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Abstract

Previous research into the supply-side causes of gender segregation in the workplace, i.e., career aspirations and choices, has identified that gender, particularly masculinity, can explain some of the variance in aspirations. However, there are several flaws with this line of research, including the measurement and conceptualisation of gender, and in that it does not explain *how* or *why* gender is related to career aspirations and choices. Here, I propose a process of 'dynamic fit' to explain the relationship between gender and careers, in which individuals choose careers that 'fit' with their gender, but gender can also be changed to 'fit' with gendered careers. In this thesis, I aimed to examine: a) how contextual information influences the relationship between gender and careers, b) how gender influences careers, and c) how careers influence gender. Over five studies, I found that good 'fit' between gender and organisational culture can promote women's aspirations and expectations, gender norms around work and home can vary this fit, and gender can be influenced by careers-based information. Altogether, this provides some support for the process of 'dynamic fit'. Therefore, these findings highlight that there is a need for a new theory that explains the process by which gender and careers are linked, and I propose elements that need to be incorporated into this theory, such as a 'doing' gender approach, and a reciprocal relationship between gender and careers.

Chapter 1: Literature review

Wider issue and purpose of thesis

Women make up roughly half of the working population, and in the UK, women constitute 44.3% of all managerial and professional occupations (Office for National Statistics (ONS), 2015). However, in the UK, there are a number of occupations that are clearly dominated by one sex. Male-dominated occupations, in which women make up less than 5% of the workforce, include plumbing, bricklaying and mechanics. Female-dominated occupations, in which men make up less than 5% of the workforce, include child-minding and midwifery (ONS, 2015). Segregation is thought to contribute to the sex pay gap, wherein women are paid less than men. The pay gap in the UK in 2014 was 19.1% (in median hourly wage for full-time and part-time workers; ONS, 2014), and causes of this gap are thought to include the lack of women in highly-paid executive positions, women working in careers that typically pay less, and men being more willing to ask for raises and negotiate salaries (European Commission, 2013; Greene & Stritt-Gohdes, 1997). Therefore, in this thesis, I aim to explore the type of careers men and women wish to enter and the process that explains their career aspirations, in order to understand the supply-side processes of sex segregation i.e., career aspirations and choices.

The association between men and positive career outcomes (e.g., more men in senior and executive positions (ONS, 2015)), has led some researchers to claim that career aspirations are positively associated with masculinity, that is, careers are 'masculine', and femininity, which is associated with the home (Eagly, 1987), is either unrelated to careers, or may reduce career aspirations. There are two issues with this argument. First, women *do* aspire to certain careers more so than men, i.e., female-dominated occupations such as midwifery. This would imply that femininity is *positively* associated with certain types of careers. Second, notwithstanding the previous point, the argument that masculinity, rather than femininity, relates to career aspirations does not provide an explanation of the process underlying this relationship. We need to understand the process linking gender and career aspirations and choices if we are able to craft meaningful and effective interventions into gender segregation. To address these two issues, in this thesis, I propose that gender norms and organisational culture can explain why masculinity is positively related to career aspirations in some contexts, and why femininity is positively related to aspirations in other contexts. Furthermore, I propose that these social and work contexts have a direct, recursive impact on gender, and I propose a novel process of 'dynamic fit' to explain how gender and careers are related.

In this chapter, I will explain my reasoning for these assertions. I will discuss previous literature that has investigated the relationship between sex, gender, and career aspirations, and I will argue why the context needs to be included in this analysis to understand the process underlying this relationship. I will also posit that there is a reciprocal relationship between gender and careers, which would help explain enduring sex segregation in the workplace, and will discuss the novel process of 'dynamic fit'.

Sex, gender, and career aspirations

Past research has investigated sex differences in career aspirations in order to explain sex differences in career attainment. Career aspirations indicate the personal preferences individuals have for certain careers when they have unlimited choice and no restrictions; in contrast, career expectations can be used to provide a more realistic view of what careers people sees themselves as entering, as it incorporates 'real world' barriers, e.g., training needs and family commitments (Metz, Fouad & Ihle-Helledy, 2009). Career aspirations can predict later occupations, as longitudinal studies have demonstrated that teenage career aspirations can predict adulthood occupations and earnings (Ashby & Schoon, 2010; Okamoto & England, 1999; Schoon & Polek, 2011), and so aspirations can be used to understand future career choices.

Researchers have found some sex differences in career aspirations, as aspirations for certain types of careers were associated with either men or women. For example, Howard et al. (2011) found that girls tended to aspire to careers that required more education than boys, and Metz, Fouad and Ihle-Helledy (2009) identified that men aspired to 'realistic' and 'conventional' occupations more so than women, e.g., engineering and aviation, or management and economics. However, there is considerable within-sex variation in career aspirations, i.e., men and women can greatly differ from other men and women in the types of careers they aspire to, and some people enter sex-atypical careers in which they are in the minority. This within-sex variation in aspirations suggests that sex alone cannot predict career aspirations, and there are other factors that influence career aspirations.

'Intersecting' identities such as ethnicity and socioeconomic status can explain some variance in aspirations in addition to sex. For example, Jacobs, Karen and McClelland (1991) found race differences in teenage boys' aspirations: White boys were more likely to aspire to managerial positions, whereas Black boys were more likely to aspire to other white- and blue-collar occupations. Additionally, McWhirter, Hackett and Bandabs (1998) found that ethnicity had a greater effect on aspirations than sex when comparing Mexican-American and European-American boys and girls. These differences can be seen as a result of discriminatory work norms that typically favour White-European persons (Kirton, 2009). Socioeconomic status can also influence career aspirations, in that lower socioeconomic status is associated with lower aspirations, possibly due to issues around deprivation (Wahl & Blackhurst, 2000). Socioeconomic status is a strong predictor of aspirations when controlling for sex and ethnicity (Dillard & Perrin, 1980), and may be more influential in the formation of aspirations than later career achievement (Cochran, Wang, Stevenson, Johnson & Crews, 2011). Therefore, this research highlights that sex alone cannot predict career aspirations. In addition to these intersecting identities, some within-sex variation in aspirations can be explained by gender, particularly masculinity and femininity.

Sex vs. gender: definitions

At this point, it may be beneficial to define sex and gender, and how I will use these terms in this thesis. There is variation in the meaning and use of the terms sex and gender, and in understanding where the distinction between them lies. Although at times this distinction appears more philosophical than scientific, there are significant

methodological and theoretical implications for this thesis (see Chapter 2), in that sex is typically treated as a dichotomous variable, i.e., men vs. women, whereas gender is typically measured as two continuous variables: masculinity and femininity. People are usually categorised as either male or female, but can vary in terms of how masculine and feminine they are.

The terms sex and gender are often used interchangeably (Pichevin & Hurtig, 2007), and are not often clearly defined. When they are defined, the definition of sex is typically based on physical and biological characteristics, including chromosomes and hormones, and traits and characteristics that are thought to originate in biology; whereas gender is typically defined by its social origin, and related to traits that are considered male or female (Muehlenhard & Peterson, 2011). Gender is used in a variety of ways, such as referring to stereotypes or expectations that are attributed to the sexes, and the performance of socially expected roles and behaviours (i.e., 'doing' gender). This variability in the understanding of gender means that it is sometimes difficult to compare studies that refer to gender, as although they are using the same terms, they may be referring to different aspects of the concept.

Despite the range of definitions of gender, there is a broad acceptance of sex as referring to physical and biological characteristics, and gender referring to social and psychological characteristics. Some see this distinction as important (e.g., Pichevin & Hurtig, 2007; Unger, 1979). For instance, Prince (2005) argues that there should be a strict distinction between sex and gender, particularly within the context of sex-reassignment surgeries, as Prince argues that there is often a fundamental misunderstanding of the difference between sex as genital anatomy and gender as lifestyle, therefore one's gender can change without changing one's sex. Within the social sciences literature, Unger (1979) positions sex as something that both resides within a person, and as something that affects interactions with others, thereby allowing sex differences to be explained by social causes as well as biological ones (Pichevin & Hurtig, 2007). However, Unger argues that separate definitions of sex and gender should be used, as it allows an understanding of gender as not based wholly within sex. Therefore, by separating sex and gender in this thesis, I can examine gender as a separate, changeable entity.

The literature discussed above demonstrates that gender is broadly socially-based, and therefore can change with the social context, whereas sex is biologically-based, and so a (relatively) fixed state. There are some challenges to this idea of sex, with some arguing that sex is as socially constructed as gender. Hird (2000) uses intersexuality and transsexualism to make this point. With intersexuality, genitals are used to determine sex, rather than chromosomes or reproductive capabilities, and as surgeries are performed to change the genitals of people with intersex conditions, sex can be created. Hird also argues that transsexualism highlights the assumption that you must occupy a particular bodily configuration in order to know your psychological and social gender. As a result of this, Hird states that there should be no sex-gender binary, as they are interwoven. This would mean that gender and sex would have to be investigated in the context of each other, i.e., gender needs to be contextualised with a person's sex.

Current definition of sex and gender

In this thesis, I use separate definitions of sex and gender, whilst acknowledging that they tend to be embedded within one another, such that femininity is associated with

being a woman, and masculinity is associated with being a man, and as such, gender will mean different things based on the given sex of a person, e.g., femininity is 'normal' for women, but 'deviant' for men. By using separate definitions of sex and gender, two separate factors can be considered: the (relatively) static category of sex, and variable levels of gender.

Within this thesis, when I use the term 'sex', I refer to the indicated social category given by a person, typically falling into the legal categories of male and female. I do not assume physical and biological bases of these sexes, and I make no enquiry as to whether these sexes were designated at birth, or were chosen by the individual.

When I use the term 'gender', I refer to the social and psychological aspects of belonging to a sex category. This includes masculinity and femininity, the believed competencies and qualities of members of one's sex (i.e., gender norms), and one's adherence to these aspects. The specific factors that constitute gender in this thesis are discussed further in Chapter 2. This thesis also considers the role of situations and contexts, and these can be gendered, in that they create preferential conditions for one sex over another. For instance, a workplace can be a gendered context as it can have occupational norms that create preferential conditions for one sex over the other. Therefore, when I use the phrase 'gendered contexts' this refers to a situation in which there are preferential conditions for one sex other the other.

Gender and aspirations

Now having defined sex and gender, I will explain how gender relates to career aspirations. The consideration of gender, particularly masculinity and femininity, rather than sex can explain some within-sex variation in career aspirations, as gender varies within the sexes. Gender has typically been measured through gendered personality traits, such as communality (femininity) and agency (masculinity).

Several studies have found a positive association between masculine personality traits and career aspirations, in samples ranging from pre-teens to postgraduate students (Fiebig, 2003; Karami, Ismail & Sail, 2011; Powell & Butterfield, 2013; Rainey & Borders, 1997). There has been a particular focus on women's masculinity, with general findings that women's masculinity is related to a greater career orientation and career self-efficacy (Fassinger, 1990; O'Brien & Fassinger, 1993), whereas more traditional gender roles, i.e., increased femininity, is related to lower leadership and expert aspirations (Fiebig, 2003; 2008). In addition to aspirations, gender is related to career choices, for instance Jome and colleagues' study of men in sex-atypical careers highlighted that masculinity was associated with a traditional occupational role, whereas femininity was associated with working in a female-dominated occupation (Jome, Surething & Taylor, 2005; Jome & Tokar, 1998). Taken together, this literature positions masculinity as influential in comparison to femininity, as higher masculinity is related to greater aspirations.

Critique of the gender and aspirations literature

Although masculinity can be a useful concept when examining career aspirations, due to its ability to explain more variance than sex alone, there are three main flaws in past research in this area. First, femininity is largely ignored and some studies do not assess it at all (e.g., Fassinger, 1990; O'Brien & Fassinger, 1993). The omission of femininity means

that there is little understanding of how femininity actually relates to aspirations, particularly when viewed in relation to the large body of research examining masculinity, which has been assessed across a range of populations and time periods. This focus on masculinity at the expense of femininity can be seen as the research itself being gendered, in that there is an assumption that masculinity is related to careers due to the historical relationship between men and careers (U.S. Department for Labor, 2005). Conversely, femininity is positioned as either unrelated or detrimental (e.g., Fiebig, 2008) to careers. However, half of the workforce is comprised of women (Catalyst, 2014; ONS, 2015), and despite continuing sex segregation in the workplace, women have obviously enjoyed varying degrees of career success (just like men). As such, femininity is also related to careers, and so should be examined in the same way as masculinity. When aspects of femininity have been assessed, such as in Jome, Surething and Taylor's (2005) assessment of the careers of relationally-oriented men (relational-orientation being a measure of femininity), there is an association between femininity and sex-atypical careers, demonstrating that femininity is indeed related to careers, but perhaps to different types of careers than masculinity. Therefore, femininity needs to be included when assessing the relationship between gender and careers, as this aspect of gender is also likely to influence aspirations.

The second flaw in past research in gender and careers is in the measurement of gender. As stated earlier, much of the past research focuses on gendered personality traits, typically assessed using measures such as the Bem Sex Role Inventory (BSRI; Bem, 1974), which assesses gender based on participants' endorsement of particular traits, such as 'assertive' and 'competitive', and 'sympathetic' and 'cheerful'. The validity of these types of scales has been questioned by some. It is unclear whether they measure the two factors they intend to measure (Pedhazur & Tetenbaum, 1979), and due to cultural change in the understanding of gendered behaviours and characteristics, the relevance of items in these personality inventories may decrease with time (Hoffman & Borders, 2001). The key flaw in using the BSRI for this research is the types of traits assessed in the masculinity scale. Some of the items are associated with occupational behaviour, such as 'acts like a leader' and 'ambitious', thus conflating leadership and ambition with masculinity. It is therefore no wonder that research using the BSRI finds positive relationships between masculinity and career aspirations and outcomes.

Finally, this type of research investigates the relationship between gender and careers *a-contextually,* without an explanation of the process that links gender with career aspirations and choices. This means that while past research has described the relationship between masculinity and aspirations, it does not explain *how* or *why* there is such as relationship. In order to create any effective interventions into the supply-side causes of sex segregation, we need to understand the process underlying the relationship between gender and careers. In this thesis, I propose that understanding the social and situational context can help explain this relationship, in particular, how one's gender 'fits' with the gender norms in the environment, e.g., one may choose a gendered environment or career that 'fits' with one's gender, or conversely, one may change one's gender in response to a gendered environment or career.

Summary

In summary, there is a relationship between sex and career aspirations, but there is considerable within-sex variation in the types of careers that people aspire to. Some of this variation can be explained by gender, i.e., masculinity and femininity, as this also varies within-sex. Generally, masculinity is positively related to career aspirations, but there are several flaws in this research, including the types of measures used, and not exploring how femininity relates to aspirations. Most crucially, this area of research focuses on describing the relationship between gender and careers, without explaining the process by which they are related. In order to guide future research and interventions, we need to understand this process. I propose that we can explain this relationship and the process underlying it by examining the role of the context in terms of gender norms and organisational cultures, and how one relates to the context.

The role of the gendered context

The wider social context in which gender and career aspirations are related can be examined in terms of gender norms and organisational cultures. Here I will define what I mean by the terms 'context' and 'gender norms'. In this thesis, the context is defined in two different ways. The social context is based on self-categorisation theory's understanding of the context, in that it refers to the range of social groups in the environment that will act as comparators to the groups of which an individual is a member of, and the associated stereotypes of these groups (e.g., Turner, Oakes, Haslam & McGarty, 1994). For instance, a social context would encompass the gender stereotypes associated with women and men, and would include a range of other groups to act as referents, such as professions, nationalities, or teams. The situational context refers to the immediate context that a person is situated in, for instance, a workplace context, a school context, or a home context. Although a situational context is associated with a social context (i.e., a different situational context will be associated with a different social context), it refers to the immediate demands, tasks, and expectations of the situation. For instance, a workplace context would have task demands around the type of work on does, and expectations for behaviour within this situation. Additionally, I use the term 'gender norms' to refer to the societal expectations and stereotypes of men and women in terms of personal qualities, interests, and skills. Social norms are understood as the rules or standards of group behaviour that are maintained through social reinforcement or punishment, both in terms of how group members behave (descriptive norm) and also how they should behave (prescriptive norm) (Cialdini & Trost, 1999; Steinfeldt, Zakrajsek, Carter & Steinfeldt, 2011). Therefore, gender norms refer to how men and women are expected to behave in a given situation (Mahalik et al., 2005). Traditionally, there are norms that associate women with family, and men with careers. These can be conceptualised as norms around communality for women and agency for men (Eagly, 1987; Eagly & Karau, 2002; Eagly, Wood & Diekman, 2000), which means that men are expected to have more skills related to careers, whereas women are expected to focus on family, with more 'people' skills.

Organisational cultures can also be gendered, in that they can create more favourable conditions for one sex over the other. For instance, Cahusac and Kanji (2014) identified that gendered aspects of organisational culture contributed to women leaving

work. These aspects included the preferred roles of men and women in the organisations (i.e., a preference for men in positions of power), and working-time norms. Due to the dominant masculine culture of the organisations in this study, there was a strict separation of work from home, which meant that women had to be secretive about having young children. Additionally, the norm of working long hours provided conflict with traditional gender norms around the care of young children. Therefore, organisational cultures can be gendered through their accommodation (or lack thereof) of certain gender roles/norms, which can contribute to the 'leaky pipeline' in which women leave organisations and industries. Acker (1990) argues that organisations are typically masculine, in that they would prefer to fill jobs with 'disembodied workers' whose only purpose is to fill the job and so are not through to have outside responsibilities (i.e., non-social, robotic workers). Acker argues that the closest type of worker who would meet this role is a male worker with a wife or 'other woman' who takes care of all personal responsibilities. Masculine workplace cultures have been investigated across a number of industries, demonstrating how they can maintain the division of labour between men and women in academia (Kantola, 2008), but can actually be used to integrate women into previously all-male ships in the Navy (Van Wijk & Finchilescu, 2008). These gendered workplace cultures have also been identified in more 'modern' workplaces than Acker originally based her research on, which involve greater job insecurity than more traditional workplaces, and put a greater focus on teamwork and career 'maps' rather than traditional career ladders. Although these types of workplaces appear gender-neutral on the surface, they still have masculine cultures that create preferential conditions for men over women (Williams, Muller & Kilanski, 2012). Therefore, organisational cultures can be gendered, mainly in terms of being masculine, which creates preferential conditions for men and negative career outcomes for women. Despite the assertion that the majority of workplaces are masculine, some workplaces are female-dominated, and so would have feminine workplace cultures, but there has been little research into how these types of workplaces influence the career outcomes of their workers.

In summary, gender norms and organisational cultures create different social and situational contexts with different expectations of men and women. These contexts typically create better expectations for men in terms of their careers, as gender norms associate men with careers, and organisational cultures typically create preferential conditions for men over women. We need to take these gendered contexts into account when looking at career aspirations, as they help explain the process by which gender is related to career aspirations. This process can be understood as the 'fit' between one's gender and gendered contexts, for instance in Cahusac and Kanji's (2014) study, the lack of 'fit' between women's gender and their organisations' cultures was related to them leaving their jobs. In the next section, I will discuss two key theoretical approaches that explain the process underlying the relationship between gender and careers.

Theoretical approaches

There are two key theories used to understand how gender and careers are related, which incorporate the role of the wider social context. These are role congruity theory (RCT) and a social identity theory (SIT) approach. These theories indicate that the context

plays a part in this relationship through the process of 'fit' or 'congruence', in which gender is matched with the gendered context to predict career outcomes.

Role congruity theory

RCT is based on Eagly's (1987) social role theory. Eagly conceptualises sex differences as a function of the social roles of men and women and the personal qualities, abilities, and traits needed for these roles. She proposes that gender roles (i.e., expectations of the ways in which men and women should behave) are broadly mapped onto two social roles: agentic, e.g., assertive, independent, and ambitious; or communal, e.g., helpful, nurturing, and concerned with the welfare of others (Eagly, 1987; Eagly & Karau, 2002). According to RCT, it is not these gender roles in themselves that lead to prejudice or discrimination at work, it is when gender roles do not match gendered occupational roles that discrimination results, i.e., there is a lack of congruency between gender and work roles (Eagly & Karau, 2002). When roles are not congruent, this can result in prejudice or discrimination through a less favourable view of the person's potential, and/or a less favourable view of actual behaviour (Eagly & Karau, 2002). A great deal of literature in this area has used RCT to explain the lack of women in leadership roles, due to leadership roles having a stronger association with an agentic gender role than a communal gender role (Bosak & Sczesny, 2001; Curşeu & Boroş, 2008; Eagly, Wood & Diekman, 2000; Kawakami, Dovidio & van Kamp, 2005; Koch, D'Mello & Sackett, 2015).

Therefore, RCT provides an explanation of the relationship between gender and career outcomes through the relation of gendered job roles to gender roles. The majority of research using this approach has focused on hiring decisions for different sexes, i.e., demand-side processes (e.g., Garcia-Retamero & López-Zafra, 2006; Hoyt & Burnette, 2013; Ritter & Yoder, 2004; Rudman & Glick, 1999), but there are some indications that it can be used to understand aspirations and career choices as well, i.e., supply-side processes. Bosak and Sczeny (2008) found that when participants were asked to rate their own suitability for a managerial position, women generally rated themselves as less suitable than men did. However, perceived suitability for the role was mediated by agency, in that women who rated themselves as unsuitable for the position did so because they did not believe they had the necessary agentic characteristics required for the role. This demonstrates that people may assess the congruence between their own gender and gendered occupational roles. Madeline Heilman's work on gender and careers indicates that 'fit' can both influence others' perception of performance and ability, and can also create self-limiting behaviour in careers (Heilman, 1983; 2001). Heilman (1983) posits in her 'lack of fit' theory that expectations of performance explain the way in which gender norms can influence one's own behaviour, in that expectations of poor performance in a cross-gendered task will result in worse performance. These expectations are key as there tends to be a tendency to confirm them, and they also become a lens through which information is filtered. The role of expectations in affecting one's own perception of ability and contribution to a result is demonstrated by Haynes and Heilman (2013), in which women conducted a male sex-typed task with teammates. In this study, women tended to give more credit to male teammates for good performance on the task, and took less credit for themselves, which the authors argue is due to an expectation of poor performance on this cross-gendered task. This is similar to earlier findings that when paired with men,

women tended to accept more responsibility for task failure, and less for task success, and had a lower confidence about future performance in a task than when paired with women, indicating an effect of gender roles or sex stereotypes on the perception of own competence (Heilman & Kram, 1978). This indicates that 'fit' or congruence between gender roles or norms and workplace roles or norms has the potential to explain one's own career choices.

