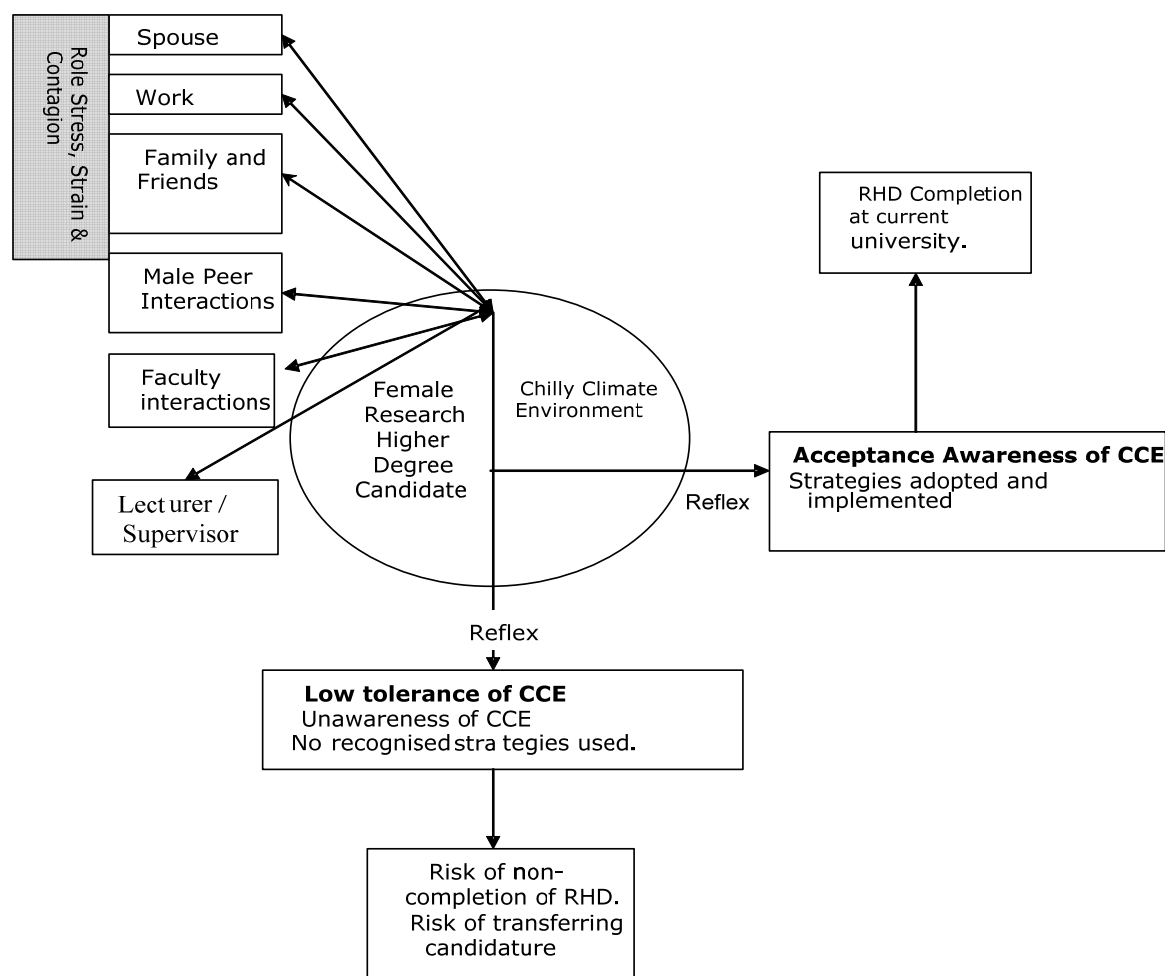
stories (Allen & Madden, 2003), no men were invited to this focus group. Three other men were approached for a male focus group; however, no interest was received.

The focus group participants and a male participant completed the Questionnaire, for the purpose of data triangulation. Data triangulation and the inclusion of the male participant was undertaken to enrich the data and to provide an extra dimension to the study (Miles & Huberman, 1994).