Social identity theory

SIT (Tajfel & Turner, 1979) explains the relationship between gender and careers using a similar process to RCT. A social identity is defined by Tajfel and Turner as 'aspects of an individual's self-image that derive from the social categories to which he perceives himself as belonging' (1979, p40). Therefore, a social identity is the definition of oneself in terms of group membership. This can include work-based groups, such as organisations or professions, and larger groups, such as sex or nationality. The only requirements for group membership are that the individual defines themselves in terms of the group, and that they are defined by others as members of that group (Tajfel & Turner, 1979). When a person joins a new group, such as an organisation or team, social identification with that group may develop, which is the psychological connection with the group based on aspects such as satisfaction, solidarity and centrality (Leach et al., 2008). Therefore, using this definition of a social identity, a gender identity is the aspect of an individual's self-image that is derived from being a member of their sex. This can vary in terms of the group norms that one adheres to, the extent to which one's self is defined in terms of one's sex, and the salience of this identity can vary depending on the social context (this will be discussed further later in this section).

Similarly to RCT, an SIT approach to understanding the link between gender and careers focuses on the 'fit' between gender identity and occupational identities. For instance, leadership candidates can be seen as more effective in work groups that have norms which 'fit' with the candidate's sex, i.e., women are seen as more effective leaders when the group is expressive, whereas men are seen as more effective when the group is agentic (Hogg et al., 2000). This provides a similar explanation of the process underlying sex segregation in the workplace as RCT, although SIT also incorporates additional group-based processes, such as the salience of norms and identities, e.g., whether there is a strong or weak group norm, and which other groups are available in the social context to compare one's group memberships to. A key aspect of self-categorisation theory is that social context will differ how one defines oneself in terms of group membership (Turner, Oakes, Haslam & McGarty, 1994). As a result of changes in the social context, such as different referent groups to compare with, how one categorises oneself will change, for instance, if the referent group changes from a different nationality to a different sex, then self-definition would change from a national social identity to a gender identity. This could potentially result in a great variation in the self depending on variation in the social context, but Turner et al (1994) argue that there are some limits to the variation in the self: the perceiver readiness to use a category or group (i.e., the relative accessibility of a group membership), and normative fit (i.e., the extent to which behaviour/attributes confirm the expected behaviour/attributes of a group). This means that if a group membership does not 'fit' with one's motives, desires, or habits (perceiver readiness) and one's behaviour does

not 'fit' with what is expected of a group member (normative fit), then one is less likely to define oneself in terms of membership to that group. This could help explain how a person's gender identity may vary across contexts, as it could vary with different referent groups to compare to (the social context), whether group membership 'fits' with their motives or habits in a given situation (perceiver readiness), and whether their behaviour 'fits' with what is expected of other men or women (normative fit).

Changes in social context can change different aspects of a social identity. One aspect that can change across contexts is self-stereotyping, in that if group membership is made salient, a person can define oneself in terms of or behave in accordance with the stereotypes associated with the group (Bauer, 2015; Casper & Rothermund, 2012; Mendoza-Denton & Goldman-Flythe, 2009). For instance, Sinclair, Lowery and Hardin (2006) varied the salience of either gender or ethnic identities and asked their participants to rate their perceived abilities on maths and verbal tasks. They found that women rated their mathematics abilities as lower when their gender identity was made salient rather than their ethnic identity (due to negative stereotypes around mathematics for women), whereas they rated their verbal abilities as lower when their ethnic identity was made salient than when their gender identity was salient (due to negative stereotypes around verbal ability for their ethnicity). An additional key aspect of identity that can change is the strength of identification with a group. This can change across different situations, particularly if that situation threatens an identity (e.g., Ethier & Deaux, 1994), and can also change based on the feelings one has about the group they are a member of, for instance, happiness towards the ingroup can strengthen identification (Kessler & Hollback, 2005). Taken together, this research indicates that social identities, such as gender identity, can change depending on the context, in terms of the strength of that identity as well as the extent to which one stereotypes oneself according to that identity.

Again, similarly to RCT, the majority of research in this area as focused on others' perception of fit, rather than how 'fit' relates to one's own career choices and aspirations. Nonetheless, this approach can also be applied to how individuals choose certain occupational roles based on the social identities they already possess. Recent theorising on social identities suggests that people hold multiple identities within their self-concept (Amiot, de la Sablonnière, Terry & Smith, 2008). For example, people might identify with their organisation, their team, and their profession, as well as their family, a sports team and so on. Successful integration of these identities within an individual's self-concept will lead to greater well-being, but a lack of congruence between identities may increase stress and lower well-being (Brook, Garcia & Fleming, 2008). An imbalance between occupational identities in the self-concept may motivate someone to leave their job (Smith, Amiot, Callan, Terry & Smith, 2012), or prioritise their home-life over their work-life (Fox & Smith, in prep). Therefore, an inability to integrate gender identity, professional identities and home identities may influence career aspirations. This may be particularly relevant to women, due to the oppositional identities of motherhood and profession. There is some evidence of sex differences in professional identification which could be attributed to work-home identity conflict (e.g.,McGowen & Hart, 1990; Savickas, 1985), and indications that women may cope with these oppositional identities by switching between them to reduce conflict in the self-concept (Hodges & Park, 2013). Additionally, there are

some indications that 'fit' between identities is relevant to one's career choices, for instance, Peters, Ryan, Haslam and Fernandes (2012) investigated differences between male and female trainee surgeons' perception of 'fit' with the masculine surgeon stereotype. They found that female surgeons were more likely to see themselves as deviating from the stereotype, which was associated with an increased desire to opt out of their career in the future. This means that 'fit' between gender and careers can be applied to career choices, although there has been little research that has focused on this conceptualisation of 'fit', particularly in relation to which type of career field to enter.

Summary and critique of theories

RCT and SIT provide useful ways of understanding the process underlying the relationship between gender and career choices and aspirations. Both approaches provide similar explanations of the process, with minor differences in terminology, such as roles and identities. The basic principle of both approaches is that the 'fit' or congruence between gender and gendered occupational roles affects career outcomes. This therefore situates the relationship contextually, in that the reason there is a particular relationship between gender and careers is due to a combinations of gender norms around work and home, and gendered occupational norms. These approaches have primarily been used to explain others' perception of fit or congruence, such as in hiring processes, but they can be applied to how people make their own career choices and their aspirations for future careers.

Despite this, there are some limitations associated with these approaches. Neither approach explains or demonstrates the dynamic nature of the gendered context, instead they position gender norms and organisational norms as semi-stable, with change occurring gradually over time. Yet there is little examination of how differences or short-term changes in the gendered context can influence career choices or aspirations, e.g., when entering different organisations. Similarly, both approaches conceptualise gender as a semi-stable role or identity, and so the process of fit or congruence underlying the relationship between gender and careers can only happen in one direction: gender influencing careers. However, some theorists see gender as highly dynamic and contextually-dependent, i.e., people are capable of 'doing' gender to fit the situational and social context (Ridgeway, 2009; West & Zimmerman, 1987). This means that, rather than being an identity that is acquired through childhood and adolescence, gender is a behaviour or form of self-presentation that is 'done' through perceptual and interactional activities, in which gender is so strongly tied to the situation that gender can change as a result of changes in the social or situational context (see Chapter 2 for a more detailed discussion). By applying this approach to gender, the process of fit or congruence can occur both ways, i.e., individuals may fit careers to their gender, but gender can also be changed in order to improve 'fit' with gendered careers. I explore both directionalities in this thesis.

The reciprocal relationship between gender and careers

The literature discussed previously describes how gendered contexts can affect the types of careers one's gender (and sex) 'fits' with, but little is known about how the

context influences gender itself. This is due to the typical conceptualisation of gender as a fixed identity, rather than a more dynamic state (see Chapter 2 for a more detailed discussion). Conceptualising gender as a fixed identity means that the relationship between gender and career is one-directional, rather than reciprocal. However, there are indications in the literature that gender can change as a result of workplace experiences and cultures.

A key example of this is the 'queen bee syndrome', which is used to explain why some women in senior occupational roles are seen to discriminate against junior women. Ellemers, van den Heuvel, de Gilder, Maass and Bonvini (2004) explain this phenomenon as a result of women gaining success in male-dominated careers through individual mobility (i.e., emphasising their differences to other women), and so are less likely to support any collective women's movement. Subsequent analysis of this issue has highlighted that workplace culture may have changed these women's gender over time. Derks, Ellemers, van Laar and de Groot (2011) found that women who rated themselves as high on masculinity and gender stereotyping were more likely to have started their career with low (feminine) gender identification and experienced a high level of sex discrimination. As such, it may be that experiences in their workplaces affected these women's gender, in that they appeared to adhere to the masculine culture due to an initial low (feminine) gender identification and negative experiences as a result of being a woman. As such, the masculine culture of their workplace may have resulted in these women *becoming more masculine*.

There is some evidence of the malleability of gender, for instance, gender can be influenced by intra-individual and social factors, such as identities (Eddleston, Veiga & Powell, 2006; Simonson, Mezuli & Davisk, 2011; Wade & Coughlin, 2012). Additionally, there is some evidence of change in gender across the lifespan (Jones, Peskin & Livson, 2011), and theories of gender development explain variation in gender as responses to specific events, such as marriage and leaving home (Levinson, 1977; McDermott & Schwartz, 2012; O'Neil, Egan, Owen & McBride Murry, 1993; see Chapter 2 for a more detailed discussion). Therefore life events, such as one's career, may influence one's gender. This type of relationship was predicted by Abele (2003) in the reciprocal relationship hypothesis, in which gender influences role enactment, such as home and work roles, and in turn, role enactment influences gender. There has been some research to support this hypothesis, as some longitudinal studies have assessed gender at multiple time points, allowing the exploration of the influence of work attributes on gender. Some of these studies found an effect of working hours on women's endorsement of gender norms and their gender, finding that longer working hours were related to later gender egalitarianism, i.e., an increased support for gender equality, and also an increase in masculinity over time, associated with a decrease in femininity (Corrigall & Konrad, 2007; Kasen, Chen, Sneed, Crawford & Cohen, 2006). This hints at an effect of masculine working norms on women's gender. Additionally, Kirchmeyer (2002) found that workplace culture may influence workers' gender. They found that having a mentor was linked with increased variation in masculinity, which that author explains as the influence of socialisation (i.e., how to behave appropriately in the workplace), and changing employers was linked to increased variation in women's masculinity, which could be interpreted as women 'fitting' themselves to different workplace cultures (i.e., 'doing'

gender). Therefore, gendered organisational cultures could possibly influence the gender of those who work within them.

Taken together, there is some evidence of a reciprocal relationship between gender and careers, in that gender influences the occupational roles that one takes on, but also occupational roles and gendered workplace cultures may influence one's gender. Change in gender may be a result of perceptions of 'fit', in that gender is changed to improve fit with a particular career, although this has not been accounted for in previous theories, including RCT and SIT. By incorporating a reciprocal relationship between gender and careers into the understanding of 'fit', it could help explain how people can have successful careers in occupations in which they are a minority sex member, and it could also explain the enduring nature of sex segregation in the workplace. Therefore, I propose a novel conceptualisation of fit: 'dynamic fit', which incorporates a reciprocal relationship between gender and careers. This means that individuals may aspire to careers that 'fit' with their gender, but career experiences and workplace cultures could also influence gender. This novel conceptualisation of 'fit' provides different avenues of research and intervention into sex segregation, e.g., there is a greater impetus on organisational culture in influencing supply-side causes of gender segregation, and it has implications for how gender is conceptualised in psychological research.

This conceptualisation of 'fit' is based on Abele's (2003) reciprocal relationship hypothesis, however it differs in several ways. First, it differs in the conceptualisation of gender, as Abele's approach defines gender in terms of agentic and communal traits, whereas this thesis aims to move away from this conceptualisation of gender (this is discussed in greater depth in Chapter 2). Second, I propose that job roles can influence femininity in addition to masculinity, whereas this is not part of Abele's approach to the reciprocal relationship (family roles are seen as only influencing feminine traits). And third, the mechanism by which careers may influence gender differs to Abele's reciprocal relationship hypothesis. The reciprocal relationship hypothesis argues that careers may influence masculine and feminine personality traits by enactment of a role increasing use of agentic skills and abilities, i.e., working in a masculine career requires agentic skills and abilities, and so one may perceive that they have greater agentic personality traits through the development and use of associated agentic skills and abilities. However, here I propose that careers influence gender through a reconstruction of gender within the self-concept in order to reconcile occupational and gender identities.

Summary

In sum, to better understand the supply-side causes of sex segregation in the workplace, we need to examine the relationship between gender and career aspirations, and the process underlying this relationship. Previous literature has highlighted that this process could be the 'fit' or 'congruence' between gender and occupational roles and norms, e.g., high masculinity and a masculine career indicates good 'fit'. However, this process needs to be extended to understand career aspirations and choices (supply-side

processes), rather than hiring decisions (demand-side processes), and also needs to be extended by examining the direction of influence in the relationship between gender and careers. As a result, I propose a novel process of fit, 'dynamic fit', in which gender can influence careers, but career experiences and choices can also influence gender.

By conceptualising the relationship as reciprocal in this thesis I: a) incorporate gender norms and gendered organisations into the understanding of supply-side causes of sex segregation; b) further explore gender as something that is 'done' rather than a stable identity, which highlights the contextually-specific, dynamic nature of gender; c) place a greater emphasis on gendered norms and gendered organisations in guiding careers and contributing to sex segregation in the workplace.

In the next chapter, I will discuss why gender should be seen as variable and contextually-dependent by exploring different approaches to gender and research into change in gender over time. Additionally, I will highlight methodological issues in the measurement of gender, and how gender will be measured in this thesis.

Chapter 2:
Gender: Conceptualisation and Measurement

In the previous chapter, I discussed the relationship between gender and career aspirations and expectations. This chapter discusses how this investigation is complicated by differences in the understanding of what gender actually is, i.e., what it is comprised of, and subsequent differences in the way it is measured. Due to the variety of conceptualisations and measurements of gender, in this chapter I will discuss the literature in these areas, and will use this to justify and outline how I conceptualise and measure gender in this thesis. In addition, I will demonstrate the relative stability or instability of gender, both over time and across situational contexts. This is crucial, as variability in gender is a necessary condition of a reciprocal relationship between gender and careers.

Theories of gender identity

As discussed in the previous chapter, a social identity is the part of the self that is associated with being a member of a social group, along with the meaning and importance attributed to belonging to that group (Ashforth, Harrison & Corely, 2008). Like national or professional identities, gender can be seen as a *gender identity*. Gender identity is the membership of one's sex category, the social norms associated with that category, and the meaning and importance attributed to being a person of that sex. As such, gender identity can be seen as a product of one's sex, but gender identity also varies within the sexes due to individual differences in development and changes gender norms over time (see Chapter 1 for a definition of gender norms).

There are a variety of theories that try to establish how gender identity is created, what this identity consists of, and whether it adapts over time. These theories purport different origins of gender, either rooted in biology or culture, although the majority of these theories try to account for an interaction between biological and cultural information.

Biological theories of gender

Theories that assert biological and innate causes of gender identity tend to position gender as a stable trait. This understanding of gender has been used to explain why gender is one of the earliest identities that children understand, and why young children seem to be highly sex-segregated in their play activities and peer preferences (Fridell, Owen-Anderson, Johnson, Bradley & Zucker, 2006). Bao and Swaab (2011) adopted a strict biological explanation of gender, rejecting a possible effect of social or environmental factors. They reduce gender identity to hormonal influences, specifically, the higher levels of testosterone that male foetuses are exposed to, causing long-lasting sex differences and gender identity differences between boys and girls. Although the majority of research into prenatal and pubertal hormone exposure demonstrate some influence on gender identity, this is mainly in terms of disorders of sex identity (Berenbaum & Beltz, 2011). There is a wider body of research that shows that prenatal androgens are related to 'masculine' abilities, career interests, and activity preferences, as girls exposed to high levels of prenatal androgens preferred to play with 'male' toys instead of 'female' toys (Berenbaum

& Beltz, 2011), and so this difference in gendered preferences and activities may indicate a difference in gender identity.

The implication of biological theories of gender for research into career choices is that they support the notion of difference between men and women, and as such, difference in career choices and behaviours. However, most research in this area is tempered with environmental influence, instead highlighting that hormonal differences in the brain will mediate social and environmental influences (Berenbaum, Blakemore & Beltz, 2011). In addition, these theories tend to conceptualise gender as a trait that will not be affected by developmental processes or lifetime events, and so the relationship between gender and career choices can only be uni-directional and stable, with gender affecting career choices.

Social and interactional theories of gender

Social and interactional theories of gender attempt to account for historical and cultural variation in gender identities, although despite this acknowledgement of variation, they typically conceptualise gender as relatively stable over time. These theories tend to incorporate biological and social influences in the formation of gender identity. For instance, Fausto-Sterling's (2012) dynamic systems theory of gender development and Davis and Risman's (2015) analysis of masculinity and femininity both argue that although there is a role of biological influences, such as the body and prenatal hormones, there is a stronger influence of socialisation. Fausto-Sterling argues that the wider culture has a crucial effect on gender development, particularly in relation to preferences for dress and play, as gendered dress and play varies between cultures, time periods, and individuals. Similarly, Davis and Risman found in their analysis of masculinity and femininity that childhood socialisation had the greatest influence on gender, for instance, women who reported themselves as currently masculine, also reported themselves as being so during childhood, and that they were socialised to be so. Together, these theories indicate that biological and social factors need to be incorporated to form a gender identity, but both studies position gender as relatively stable, with the biological influences typically happening in the womb, and social influences through childhood.

A key theory of gender identity that takes a more social position is Bussey and Bandura's (1999) social cognitive theory of gender development. Although it acknowledges the role of both biology and the environment, it focuses primarily on environmental influences. This theory takes a life-course perspective, and asserts that social influence affects psychological mechanisms, which then produce behavioural effects. The three modes of influence are highly dependent on the culture and immediate environment of a person, particularly the mode of influence, symbolic modelling, in which information is gathered from models in the environment and in the media. Through observation and modelling, gender conceptions and competencies will develop, and so gender norms (the expectations of behaviour for men and women) affect the development of individuals' gender and their subsequent gendered behaviours. Despite this theory having a life-course perspective, it purports that the primary time of change in gender is in childhood and adolescence; and so, it again positions gender as relatively stable over time from adulthood onwards.

As multidimensional thinking around gender has increased, i.e., that gender comprises of more than one factor, multidimensional theories of gender acquisition and development have been developed. One of these is Halim and Ruble's (2010) cognitive-

developmental theory of gender identity that strongly links cognitive development with gender development. Similar to Bussey and Bandura (1999), this theory suggests that culture has a significant effect on gender. Gender identity and gender stereotyping emerge at the same time, both of which are strongly influenced by mass media and peers, which may explain the strongly sex-typed preferences that emerge during this period. As a child becomes more cognitively developed over time, stereotype knowledge will become more sophisticated, with a move from focusing on behaviours to traits and attributes. In addition to stereotypes becoming more sophisticated, they tend to lessen in strength as children get older, as more individuating information is used. As such, this theory incorporates change in personal gender over time through developing cognitive abilities, although this is limited again to childhood and adolescence.

Another key multidimensional theory of gender was put forward by Tobin et al. (2010), consisting of five interrelated components that create an overall gender identity: membership knowledge, gender contentedness, felt pressure for gender conformity, gender typicality, and gender centrality. Individuals can vary on each of these aspects, and certain aspects are more important at different times. For instance, membership knowledge (i.e., the understanding that one is a boy or a girl) is an initial aspect of gender identity that is typically acquired during early childhood, whereas more complex understandings of gender will develop as cognitive functions develop. Within this model, gender identity is the product of gender stereotype knowledge and the perception of one's own attributes, and so is highly dependent on social norms around gender. This model provides a semi-flexible account of gender, in that the authors discuss social and situational contextual influences on gender identity, but this is in relation to identity salience, rather than changes in gender itself.

A key unifying aspect of the above theories is that the environment is understood as having an effect on gender identity through social norms. This is a result of gender stereotypes that are observed through mass media and role models influencing gendered behaviours, attitudes, and self-appraisal. For example, role models on television and within social groups may create normative information about appropriate ways to act. This understanding of the effects of the wider social environment can explain how gender identity can differ from culture to culture and person to person, but there is little understanding of exactly how gender identity develops from late adolescence, and whether there are dynamic contextual changes in a person's gender identity, such as in different situations (e.g., at home and at work), and at different times in the lifespan (e.g. as an adolescent, as a young adult, and as a mature adult), with the varying life experiences associated with each stage. If there are fluctuations in gender identity associated with short-term social contextual changes, this could be explained (in part) by the processes underlying identity salience and social influences outlined by social identity theory and self-categorisation theory (e.g., Tajfel & Turner, 1979; Turner et al., 1994). For instance, it is possible that changes in gender norms could change gender identity through providing different reference points for what gendered activities and abilities are, or through the incorporation of different activities and abilities into one's gender identity. In the next section, I discuss theories that incorporate contextual and lifespan changes in gender, and the possible mechanisms underlying these changes.

Stability vs. variability of gender throughout the lifespan

The theories I discussed previously in this chapter tend to conceptualise gender as a stable, or relatively stable, identity. However, gender can also be seen as more variable. There are theories focusing on developmental change in gender identity and gender roles throughout the lifespan. Levinson's (1977) view of the lifespan as segmented into particular periods of stability and transition was used to ground changes in men's gender identity. This theory posits that there are six main periods in a man's life between 18 and 45 years of age, in which there are three periods of stability and three periods of transition. Through each transition, adherence to strong masculine norms is reduced, and these transitions are tied to life events such as leaving home, turning 30, and reaching mid-life. This indicates that experiences can influence gender identity. Moreland (1980) similarly focused on men's gender identity and change over time to create a theory of gender that focused on adulthood. He pointed to a general trend in the literature that identifies strong adherence to gender norms in adolescence becoming weaker over time. Moreland posited that this is due to conflicts between age norms and male gender role norms, again highlighting the influence of gender norms on personal gender.

There are also theories which argue that in addition to general changes in gender over time, changes in gender are tied to specific situational events. For instance, O'Neil, Egan, Owen and McBride Murry (1993) examined change in gender using the metaphor of a 'gender role journey' to describe the gender role transitions that occur throughout life as either the result of specific situations, such as divorce, or of lifecourse events, such as puberty and aging. This theory presents a model of five phases that individuals pass through which range from the acceptance of traditional gender roles, through to activism, ending with the celebration and integration of gender roles, in which a person views themselves and the world in less restrictive ways, with greater gender role freedom. Despite some potential utility of this theory in understanding the development of gender identity over time, this theory focuses on the appraisal of gender roles rather than actual change.

The theory of a gender role journey was used by McDermott and Schwartz (2012) as a basis to create a model of men's attitudes to gender role socialisation, which the authors argued influences how gender identity is constructed. Their study of men revealed four subgroups: not questioning/accepting of traditional gender roles, pro-feminist activists, questioning with strong ambivalence, and questioning with weak ambivalence. Pro-feminist (male) activists were also more likely to be older than members of the other categories, and were more likely to be married or engaged. This could indicate that life events, such as marriage or long-term relationships, could influence the appraisal of one's gender, and so gender may be more contextually variable.

There has been some evidence to support the idea that gender varies intrapersonally over time. Jones, Peskin and Livson (2011) analysed longitudinal data from 3 separate studies, which tracked participants over 50 years, from the age of 33 years to 85 years. They identified that men generally increased in femininity, whereas women generally decreased in femininity over time. Although, despite the trend towards convergence in femininity, the scores for men and women did not overlap. This indicates that there is developmental change in this aspect of gender across adulthood, although there is still difference in femininity between men and women. Interestingly, there was no evidence of specific life events influencing levels of femininity, such as having children or being

married, which could mean that these changes in gender are either attributable to wider social and cultural changes or to general effects of aging.

Together, these theories suggest that variability in gender can be attributable to events, and situational contexts across a lifetime. This would help explain the within-sex variance in gender, as individuals will have different life experiences, which will affect their gender in different ways. However, these theories are not entirely supported by the evidence of variability across lifespan provided by Jones, Peskin and Livson (2011), who found no clear effect of specific life events, but rather a general developmental trend in change in femininity. This means that although there appears to be some change in aspects of gender over time, little is understood about the processes underlying this change and the antecedents to varying degrees of change.

'Doing' gender

The variable nature of gender is extended by theory around 'doing' gender, which positions gender as contextually dependent, and relatively short-term, as it can change across situational contexts. 'Doing' gender is a popular way of researching and theorising gender in organisational studies (Nentwich & Kelan, 2014), and largely understands gender as a routine accomplishment in interactions. West and Zimmerman (1987) are typically cited as the seminal theoretical basis for this conceptualisation of gender, particularly in organisational research, and they argue that people 'do' gender to be perceived by others as competent members of society. People 'do' gender through perceptual and interactional activities that mean certain activities are seen as part of 'the natural order'. They argue that although the individual has a role in which aspects of gender are 'done' (i.e., what gendered behaviours or interactions are performed), the process is much more socially-guided than individually-guided. This means that as gender is so strongly tied to the social and situational context, it may be that gender changes as a function of changes in gendered contextual information. This is tempered slightly by Ridgeway's (2009) understanding of 'doing' gender. In this conceptualisation, gender can be understood as a background identity that biases the performance of behaviours based on other 'foreground' roles and identities, such as family or occupational roles. Ridgeway argues that it is these foreground identities that provide a much more specific behavioural expectation, which is then biased by the background identity of gender, so that gender creates different ways of performing job roles or engaging in activities.

Investigation into 'doing' gender in organisations has focused on qualitative studies of different occupational fields, such as the police, surgery, and childcare, or how trans and intersex people 'do' their gender in relation to seemed violations of bodily gendered norms. Research in this area indicates that people 'do' gender in different ways in order to improve their 'fit' with the gendered norms within organisations (i.e., they perform behaviours that fit with the expectations of the appropriate behaviours in organisations; Charles, 2014; Sheridan, McKenzie, & Still, 2011), and so, 'fit' or congruence may be driving the process of 'doing' gender. However, there is a hierarchical nature of gender; Nentwich and Kelan (2014) argue that masculinity (male behaviours) is seen as superior to femininity (female behaviours), which means that 'doing' masculinity, even in feminine situations, may produce more favourable interactions than 'doing' femininity.

In conclusion, this conceptualisation of gender positions gender as much more flexible and contextually-dependent than the more traditional theories of gender identity

discussed previously. This means that by using this conceptualisation of gender, it allows the relationship between gender and careers to be reciprocal, whereas this would not be possible using traditional theories of gender identity.

Applicability of gender theories to research on career choices

The social and interactional theories of gender identity discussed previously, and the idea 'doing' gender, create a more dynamic understanding of the relationship between gender and careers, and one that needs to account for social and contextual factors. These theories implicate social norms in the environment as affecting gender and gendered behaviours. The environment can affect gender through direct tuition and the association of certain behaviours with certain outcomes (Bussey & Bandura, 1999), which implicates a role of individual care-givers, teachers, and peers in affecting gender identity and gendered behaviours. However, several of these theories argue it is the more abstract understanding of gender stereotypes and appropriate gendered behaviours gathered from media that affects gender and gendered behaviours (Bussey & Bandura, 1999; Halim & Ruble, 2010; Tobin et al., 2010). Through this more abstract understanding of gender, gender norms will influence gender identity, gendered behaviours, and possibly subsequent career choices. For example, using Bussey and Bandura's theory, cultural depictions of women would be used as models by young girls to understand gendered behaviour. Due to the limited range of careers in which women are visible, both in society and in media representations, young girls would understand appropriate gendered behaviour to be restricted to a specific range of careers.

Importantly, the research and theory highlighting variability in gender over time and across social and situational contexts also provides a way of understanding a possible reciprocal relationship between gender and careers. Using the theories discussed previously, events and situations that occur across the lifespan may affect one's perception of one's gender (O'Neil et al., 1993) or actively change one's gender (Moreland, 1980). A 'doing' gender approach would take this further, proposing that situational contexts drive the gendered behaviour people perform. As such, occupational contexts and events may influence a person's gender. This means that there could be a reciprocal relationship between gender and careers, in which role enactment influences gender (Abele, 2003) e.g., being masculine may promote success in masculine organisations, which then may promote masculinity. However, previous theory does not acknowledge this recursive relationship.

Current conceptualisation of gender

The literature discussed in this chapter details the tension between understandings of gender as either a fixed or dynamic quality, and also the disparate ways in which gender is conceptualised. The way in which gender is conceptualised has implications for assessing its relationship with careers, for example, using a traditional theory of gender will position the relationship between the two variables as only one-directional (gender affects careers), whereas using a 'doing' gender approach allows a reciprocal relationship (gender can influence careers, and careers can influence gender).

In light of this, in this thesis, I used a multidimensional, dynamic approach to gender, that recognises that gender can be variable across social and situational contexts and over time. This approach views gender as dependent on social norms around gender,

particularly in the workplace. I used a multidimensional approach as it fits with a social identity approach to gender, which is one of the theoretical lenses through which I explore the relationship between gender and careers in this thesis. This multidimensional approach to gender means that gender is comprised of multiple elements, such as masculinity, femininity, strength of identification, endorsement of gender norms, as well as the gendered behaviours that one can 'do' (this is discussed in greater detail later in the chapter). Thus, I understood gender as contextually variable due to previous theory and evidence (Jones et al., 2011; Levinson, 1977; O'Neil et al., 1993), and also incorporated 'doing' gender into the psychological examination of the relationship between gender and careers.

Measurement of gender

Along with there being a variety of theories around gender identity, there have been a range of measures used to assess gender within psychological research. These measures vary in their conceptualisation of gender, and include measures in which gender is one bipolar dimension, two-dimensional, and multi-dimensional. In this section, I will describe the types of measures used in gender research, before justifying and detailing the measurements I used in this thesis.

One-dimensional measures

Early conceptualisation of gender was as a single bipolar dimension, in which femininity and masculinity were mutually exclusive, meaning that if a person was high on masculinity, they must be low on femininity. This assumption formed the basis of Terman and Miles' (1936) masculinity-femininity (M-F) test. The creation of the test was based on differences between the sexes and the assumption that gender was tied to sex, so that if a behaviour or trait showed a large differentiation between the sexes, it was thought to indicate masculinity or femininity. This conceptualisation of gender inspired other measures, such as the Minnesota Multiphasic Personality Inventory (MMPI; Buchanan, 1994), which was designed to identify psychological abnormalities. However, there was a general move to two-dimensional measures in the 1970s following Constantinople's (1973) critique.

In her critique, Constantinople (1973) attacked the validity and reliability of these one-dimensional measures, due to the way in which the items assessing masculinity and femininity were selected. Items were selected due to their association with men or women, but as gender varies within sex, this would not be a valid way of identifying masculinity or femininity. Additionally, she argued that this way of choosing items would be affected by 'cultural lag'. This is the idea that sex differences in behaviour and the expectations of how the sexes behave will be around 20 years old at the time they are measured. This means that subtle shifts in sex differences and similarities will not be assessed by measures of gender, and so the measures will rapidly become out of date, and will not assess contemporary understandings of gender. She also argued that there was no real evidence for gender being a single bipolar dimension, instead there was more evidence that gender consisted of two dimensions that represented masculinity and femininity.

Two-dimensional traits measures: Bem Sex Role Inventory

Following Constantinople's (1973) critique, a range of measures that assessed masculinity and femininity as separate dimensions were created. One of these measures was the Personal Attributes Questionnaire (PAQ; Spence, Helmreich & Stapp, 1975), which used separate measures of masculinity and femininity, but also included a scale which forced a choice between masculine and feminine characteristics. However, one of the most well-known measures to use this conceptualisation of gender is the Bem Sex Role Inventory (BSRI; Bem, 1974), which is commonly used in the gender and aspirations literature (e.g., Karami, Ismail & Sail, 2011; Powell & Butterfield, 2013; Rainey & Borders, 1997). This measure consists of three separate subscales: masculinity, femininity, and social-desirability of self-ratings. The items for the BSRI were chosen by students rating how socially desirable a certain trait was for a man and for a woman, and items that were more socially desirable for one sex over the other were included on the masculinity or femininity scale, similar to how items were chosen for the previous one-dimensional measures. Using this measure, a person could be high on both masculinity and femininity, which Bem argued represented androgyny, a positive gendered outcome.

Critique of the BSRI

Despite the change in the conceptualisation of gender, in a move from a one-dimensional to a two-dimensional understanding of gender, these new measures were criticised on a number of aspects. The first criticism was whether the items on the scales appropriately measured masculinity and femininity. Bem (1974) asserted that all of the items on the BSRI were socially desirable. However, Pedhazur and Tetenbaum (1979) questioned this, finding that there were certain traits within the femininity scale that were seen as undesirable, and which would impact on femininity scores by participants not selecting them due to them not being desirable, rather than due to them not possessing these gendered traits. The authors also highlighted that there was much less agreement between raters as to which traits applied to women rather than which traits applied to men. This could mean that the measure does not assess femininity accurately. A more recent analysis of the BSRI identified that there were only two traits that reached the agreement level necessary to be included in scales. These two traits were 'masculinity' and 'femininity', which the authors argue demonstrates that current college students perceive gender in a very different way to college students in the 1970s, and so these scales may be less valid for use today (Hoffman & Borders, 2001). This means that these scales are liable to the same cultural lag that Constantinople (1973) critiqued the one-dimensional measures as having.

In addition, Pedhazur and Tetenbaum (1979) examined the factors underlying the BSRI, finding four distinct factors, one of which was a bipolar factor of femininity-masculinity. Finding this dimension is an interesting contrast to Constantinople's (1973) assertion that there was no evidence for this conceptualisation of gender. It may mean that people do have a single bipolar understanding of gender, and so it may be a useful way in which to assess gender. It could also mean that the idea of masculinity and femininity is vague and idiosyncratic, and can only be assessed by the adjectives 'masculine' and 'feminine' rather than a range of traits.

The general predictive abilities of these two-dimensional measures have also been questioned in addition to their assessment of masculinity and femininity. Gilbert (1985) argued that the reliance on instrumentality and expressiveness means that the utility of

many of the measures is limited. The BSRI and PAQ both measure aspects of personality in the assessment of instrumental and expressive traits, which is then attributed to broad constructs of gender. Gilbert argues that this means the measures have little predictive validity for gendered attitudes or behaviours, as the immediate environment will influence gender. For example, the behaviours of others and the novelty of the situation would affect gendered attitudes and behaviours, rather than gendered traits. Similarly, Twenge (1999) and Perry and Pauletti (2011) have critiqued these measures as being too focused on personality, as gender consists of a large number of discreet factors. It does include personality traits, but also aspects such as social relationships, physical and material attributes, and occupations, abilities and interests, for example, an interest in sport is typically associated with masculinity. Thus, by measuring only personality traits, these measures are capturing only a small part of gender.

The new wave: Multi-dimensional measurement of gender

The critique of gender measures as being too focused on personality traits and so sacrificing other aspects of gender has led to a third wave of gender measures that focus on more abstract concepts of gender, rather than specific traits and behaviours. There has been a call for multi-dimensional measures by Perry and Pauletti (2011), as well as Mahalik et al. (2006), who specifically call for the use of multidimensional measures of gender in vocational psychology research. This wave of measures has generated a number of adhoc measures of gender, which adapt existing identity scales. For instance, Rogers, Scott and Way (2015) amended a multi-dimensional measure of racial identity to assess gender. These measures are typically based around a social identity approach to identity, in that an identity has a qualitative content, such as group norms or femininity/masculinity, and also a salience or strength, i.e., how prominent or important that identity is.

Despite the use of adhoc measures, multi-dimensional measures of gender are exemplified by Egan and Perry's (2001) work on gender identity and adjustment in preadolescents. Their understanding of gender is that it consists of four factors: knowledge of membership to sex group; perceived compatibility with sex group; felt pressure for gender conformity; and attitudes towards own and other sex groups. This type of measure allows a much more flexible, person-oriented theory of gender, and allows a more nuanced understanding of how gender is related to adjustment and psychological health. Within this framework, high gender compatibility is beneficial to adjustment, in contrast to Bem's (1974) idea that androgyny was more conducive to good psychological health. However, Egan and Perry also identified that high pressure for gender conformity is restrictive and is associated with lower levels of satisfaction for the self. As such, a more useful way of measuring gender may be to look at perceived compatibility with gender group, instead of focusing on specific attributes that may not be viewed in a gendered way. One such measure is Wood, Christensen, Hebl and Rothgerber's (1997) measure of the self-relevance of sex role norms, which is also a measure of perceived compatibility with sex group. In this measure, participants are asked to indicate how important it is for them to be similar to the ideal man or woman, and how important it is to be dissimilar to typical members of the opposite sex, with high scores on both indicating a greater compatibility with their sex group.

Summary of measurement of gender

The above review of the different measurements of gender demonstrates that there have been clear shifts in the conceptualisation of gender, moving from understanding masculinity and femininity as opposites on a uni-dimensional scale, to understanding masculinity and femininity as separate concepts. The multidimensional measures of gender move away from only assessing gendered personality traits to a focus on more abstract aspects of gender, and also move away from a researcher-led conceptualisation of what constitutes masculinity and femininity. By assessing more abstract elements of gender, such as one's perceived gender compatibility, it allows a more person-centred understanding of one's gender identity. As multidimensional measures assess more abstract concepts of gender identity, they do not suffer from the cultural and historical specificity of previous measures that assess gender through the attitudes and behaviours of individuals (e.g. Bem, 1974; Terman & Miles, 1936). Therefore, by using these types of measures in career aspiration research, it may avoid the conflation of masculinity with careers, as they are more abstract assessments of masculinity and femininity.

The measurement of gender in this thesis

In this thesis, I used two approaches to measuring gender: a multi-dimensional approach, and also an emphasis on masculinity and femininity. Both of these approaches focus on abstract aspects of and measurement of gender. I chose to use a multi-dimensional approach due to the critiques of the more commonly used measures such as the BSRI (e.g., Hoffman & Borders, 2001; Pedhazur & Tetenbaum, 1979), their focus on personality traits at the detriment of other aspects of gender, and crucially, due to the inclusion of career-related items in the masculinity measure of the BSRI. The issue of cultural lag, raised initially by Constantinople (1973) would also mean the previous widely-used measures of gender may not be relevant to current understandings of gender. The BSRI was developed in the 1970s, and there have been considerable changes in the gendered nature of society since then, especially in work. To limit these issues, I used measures in this thesis that do not assess gendered traits.

Egan and Perry's (2001) measure would have been a key measure to use for a multi-dimensional measure of gender, but it is not appropriate for use with adults, and so I used alternative measures. I included Wood et al.'s (1997) measure, as Egan and Perry highlighted the utility of this measure, it is appropriate to use with adults, and it measures aspects of compatibility and conformity with sex group. As I took a social identity approach in this thesis, I also needed to establish the strength of identification with one's sex, as well as the qualitative content of gender identity. I did not assess the qualitative content of gender identity using a trait inventory. However, as Pedhazur and Tetenbaum (1979) and Hoffman and Borders (2001) found that 'masculinity' and 'femininity' were reliable gendered terms, I measured the qualitative content of gender by asking participants to rate themselves on the concepts of masculinity and femininity. In addition to masculinity and femininity, I included endorsement of gender norms in order to further understand the qualitative content of gender, due to the strong role of wider gender roles and norms in shaping gender identity, discussed earlier in this chapter.

Previous literature assessing the relationship between gender and careers has tended to focus on a two-dimensional conceptualisation of gender, either by using the BSRI or measuring masculinity and femininity in some other way (e.g., Fassinger, 1990; Fiebig, 2003; Karami, Ismail & Sail, 2011). By using a multi-dimensional approach, it brings the

literature in line with current conceptualisations of gender. However, despite the utility of using a multi-dimensional approach, especially in investigating the relationship between discrete aspects of gender and careers, there are times when masculinity and femininity may be the most useful aspects of gender to explore, particularly when assessing 'fit' and the 'doing' of gendered behaviours. For instance, when looking at 'fit' with a masculine workplace culture, masculinity and masculine behaviours provides the best assessment of how one 'fits' with this culture, i.e., varying masculinity represents varying levels of 'fit' with the culture. Therefore, when assessing 'fit' with cultures and workplaces in this thesis, I used masculinity and femininity instead of a multi-dimensional measure. Despite only using masculinity and femininity in these instances, these aspects of gender were not assessed through traits or attitudes, instead using the principles of multi-dimensional measures and relying on more abstract assessments of masculinity and femininity.

Summary

In this chapter, I have explored how gender identity is conceptualised and measured and how this relates to research into career aspirations and choices. There are a variety of conceptualisations and measures of gender identity, including gender as an aspect of personality, which can be measured as a bipolar uni-dimensional construct, or as two dimensions of masculinity and femininity; or gender as something that is 'done'. I used a multi-dimensional understanding of gender in this thesis, with measurement focusing on higher order aspects and assessments of gender such as perceived compatibility with sex group, strength of identification, and masculinity and femininity. This understanding and measurement of gender lends itself to understanding gender as something someone *does* (i.e., masculine and feminine behaviours), in that it is contextually variable. By using this conceptualisation of gender, it means that I can investigate the reciprocal relationship between gender and careers.

Rationale for thesis and research questions

As discussed in Chapter 1, sex segregation in the workplace perpetuates financial and social inequalities between the sexes. It is thought to contribute to the sex pay gap, whereby women earn less pay per hour than men. This is because the factors that contribute to this include women working in careers that typically pay less, occupying lower-paid positions, and men being more willing to ask for raises and negotiate their salaries (European Commission, 2013; Greene & Sritt-Gohdes, 1997), something which may occur due to the predominance of masculine workplaces (e.g., Acker, 1990). Further investigation into the reasons behind sex segregation will help to reduce this economic and social issue by exposing possible processes underlying this issue, and so informing potential interventions.

In the review of the literature in Chapter 1, I demonstrated that there is a relationship between gender and career aspirations and expectations, particularly when focusing on masculinity, but I also highlighted a number of limitations with this literature. The first is that the focus of past research has been on the description of difference rather

than the analysis of why these differences come to be. In other words, the processes have been under-explored. A second limitation is that research tends to focus on the role of masculinity, with many studies not assessing femininity, which limits the understanding of how gender as a whole is related to career aspirations and choices. Finally, there are assumptions that gender has a causal effect on career aspirations and choices, as gender is seen as relatively stable and enduring. However, a reciprocal relationship between the two may exist (Abele, 2003), particularly when considering change in gender over the lifespan (Jones, Peskin & Livson, 2011), or when using a 'doing' gender approach (e.g., West & Zimmerman, 1987). I propose that by assuming a reciprocal relationship between gender and careers we can better understand people's career choices through adulthood, rather than just at the point of choosing a career. Furthermore, this allows us to further understand how sex segregation in the workplace is perpetuated.

In light of these limitations, my goal in this thesis was to examine the process underlying the relationship between gender and career aspirations and expectations based around a novel process of 'dynamic fit', which incorporates a reciprocal relationship between gender and careers. To achieve this, through a series of studies I examined: a) how contextual factors influence the relationship between gender and careers; b) how gender influences careers; and c) how careers influence gender.

Table 1 demonstrates how each study addresses these questions. In Study 1, I explored the relationship between gender and career expectations in gendered workplaces using interviews to understand the broad relationships between gender, workplace culture (i.e., the social and situational context), and career expectations. Based on the findings of Study 1, which indicated two separate contextual influences on the relationship between gender and careers: workplace culture and gender norms, the following two studies were conducted in parallel. In Study 2, through surveying care workers, I explored how 'fit' between gender and gendered workplace culture can predict career aspirations and expectations, and in Study 3, I experimentally investigated how gender norms can vary the 'fit' between gender and careers, and so can affect aspirations and expectations. Both of these studies establish one direction of influence between gender and careers: how gender (and it's 'fit' with gender norms and organisational culture) influences career aspirations. This was done to assess the influence of 'fit' in people's career choices (rather than in the assessment of others' suitability for roles) in the traditional conceptualisation of the relationship between gender and careers. In order to assess the alternative direction of influence, in Study 4, I experimentally manipulated gendered career feedback to identify its effect on gender, and so establish the contextually variability of gender. In this study, careers were positioned as a contextual factor, in the form of gendered careers feedback. The final study, Study 5, assessed gender and the gendered nature of the careers people aspired to and actually entered over the course of 12 months. As such, it established the recursive relationship between gender and careers, and so tested the idea of 'dynamic fit'. In doing this, I hope to provide a more comprehensive evidentiary base to guide future research and interventions aiming to reduce the supply-side causes of sex segregation.

Table 1.

The three research questions of this thesis, and which questions each study addresses.

	Study 1: Interview study	Study 2: Care workers case study	Study 3: Manipulation of gender norms	Study 4: Gendered career feedback	Study 5: Longitudinal study
How do contextual factors influence the relationship between gender and careers?	✓	✓	✓	✓	✓
How does gender influence careers?	✓	✓	✓		✓
How do careers influence gender?	✓			✓	✓

Chapter 3:
Study 1: The influence of gender, gender norms, and workplace culture on career
expectations: An interview study

Introduction

The purpose of this study was to explore the reciprocal relationship between gender and careers, identifying how gender norms and workplace culture may influence career expectations. Here, gender norms refer to the behavioural expectations of men and women (see Chapter 1 for a more detailed description of gender norms). By doing this, this study addressed all three thesis research questions, exploring both how gender influenced career expectations and how career choices and workplaces influenced gender, and the role of contextual factors in the form of workplace norms and wider gender norms. I chose to explore these three questions in an academic context in order to give a snapshot of how the three core factors of gender, situational context and career expectations can interact in a working sample. I chose an academic situational context, as in academia, there are roughly equal numbers of men and women in the workforce, but the number of women in top academic positions remains very low (European Commission, 2008; ONS, 2013), indicating that there are sex segregation issues in this occupational area. Recently, scholars have suggested that gendered academic workplace cultures can explain why low numbers of women are appointed to professorship roles (Treviño, Gomez-Mejia, Balkin & Mixon, 2015). Specifically, academic workplace norms tend to support masculinity and masculine roles, rather than femininity and feminine roles. This means that masculine workers may 'fit' the culture better than feminine workers.