Conceptual Framework

The conceptual framework is an adaptation of the conceptual framework used to explore the chilly climate environment for women enrolled in a Bachelor of Business Program via distance education (Bovingdon & Bretherton, 2005). The conceptual framework incorporates theory and actors relevant to role strain (Home, 1998; Darab, 2004) into the chilly climate environment (Sandler, 2004) and hypothesises that the level of awareness of the chilly climate environment and the strategies adopted by the candidate can result in either a completion at the enrolled university or a transfer of candidature or a non-completion of the program.

The conceptual framework also hypothesises that other women are also actors within role strain and may also contribute to the chilly climate environment. In accordance with the social constructivism of male privilege (Allan & Madden, 2003) other women would be socially constructed within a male dominated society. Socially constructed male privilege ideologies would be communicated by other women during interactions with women studying a Research Higher degree and would contribute on the chilly climate environment (Bovingdon & Bretherton, 2005).



Adapted from Bovingdon & Bretherton, 2005.

Findings

RQ1. Is a holistic chilly climate experience evident from the CCE peer questionnaire analysis?

The findings below are derived from the chilly climate peer questionnaire (adapted from Sandler, 2005).

Male and Female Peer Exchange

Twelve behaviours were included incorporating, sexually suggestive verbal and physical personal behaviours, including suggestive body language and attitudinal behaviours in regard to women's scholarship, intellectual participation, women's group participation and bullying (verbal and physical).

| Response | Verbal | Body Language | Physical | Bullying, Verbal & Physical | Derogatory views and encouraged non-participation |
|-------------|--------|---------------|----------|-----------------------------|---|
| | % | % | % | % | % |
| Never | 71 | 33 | 89 | 67 | 41 |
| Once | 8 | 0 | 5 | 8 | 8 |
| A few times | 21 | 50 | 0 | 17 | 34 |
| Often | 0 | 0 | 0 | 8 | 0 |
| Observed | 0 | 16 | 0 | 0 | 17 |
| No Opinion | 0 | 0 | 5 | 0 | 0 |

Supervisory Exchange (replaces 'lecturer' in the original questionnaire)

The following table relates to the candidates opinion of gender bias for candidates' participation in research discussions (using eye contact, calling on candidates and responding to candidates)

| Response | Encouraging to Males | Encouraging to Females | About the Same |
|-------------------|----------------------|------------------------|----------------|
| | % | % | % |
| No Supervisors | 50 | 67 | 17 |
| A few Supervisors | 33 | 17 | 0 |
| Many Supervisors | 0 | 0 | 66 |
| No Opinion | 17 | 17 | 17 |

Faculty Exchange

Eleven behaviours were included incorporating sexually suggestive verbal and physical personal behaviours, including suggestive body language and attitudinal behaviours in regard to women's scholarship, intellectual participation, women's group participation and bullying (verbal and physical).

| Response | Verbal | Body Language | Derogatory | Other |
|-------------|--------|---------------|------------|-------|
| | % | % | % | % |
| Never | 55 | 84 | 54 | 34 |
| Once | 11 | 8 | 4 | 0 |
| A few times | 17 | 8 | 12.5 | 0 |
| Often | 0 | 0 | 4 | 0 |
| Observed | 17 | 0 | 21.5 | 16 |
| No Opinion | 0 | 0 | 4 | 50 |

Comments for the section of derogatory behaviour were received from one candidate who remarked, *"I have never met these women!"* (Referring to passive and deferential women) and *"and men!"* regarding "Putting down students who support efforts to improve women's status." In the category of 'Other' one participant commented that, *"A staff member commented once that a scholarship should be taken away, because the candidate had a husband and kids and wouldn't have time to study and wouldn't complete"*

RQ2. Is a holistic chilly climate experience evident from the focus group analysis?

The findings below are derived from the narrative of the focus group relative to the three exchanges identified within the chilly climate literature; Male Peers, Lecturer and Faculty.