Role of gender norms and workplace culture

As I discussed in Chapter 1, there are sex differences in career aspirations and expectations (e.g., Baker, 2010; Howard et al., 2011; Metz, Fouad & Ihle-Helledy, 2009). Women have generally reported lower career expectations than men, although the majority of research has studies children and people who have not yet entered the workforce (e.g., Howard et al., 2011; McWhirter, Hackett & Bandabs, 1998; Wahl & Blackhurst, 2000). These sex differences can be understood as a result of traditional gender norms for men and women, such as the expectation of women to be more involved in child-rearing than men (Rhoads & Rhoads, 2012). However, in past research there is little explanation of *how* the career expectations of working adults are influenced by socio-contextual factors, and whether gendered workplace norms influence these expectations in addition to gender norms around family.

Gender norms around family affect men and women differently. This is partly because traditionally, men's gender role is associated with work, and women's with the home (Eagly, 1987). Despite gains in work, there have been few movements of men into the home, and so there is still the assumption that women are the primary caregivers to children, and are still responsible for the home (Rhoads & Rhoads, 2012). Therefore, gender norms around family may disproportionately affect women's career expectations, as family-related issues, such as taking time out of work and the need to leave work at specific times to collect children from school/childcare, are not incorporated into organisational cultures. For instance, Baker (2010) found in interviews with academics that

a lack of institutional support for family issues disproportionately affected women's careers in relation to men. This included issues in accommodating maternity leave, in that colleagues saw maternity leave as 'free time' in which to continue working. Acker (1990) argues that masculinity is woven into workplace cultures, and as such, positions women as 'other'. The masculine culture can contribute to the lack of women in senior positions, as women leave these organisations or opt-out entirely (Cahusac & Kanji, 2014), and so masculine cultures that do not integrate family-related aspects can disproportionately negatively affect women's careers. In addition to family norms affecting career experiences, they may also influence *expectations* for future careers, including expectations of promotion and career advancement (Pololi, Civian, Brennan, Dottolo & Krupat, 2013; Walsh, 2012), and expectations to leave an occupational area (Nemoto, 2013). Therefore, gendered workplace cultures may influence workers' career expectations, due to an interaction with gender norms around family.

The underlying process: fit/congruence

The process of 'fit' or congruence explains how and why norms influence career expectations, that is, there is a variable degree of fit between a person's gender and an occupational role or organisation. A key example of this is the role of gendered norms around family. The 'feminine' norm of taking on the primary caregiver role means that jobs requiring long working hours do not 'fit' with a feminine gender identity (e.g., Nemoto, 2013). This means that gendered organisational cultures can vary the 'fit' that workers have with the organisation and their respective job roles through their lack of inclusion of family-related concerns.

Conversely, as posited by my novel conceptualisation of fit, organisational cultures could also influence workers' gender. Research around 'doing' gender indicates that workers can 'do' gender in different ways in order to fit with the gendered norms within organisations (i.e., they can perform masculine or feminine behaviours or forms of self-presentation to improve fit with organisations' expectations of the behaviour of their workers; Charles, 2014; Sheridan, McKenzie & Still, 2011). This means that workers may change aspects of themselves to improve the 'fit' between themselves and workplace cultures, but it is unclear what effect this would have on their career expectations. It may be that 'doing' gender differently to improve 'fit' could raise career expectations due to the better 'fit', or it could lower them, as 'doing' gender in this way may make the lack of 'fit' one has with an organisation more salient. In the current study, I explored the possibility that occupational norms and gender can interact and influence career expectations in academia.

Context of study

Academia has roughly equal numbers of men and women in its workforce (57% men; ONS, 2013), although the number of women in top academic positions remains very low, with an EU average of 15% of top academic positions held by women (European Commission, 2008). The small number of women in senior academic positions is surprising given that the majority of students are female, and the proportion of women graduating with a PhD is increasing (European Commission, 2008). Recent research has suggested that when controlling for research performance and human capital factors, e.g., age, education, etc., women are less likely to be awarded a professorship, particularly if

hiring an internal candidate (Treviño et al., 2015). This suggests that sex plays a role in the hiring process.

In academia, the transition from a research post represents a crucial career step, as it involves a move from temporary fixed-term contracts to a permanent position with promotion opportunities. In the current study, I explored how researchers planned to negotiate the move into these sought-after permanent academic positions and their expectations for their future academic careers. I recruited participants from a university in South-West England. The university is in the top 10 in the United Kingdom, with 17 academic departments, and over 15,000 students enrolled.

Aims and research questions

Due to the sex gap in career attainment in academia, and the existing literature indicating that gender and workplace culture may interact to influence career expectations, in this study I aimed to investigate how gender and workplace culture interacted, and how this could influence the career expectations of male and female researchers. Additionally, to explore the novel process of 'dynamic fit' proposed in this thesis, I investigated the influence of gendered workplace culture on researchers' gender. Based on these aims, I had the following research questions:

1) To what extent do gender and workplace culture interact to influence career expectations?
2) To what extent does gendered workplace culture influence gender?

I investigated the relationship between gender, workplace culture, and career expectations using a qualitative approach rather than a quantitative approach such as surveys. This approach was appropriate here, as I aimed to explore people's experiences of the interaction between gender and workplace culture, and whether career expectations were influenced by this interaction. Also, by using this approach I was able to explore these experiences in greater depth, allowing interviewees to elaborate on their experiences and guide the line of discussion, therefore enabling the exploration of aspects of the relationship between gender, workplace culture and career expectations that otherwise would not have been gained from predetermined questions on a survey.

Method

Participants

Twenty[1] researchers were recruited for 1:1 semi-structured interviews through research staff email lists and a newsletter specifically designed for research staff. Participants included 9 men and 11 women. Using university job categories, I defined 'researchers' as those who worked in a research role without teaching responsibilities. The

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[1] This sample size was determined using guidance that between 12-60 participants is an adequate sample size for qualitative research (Baker & Edwards, 2012). Recruitment of participants was stopped when there were indications that the data was reaching saturation, i.e., the evidence getting so repetitive that there is no need to continue collecting it, resulting in a sample of 20.

mean age was 35.0 years ($SD = 6.11$), and of the 19 participants who responded when asked about their ethnicity, 14 indicated that they were White-British/European. Participants were recruited from 13 departments, with the most commonly reported departments being Chemistry ($N = 3$) and Physics ($N = 3$). See Table 2 for a full list of departments. Nine participants were research associates, seven were research officers, and four were research fellows. These roles require varied levels of experience, with recent post-doctoral researchers tending to be research associates, whereas research fellows have more experience and as such are expected to demonstrate high-quality research output and the ability to generate research income. The tenure in their current position ranged from 8 months to 18 years, with the median being 2 years ($SD = 3.88$) in their role. Seven participants reported that they had children, 3 women and 4 men.

Participants were asked about their future career expectations. Of the female interviewees, eight indicated that they expected to stay in academia, however two of these wished to stay in research, and not move into a lectureship position. Of the remaining female interviewees, one indicated their next career move would be into industry, and two were unclear about their future plans. For the male researchers, five indicated that they expected to stay in academia, and for the remaining interviewees, one expected their next role to be outside academia, and three were unsure as to whether they would stay in academia or leave.

Table 2.

The number of male and female participants from each department, and the percentage of female staff in each department.

	Percentage of staff female (%)	Number of men	Number of women
Architecture and Civil Engineering	11.6	1	0
Biology and Biochemistry	35.7	0	2
Chemistry	27.9	0	3
Economics	8.0	1	0
Electronic and Electrical Engineering	7.5	1	0
Health	48.0	0	2
Mechanical Engineering	32.9	2	0
Pharmacy and Pharmacology	41.4	0	1
Physics	12.5	2	1
Psychology	58.3	1	0
Social and Policy Science	48.9	1	2

Interview schedule

The interview schedule had six key areas: introductory questions, career expectations, relationships with supervisors, workplace culture, personal gender, and sex segregation (see Appendix A).

Introductory questions

Interviews began by asking interviewees to describe their general experiences in their current research role, e.g., "Can you describe your experience in your current role to date?". This was designed to establish rapport and open communication within the

interview. Interviewees were also asked how they felt about their current role, in order to understand their overall appraisal of their current work role.

Career expectations

As this study focused on career expectations, interviewees were asked what the next role they expected to go in to was, e.g. "Following the end of your contract in this role, what role do you expect to go into?". In order to understand the rationale for this expectation, questions were asked around what factors interviewees felt had influenced this decision, e.g. "What do you think has affected your decision regarding the next role you expect to have?". If not already discussed, interviewees were asked whether family commitments and expectations had influenced their career expectations, in order to understand the role of gender norms regarding family.

Interviewees were asked whether anyone had discussed future career plans with them, and also whether family was raised during these discussions, e.g., "Has anyone discussed your future career with you?". This item was included in order to assess the influence of others on interviewees' career expectations, and to identify whether men and women's careers were supported by others in different ways. In order to understand the interviewees' future career plans, they were asked whether they intended to be 're-graded' in their job role, which represented a promotion with an increase in salary, and if they thought there were any barriers to that re-grading process.

Relationships with supervisors

The support of supervisors and senior staff can be understood as a form of 'institutional sanctioning', and is associated with better career outcomes (Arora & Rangnekar, 2015). Therefore, items asked about relationships with principal investigators or heads of department, paying particular attention to the sex of supervisors, and whether they had discussed family with the interviewees, e.g., "How would you describe your relationship with your principal investigator?".

Workplace culture

To investigate the role of organisational culture and participants' perceived 'fit', interviewees were asked about the culture of their workplace. This included a general description, and what they did and did not like about the culture, e.g., "How would you describe the culture of your workplace?". If not discussed already, a prompt asked whether interviewees considered the culture to be masculine or feminine, in order to explicitly explore the gendered nature of the culture. As 'fit' is the key mechanism being explored in this thesis, and it is related to intentions to leave (Peters et al., 2012), interviewees were asked whether they felt they fit in with the culture, and how the culture of the workplace influenced their career expectations for the future, e.g., "How do you think the culture of your workplace influences what role you expect to go into after your contract comes to an end?".

Personal gender

To better understand the gender of the interviewees, a series of questions about gender were included. These items were based on a multi-dimensional understanding of gender, such as Egan and Perry (2001), and asked about the content and the strength of their gender identity, e.g., "To what extent would you say that you're

masculine/feminine?". To assess the variability of gender and the influence of different situational contexts on gender, an item asked whether there had been any change in their personal gendered qualities, and what had influenced that change.

Subsequent items then asked how interviewees' gender related to the culture of their workplace, and whether they felt the workplace was open to lots of different types of people, or preferred a specific type of person, e.g. "Do you feel there are expectations of how to act that are at odds with yourself?". These were included in order to explore 'fit' between the gendered self and the gendered context. Subsequently, interviewees were asked how their gender influenced their career expectations, e.g., "How do you think your gender plays a part in your career expectations?", in order to explicitly explore this direction of influence between gender and careers.

Sex segregation

In the final questions, interviewees were asked about their perception of sex segregation in their workplace, and what could be underlying it. In addition, they were asked what could be done to reduce this difference, e.g., "Do you think there is anything practical your department could do to reduce this sex difference?". These questions were included in order to assess interviewees understanding of the processes underlying sex segregation.

Procedure

This study used a semi-structured interview technique to discuss participants' career expectations, workplace culture, gender, and sex segregation. A semi-structured interview technique was chosen, as it allows deviation from the interview schedule to follow interesting areas of discussion, and to explore novel areas of discussion that interviewees may bring up unprompted (Smith & Osborn, 2004). Interviews lasted between 18 and 51 minutes, and participants were given £5 for their participation. The interviews were digitally recorded and transcribed, and interviewees were given pseudonyms in the analysis. Participants were also asked for demographic information such as age, department, job role title, and time in their current role.

Analytic strategy

The data was analysed using thematic analysis as per Braun and Clarke (2008). This analytical method was chosen due to its theoretical flexibility and its suitability for questions around people's experiences. Despite this study focusing on people's experiences and thoughts, interpretative phenomenological analysis was not appropriate here, as the focus was on common themes across groups (male and female researchers), rather than focusing on individuals themselves.

Themes were identified using a 'top-down' approach, given my previous knowledge about gender and careers, and so data was coded for discussion of gender, organisational culture and gender norms, and career expectations. Following Braun and Clarke's (2008) guidelines, the data was analysed through six stages. In the first two stages, the interviews were re-read, initial ideas around common points of discussion noted, and each interview then coded, with data extracts for each code collated in separate documents. In the third stage, codes were collated into themes by mapping out the connections between each code. For these initial three stages, men and women's data was

analysed separately to highlight possible differences between the two groups. In the fourth stage, each theme was checked in relation to the coded extracts, and then in relation to both the male and female researchers' data to produce a thematic map. In the final two stages, the themes were refined and named, and relevant extracts selected to present.

Analysis

Two overarching themes were identified within the data (Figure 1): the integration of a gendered self into a gendered environment, and the effect of gendered family norms.
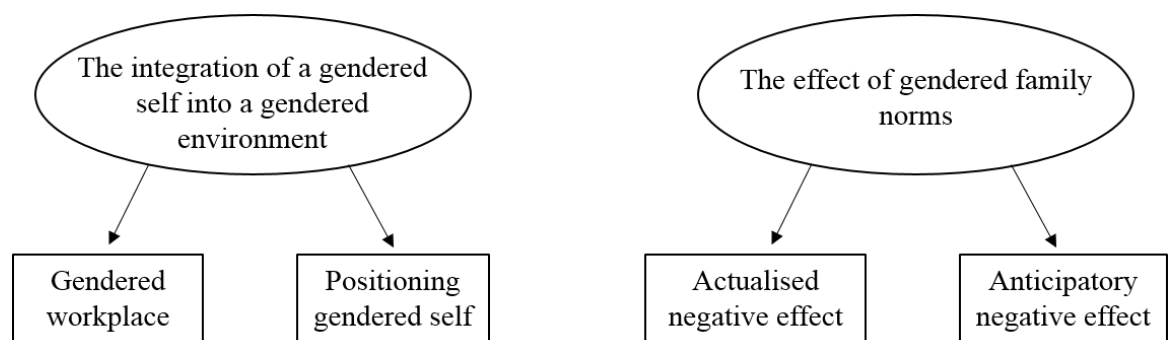
Figure 1. Map of themes and subthemes in the interview data.

Integration of gendered self into gendered environment

The first theme focused on how interviewees perceived their workplace culture, and how they appeared to integrate themselves into this environment. This theme consisted of two subthemes: gendered workplace, and positioning gendered self.

Gendered workplace

When asked about their workplace culture, the majority of interviewees described it as a positive, friendly culture. However, there was a difference in how men and women discussed their workplace cultures: men tended to focus on general issues in the culture, such as communication and structure, and the gendered nature of their workplaces was more of an afterthought, generally only discussed after it was prompted. In contrast, women primarily discussed the gendered nature of the culture.

The majority of male and female interviewees reported a masculine working environment, which ranged from an environment in which there were no real sex-based concerns, to a more hostile masculine environment, although the latter type of environment was only discussed by women. Five of the female interviewees argued that the culture in their immediate environment, such as their research group or office, was more feminine, but with a masculine culture in the department as a whole. The gendered nature of the environment was usually defined in terms of the number of men and women present, but then discussed in greater depth in terms of masculine and feminine behaviours and attitudes:

So there is a bit of like 'oh how's your week', y'know, the caring for other people, that's perhaps also traditionally seen as a feminine quality. Erm, so we have that. But then the real going after industry, I think is a lot, traditionally more perhaps masculine thing, cause sometimes it does feel like war   *Penelope*

The use of gendered characteristics to define the gendered nature of the culture indicated that the gendered culture was not entirely dependent on the sex of the people in the workforce, but also on working practices. These practices were gendered through the use of stereotypically feminine and masculine actions, as Penelope does in the above quotation, associating sociability and caring with a feminine culture, and confrontation and 'war' with masculinity.

The discussion of masculine workplaces appeared to be different for men and women. Female interviewees discussed the masculine environment in mainly negative terms and expressed a desire for more women in their environment. Some highlighted their feelings of exclusion in a masculine environment, through the actions of other men:

A lot of the conversation that take, conversations that take place, take place in the men's toilets [laugh], y'know a woman's never going to get involved because they can't. Erm, there's an attitude like I've seen, erm, at staff meetings, maybe some men roll their eyes cause a woman's complaining about something, erm, and I feel that is very gender specific, it's not just because someone's complaining about something, it's cause a woman's complaining   *Lena*

These feelings of exclusion from a cross-gendered culture appeared to strengthen general feelings of isolation in the workplace, which was then associated with discussion of whether or not to pursue a career in academia. Some female interviewees explicitly discussed how the male-dominated environment was affecting their expectations to pursue a career in academia:

I think probably my confidence in being able to achieve those career goals is affected by my gender, partly as a result of… the people around me at higher levels that, so few of them are women, that it, it y'know, all of these things are kind of reinforcing and make sort of, it does feel like it's more difficult as a female to get to those points   *Anna*

Lack of fit with this cross-gendered culture appeared to result in lowered expectations of reaching higher positions in academia, despite a desire to reach them. In contrast, none of the male interviewees discussed feeling that their career expectations were being influenced by the gendered culture of their workplaces, which may indicate a protective effect of 'fitting' with the culture, although caution needs to be used when interpreting this lack of discussion, as this could also be due to men not wishing to discuss any change in their gender within the interviews. The majority of male interviewees reported that their workplaces were strongly masculine, although many were quick to qualify it, arguing that it is masculine, but not to the extreme:

It's not kind of traditionally masculine, it's not like kind of, er, machismo kind of thing, it's y'know, people aren't kind of arguing or anything like that… well yeah, it's definitely a masculine environment   *Edward*

I guess it's masculine by weight of numbers, but I just don't feel if you went down the pub, these are not gonna be the blokiest of blokes, they're sort of I think more … perhaps… I don't know, less macho *Michael*

This distances the masculine culture from a 'negative' masculinity, which focuses on machismo and aggression, and into a more mundane, less threatening masculine culture. This down-grading of the culture may function to make the gendered nature of the culture appear more acceptable, as it forces a contrast to a much more negative and hostile environment, and so places the current masculine culture in a more positive position.

Therefore, within this subtheme, interviewees reported working in broadly masculine cultures, although there was a general desire for change in this. Women discussed their lack of fit with the masculine culture, which appeared to lead to feelings of isolation and exclusion, and this was then related to a discussion of whether or not to pursue a career in academia. As such, the lack of 'fit' with a masculine culture appeared to be related to lower expectations of career success in academia, indicating that gendered academic culture may affect female researchers' career expectations in academia through varying fit.

Positioning gendered self

Interviewees discussed the extent to which they felt they 'fitted' into their workplaces. Generally, male interviewees discussed feeling they had a good fit with the culture of the workplace, and any lack of fit was due to the type of work they did differing to the research focus of the team or department. However, female interviewees discussed how they negotiated their gendered selves (i.e., their relative masculine or feminine behaviours, ways of dress, and interactional styles) into these gendered workplaces. This positioning of themselves was clearly more difficult for those who described their workplaces as masculine, but even some of those in feminine environments reported monitoring their gendered self in order to be 'professional' and to be taken seriously:

I think I would avoid being overly girly because I think it's important as a researcher, as a researcher to be taken seriously, so I would avoid putting myself in a situation at work whereby I seemed to be a silly girl of any description, because I want to be seen as an equal to male counterparts in terms of my skills and intelligence, and abilities *Amy*

There were marked differences in the ways in which the female interviewees positioned themselves in their gendered workplaces, but all noted that there had been some kind of change in their gendered behaviour or self-perception. Some noted that they saw themselves as more masculine, and this was attributed to the workplace:

Probably, just because of the environment, I'd say I'm a little bit more of a masculine woman *Lena*

This change appeared to be very dependent on the situational context, as certain contexts would elicit more masculine behaviours and interactions, whereas others would demand more feminine behaviours and interactions:

I would say that when I'm around like, the undergrads that come and work in my lab … I think to them I'm very erm, approachable, and erm, very kind, and I want to help people, so I feel that I'd like to think they see me as a more feminine, and

erm, in my attitude, but when it's with senior colleague, then I'm more masculine, so it depends on the situation   *Lena*

This interviewee highlights the process of 'doing' gender based on the situational context, in order to 'fit' with gendered situational norms. This explicit discussion of change in gendered attributes may reflect a conscious positioning of oneself in these contexts, although it may be that at the time, this was relatively 'unconscious' or automatic, and this discussion facilitated an awareness of the context guiding behaviour. Overall, this indicates that workplace culture can influence the gendered expression of these interviewees.

Other female interviewees noted that working in an environment with a masculine culture increased their appreciation of their feminine self, and so they strived to maintain their femininity in the face of pressure to become more masculine. There appeared to be an active maintenance of femininity, which meant that these women had to be very confident and secure in themselves, as they had to be willing to face negative acts from others. However, this increased level of confidence that was seen as necessary for maintaining femininity in a masculine culture increased the risk of being perceived as a 'bitch':

The other problem with confident women is obviously, and that's a very fine line to walk, you don't want to be perceived as a bitch right? When I came here I realised pretty quickly it's either bitch or princess.   *Cara*

This indicates a clear influence of gendered workplace cultures on the way in which women performed gendered behaviours, although there were differences in the way in which this was done, with some women becoming more masculine, whereas others became more feminine. There was no clear relationship between the way in which gendered selves had changed and career expectations for the future, which may be due to the majority of female interviewees reporting that they wished to pursue a career in academia.

In contrast to the female interviewees, none of the male interviewees reported that they felt they had to change who they were to fit in with the culture of their workplace, and only one male interviewee reported any change in their gendered selves, which was described as happening on leaving school. One interpretation of this is that when a gendered workplace culture 'fits' with the gendered self, this means that one may not have to negotiate oneself around gender norms. However, there could be alternative interpretations, such as the male interviewees not being aware of any change, or not wishing to discuss any change in the interviews.

Five of the male interviewees noted how being a man in a masculine environment was a real benefit to themselves in terms of their career, as they felt they had no barriers to progression to more senior roles, and had little feelings of discrimination:

I've never had a problem myself, just to be clear, I'm male and it's kind of set up around me   *Russell*

This presents an awareness of the privileges of being a man in these kinds of environments, and although all of the male interviewees who discussed this expressed discomfort around this privilege, it was not something they were actively fighting against.

In addition to some male researchers potentially exploiting their majority status in academia, some of the women discussed ways in which they could potentially exploit their minority status. Some female interviewees expressed concerns around tokenism, in that women were present merely to make the department look better, rather than because of their skills and abilities. This was discussed as a concern, in that they may be hired for future roles because of their sex, rather than their research ability, but it also presented an opportunity to exploit their minority status:

> The fact that as a woman, and there's not very many women in chemistry, if you're good, then everyone wants to employ you. So therefore you, there is the opportunity to achieve at the highest level… I think there's more opportunities for me to achieve what I want to achieve, more based on the fact that I'm a woman, than maybe a White-British male would. *Lena*

This posed a real struggle for some interviewees, as there was a wish to be seen as a scientist, rather than a 'woman scientist', but also there was an opportunity to exploit a lack of fit with the gendered culture to access senior positions. Therefore, there were indications that both men and women had opportunities to exploit their group status in their careers, particularly in accessing scarce senior academic positions. However, despite the apparent equivalence of these opportunities, none of the female researchers reported an awareness of positive discrimination or positive action in their recruitment to their current role or previous roles, whereas the some male researchers had acknowledged that their careers had benefited from a lack of barriers due to their sex.

The effect of gendered family norms

Within this second core theme, men and women discussed the effect of family on careers in a number of different ways. Male and female interviewees with children discussed the negative effect having a family had on their career expectations. Additionally, women who did not have children expressed concern around integrating children into their future work lives, which indicated that they were incorporating family expectations into their current career choices.

As a result of these differences in the discussion of family, this theme consisted of two subthemes: the actualised negative effect of having a family on careers and expectations, and the anticipatory negative effect.

Actualised negative effect

Seven interviewees (three women and four men) had children, and all, apart from one man, discussed the negative effect having children had on their career. The male interviewee who did not report a negative effect of having children on his career instead discussed how the main drive in his career was to have an income to support his family.

There was a tension in the discussion of how family had integrated with their careers. The three female interviewees all discussed how academia was a good option for women with children, because it was flexible:

> it allows very flexible working, especially in research because as a researcher you don't really, you're not having to be in when students are in… so I can come and go as I please pretty much *Amy*

Despite this, there was also a negative effect of having children on their careers, something which they were very conscious of:

> I know I could have achieved a lot more if I didn't have children, well at the moment I would be in a different place, um, and just sort of feeling that there's that lost time that I don't know if I'm going to be able to recoup   *Sarah*

All three women and one man had taken time out of work to raise their children when they were younger, and as a result, these four interviewees discussed similar negative effects of having children on their careers. There appeared to be a negative effect of taking time out of work when their children were younger, and these four interviewees worried that this time out meant they had lost opportunities and momentum in their careers. Additionally, another negative effect of having children on their careers appeared to be a restriction on the number of hours they could work, with two of the women currently working part-time, something which they saw as a barrier to career progression as it was at odds with the cultural assumptions of working long hours. This indicates a conflict between the masculine culture of academia (i.e., long hours and uninterrupted time in work), and family responsibilities.

However, the apparent negative career effects of having a family were not limited to the interviewees who had taken on the primary care-giving role for their children. The remaining two men with children both reported a negative impact on their careers, mainly through restricting hours and geographical movement:

> I think my family does limit what I can do compared to other post-docs, they might be able to put in the hundred-hour weeks and stay all day long and get in to the lab at, y'know, 7 o'clock or whatever, but um, obviously I can't do that quite so easy because, y'know, my family's a part of me, and I don't want to   *Jonathan*

The apparent negative effects of having children could be seen as fairly equivalent for men and women, although there was a greater effect on those who had taken on the primary care-giving role (who in this study were mainly women). But there were indications that family affected the careers of men and women differently, despite this being contested by interviewees. One female interviewee discussed how having children had negatively affected her career expectations:

> So if I hadn't had children, I would, I would expect to be becoming a professor, erm, but because I've had children, and because my husband earns more than me, erm, then my career expectations are lower   *Amy*

This change in expectations was discussed in terms of a need to have one parent taking on childcare, and the other being the wage-earner, with Amy arguing that if she had a higher salary, their roles would be reversed. For all six interviewees who discussed their family in depth, five had a family structure in which the woman was primarily responsible for care-giving, and the man was primarily responsible for earning an income, which fits with traditional gender norms around work and home (e.g. Eagly, 1987). Despite this, all five interviewees who had a traditional family structure argued that the designation of roles was a personal choice, or something that had been decided as a couple, rather than anything to do with gender norms. In fact, when asked how their gender had affected their career, the majority of interviewees denied that their gender had any effect on their careers, or on their decisions regarding their family. The three women with children argued that it

was parenthood, not gender (or sex), that had negatively affected their career. But they also contradicted themselves at times, indicating that gender may have actually played a part in the negative effect of family on their careers:

> I mean stereotypically it's probably a gender thing, mother stay at home sort of scenario, but um, no it's more, more an individual choice.   *Lydia*

Similarly, Jonathan explained that he and his wife chose their roles: his wife was a stay-at-home mother, and he worked full-time. He explained this as a choice, but then hinted at the role of traditional norms in this choice:

> We've gone that way because she, she wanted to have kids and look after the kids, and it's not a, not something that's, y'know, enforced upon her … it's not my male-ness that's kept her down … It's traditional, but not enforced   *Jonathan*

These quotations indicate a desire to downplay the role of gender norms on the distribution of roles around family and work, and instead to focus on individual choice. However, if this was a true personal choice, you would expect that half of the women and half of the men would choose a caregiving role, whereas only one interviewee reported a relationship in which the man was the primary caregiver, and the woman was the primary wage-earner. Therefore, there appears to be a role of gender norms around family in the career experiences of parents and their expectations for the future, due to women being expected to take on the primary caregiver role, and the negative effect of family on an academic career is attributed to the masculine workplace culture of academia conflicting with a caregiver role.

Anticipatory negative effect

For the female interviewees who did not have children, all expressed concerns about how they were going to be a 'present' parent, whilst still maintaining a successful academic or research career, indicating an effect of wider gender norms around family. All discussed an expectation to be a parent, indicating an existing parental identity, and they expressed an awareness that women tend to take on the majority of child-rearing in a partnership:

> Family is erm, it's still hard to have an academic career and a family, and although that can be shared… [*it*] does still seem to be the case that the burden of that mostly falls on women   *Anna*

As a result of this expectation, the female interviewees appeared to be planning ways that they could take care of their future children. The concerns seemed to stem from the perceived incompatibility between the masculine working norms in academia and being a 'present' parent:

> I mean if you want to stay in academia at all costs you will have to travel a lot to do a lot of post-docs, far from your boyfriend or your husband, and it's not reasonable, I mean it's difficult to have children in that situation, so I think women are maybe more ready … they are prepared to just er make compromise and say, ok, it doesn't matter for my career, cause I really want a family   *Emelie*

Here, Emelie describes how the norms of geographical flexibility in an academic career are not compatible with raising children with a partner, and so a reasonable option

would be to sacrifice an academic career to have a family. Interviewees also discussed concerns about how their career progression would be affected by time out of work for maternity leave, and the timings of having children in relation to their position. A number of interviewees argued that at around the time they start to think about having children, i.e., in their late twenties to mid-thirties, they are employed in fixed-term research posts which offer little security for the future, and in which it is difficult to accommodate maternity leave:

> It sort of feels like right at the, at the time when that might be the reasonable thing to consider [*having children*], it's also y'know, it's difficult if you don't have a permanent position and erm, just sort of, yeah, future security.   *Anna*

This seems to indicate a possible delay in having children to when one is in a permanent post, but there is also a scarcity of permanent academic posts, which adds to the perception of a lack of integration of children into a successful academic career. In order to prepare for these issues, many of the participants discussed how they had engaged in some planning, either through discussing with partners how they would negotiate childcare, discussing it with supervisors and mentors, and one interviewee had investigated childcare provisions at their institution. However, all still discussed this issue as a real concern for their future careers, with the suggestion that they may have to choose one role over the other, indicating that gender norms around family and masculine workplace norms may interact to negatively influence women's career expectations.

In contrast, the male interviewees who did not have children reported that they had not discussed family plans with principal investigators and colleagues, and instead reported that because they did not currently have families they were 'free' to do what they wanted in their careers. Instead, the effect of having children on careers appeared to be unanticipated:

> Once you sort of accidentally start settling down and have a family and suddenly you think 'oh no' [laugh] I need a proper job   *Michael*

Here, Michael is discussing how having a child affected his career. This is in stark contrast with the female interviewees due to the lack of preparation and anticipation of the impact of children on careers, which may be due to the lack of male gender norms regarding caregiving. Therefore, male interviewees may not have discussed any future plans regarding family, as they didn't see themselves as primary caregivers for young children:

> Well I'm a White European man… who's not going to be, y'know, the spectre of being burdened with the, the family doesn't really come up   *Martin*

Discussion

The purpose of this study was to understand the relationship between researchers' gender and workplace culture and the influence they may have on career expectations, in addition to investigating the key component of 'dynamic fit', the influence of gendered workplace cultures on gender. This study suggests that the relationship between gender and gendered norms may influence researchers' expectations for an academic career, and also

academic workplace culture may influence the 'doing' of gendered behaviours, particularly for female researchers.

The relationship between gender and workplace culture

In this study, there were indications that the relationship between sex, gender and workplace culture may be influencing career expectations in academia. Some women discussed how they had lower career expectations due to the masculine culture they worked in. There was some discussion of the benefits of being a woman in a masculine workplace, in that some women saw an opportunity to exploit tokenistic hiring practices, although there was considerable trepidation about advancing one's career due to sex rather than ability. Due to this lack of 'fit' with workplace culture, some women appeared to alter their gendered behaviours in response to different gendered situational contexts, highlighting that when sex and culture do not 'fit', gendered behaviour may be used as a way to improve 'fit'. Therefore, there are some indications of 'dynamic fit' between gender and careers. However, this change in gendered behaviour was not discussed in relation to greater expectations in academia, which could be due to the change highlighting the 'outsider' status of women, and the original lack of fit.

For men, some discussed the benefits of being a man in a masculine workplace to their career, such as a reduction in barriers to progression and little feelings of discrimination. This may indicate that good 'fit' between culture and gender could potentially boost career expectations, but as these findings were only discussed by a few male researchers in this study, further exploration of the role of 'fit' in men's career expectations would be needed before drawing conclusions about the role of fit.

Therefore, these findings indicate that gender (in the form of gendered behaviours and interactional styles) and gendered workplace culture may interact with each other. Here, there were indications that a lack of fit could relate to lower expectations (as discussed by some female interviewees). This lack of fit discussed by some women was particularly attributable to the negative effect of family on career expectations, as family was not incorporated into their workplace cultures.

The influence of gender norms around family on career expectations

There were indications that gender norms around family (i.e., the behavioural expectations of men and women in reference to family) had a key role in the expectations and experiences of male and female researchers in this study. The current analysis of norms around family teased apart the effect of having children with the anticipatory effect of social norms around family, of which the latter was only reported by women. For both types of effect, family was discussed in relation to lower expectations for a career in academia, due to academic cultures being seen as more masculine, and not incorporating family-related aspects.

Parenthood in itself appeared to create similar concerns and career roadblocks for men and women, due to masculine working norms that did not accommodate childcare responsibilities, e.g., expectations of long work hours and geographical flexibility. However, gendered norms around family and work appeared to have a greater negative effect on women's expectations, due to women being more likely to take on the primary caregiver role in this study. This greater negative effect was attributed to time being taken

out of work, and the focus on being a 'present' parent, which required restricting working hours. Therefore, this indicates that lower expectations may be a result of the interaction between a feminine role of primary caregiver and a masculine workplace culture.

Additionally, there appeared to be a greater effect of anticipating work-family conflict for female than male researchers. In fact, of the male researchers without children, few brought up future family issues themselves, and when asked if they discussed family plans with others in the workplace, the majority said that they had not. This indicates that gender norms around work and home could influence the career expectations of women to a greater extent. This also highlights that despite men and women having both career and family expectations, there appears to be a greater amount of conflict between these roles for women than for men. Due to this work-family conflict for women, some female interviewees discussed the possibility of leaving academia after having children. This seems to suggest that women were less satisfied with academia, and less satisfied as an academic due to the conflict between work and family roles. These two things could imply a lower level of professional identification (the extent to which a person is connected to their profession and perceives themselves in terms of their profession (Leach et al., 2008)), which could also be influencing career expectations, however there will be additional factors that are associated with expectations to leave academia, such as external constraints e.g., availability of roles, geographical location, pay levels and job security. The role of professional identification will have to be investigated further (see Chapter 4). This conflict between family and work roles is in line with role congruity theory (Eagly & Karau, 2002), which predicts a greater level of conflict between a female gender role and occupational roles requiring greater agency over communality. These findings extend this theory, as it is not necessarily the female gender role as a whole that is incompatible with career roles, it is primary caregiver role that is the key conflicting factor with an academic role. In contrast, due to the male gender role being typified by agency instead of communality (Eagly, 1987), there is less conflict between a male gender role and an academic role.

The influence of workplace culture on gender

In this study there are indications of change in gendered behaviour associated with workplace culture, as some women reported situational contextual variation in their gendered behaviour, directly tying their gendered behaviour or self-perception to the situation or workplace environment. This builds on research indicating long-term changes in gender (Jones, Peskin & Livson, 2011) and semi-stable changes based on life events (Levinson, 1977; McDermott & Schwartz, 2012), and indicates a much more dynamic effect of the workplace on gendered behaviour. This apparent short-term change in gendered behaviour fits with a 'doing' gender approach, in which situational contexts dictate appropriate gendered behaviours (e.g. West and Zimmerman, 1987). However, there was not a clear pattern of change reported, as some female researchers became more masculine, but others reported either becoming more feminine as a result of working in a masculine environment, or striving to maintain their femininity. This difference in change in gendered behaviour cannot currently be explained, but it indicates that there may be different ways in which to 'do' gender within gendered contexts. Thus, gendered workplace cultures may not influence all workers in the same way, and instead there may be alternative ways of 'doing' gender within a given workplace context.

The interviews also highlighted that the masculine academic culture may 'protect' for men's gendered behaviour, as they reported that they did not feel they had to change any gendered part of themselves in order to fit with their workplace. One interpretation of this apparent lack of change is that it may relate to increased career expectations in academia, as it appears that masculinity is less likely to be challenged in these workplaces, and so men may be less likely to experience conflict between gendered behaviour and occupational roles. However, as this is anecdotal evidence, further researcher with a greater number of men would be needed in order to conclude anything about the role of good 'fit' between gender and workplace culture in men's career expectations.

Overall, this study indicates that gendered workplace cultures may influence women's gender expression (in the form of behaviours and interactional styles), and suggests that the relationship between gender and careers could potentially be reciprocal. Additionally, there are indications that 'doing' gender could be an active response to cross-gendered situational contexts, wither through adapting behaviour to fit with the wider norms, or challenging them, as demonstrated by some of the female researchers in this study. Therefore, fit may play a role in expectation, and there are indications that change in gendered behaviour can be dynamic and active.

Limitations

In this study, the sample was restricted to one university that had a science focus, and lacked arts departments and faculties. This could explain why the majority of interviewees reported a masculine workplace culture, as there tends to be more men working in science and technology than in the arts (European Commission, 2008). This means that I was unable to explore the experiences of men working in feminine workplaces, and of the influence of gendered workplace culture on women when they are in the majority. Men's experiences of negotiating oneself into feminine environments may mirror the experiences of women in masculine cultures, as detailed here, although evidence suggests that men may benefit from male gender norms around professionalism and expertise (Simpson, 2004), and as such the experiences may be distinctly different. Additionally, women working in female-dominated environments may have higher career expectations, and their gender may be 'protected' due to a greater fit between gender and workplace culture, similar to the experiences of men in this study.

Additionally, due to the relatively small number of participants in this study, this study does not provide a comprehensive depiction of the different ways in which gender and gendered workplace culture can interact, and the ways in which people can manage this 'fit' or lack thereof. This study provides indications of the ways in which (female) researchers can 'do' gendered behaviours differently within this context, but there may be other ways that are not captured in these interviews. Further research using samples from different universities and in different occupational areas would identify the different ways in which workers can manage 'fit' and the extent to which this influences their career expectations.

An additional limitation of this study was that as it was qualitative, the relative contribution of gender, gendered workplace culture, and the 'fit' between the two to career expectations could not be assessed. Instead, this study indicates a relationship between these aspects. It could be that participants put additional emphasis on the role of 'fit' between gender and workplace culture in influencing their career expectations, whereas in

actuality, it may have a lesser role than gender or workplace culture alone, or other factors, such as job market issues, e.g., availability of roles. So, in order to further understand the contribution of 'fit' between gender and workplace culture to aspirations and expectations, quantitative measures should be used, either through cross-sectional or experimental methods.

Conclusion

In this study, I explored the three thesis research questions in this study. The analysis appeared to suggest that gender and gendered workplace culture may interact to influence female researchers' expectations to stay in academia. Additionally, there were indications that gendered workplace culture could influence gendered behaviours, particularly for women, which suggests a reciprocal relationship between gender and careers, and supports a process of 'dynamic fit'. The findings imply that when the workplace culture does not accommodate gender norms around family (i.e., societal expectations of who is the primary caregiver), the gendered workplace culture could disproportionately negatively affect women's career expectations. Therefore, this study suggests that there are two contextual influences on career aspirations and expectations to be explored: workplace cultures, and gender norms around work and home. As such, in the next two chapters, I investigated each of these influences separately, due to their different practical implications, in that workplace cultures are malleable and can be changed in the short-term (e.g., through leaving organisations), whereas gender norms around work and home are pervasive, and cannot be readily changed by individuals. In the next study, I further explored the relationship between gender and gendered workplace culture indicated in this study, and sought to capture the comparable variance in these factors in order to model the relationships. Whereas, in Study 3, I sought to establish the influence of gender norms around work and home on aspirations and expectations. Additionally, in the next study, I aimed to understand the career aspirations and expectations of women in a female-dominated industry, in order to see whether 'fit' between gender and workplace culture boosted the aspirations and expectations of women, mirroring the experiences of men in this study.

Chapter 4:
Study 2: The influence of 'fit' on women's career aspirations and expectations in feminine workplaces

Introduction

Building on the findings of Study 1, in this study, I explored how the interaction between gender and gendered workplace culture influenced career aspirations and expectations in a novel organisational context by examining femininity. This study sought to address the thesis research question of how contextual factors (here, a situational contextual factor, workplace culture) influence the relationship between gender and career aspirations, whilst focusing on the traditional conceptualisation of fit: how gender influences career aspirations. As this study sought to establish the role of 'fit' in career choices and aspirations, this study only examined one direction of influence between gender and careers, using the more traditional conceptualisation of the relationship between gender and careers.

In the previous study, there were indications that men and women may have different levels of identification with their profession due to different levels of work-family conflict, and this may have influenced their academic career expectations. For instance, some female researchers discussed the possibility of leaving academia after having children, as the workplace culture did not accommodate child-rearing responsibilities and so they saw conflict between their work and family roles. In contrast, none of the male researchers discussed the possibility of leaving their career for family responsibilities. This indicates that a lack of 'fit' between gender and the gendered culture of academia may vary professional identification (i.e., the extent to which a person is connected to their profession and they perceive themselves in terms of their profession), and could then vary career expectations. The association between varying levels of professional identification and career expectations is backed up by previous research that links greater professional identification with a more established idea of future career preferences and greater engagement in proactive career behaviours (Savickas, 1985; Strauss, Griffin & Parker, 2012). Therefore, professional identification may influence the effect of 'fit' between gender and gendered workplace culture on career outcomes. In other words, 'fit' between gender and gendered workplace culture may influence career aspirations and expectations through raising or lowering professional identification. To investigate whether professional identification links 'fit' and career aspirations and expectations, this study investigated the indirect effects of the interaction between one aspect of gender, femininity, and gendered workplace culture on aspirations and expectations through professional identification.

How 'fit' influences professional identification

Similar to career aspirations and expectations, there are sex differences in the development of professional identity (McGowen & Hart, 1990; Savickas, 1985), which may be caused by workplace cultures and gender. As previously discussed in Chapter 1, and indicated by the results of Study 1, workplaces can create cultures that promote one sex at the detriment of the other (e.g., Cahusac & Kanji; Murgia & Poggio, 2013). For instance, in Study 1, workplace cultures did not integrate family obligations, and as such, women felt limited in terms of their future careers, whereas men did not perceive any such

limitations. This influence of workplace culture on the professional identification of men and women has also been identified in previous research, as an attempt to explain women's professional identification in male-dominated careers (Hatmaker, 2012; Savickas, 1985). For instance, Savickas (1985) argued that the differences between men and women's professional identification were a result of the male-dominated careers participants worked in. Therefore, gendered workplace cultures may vary individuals' professional identification.

Workplace culture is not the only influence on professional identity, gender can also influence professional identification (e.g., Healey & Hays, 2012). McGowen and Hart (1990) argue that gender and workplace culture are the two key causes of sex differences in professional identification. Workplace culture may create sex differences in professional identification due to men having a greater number of positive career experiences than women. Additionally, gender roles may cause sex differences, particularly women's communal role, which the authors argue is related to a weaker professional identity. This indicates that femininity may play a role in the development of professional identity, although here it is understood as a negative influence. This negative influence of femininity may be due to most workplaces having a masculine culture (Acker, 1990). In contrast, femininity may have a different – potentially positive – role in organisations with communal, feminine cultures. These causes of differences in professional identity mirror the findings of Study 1, in which men discussed more positive (or less negative) workplace experiences than women, and women discussed lower expectations to remain in academia (and potentially a lesser identification with academia) due to their role as a primary caregiver. Overall, this indicates that aspects of gender and gendered organisational culture may interact to influence the development of professional identification, and as professional identification is related to career outcomes (e.g., Savickas, 1985; Strauss, Griffin & Parker, 2012), 'fit' between gender and organisational culture may influence career aspirations and expectations through professional identification.

The above discussion demonstrates that 'fit' between certain aspects of gender and gendered organisational culture may influence professional identification, and subsequently, career aspirations and expectations, as such, professional identification may help explain how gender and workplace culture relate to career aspirations and expectations. By understanding how gender and gendered workplace culture interact to influence career aspirations and expectations through professional identification, we can further explore the role of 'fit' in the relationship between gender and career aspirations and choices.

Context of current study

In this study, I chose to explore fit in the care industry. I chose this industry, as it has a highly sex-typed workforce, and following on from Study 1 in which most workplace cultures were masculine, I wanted to understand how 'fit' related to women's aspirations and expectations in an industry in which they are majority members. The care industry has a predominantly female workforce, with men representing 17.3% of care workers, 11.1% of senior care workers, and 10.0% of nurses (ONS, 2015). However, there is a greater percentage of men at the managerial level in the care industry, with the ONS figures indicating that 26.4% of care managers are men. This means that in the care industry, men are in the minority, although less so at a managerial level. This provides a unique

opportunity to understand the career aspirations and expectations of women in a situational context in which they are the majority.

I recruited from four care organisations. The first was a large private healthcare provider that specialised in the care of older people, with six residential care homes and one care-in-the-community service, which were based in the Midlands, South-West, and South-East of England. The second was also a private residential care home that provided care for older people in the South-West, and was part of a large healthcare organisation. The remaining organisations provided residential care for those with autism. One of these was based in the South-West, whilst the other was based in the East of England. Both were independent private care homes.