Male and Female Peer Exchange

One candidate shared stories of indirect support from other candidates both male and female with the sharing of parts of and whole theses. *"It was like, if you were one of my supervisor's students, it was assumed as a right from the beginning.....he gave me so much stuff, I just assumed mine was out there, that's why it didn't bother me"*

This candidate also shared feelings of 'Terror' at the beginning of her program when involved in symposiums with other candidates. The following narrative describes an experience with male peers at a symposium: *"Although both of them are kind of jackasses (laugh), they asked the really difficult questions and that's how I learnt early on, if I didn't know the answer to the questions, I'd go, 'that's a really good question, but I don't know the answer – where should I go to find out?'"*

The candidate stated that although the questions were difficult it was viewed as support within the male peer exchange and they were supportive in directing her to the relevant literature. *"..... 'Thanks for your opinion, I've tromped all over it, because I have proved myself right' and that is great, you want them to criticise, not the examiner in the end."*

The internal full time graduate had frequent contact with male peers at the time of her candidature. Micro-inequalities, discrimination and lack of support from male peers were experienced by this participant. This participant was the only female in the postgraduate rooms allocated for her study. Initially she shared with four other males, with whom a secondary minority of culture difference was also experienced. In the first postgraduate room the participant expressed feelings of distress. *"I had a very hard time, I was crying and reading"*

The candidate approached her supervisor for support and was moved to another postgraduate room, again occupied solely by male peers. The secondary minority of culture was also experienced; however the male peers were a different culture, than the male peers occupying the first room. Although the participant received some minor support with minor administrative issues, thesis support from male peers was non-existent.

"He refused to let me have a look at how his ethics application went and I said to so and so, 'my supervisor said to ask you to let me have a look, to let me have a copy of it,' and he said, 'No, if you want it, ask him to ask me himself!'"

Supervisory Exchange (Replaces 'lecturer' in the questionnaire)

The supervisory exchange provided variations of support and non-support amongst the participants. Participants were supervised by a mix of both male and female supervisors. One candidate described her supervisors as extremely supportive, although they argued amongst each other, which at times caused embarrassment.

Disparate advice from supervisors also posed a problem, for example, *"It was hard because they both gave me two different conflicting advices and you just don't know which one...you don't want to offend the other"*

However, the participant described the exchange as more supportive because she was a woman and the supervisors were harsher in their exchange with male candidates.

One participant in the early stages of candidature discussed feelings of the supervisory exchange being non-supportive at first, but decided that this was due to a general lack of confidence in her own writing ability and emotional attachment to her writing. *"I thought I sucked a million times over a million...I was really depressed and didn't want to do research anymore and hated the world...One day I thought, stuff it!! I went back and had a look at the comments, which was like ten pages of red writing and I thought, 'I will counteract this and counteract that...I'll give you this and I'll give you that...I did that and the paper was like a million times better than the paper I first submitted...so I don't think I will have a problem with that, I am over that now"*

One participant described her supervisors as *"Distant... geographically and emotionally"* and the supervisory suite as *"permanently chilly."* A work colleague has now joined the supervisory suite for extra support.

Faculty Exchange

The Faculty processes and procedures providing support to candidates were described as mainly non-supportive by all participants.

"Because I came through as a non-traditional entry, I find that a little bit difficult...and because of my own confidence level...the University and Faculty need to recognise non traditional entry...there are so many women entering higher education a lot later..."

"...They were not really informative, there were a lot of things where you had to be independent, you have to take the initiative and find out for yourself..."

"Its decisions made by individual persons, to whether you can travel to a workshop that you think might be beneficial to your PhD and that person says, 'No you can't go'..."

Although the Faculty processes were mainly viewed as unsupportive, one candidate stated that a group of Academics created a positive research culture. *"There are particular academics in my Faculty that are absolutely encouraging and motivating. I don't think I would be sitting here if it wasn't for certain people in the Faculty"*

RQ3. Do actors within role strain aggravate the chilly climate?

Variations in home and work life styles highlighted variances in role strain. One participant described both tangible and affective support from spouse and family and friends. The participant did not have employed work at the time of candidature, however, described the loss of her former life as a contribution to role strain. *"I gave up my job, my career, my family, my friends.....it was another strain on me"*

There were variances of tangible and affective support from the partner or spouse. One participant described support from her spouse, *"General, but not specific."* The participant discussed that her spouse, *"Likes the idea"* of the PhD, but does not alleviate role strain with practical support such as housework. *"When I went on a research trip, I paid...for two weeks, the electricity, the power, the gas, the water...groceries, I even had to stack up on groceries for two weeks"*

Stories of tangible support from the partner/spouse were discussed by two participants, with one candidate describing how her partner drove her around to all of her case studies and another participant said that her spouse assists by *"Washing and folding and keeping the kids away"* However, guilt of not fulfilling multiple roles was also expressed. *"Sometimes I get really into my own self and I get really, really selfish and I am upping him, 'I've got this thing to finish...get your own tea and have a sandwich!' and then I think...Oops, I probably should cook something"*

As role strain was discussed more in-depth by the focus group, discussion of gender disparity arose regarding career development for men and women. *"Men can just go and forge their career and nobody cares, but when women go and forge their career it's like...yeah what are you doing?"*

“At a symposium, the guest speaker was a guy who did his PhD in two years full time and he thanked his two daughters and his wife, for not seeing him for two years...He was getting this award on time completion...everyone was clapping...Can you imagine if a mother had done that? She would have been branded as the most awful mother.

Affective support in terms of the actual program was not apparent with spouse/partner, family or friends. *“My partner doesn’t even understand what a PhD is...I just tend to have friends who have different interests who don’t know what I am doing”*

One participant also expressed how other women within her family were non-supportive: *“My sister hasn’t been very supportive. “ When I first started studying and she gives me all these horror stories of her friends that have been divorced and don’t have their kids anymore.”*

Work colleagues were indicated as the main support for one candidate; however the actual work environment itself appeared to contribute to the chilly climate. The participants discussed how women academics were subjected to role overload, particularly when they are new. Other women who were new to the Faculty were discussed. Some women routinely were allocated 600 – 1200 students. Workload comparisons were discussed. One participant shared her perception of her Faculty’s commitment to supporting one male academic to complete his PhD. *“He got no teaching, just do your own thing and finish your PhD and we will love you”*

Discussion

The questions within the peer questionnaire focus on sexual verbal and physical exchanges between male and female candidates, however, the focus group narrative shares stories of unhelpfulness, asking difficult questions to ‘test’ the candidate on her own thesis in a shared environment and unsupportive in a shared work environment and with administrative issues. In contrast, the quantitative data indicates 76% responded ‘never’ or ‘once’ to the behaviours with 24% responding to ‘a few times’, ‘often’ or observed. Consistent with the definition of ‘...an accumulation of discrimination and micro-inequalities (Crombie, *et. al.*, 2003), the variable of ‘often’ only received a 1% response rate.

Due to the individual supervisory exchange rather than a classroom setting, the questions in both sets of data are difficult to compare. The questionnaire asks questions relating to exchanges within a group situation (taking men more seriously than women, eye contact and calling on men more often to participate in discussion). The individual supervisory exchange occurs at a more personal level. The data derived from the questionnaire indicates that many supervisors are supportive of both men and women candidates. Conversely, the narrative expresses various struggles at different stages of candidature with the supervisory relationship.

One participant indicated that the supervisors were ‘harsher’ on the male candidates. This type of disparity within the exchange could be consistent with “...not taking women as seriously as men’. It is difficult to determine whether the supervisor was actually ‘pushing’ the male candidates through a more rigorous candidature to on-time completion and taking a more relaxed approach with the female candidate, without regard to rigour or on time completion.