Aim and hypothesis

There were two key aims of this study based on the thesis research questions and the findings of Study 1. The first aim was to establish whether the 'fit' between gender (here, femininity) and gendered workplace culture (here, feminine workplace culture) influenced career aspirations and expectations. This was found in Study 1, however, here I used a cross-sectional survey design instead of interviews in order to quantify the contribution of this interaction to career aspirations and expectations. The second aim was to establish whether this interaction influenced career aspirations and expectations indirectly through professional identification. Professional identification may help explain some of the relationship between gender and gendered workplace culture, and aspirations as it is influenced by 'fit' between gender and workplace, and is related to career preferences and outcomes.

Based on these two aims, I hypothesised that:

1) Femininity would moderate the influence of feminine workplace culture on aspirations and aspirations, in that for women with high femininity, working in a more feminine culture (i.e., having greater 'fit' between femininity and workplace culture) would have a positive influence on aspirations and expectations, whereas for women with low femininity, there would be a negative influence;

2) The relationship between this interaction and career aspirations and expectations would be mediated by professional identification (see Figure 2), in that higher aspirations and expectations could be explained through higher professional identification.
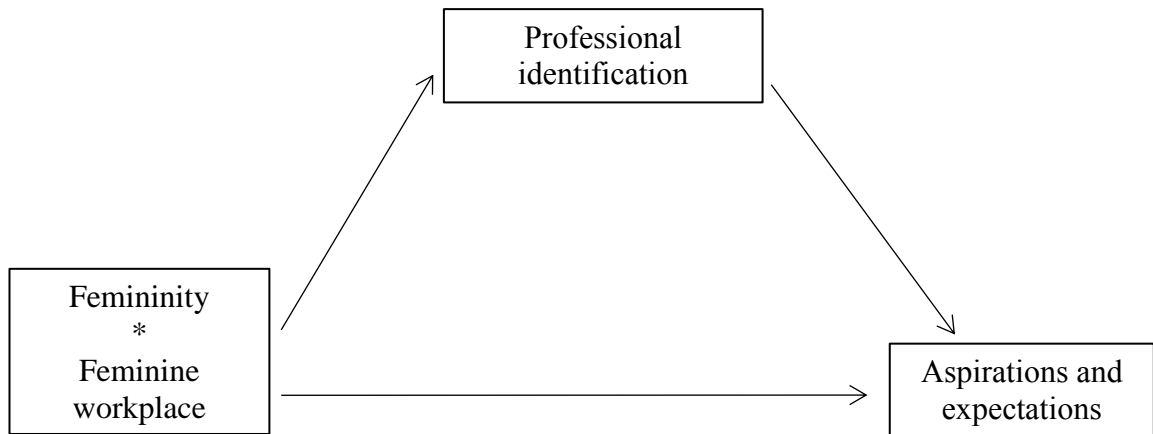
Figure 2. The proposed model between femininity, feminine organisational culture, professional identification and aspirations and expectations. In this model, femininity moderates the indirect and direct relationships between feminine workplace and aspirations and expectations.

Method

Participants

The sample consisted of carers, nurses and managerial staff recruited from four private care organisations. The organisations provided either residential care or care in the community to older adults or people with autism. Participants were recruited through gatekeepers (managers and workers) at the four organisations, who put up posters advertising the study in their organisations and provided copies of the survey to their staff. The number of people recruited from each organisation, along with the average feminine culture scores for each organisation are presented in Table 4.

In total, 68 female participants were recruited[2]. Only female participants were recruited as I was interested in understanding whether 'fit' was still evident in an industry in which women were majority members, and so expanding the findings of the previous study in which women worked in for male-dominated, masculine organisations. The age of the participants ranged from 18-68, with a mean of 40.43 years ($SD = 12.04$). Sixty-two participants reported their ethnicity, with White-British/European being the most frequently reported category ($N = 50$, 80.6%), followed by Black-African/Caribbean ($N = 5$, 8.1%), and Asian ($N = 4$, 6.5%).

Occupational level was reported by 66 participants, and ranged from 'unskilled/role with no decision making' to 'top management', the most frequent category was 'semi-skilled / role with discretionary decision making' ($N = 32$, 48.5%). Table 3 displays the frequencies for each type of role.

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[2] Initial sample size was determined as between 126-162 participants in order to detect small-medium relationships between the independent variable and mediator, and between the mediator and outcome variables (Fritz & MacKinnon, 2007). However, due to problems accessing this population (such as the requirement of management sign-off before collecting data) and low numbers of workers in the targeted organisations participating in the study, this sample is smaller. The results should be understood in the lights of this low statistical power.

Table 3.

Frequencies of participants for each type of job role reported (N = 66).

	Frequency	Percentage
Unskilled/role with no decision making	6	9.1%
Semi-skilled/role with discretionary decision making	32	48.5%
Skilled technical and academically qualified role/ junior management and supervisors	10	15.2%
Professionally qualified, experienced specialists and mid-management	15	22.7%
Senior management	2	2.9%
Top management	1	1.5%

Participants were asked about their sexual orientation, as differences in sexual orientation can be associated with differences in gender (e.g., Ross, 1983; Udry & Chantala, 2006), and so by understanding the different sexual orientations of participants, analysis could be conducted for different sexual orientation groups. This information was collected at the end of the survey so as not to influence scores on gender and careers measures. Fifty-one of the participants indicated their sexual orientation, with 46 (90.2%) responding that they were heterosexual/straight. Due to the small number of participants indicating a non-heterosexual identity, analysis was conducted for the sample as a whole. The most frequent relationship status for participants was married ($N = 28$, 41.2%), and 46 (67.6%) participants indicated that they had children.

Table 4.

The number of participants recruited from each organisation, the mean age of participants, and the mean feminine organisational culture score.

Organisation	Number of participants	Mean age of participants	Mean feminine organisational culture score
Multi-centre care of older people	35	40.34	5.28
South-West care of older people	15	34.75	5.19
South-West care of people with autism	4	37.93	6.46
East care of people with autism	12	45.08	4.87

Materials and design

Design

This study used a cross-sectional design, using a questionnaire with standardised scales to measure femininity, career aspirations, expectations, leadership aspirations, professional identification, and feminine organisational culture. In this study there were

two predictor variables: femininity and feminine organisational culture; one mediator: professional identification; and three outcome variables: career aspirations, career expectations, and leadership aspirations.

Career aspirations and expectations measures

Two open-ended questions of career aspirations and expectations were used, adapted from the items used by Metz, Fouad and Ihle-Helledy (2009) and Arbona and Novy (1991). This was included to assess the type of career participants aspired to and expected to have, and to provide context to the following aspiration and expectations scales. Participants were asked: 'If everything was possible for you, what occupation or job would you like to have as your lifetime career?' and 'Taking into account reality factors, what occupation or job do you expect to have as your lifetime career?'. Participants were asked to refer back to their responses to these questions in the following two scales.

As there was a lack of existing measures designed to assess participants' perception of their career aspirations and expectations, I created a 10-item scale (five items concerning aspirations ($\alpha = .70$) and expectations ($\alpha = .90$) separately; see Appendix B for full scale) asking participants about their perception of different aspects of the careers they indicated as aspirations and expectations. Participants responded on a 7-point Likert-type response alternative, ranging from 'strongly disagree' to 'strongly agree'. All items were chosen as they indicated career 'success', and so a higher score indicated a higher, more positive perception of the careers they aspired to and expected to enter. The first item 'The career I aspire to/expect to enter will be something that I find enjoyable' was designed to measure participants' general perception of the career. The following three items concerning prestige ('The career I aspire to/expect to end up in is held in high regard by others'), pay ('The career I aspire to/expect to end up in will provide me with a good wage'), and use of knowledge and skills ('The career I aspire to/expect to end up in will utilise my knowledge and skills') were included due to their prevalence in the career aspirations literature. Typically, when participants respond to open-ended questions about aspirations and expectations, researchers have coded the responses for indicators of socioeconomic status, including pay (Howard et al., 2011; McWhirter, Hackett & Bandabs, 1998), status or prestige (Howard et al., 2011; O'Brien & Fassinger, 1993; Schuette, Ponton & Chalrton, 2012), and educational level (Arbona & Novy, 1991; Howard et al., 2011; McWhirter, Hackett & Bandabs, 1998; Metz, Fouad & Ihle-Helledy, 2009). Rather than assessing educational level, the current scale assessed the level of fit between respondents' educational level and skills and the job. As such, a low score on this item would indicate either a job that does not reach the educational level or intellectual ability of the respondent, and so the respondent is not reaching their full potential. The final item assessed opportunities for advancement ('The career I aspire to/expect to end up in will offer me opportunities to advance up the career ladder), and was included in part to assess prestige, as more senior positions are associated with greater prestige (Ashby & Schoon, 2010; Schuette, Ponton & Charlton, 2012), and also to indicate the potential for long-term professional growth within a career field.

In addition to general appraisal of aspirations and expectations, leadership aspirations were also assessed due to the sex differences in attainment of leadership positions (ONS, 2015). This was assessed using the leadership and achievement aspirations sub-scale of the Career Aspiration Scale (Gray & O'Brien, 2007), which was measured on

a 7-point Likert-type response alternative ranging from 'strongly disagree' to 'strongly agree'. This scale consisted of 6 items (α = .84) including 'I hope to become a leader in my career field' and 'When I am established in my career, I would like to manage other employees'. A high score on this scale indicated a stronger desire to reach a leadership position.

Femininity

Femininity was measured by asking participants about their perception of their femininity. Participants were asked 'How feminine would you rate yourself?' and responses were measured on a 7-point Likert-type response alternative from 'not at all' to 'very'. This was to assess the content of one's gender identity, and this measure was used as previous analysis of existing masculinity and femininity measures have generally found dimensions consisting of only 'masculinity' and 'femininity' (Hoffman & Borders, 2001; Pedhazur & Tetenbaum, 1979).

Only femininity was assessed due to the feminine workplace cultures of the organisations used in this study, and so high or low femininity represented high and low fit with the organisational culture (see Chapter 2 for a discussion of the reasons for selecting this measure). Masculinity was not included due to the possibility that masculinity is acceptable in a range of situational contexts (Nentwich & Kelan, 2014), and so high masculinity may not necessarily reflect a lack of 'fit' with the culture[3].

Feminine workplace culture

Additionally, a measure of the feminine workplace culture was included in order to assess participants' perception of the gendered nature of their workplace culture. This consisted of the supportive factor of Reilly, Chatman and Caldwell's (1991) organizational culture profile, which has previously been used to assess feminine organisational culture (e.g., O'Neil & O'Reilly, 2010). Participants were asked to indicate to what extent the items were typical of the organisation they worked for on a 7-point Likert-type response alternative ranging from 'extremely untypical' to 'extremely typical'. These 3 items were 'sharing information freely', 'being supportive', and 'respect for people'. Three additional items were also included which reflect femininity in the gender literature, and were taken from the organizational culture profile. These items were: 'Being people oriented', 'Flexibility', and 'Offers praise for good performance'. The composite measure consisted of 6 items (α = .85). A high score on this scale indicated that the organisational culture was perceived as more feminine.

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[3] Masculinity was assessed in the survey, and the relationship between masculinity and the other variables were analysed. Masculinity was not significantly associated with professional identification (ɣ = -0.05, p = .09), aspirations (ɣ = -0.01, p = .92), expectations (ɣ = 0.01, p = .81), or leadership aspirations (ɣ = -0.48 p = .38). These findings appear to indicate that masculinity does not have a significant role in the career aspirations and expectation of participants in this feminine occupational context. In addition to these non-significant relationships, there was no significant indirect effect of an interaction between masculinity and feminine workplace culture through professional identification on aspirations (ɣ = -0.004, p = .32), expectations (ɣ = 0.01, p = .57), or leadership aspirations (ɣ = 0.04, p = .36).

Identification with profession[4]

Leach et al.'s (2008) measure of identification was used to assess professional identification (α = .95). This measure was used instead of a simple measure of strength of identification as it provides a comprehensive assessment of level of identification, incorporating the extent to which individuals define themselves in terms of the group, as well as the level of investment individuals have in the group.

This measure consisted of 14 items, and responses were measured on a 7-point Likert-type response alternative ranging from 'strongly disagree' to 'strongly agree'. The measure included items such as: 'I feel a bond with my profession', 'It is pleasant to be part of my profession', and 'Being part of my profession is an important part of my identity'. A high score on this scale indicated that participants strongly identified with their profession.

Procedure

Participants were given paper copies of the survey, along with an information and consent form, and a letter explaining the study. Participants were instructed to either mail back their completed surveys using the stamped addressed enveloped provided, or to put the survey into an envelope and give them to their manager. As an incentive, participants were offered the opportunity to enter a prize draw for a £50 Amazon voucher.

Analytic strategy

As this study sought to assess the effects of the interaction between femininity and feminine organisational culture on career aspirations and expectations, and how professional identification mediated this relationship, moderated mediation analyses were conducted.

Separate analyses of career aspirations and expectations were conducted as there may be different relationships the 'fit' between femininity and feminine workplace and aspirations and expectations. For instance, as aspirations refer to the careers or roles people would want to have if there were no barriers, there may be a lesser effect of the culture of their current workplace, than on expectations, which include 'reality factors', such as educational level or job market opportunities. These variables were analysed separately,

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[4] The five subscales of professional identification (centrality, satisfaction, solidarity (constituting self-investment), and ingroup homogeneity and individual self-stereotyping (constituting self-definition) were analysed to identify whether the results were driven by individual subscales. For all the subscales, the effect was in the same direction. Across the three careers outcome measures, there were significant indirect effects using the subcomponents of centrality and satisfaction as mediators. When using ingroup homogeneity, the indirect effect was significant for career aspirations and expectations. Solidarity and individual self-stereotyping did not elicit significant indirect effects for any of the careers measures. Therefore, the indirect effects appear to be driven by centrality, satisfaction, and ingroup homogeneity (the latter for only career aspirations and expectations). By collapsing across all five subscales, the role of aspects of professional identification in explaining the relationship between the interaction between femininity and feminine workplace culture and careers may be obscured by solidarity and individual self-stereotyping. However, collapsing across the five subscales is justified here as the effect was all in the same direction across the subscales, and components of both self-investment and self-definition contribute to the indirect relationship between femininity and feminine workplace culture, and career aspirations and expectations.

rather than modelling the discrepancy between the two (e.g. Metz, Fouad & Ihle-Helledy, 2009) in order to better understand the variability in aspirations and expectations themselves, rather than the difference between them which could be caused by variability in either aspirations or expectations. For instance, a reduction in the discrepancy between aspirations and expectations could be caused by an increase in expectations or a decrease in aspirations.

As there may be differences in the participants' responses caused by differences between the organisations from which participants were recruited (e.g., some organisations may foster higher professional identification, and there may be organisational-level differences in feminine culture), intraclass correlations were computed to establish the degree of variance in the measures attributable to the organisations. The intraclass correlations ranged from .03 for career aspirations, to .25 for femininity, indicating that between 3% and 25% of variability in responses was associated with differences between the organisations (Tabachnick & Fidell, 2007). Therefore, the organisations were controlled for in the analyses using multi-level modelling in Mplus Version 7 with grand-mean centring (Muthen & Muthen, 2007).

Multilevel models examined the behaviour of the level 1 outcome (career aspirations, career expectations, and leadership aspirations) as a function of level 1 predictors (the interaction between femininity and feminine organisational culture; professional identification as the mediator), controlling for the level 2 variance (differences between organisations). The interaction between femininity and feminine organisational culture was then decomposed to examine the results for high femininity (+ 1SD) and low femininity (-1SD). In this model, γ represents the regression coefficients (similar to β coefficients at the individual level). In the results section, γ and p values are reported as a direct test of the relationships between the predictor and outcome variables. Model fit was assessed via the SRMRwithin statistic. Commonly used fit indices such as $\chi2$, root mean square error of approximation (RMSEA), and comparative fit index (CFI) assess overall model fit and are inappropriate when simply controlling for between-group levels. Since the model considered only within-level relationships – that is, those that relate to relationships within individual participants – the SRMRwithin is the most relevant index to judge fit (Muthen & Muthen, 2007). A value of zero indicates perfect fit for SRMRwithin and a value of less than .08 is generally considered good fit (Hu & Bentler, 1999).

In addition, the qualitative data from the open-ended questions about career aspirations and expectations was coded for type of profession or role (e.g., financial, culinary, management) using conventional content analysis (Hsieh & Shannon, 2005). The profession was then coded for the degree to which the workforce comprised of men and women, based on the ONS (2015) data regarding the sex composition of careers. Professions that had a workforce that was two-thirds or more male or female were rated as having a predominantly male and female workforce respectively.

Results

Career aspirations and expectations: Qualitative data

The responses to the open-ended questions regarding career aspirations and expectations were assessed using content analysis. This anecdotal evidence was included in order to contextualise the participants' responses to the career aspiration and expectation scales. The sex composition of some careers could not be ascertained due to their not being included in the ONS data, e.g., foster care, building heritage, or due to their vagueness, e.g., 'working in a hospital'; these are classed as 'unidentified' in the table. A full list of the codes, along with the frequencies and percentages of each is displayed in Table 5.

The most commonly reported aspiration was to be a nurse ($N = 14$, 20.6%), followed by working as a carer or support worker ($N = 9$ 13.2%), and working in health management or as a teacher (both Ns = 7, 10.3%), all of which had predominantly female workforces. Similar career fields were commonly reported as career expectations, although there were different frequencies. The most common career expectation was working as a carer or support worker ($N = 28$, 41.3%), followed by management in health ($N = 9$, 13.2%), and nursing ($N = 8$, 11.8%).

The majority of careers reported as aspirations and expectations were female dominated, with only two careers reported being male dominated. Both of these careers were reported as aspirations and not expectations.

Table 5.

The frequencies and percentages of codes identified in the qualitative career aspirations and expectations.

Code	Sex of workforce	Aspiration		Expectation	
		Frequency	Percentage	Frequency	Percentage
Health setting					
Doctor	N	2	2.9	0	0.0
Nurse	F	14	20.6	8	11.8
Paramedic	N	1	1.5	1	1.5
Physiotherapy	F	1	1.5	2	2.9
Midwife	F	2	2.9	1	1.5
Pharmacist	F	1	1.5	0	0.0
Management in health	F	7	10.3	9	13.2
Health visitor	F	2	2.9	1	1.5
Working in hospital	U	1	1.5	0	0.0
Care setting					
Care/support worker	F	9	13.2	28	41.2
Social worker	F	2	2.9	2	2.9
Foster care	U	1	1.5	0	0.0
Working with vulnerable groups.	U	4	5.9	3	4.4
Animal care and welfare	F	3	4.4	0	0.0
Other					
Teacher	F	7	10.3	1	1.5
Architect	M	1	1.5	0	0.0
Business and accountancy	N	3	4.4	1	1.5
Hospitality	N	0	0.0	2	2.9
Arts	N	4	5.9	0	0.0
Retired	U	2	2.9	0	0.0
Housekeeping	F	1	1.5	1	1.5
Activities instructor	N	1	1.5	0	0.0
Building heritage	U	1	1.5	1	1.5
Culinary	N	3	4.4	3	4.4
Police	M	1	1.5	0	0.0
Law	N	1	1.5	1	1.5
No response		2	2.9	4	5.9

Note. F = predominantly female workforce, M = predominantly male workforce, N = no predominant sex in workforce, U = unidentified.

Multilevel modelling analyses

Means and standard deviations for scores on the measures used in this study are provided in the Table 6.

Table 6.

Means and standard deviations of femininity, feminine workplace culture, professional identification, career aspirations, expectations and leadership aspirations (N = 68).

	Mean	S.D.
Femininity	5.88	1.01
Feminine workplace culture	5.26	1.11
Professional identification	5.17	1.32
Career aspirations	5.72	0.87
Career expectations	5.42	1.31
Leadership aspirations	29.30	8.01

Note. Scores on the leadership aspirations scale are summations of responses to the individual items, whereas the remaining scales are an average of the responses to individual items.

Career aspirations

Results of the multilevel modelling analysis for the interaction between femininity and feminine workplace culture on career aspirations are summarised in Figure 3.

The main effect of femininity on professional identification was not significant, $\gamma = 0.19$, $p = .56$, however the main effect of feminine workplace culture was significant, $\gamma = 0.50$, $p < .001$. This means that a more feminine workplace culture was associated with increased professional identification. The main effect of femininity on career aspirations was not significant, $\gamma = 0.06$, $p = .54$, and neither was the main effect of feminine workplace culture, $\gamma = -0.04$, $p = .23$.

The relationship between the interaction and professional identification was not significant, but indicated a trend towards a relationship, $\gamma = -0.26$, $p = .055$, and there was a significant relationship between professional identification and career aspirations, $\gamma = 0.27$, $p < .001$. The direct effect of the interaction on career aspirations was significant, $\gamma = 0.12$, $p = .05$, but the indirect effect was not, $\gamma = -0.07$, $p = .15$.

As the interaction is difficult to interpret here (i.e., the interaction will be a sum of opposing effects of low and high femininity), and due to the indications of relationships between the interaction and professional identification, and professional identification and career aspirations, the interaction was decomposed and multilevel modelling analyses conducted for low femininity (-1SD) and high femininity (+1SD).
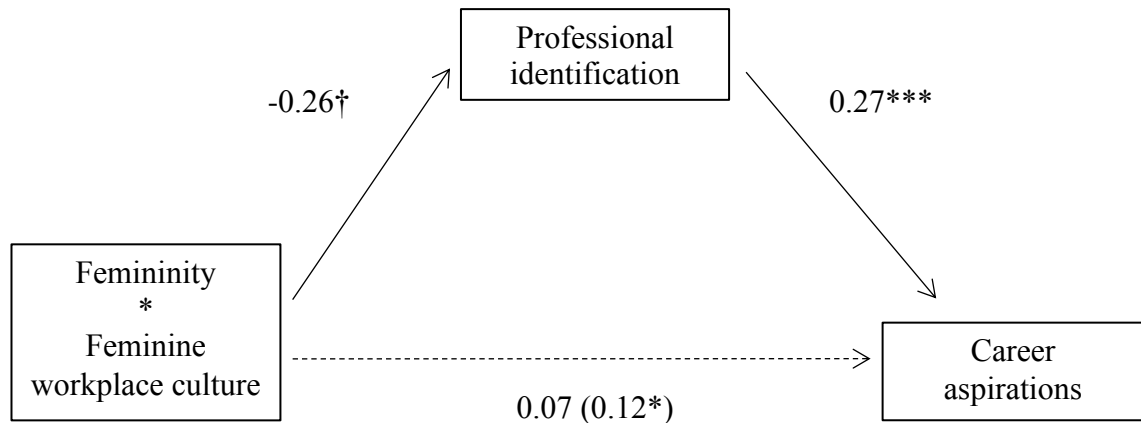
Figure 3. The gamma coefficients for the relationships between the interaction and career aspirations, mediated by professional identification. The gamma for the direct path is in parentheses

Note: † *p* = .055, * *p* <.05, ** *p* <.01, *** *p* <.001.