The quantitative data for the Faculty exchange indicates 74% of candidates responded ‘none’ or ‘once’ to the behaviours and 24% responding ‘a few times’, ‘often’ or ‘observed.’ The questions within the peer questionnaire focus on sexual verbal and physical interactions within the Faculty exchange. However, the focus group narrative shares stories of difficulties in overcoming the systems and processes of the Faculty that do not appear to understand or relate to the multiple realities for women entering higher degree study.

This is consistent with Salin’s (2003) research which discusses enabling, motivating and precipitating structures and processes as antecedents to workplace bullying. Workplace bullying

concepts are drawn from as comparative to the chilly climate, which results in ‘...women may be feeling less confident about their abilities, more devalued, and less acknowledged than their male counterparts’ (PennState University, 2004), the psychosocial impacts of workplace bullying are “*anxiety, irritability, angry thoughts, depression, difficulty concentrating and lowered self confidence*” (Djurkovic, McCormack & Casimir, 2004, p474-475). Therefore, within the Faculty exchange, the systems and process of the Faculty appear to be the variable to the chilly climate and not sexual overtones as defined within the questionnaire.

The hypothesis that the chilly climate exists outside the classroom for HDR candidates can be supported by the qualitative narrative for all interactions between the candidate and actors within role strain. Not all interactions contributed to the chilly climate for all women; but for all women, there was at least more than one area of non-support for completion of their program. None of the women were totally unsupported with all interactions, and relied on their areas of support to counteract and alleviate the areas of non-support.

The hypothesis that other women also contribute to the chilly climate is also supported within the qualitative findings where women family members expressed negativity towards one participant undertaking study at university. In addition, in the area of non-support for women within academia and role overload, it cannot be assumed that all supervisors are male. Conference attendance can also be denied by supervisors or other administrators. It cannot be assumed that supervisors and administrators are all men and some women may contribute to negative interactions with women candidates.

Conclusions and recommendations

The exploration of the chilly climate outside a classroom environment, contributes to the literature by seeking to understand the multiple realities for women undertaking external and/or self directed studies. The findings indicate that the sexual discrimination focus of the literature is not consistent with an exploration of the chilly climate for women undertaking a Higher Degree by Research, within the areas of Management and Marketing. The enabling factors for this paradigmatic shift may exist within a policy framework, which indicates that men are now more aware of the implications of sexual discrimination. Conversely, an exploration of the masculinity framework is worth consideration. The body of literature is focused within areas of non-traditional studies for women, such as engineering. The masculinities within these disciplines may be different to the masculinities found within the disciplines of management and marketing (Keamy, 2003), which may result in different exchanges on all levels. Whilst the chilly climate is still evident for the participants of this study, the constructs within the phenomenon and the behaviours contributing to discrimination and accumulation of micro-inequalities are somewhat different to the studies of the phenomenon.

To further understand the chilly climate for women within these disciplines and undertaking a Higher Degree by research, the development of a revised survey instrument, including the actors within role strain is recommended.

Within the peer, supervisor and faculty exchange, it is recommended that Faculties adopt administrative and human resource policies that reflect an open commitment to understanding the needs of women experiencing a chilly climate (Bovingdon & Bretherton, 2005). Feedback, using a revised survey instrument, focus groups, and other qualitative methodologies should be continuous, to ascertain the real impact that policies are having on women HDR candidates. These policies should include non-traditional entry to HDR study, supervisory training and research training activities for candidates. It is recommended that Faculty intervention within the peer and supervisory exchange be supported through policies that administer collegial, supportive and inclusive research training for research candidates.

Most women within the focus group were employed. Scholarships are highly competitive and assessment is grounded in traditional entry. Financial support derived from scholarships is not

comparative with industry. Consideration of scholarships that enable the candidate to supplement their existing employment with a one or two day a week scholarship, enables women to remain in the workforce, but receive financial support and scholarship time away from the demands of spouse, work, family and friends.

Limitations and Further Research

The qualitative data has been derived from a small number of HDR candidates to explore the phenomenon. The development of a revised questionnaire and a larger number of focus groups could be used to expand on the study. To explore the use of strategies further, it is proposed that separate focus groups for men and women be conducted, including enrolled students and non-completions.

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