When femininity was high, there was a non-significant positive relationship between feminine organisational culture and professional identification, ɣ = 0.25, *p* = .07. There was a significant positive relationship between professional identification and career aspirations, ɣ = 0.27, *p* < .001. There was no significant direct effect of feminine organisational culture on career aspirations, ɣ = 0.07, *p* = .21, but the indirect effect was significant, ɣ = 0.07, *p* = .04, indicating that feminine organisational culture had a positive indirect effect on career aspirations through professional identification (see the discussion section for a discussion about mediation and indirect effects).

When femininity was low, the relationship between feminine organisational culture and professional identification was not significant, ɣ = 0.77, *p* = .81, nor was the relationship between professional identification and career aspirations, ɣ = 0.27, *p* = .73. There was a non-significant negative direct effect of feminine organisational culture on career aspirations, ɣ = -0.15, *p* = .059. The indirect effect of feminine organisational culture on career aspirations through professional identification was not significant, ɣ = 0.21, *p* = .89.

Career expectations

Results of the multilevel modelling analysis for the interaction between femininity and feminine workplace culture on career expectations are summarised in Figure 4.

The main effect of femininity on career expectations was not significant, ɣ = 0.39, *p* = .13, and neither was the main effect of feminine workplace culture, ɣ = 0.03, *p* = .83. The main effects of femininity and feminine workplace culture on professional identification are discussed in the career aspirations analysis.

As in the previous analysis, the relationship between the interaction and professional identification was ɣ = -0.26, *p* = .055, and the relationship between professional identity and career expectations was significant, ɣ = 0.45, *p* = .001. The indirect effect of the interaction on career expectations through professional identification was not significant, ɣ = -0.12, *p* = .22, nor was the direct effect, ɣ = -.01, *p* = .89.

As in the previous analysis, due to difficulties in interpreting the interaction without decomposing it, and the indications of relationship between the interaction and professional identification, and professional identification and career expectations, the interaction was decomposed and multilevel modelling analyses conducted for low femininity (-1SD) and high femininity (+1SD).
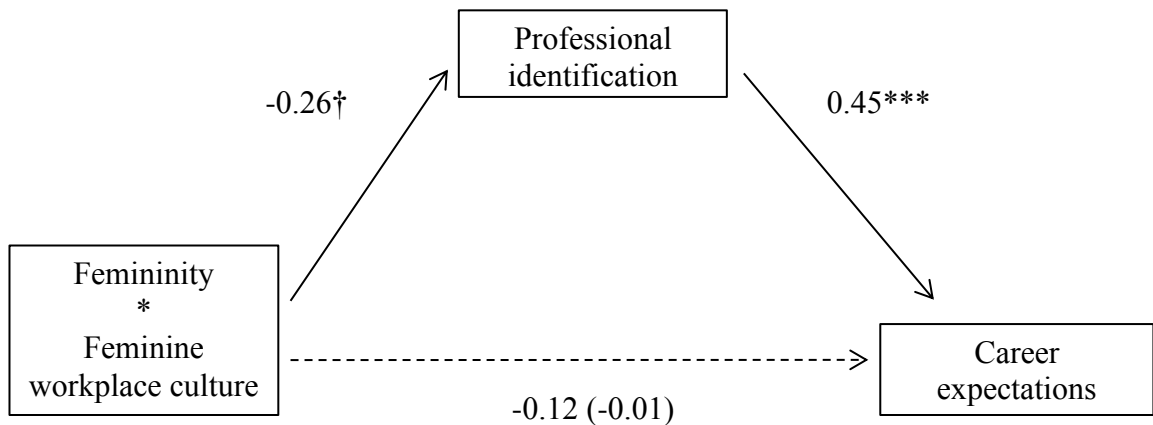

Figure 4. The gamma coefficients for the relationships between the interaction and career expectations, mediated by professional identification. The gamma for the direct path is in parentheses

Note: † *p* = .055, * *p* <.05, ** *p* <.01, *** *p* <.001.

When femininity was high, there was a non-significant positive relationship between feminine organisational culture and professional identification, ɣ = 0.25, *p* = .07, but there was a significant positive relationship between professional identification and career expectations, ɣ = 0.45, *p* < .001. There was no significant direct effect of feminine organisational culture on career expectations, ɣ = 0.01, *p* = .95, but the indirect effect was significant, ɣ = 0.11, *p* = .03, indicating that feminine organisational culture had a significant positive effect on career expectations through professional identification (see the discussion section for a discussion about mediation and indirect effects).

When femininity was low, the relationship between feminine organisational culture and professional identification was not significant, ɣ = 0.77, *p* = .81, nor was the relationship between professional identification and career expectations, ɣ = 0.45, *p* = .65. The direct effect of feminine organisational culture on career expectations was not significant, ɣ = 0.04, *p* = .90, and neither was the indirect effect, ɣ = 0.35, *p* = .88.

Leadership aspirations

Results of the multilevel modelling analysis for the interaction between femininity and feminine workplace culture on leadership aspirations are summarised in Figure 5.

The main effect of femininity on leadership aspirations was not significant, ɣ = 1.80, *p* = .33, and neither was the main effect of feminine workplace culture, ɣ = -0.28, *p* = .59. The main effects of femininity and feminine workplace culture on professional identification are detailed in the career aspirations analysis.

As in the previous analyses, the relationship between the interaction and professional identification was $\gamma = -0.26$, $p = .055$. The relationship between professional identification and leadership aspirations was not significant, $\gamma = 1.41$, $p = .07$. The indirect effect of the interaction on career aspirations through professional identification was not significant, $\gamma = -0.37$, $p = .34$, nor was the direct effect of the interaction, $\gamma = -0.39$, $p = .57$.

As in the previous analyses, despite the lack of significant direct or indirect effects of the interaction on leadership aspirations, the interaction was decomposed, due to the difficulty in interpreting the interaction. Therefore, as in the previous analyses, the interaction was decomposed and multilevel modelling analyses conducted for low femininity (-1SD) and high femininity (+1SD).
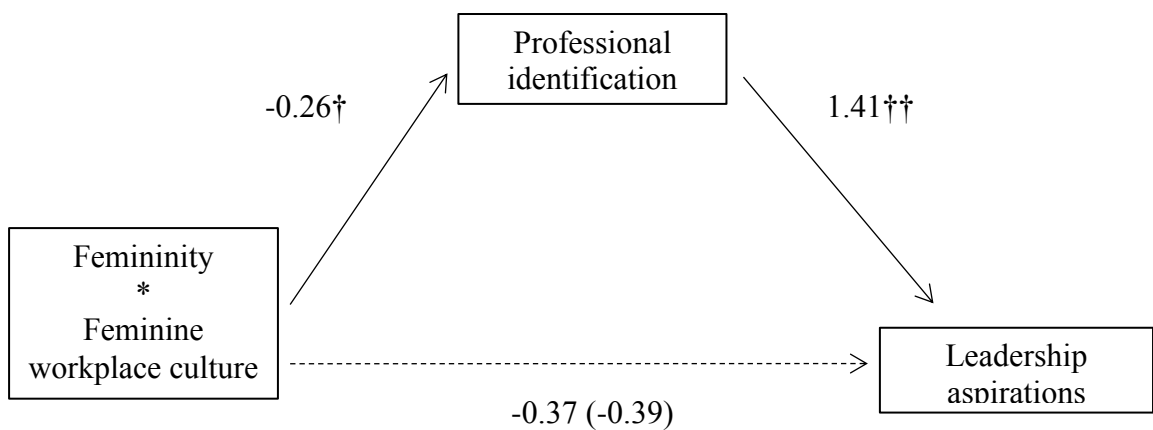
Figure 5. The gamma coefficients for the relationships between the interaction and leadership aspirations, mediated by professional identification. The gamma for the direct path is in parentheses.

Note: † $p = .055$, †† $p = .07$.

When femininity was high, there was a non-significant positive relationship between feminine organisational culture and professional identification, $\gamma = 0.25$, $p = .07$. There was a significant positive relationship between professional identification and leadership aspirations, $\gamma = 1.41$, $p = .006$. However, there was no significant direct effect of feminine organisational culture on career aspirations, $\gamma = -0.73$, $p = .55$, and no significant indirect effect, $\gamma = 0.35$, $p = .17$.

When femininity was low, the relationship between feminine organisational culture and professional identification was not significant, $\gamma = 0.77$, $p = .81$, nor was the relationship between professional identification and leadership aspirations, $\gamma = 1.40$, $p = .93$. There was no significant direct effect of feminine organisational culture on leadership aspirations, $\gamma = 0.18$, $p = .91$, or indirect effect of feminine organisational culture on career aspirations through professional identification, $\gamma = 1.07$, $p = .95$.

Discussion

This study sought to address two thesis research questions: how gender influences careers, and how contextual factors (here, workplace culture) influence the relationship between gender and aspirations. This built on the findings of the previous study, in which female researchers discussed their lack of 'fit' with their workplace culture potentially influencing their expectation of remaining in academia, by further exploring how 'fit' between one aspect of gender, femininity, and gendered workplace culture influence career aspirations and expectations in a different gendered context, the care industry. In this feminine industry context, I hypothesised that femininity would moderate the relationship between feminine culture and aspirations, and that professional identification would mediate this relationship. The findings support these hypotheses to a certain extent for career aspirations and expectations, however there were no significant indirect effects for leadership aspirations.

Main findings

In this study, there were moderated indirect effects of feminine organisational culture on career aspirations and expectations. When participants' femininity was high, there were significant indirect effects of feminine organisational culture on career aspirations and expectations through increasing professional identification, in that organisational culture was positively associated with career aspirations and expectations through professional identification. In contrast, when femininity was low, there were no significant indirect effects of feminine organisational culture on aspirations or expectations, and no significant relationships between organisational culture, professional identification, and career aspirations or expectations. Therefore, similar to the findings of Study 1, this demonstrates that the 'fit' between this aspect of gender and workplace culture can influence career aspirations and expectations.

These findings also provide some support for the hypothesis that professional identification would mediate the relationship between femininity and feminine organisational culture and aspirations and expectations to a certain extent, however, caution has to be used when defining this relationship as mediation. Baron and Kenny (1986) would define mediation as the significant direct effect between X (femininity and feminine organisational culture) and Y (career aspirations and expectations) being accounted for by the mediator (professional identification). However, there were no significant direct effects of femininity and feminine organisational culture on career aspirations, expectations, or leadership aspirations. As such, it could be argued that the findings do not represent mediation, as there was no relationship to be mediated (Mathieu & Taylor, 2006). However, the requirement of a direct relationship between X and Y has been questioned (e.g., Hayes, 2009; Shrout & Bolger, 2002), as the relationship between X and Y would be the sum of a variety of effects, some opposing, and as such, the relationship between X and Y may not be significant. Significant indirect effects, which have been found here, demonstrate that X influences Y through passing on an effect through the mediator (Mathieu & Taylor, 2006). Therefore, I will discuss the findings as indirect effects rather than mediation, due to a lack of significant direct effects.

These findings have extended previous literature looking at 'fit' in two ways. First, this study focused on aspirations and expectations rather than ratings of suitability for a

role, and second, this study focused on female-dominated, feminine organisational cultures, rather than male-dominated, masculine cultures. The positive relationship between feminine workplace culture and professional identification when femininity was high also appears to contradict some previous findings, particularly Savickas (1985), who suggested that women had a more defined and stable professional identity in their sample because they worked a male-dominated field. In contrast, these findings indicate that highly feminine women may have greater professional identification when in a feminine organisational context. This indicates that women do not necessarily have to have greater professional identification only when going into male-dominated fields, and that female-dominated fields may also encourage greater professional identification. Taken together, these results seem to indicate that certain types of gendered organisational cultures can support a certain type of worker (Acker, 1990; Cahusac & Kanji, 2014; Peterson, 2007). A feminine organisational culture may support those who see themselves as feminine in terms of their professional identification, and therefore they may have more optimistic career aspirations and expectations. This indicates that situational contextual factors may influence the relationship between gender and career aspirations and expectations, in that a positive relationship between gender and aspirations may be due to a supportive context.

Despite the moderated indirect effects for career aspirations and expectations, there was no significant indirect effect for leadership aspirations. When femininity was high, the results indicated a trend towards a positive relationship between feminine organisational culture and professional identification, and a significant positive relationship between professional identification and leadership aspirations, but neither the direct nor indirect relationships were significant. This may be due to the different type of aspirations that were assessed in this measure. The measures of career aspirations and expectations referred to general roles or career fields, whereas the measure of leadership aspirations focused on the desire to advance to more senior roles within a hierarchy. As such, it may be that 'fit' between femininity and feminine organisational culture influences the type of field one wants to enter, rather than whether one wishes to advance within a specific career field. As such, the model used in this study may explain horizontal sex segregation in the workplace better than vertical sex segregation. However, the lack of significant findings here may also be due to the relatively small sample in this study, and so underpowered analysis for leadership aspirations. Therefore, further research would be needed with a larger sample before concluding whether the model used in this study better explains horizontal than vertical sex segregation.

Limitations of the study

A key limitation of this study was that it was cross-sectional, and so the direction of effects between the key variables cannot be inferred. Career aspirations and expectations were positioned as outcome variables due to their use in this way in previous literature (e.g., McWhirter, Hackett & Bandabs, 1998; Wahl & Blackhurst, 2000), but as discussed previously, this relationship may be reciprocal. Additionally, aspirations and expectations may affect professional identification. This may be particularly apparent in this kind of sample who are already in work, as the majority of participants have been working for a number of years. Theories of gender identity have described possible effects of life events on gender identity (Moreland, 1980; O'Neil, Egan, Owen & McBride Murry, 1993), and so it may be that career-based events in the lives of participants have affected their perception of their gender. Therefore, future studies could consider experimentally manipulating

components of this study, i.e., gendered contexts, as well as assessing them over time through longitudinal studies to corroborate the direction of effects.

A second limitation of this study was that the organisational cultures of the four organisations were all rated as fairly feminine. This means that although the inclusion of multiple organisations in the care industry could mean that the results may be able to be generalised to the wider care industry, caution needs to be exercised when interpreting these results in relation to other gendered industries e.g., engineering, science, and technology. There may be additional factors that need to be considered in more male-dominated industries, such as length of training, job security, and income, which could affect professional identification and subsequent career aspirations and expectations.

Finally, in this study, many of the significance values fell outside of the .05 standard, but were close to it, ranging between .055 and .07, which may have been caused by the relatively small sample size, and thus the low statistical power (see footnote in the participants section for the required number of participants for this type of analysis). This meant that for some relationships between variables I could not conclude that there was a significant relationship, but instead that the results demonstrated a trend towards a relationship. Also, the lack of significant indirect effect of femininity and feminine workplace culture on leadership aspirations should also be understood in light of this, as it may have been that the analysis was underpowered, and would have required a larger sample size in order to detect a significant indirect effect. Future research would benefit from using larger sample sizes in order to improve the power of the analyses, which may then detect these relationships.

Conclusion

This study set out to test the process of 'fit', building on the findings of Study 1, in which female researchers discussed how the 'fit' between their gender, gender norms, and gendered workplace culture may have influenced their career expectations. This study focused on the influence of workplace culture on this relationship, whereas the next study focused on the influence of gender norms around work and home. Thus, this study addressed two thesis research questions: how gender (here, femininity) influences aspirations and expectations, and how contextual factors (workplace culture) influence the relationship between gender and career aspirations and expectations. The results demonstrated significant indirect effects of feminine organisational culture on career aspirations and expectations, in that when femininity was high, feminine organisational culture was positively associated with career aspirations and expectations through increased professional identification. This means that good 'fit' between femininity and feminine organisational culture was associated with higher aspirations and expectations. Despite this, this study was limited by the fact that it was cross-sectional, and so cannot provide evidence of the direction of influence between gender and careers. The next study addressed this limitation by using an experimental paradigm to further explore the influence of 'fit' between gender and culture, although the next study focused on the parallel aspect of culture identified in Study 1, gender norms around work and home.

Chapter 5:
Study 3: The influence of gender norms regarding work and home on career
aspirations

Introduction

The findings of Study 1 indicated that there were two main contextual factors influencing the relationship between gender and career expectations. The first was workplace culture, which was investigated further in Study 2. The second was gender norms around work and home, which appeared to disproportionately negatively affect women's expectations for a career in academia. To build on this finding, this study investigated the extent to which gender norms (i.e., the behavioural expectations of men and women) influence aspirations and expectations (in parallel to Study 2's investigation of the role of workplace culture) by experimentally manipulating gender norms, and examining how this interacted with participants' gender. The current study therefore addressed two thesis research questions: how gender influences careers, and how contextual factors (here, social contextual factors, gender norms around work and home) influence this relationship. Similar to Study 2, this study only assessed one direction of influence to establish the role of 'fit' between gender and gender norms on career aspirations and expectations before moving to examine the more 'novel' direction of influence.

This study specifically investigated gender norms around work and home as these were the key gender norms that appeared to influence the career expectations of researchers in Study 1. In this study, 'gender norms' refers to the expectations of men and women around the behaviours they are expected to undertake in work and home, which includes descriptive and prescriptive expectations. In addition to the findings of Study 1, previous research has indicated that gender norms around work and home may influence women's perception of their future careers (e.g., Fetterolf & Eagly, 2011), and as such, these gender norms appear to be the most relevant when assessing the relationship between gender and careers.

Consequently, this study sought to examine the direct impact of gender norms on career aspirations and expectations. In order to understand how gender interacted with this social contextual factor, and gender's influence on aspirations and expectations, gender was conceptualised as a moderator, in that gender would influence the effect of gender norms. In order to provide some additional background to norms, a brief review of the relevant literature is provided below.

The influence of norms on attitudes and behaviour

Group norms can influence the behaviour and attitudes of group members (Smith, Hogg, Martin & Terry, 2007; Terry, Hogg & McKimmie, 2000; White, Hogg & Terry, 2002). Which means that work-based gender norms could affect attitudes towards work and subsequent work-based activities. Previous studies have highlighted that women's gender norms may influence career-based attitudes, both in terms of rating one's suitability for certain occupational positions (Bosak & Sczency, 2008), and valuing career pursuits (O'Brien & Fassinger, 1993). This indicates that gender norms can influence career-related

attitudes, and as such, may influence career aspirations and expectations. This research is supported by role congruity theory (Eagly & Karau, 2002), as this states that the content of a gender role (i.e., norms) guides behaviour, and incongruency between occupational and gender roles leads to prejudice and discrimination. Therefore, differences in gender roles (i.e., gender norms) would vary the level of congruency between gender and occupational roles.

The interaction between gender and gender norms

Despite a general influence of group norms on attitudes and behaviour, not all group members behave in accordance with norms, for instance, people enter sex-atypical occupational roles, as seen by some of the female researchers working in male-dominated departments in Study 1. This variation in adherence to group norms can be explained in part by the level of identification a person holds with a group. A social identity approach to group behaviour argues that highly identified group members are more motivated to adhere to group norms than less identified members (Leach et al., 2008). As such, highly gender-identified people may adhere to gender norms more so than low-identified people. This has been found by Becker and Wagner (2009), both in relation to the content of women's gender identity, and when the content was manipulated by presenting different gender norms. They found that highly gender-identified women with either a progressive identity content or who had been presented with a progressive gender norm were less likely to endorse sexist beliefs than low-identified women, or highly-identified women with either a traditional identity content, or who had been presented with a traditional gender norm. This demonstrates that aspects of gender can interact with group norms to influence attitudes, in that stronger gender identification is associated with greater conformity to group norms. This has implications for investigating how gender and gender norms may interact to influence careers, as norms may only influence people who strongly identify with their sex. This could potentially explain the findings of Study 1, in which there was variation in the extent to which women changed their gendered behaviour in line with the workplace norms. It could be that the women who did not change (or increased in femininity) had a stronger gender identification, and so a stronger adherence to gender norms, than the women who did change. Therefore, strength of identification may moderate the influence of gender norms around work and home on career aspirations and expectations.

However, strength of identification is only one component of gender identity. Becker and Wagner (2009) highlighted that the content of a gender identity in the form of gender role preferences can also vary gendered behavioural outcomes, such as endorsement of sexist beliefs. However, there is little understanding of how other aspects of gender identity, such as masculinity and femininity, or perceived sex typicality, can influence adherence to norms. To further understand how gender and gender norms interact in this study, I expanded on the findings of strength of identification and built on the findings Becker and Wagner (2009) to include additional aspects of gender related to gender content to create a measure of gender-type. This consisted of femininity/masculinity, endorsement of group norms, and typicality to other women/men, as well as strength of identification. Therefore, using this type of measure, participants were not only strongly identified with their gender, they also typify their sex to a greater extent, i.e., they are more feminine/masculine, endorsed feminine/masculine norms more, and saw themselves as similar to other women or men. Including these additional measures

means that here I could assess how a more holistic conceptualisation of gender interacts with gender norms, and how this related to career aspirations and expectations.

Summary

The above discussion of literature indicates that group norms can influence the behaviour and attitudes of group members, in particular, there are indications that gender norms may influence women's career-related attitudes. Accordingly, it follows that different group norms may have different effects on attitudes, for instance, a group norm of being a primary caregiver may have a different effect on career aspirations than a group norm of being a financial breadwinner. However, not all group members will comply to group norms, potentially due to identity-related aspects such as strength of identification with group. For instance, people with strong levels of identification with the group are more likely to conform to the group norm than people with low levels of identification. This study drew on this finding and extended it to incorporate a more holistic understanding of gender, positing that the extent to which participants are gender-typed may moderate their adherence to group norms, i.e., participants who strongly typify their sex may be more likely to change their attitudes and behaviour in line with gender norms.

Aim and hypotheses

Based on the findings of Study 1, that gender norms around work and home may influence male and female researchers' expectations to remain in academia, the aim of the current study was to examine the influence of gender norms on career aspirations and expectations, and how gender-type influences adherence to these norms. As such, this study addressed two thesis research questions: how gender influences career aspirations, and how social contextual factors (gender norms) can influence this relationship.

To achieve this, this study used an experimental design to manipulate gender norms, either presenting a work norm or a home norm. Using an experimental paradigm also meant that the results could provide evidence for the direction of effects, i.e. that the interaction between gender-type and gender norms influenced career aspirations and expectations.

There were two hypotheses for the current study derived from the findings of Study 1 and the literature discussed above:

1) Participants presented with work norms condition would increase in their career aspirations and expectations relative to baseline, whereas they would decrease for participants presented with home norms;
2) Gender-type would moderate the effect of gender norms on aspirations and expectations, in that highly gender-typed participants would display greater change in line with the norm (increases with work norms, decreases with home norms) than low gender-typed participants.

Method

Participants

A total of 102 participants were recruited[5] through online adverts, email lists, social media, and the University of Bath's homepage, as well as through posters and leaflets placed throughout the University of Bath's campus. Of these 102 participants, 71 were female and 31 were male. The mean age was 27.66 years ($SD = 7.87$), with a range of 18 – 56 years. The majority of participants described themselves as White British/European ($N = 87$, 85.3%). As in Study 2, participants were asked about their sexual orientation in order to conduct analyses for different sexual orientation groups. This information was collected at the end of the study along with the demographic information. Two participants did not indicate their sexuality, but of the participants who did, the majority indicated that they were heterosexual/straight ($N = 91$, 91%). Due to this relatively homogenous sample, the sample was analysed as a whole.

The sample consisted of 66 students, with the educational level ranging between undergraduate first-year to doctoral final-year. The most frequently selected educational level was master's ($N = 15$, 22.7%), and the most common subject studied was psychology ($N = 25$, 37.9%). Of the remaining participants, one indicated that they were unemployed, and 34 indicated that they were in employment, with the majority in full-time employment ($N = 33$, 97.1%).

Design

This study used an experimental design, in which there were two independent variables: gender-type (high vs. low) and gender norms (work vs. home). These two norms were based on the findings of Study 1, in which interviewees discussed conflict between work and family, and literature that indicates that work-home conflict can influence the career paths of women (e.g. Baker, 2010; Fetterolf & Eagly, 2011). The four dependent variables were: career aspirations, expectations, and leadership aspirations, as used in the previous study, and an additional variable of educational aspirations. Educational aspirations were the second subscale of the Career Aspirations Scale (Gray & O'Brien, 2007), and are included here (in contrast to the previous study) as the majority of participants were students, and so educational aspirations were relevant to this sample. Rather than assessing post-manipulation scores in these four variables, change in scores from baseline was assessed, as there are considerable individual differences in career aspirations and expectations. Therefore, in order to highlight the influence of norms on aspirations and expectations (rather than between-participant variance) change scores were computed using the baseline and post-manipulation scores. This is explained further in the analytic strategy.

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[5] The intended sample size was calculated using GPower 3.1, which indicated that 89 participants would be needed in order to detect a medium effect size. Therefore, efforts were made to recruit 89 men and 89 women (as analyses would be conducted separately for men and women). However, low numbers of volunteers wished to take part in this study, and recruitment was stopped after 12 months, resulting in a smaller sample size. The results should be viewed in light of this small sample size, particularly the small number of men in this study.

Materials

Manipulation of gender norms

To manipulate gender norms (i.e., the behavioural expectations of men and women), participants were asked to read a passage of text (see Appendix C) that described the working hours of members of their sex, and the positive effect this had on members of their sex, their partners, and their children. The text was accompanied by a picture, which depicted a member of their sex either in a work or home setting. Providing false information about other in-group members is an effective way of manipulating group norms (e.g., Clair, Steele & Mills, 2014; Bohner, Siebler & Schmelcher, 2006; Costarelli & Gerlowska, 2015; Pulvers, Schroeder, Limas & Zhu, 2014), and this information was presented as a newspaper or magazine article in order to make it engaging.

In the home norms condition, the text stated that after having children, other members of the participants' sex typically adapted their work hours, and this was accompanied with a picture of man or woman with a child. Whereas, in the work norms condition, the text stated that after having children, other members of their sex typically maintained their work hours, and this was accompanied with a picture of a man or woman working. Male and female participants were presented with the text referring to their own sex but otherwise the content was identical for men and women in the two conditions.

In order to assess whether participants had read the information and understood the key message participants were asked two questions. The first was: 'Do most women/men adjust their work hours after having children?', to which participants either responded 'yes' or 'no'. The second question was open-ended: 'Was the article informative? Please explain your answer.'

Measures

Gender-type measures

As the current study did not assess 'fit' with a gendered organisational culture, a multi-dimensional assessment of gender could be used. This consisted of four elements: femininity/masculinity, strength of identification, perceived sex typicality, and endorsement of gender norms (i.e., the extent to which a person supports the behavioural expectations of men and women; see Chapter 2 for a more detailed discussion of why these aspects of gender were included). These measures were then combined to give a score of 'gender-type', i.e., to what extent participants' gender typified their sex. For instance, a women with high scores across the measures would be more 'gender-typed', and so would have higher scores of femininity, endorsement of gender norms, strength of identification, and perceived sex typicality, than women with low scores.

Similar to the measure used in Study 2, the first gender-type measure consisted of two items looking at perception of own masculinity and femininity. Participants were asked 'How masculine/feminine would you rate yourself?' and responses were measured on a 7-point Likert-type response alternative from 'not at all' to 'very'.

The second measure assessed strength of identification and was adapted from Doosje, Ellemers and Spears (1995). This consisted of three items measuring the level of identification with their own gender: 'I identify with other people of the same gender as myself', 'I am glad to be the gender I am', and 'I feel strong ties with members of the same gender as myself' (α = .83). All responses were made on a 7-point Likert-type response alternative ranging from 'strongly disagree' to 'strongly agree'.

The third measure assessed perceived sex typicality and consisted of the self-relevance of sex role norms scale (Wood, Christensen, Hebl & Rothgerber, 1997), which assessed similarity with own sex, and dissimilarity to the opposite sex. This consisted of 4 items all measured on a 7-point Likert-type response alternative ranging from 'not at all' to 'a great deal'. The two items concerning similarity with own sex were: 'How important is it for you to be similar to the ideal same-sex person?' and 'To what extent is being similar to the ideal same-sex person an important part of who you are?' (r (100) = .90). The two items relating to the opposite sex were: 'How important is it for you to be dissimilar to typical members of the opposite sex?' and 'To what extent is being dissimilar to typical members of the opposite sex an important part of who you are?' (r (100) = .77).

The final measure assessed endorsement of gender norms, which was an adapted version of Taylor and Setter's (2011) measure of gender role expectations. It was adapted so that both men and women could respond to this scale. This consisted of 12 items, 6 relating to masculine (α = .61) and 6 to feminine (α = .74) expectations. Participants were asked to state their agreement with each statement regarding their sex on a 7-point Likert-type response alternative ranging from 'strongly disagree' to 'strongly agree'. Examples of items on the masculine subscale included: 'use the people in her/his social network as contacts to help her/him get ahead', and 'prefer to do most things on her/his own with little input from her/his parents and family'. Items on the feminine subscale included: 'make significant efforts to emotionally bond with the people in her/his social network', and 'spend much of her/his free time catching up with friends and family'.

Composite gender-type measure[6]

A composite measure of gender-type was computed for men and women in order to investigate how gender-type could moderate the influence of gender norms on career aspirations and expectations. For men, this composite measure consisted of a mean of scores on strength of identification, perceived sex typicality, masculinity, and male gender role expectations scales, to give a gender-type score between 1 – 7 (total 14 items, α = .74). For women, femininity and female gender role expectations were used instead of masculinity and male gender role expectations (total 14 items, α = .76)[7]. A higher score on

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[6] Analysis of the subcomponents of gender type was conducted for men and women. The findings indicate that the only finding that is lost when combining the subcomponents is a significant main effect of femininity on change in women's educational aspirations (β = -0.30, t(27)= -2.55, p = .01), indicating that increasing femininity was associated with more negative change in educational aspirations. Therefore, by combining these aspects of gender, no key information is lost, and the role of gender more broadly can be examined. The potential subcomponent drivers of effects of gender-type on careers measures are discussed in the results section.

[7] Separate analyses of masculinity and male gender role expectations were conducted for women. The analyses indicated no significant interactions with condition for any of the careers measures, but there were several main effects. Masculinity had a main effect on change in women's career aspirations (β = 0.26,

this measure indicated that the participant typified their sex to a stronger extent, e.g., a woman with a high gender-type score would be more feminine, see herself as similar to other women and dissimilar to men, endorse feminine gender norms, and be strongly identified.

Careers measures

In this study there were four dependent variables: career aspirations, expectations, leadership aspirations, and educational aspirations. In addition, as in Chapter 4, two open-ended questions assessed the type of careers participants had as aspirations and expectations in order to contextualise the career aspirations and expectations scales (see Chapter 4 for a more detailed description of these two questions).

As in Study 2, a 10-item scale was used assessing participants career aspirations (pre-manipulation α = .76, post-manipulation α = .77) and career expectations (pre-manipulation α = .78, post-manipulation α = .81). See Chapter 4 for a more detailed description of this scale.

Two scales assessing specific types of aspirations were also included. These were the two subscales of Gray and O'Brien's (2007) 8-item career aspirations scale: leadership aspirations (pre-manipulation α = .83, post-manipulation α = .82), and educational aspirations (pre-manipulation r (100) = .26, post-manipulation r (100) = .18). The leadership aspirations scale was used previously in Study 2 (see Chapter 4 for a more detailed description of scale). The educational aspirations subscale consists of 2 items: 'Once I finish the basic level of education needed for a particular job, I see no need to continue in school', and 'I think I would like to pursue graduate training in my occupational area of interest'. Both items were measured on a 7-point Likert-type response alternative scale ranging from 'strongly disagree' to 'strongly agree'.

Procedure

Participants were provided with a URL to the study, and told the study was investigating how beliefs and opinions affected the retention of information. Participants read the information sheet, and gave their consent prior to starting the study. They were asked for their demographic information and then asked to respond to the gender and careers measures in order to establish a baseline before the gender norm manipulation. Participants were then pseudo-randomly assigned to a gender norm condition based on their indicated sex (so that they were shown the appropriate male/female manipulation), and their month of birth (which 'randomly' assigned participants to the work or home condition). Participants then read the manipulation and answered the manipulation check items. Following this, participants completed the four careers measures a second time in order to identify change from baseline.

Analytic strategy

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t(27) = 2.21, p= ,03), indicating that as masculinity increased, women were more likely to demonstrate more positive change in career aspirations. Endorsement of male gender role expectations had a significant effect on change in career aspirations (β = 0.28, t(27) = 2.39, p= .02), and educational aspirations (β = -0.25, t(27) = -2.18, p= .03). This means that stronger endorsement of male gender role expectations was associated with more positive change in career aspirations and negative change in educational aspirations.

This study sought to assess how different gender norms affected career aspirations and expectations, and how gender-type influenced adherence to these norms. Therefore, a series of hierarchical regressions were conducted to assess how gender-type moderated the effect of gender norm condition on career aspirations and expectations.

Firstly, as there are individual differences in career aspirations and expectations, change scores were computed for the four careers measures using the baseline measures. Instead of using simple change scores, i.e., subtraction of the post-manipulation scores from the baseline, standardised residualised change scores were used. These were computed using regression analyses wherein the baseline was used to predict the post-manipulation score. The use of standardised residualised change scores puts the baseline level into perspective more so than using simple change scores (Parshau et al., 2012), and due to the individual differences in career outcomes, the baseline measures were an important component here. This resulted in the creation of four variables concerning change in career aspirations, expectations, leadership aspirations, and educational aspirations.

Following this, a series of hierarchical regression analyses were conducted. The gender-type variable was centred, and the interaction between gender norm condition and gender-type was computed. Hierarchical regressions were performed separately for each career measure, with gender norm condition and gender-type entered at step one, and the interaction at step two. Significant interactions were decomposed by examining the simple slopes, as per Aiken and West (1991). Due to the different scales included in the gender-type measure for men and women, and so the qualitative difference in what gender-type meant for men and women (i.e., it represents masculinity for men and femininity for women), separate analyses were conducted for men and women.

As in the previous study, the qualitative data from the open-ended questions about career aspirations and expectations was coded for type of profession or role (e.g., financial, culinary, management) using conventional content analysis (Hsieh & Shannon, 2005) to provide anecdotal data to contextualise the aspirations and expectations measures. The profession was coded for the degree to which the workforce comprised of men and women, based on the ONS (2015) data regarding the sex composition of careers. Professions that had a workforce that was two-thirds or more male or female were rated as having a predominantly male and female workforce respectively.

Results

Descriptive statistics

The means and standard deviations of the scores on the gender-type and careers measures are provided in Table 7, separated by sex.

Table 7.

Means and standard deviations for gender-type, career aspirations, expectations, leadership aspirations, educational aspirations, their pre-manipulation, post-manipulation, and residualised change scores,, separated by sex.

	Women ($N = 71$)		Men ($N = 31$)	
	Mean	S.D.	Mean	S.D.
Gender-type	4.31	0.84	3.87	0.74
Pre-manipulation career aspirations	5.94	0.81	5.83	0.71
Post-manipulation career aspirations	5.89	0.81	5.68	0.80
Career aspirations residualised change score	0.15	0.86	-0.09	0.99
Pre-manipulation career expectation	5.57	0.82	5.68	0.80
Post-manipulation career expectations	5.69	0.80	5.57	0.81
Career expectations residualised change score	0.21	0.87	-0.22	0.80
Pre-manipulation leadership aspirations	29.27	5.76	30.35	6.19
Post-manipulation leadership aspirations	29.14	5.88	30.23	6.15
Leadership aspirations residualised change score	0.11	0.91	0.15	0.71
Pre-manipulation educational aspirations	11.63	2.07	11.34	1.72
Post-manipulation educational aspirations	11.51	2.26	11.26	1.86
Educational aspirations residualised change score	0.02	1.00	0.01	0.73

Women

Manipulation check

In order to assess if there was a significant association between the condition and the response to the manipulation check item 'do most women adjust their working hours after having children?', a chi-square test was conducted. The results indicated a significant association between the condition and the response to the item, $\chi^2(1) = 47.69$, $p < .001$. Inspection of the frequencies indicated that participants in the home norms condition were more likely to respond 'yes', and participants in the work norms condition were more likely to respond with 'no'. This meant that the manipulation effectively manipulated gender norms around work and home. Participants who provided an 'incorrect' response (i.e., responding 'yes' in the work norms condition) were included as their response to the second open-ended manipulation check item indicated they comprehended the key message of the manipulation.

Hierarchical regression analyses

A series of hierarchical regressions were performed for the female participants' data to predict change in the four dependent variables: career aspirations, expectations, leadership aspirations and educational aspirations. A summary of the results of the hierarchical regression analyses for women can be found in Table 5.

Change in career aspirations

For the first analysis, at Step 1, the overall model for predicting change in career aspirations was not significant, $R^2 = .01$, $F(2,68) = 1.28$, $p = .29$, and there were no main effects of gender norm condition, $\beta = .19$, $t(68) = 1.60$, $p = .11$, or gender-type, $\beta = -.04$, $t(68) = -0.33$, $p = .74$. However, the inclusion of the interaction between the gender norm condition and gender-type at Step 2 significantly increased the amount of variance explained, R^2ch. $= .08$, Fch.$(67) = 6.00$, $p = .02$, with a significant effect on change in career aspirations, $\beta = .89$, $t(67) = 2.45$, $p = .02$.[8]

The results of the simple slopes analysis indicated that when gender type was low (i.e., women who were not strongly gender-typed), there was no significant effect of the gender norm condition on change in career aspirations, $\beta = -.15$, $t(67) = -0.82$, $p = .42$. However, when gender type was high (i.e., women who were strongly gender-typed), there was a significant effect of gender norm condition on change in career aspirations, $\beta = .43$,

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[8] Analysis of the subcomponents of gender-type revealed that the interaction between condition and perceived dissimilarity to the opposite sex predicted change in career aspirations ($\beta = 1.21$, $t(68)= 3.38$, $p = .001$). Similar to the findings for gender-type as a whole, there was no significant effect of condition when perceived dissimilarity was low ($\beta = -0.19$, $t(67) = -1.22$, $p = .23$), whereas when it was high, there was a significant effect of condition ($\beta = 0.57$, $t(67) = 3.57$, $p = .001$). Therefore, this aspect of gender may be driving this significant interaction between gender-type and condition, and the difference between the betas of the subcomponent and scale as a whole indicate that including additional aspects of gender may obscure the effect of high perceived dissimilarity to the opposite sex on change in career aspirations.

$t(67) = 2.83$, $p = .006$. Strongly gender-typed women in the home norms condition displayed negative change (i.e., their career aspirations decreased relative to baseline), and strongly gender-typed women in the work norms condition displayed positive change in their career aspirations (i.e., their career aspirations increased relative to baseline; see Figure 6).
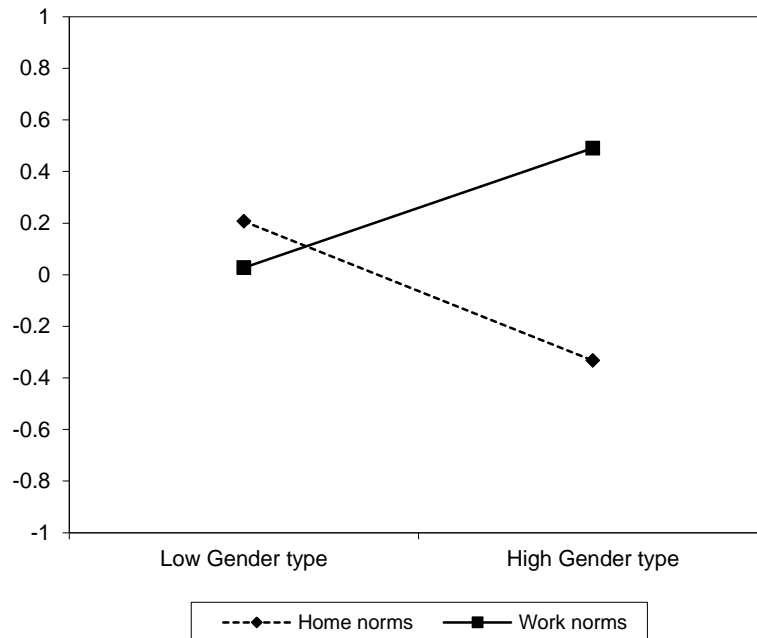
Figure 6. The interaction between gender norm condition and gender-type on change in female participants' career aspirations.

Change in career expectations

For the career expectations analysis, at Step 1, the overall model predicting change in career expectations was not significant, $R^2 = -.03$, $F(2,68) = 0.14$, $p = .87$, and there were no main effects of gender norm condition, $\beta = -.02$, $t(68) = -0.18$, $p = .86$, or gender-type, $\beta = -.06$, $t(68) = -0.45$, $p = .65$. At Step 2, inclusion of the interaction between gender norm condition and gender-type did not significantly increase the variance explained, $R^2\text{ch} = .05$, $F\text{ch}(67) = 3.15$, $p = .08$, and the interaction was not significant, $\beta = .67$, $t(67) = 1.78$, $p = .08$.

Change in leadership aspirations

For the leadership aspirations analysis, at Step 1, the overall model did not predict a significant amount of variance in change in leadership aspirations, $R^2 = -.03$, $F(2,68) = 0.06$, $p = .95$, and there was no significant main effect of gender norm condition, $\beta = .04$, $t(68) = 0.32$, $p = .75$, or gender-type, $\beta = -.02$, $t(68) = -0.16$, $p = .87$. At Step 2, the inclusion of the interaction between gender norm condition and gender-type did not significantly increase the amount of variance explained, $R^2\text{ch} = .01$, $F\text{ch}(67) = 0.79$, $p = .38$, and the interaction was not significant, $\beta = -.34$, $t(67) = -0.89$, $p = .38$.

Change in educational aspirations

For the educational aspirations analysis, at Step 1, the overall model predicted a significant amount of variance in change in educational aspirations, $R^2 = .09$, $F(2,68) = 4.36$, $p = .02$. However, there was no significant main effect of gender norm condition, $\beta = -.21$, $t(68) = -1.84$, $p = .07$, or gender-type, $\beta = -.22$, $t(68) = -1.90$, $p = .06$. At Step 2, the inclusion of the interaction between condition and gender-type did not significantly increase the amount of variance explained, $R^2\text{ch} = .01$, $F\text{ch}(67) = 0.70$, $p = .41$, and the interaction was not significant, $\beta = -.30$, $t(67) = -0.84$, $p = .41$.

Table 8.

Hierarchical regression analyses summary for gender norm condition and gender-type predicting change in career measures for women (N = 71).

Variable	Career aspirations			Career expectations			Leadership aspirations			Educational aspirations		
	β	R^2	R^2ch	β	R^2	R^2ch	β	R^2	R^2ch	β	R^2	R^2ch
Step 1		.01			-.03			-.03			.09*	
Condition	.19			-.02			.04			-.21		
Gender-type	-.04			-.06			-.02			-.22		
Step 2		.08*	.08		.01	.05		-.03	.01		.08*	.01
Interaction	.89*			.67			-.34			-.30		

Note: * = p <.05, ** = p <.01, *** = p < .001

Career aspirations and expectations: Qualitative data

In order to provide anecdotal data to contextualise participants' responses to the aspirations and expectations scales, the responses to the open-ended questions enquiring into the type of careers participants aspired to and expected to enter were analysed. One participant was excluded because they did not provide a valid response before or after the manipulation. Another participant did not report an aspiration or expectation, and one participant did not report an expectation. Of the remaining 68 participants, 67 (98.5%) reported the same aspiration and expectation before and after the manipulation, and 23 (32.9%) participants reported the same career for their aspiration and expectation. One participant in the home norms condition reported a different aspiration before the manipulation and afterwards. The aspiration changed from 'clinical psychologist' to 'not have a job'. Table 9 summarises the career aspirations and expectations reported.

Academia was the most common aspiration reported in both the work ($N = 7$, 20.6%) and home ($N = 8$, 21.6%) conditions, however, in the home condition, the arts was also reported by eight participants. In the work norms condition, psychology was the second most frequently reported aspiration ($N = 5$, 14.7%), followed by the arts ($N = 4$, 11.8%). In the home norms condition, the second most frequently reported aspiration was also in psychology ($N = 5$, 13.5%), followed by work in charity ($N = 4$, 10.8%).

Academia was also the most frequently reported career expectation across both conditions (work condition $N = 10$, 29.4%; home condition $N = 12$, 32.4%). In the work norms condition, the second most frequently reported expectation was in business ($N = 5$, 14.7%), and then psychology and teaching (Ns = 4, 11.8%). In the home norms condition, the second most frequently reported expectation was in psychology ($N = 8$, 21.6%), followed by business and arts (Ns = 4, 10.8%).

For the careers that the sex of the workforce could be ascertained, the majority had a gender-neutral workforce ($N = 8$, 42.1%), followed by female-dominated careers ($N = 7$, 36.8%), and male-dominated careers ($N = 4$, 21.1%).

Table 9.

The frequencies and percentages of the types of careers reported by women.

| Career code | Sex of workforce | Work norms | | | | Home norms | | | |
| | | Aspirations | | Expectations | | Aspirations | | Expectations | |
		Frequency	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
CEO/high up in an organisation	M	1	2.9	0	0.0	1	2.7	0	0.0
Academic	N	7	20.6	10	29.4	8	21.6	12	32.4
Engineering	M	2	5.9	1	2.9	1	2.7	1	2.7
Arts	N	4	11.8	0	0.0	8	21.6	4	10.8
Politics	U	1	2.9	1	2.9	1	2.7	1	2.7
Financial		2	5.9	2	5.9	1	2.7	2	5.4
Finance and investment analysers advisers	M	1	2.9	1	2.9	1	2.7	2	5.4
Accountant	N	1	2.9	1	2.9	0	0.0	0	0.0
Pilot	M	0	0.0	0	0.0	1	2.7	0	0.0
Languages	U	2	5.9	0	0.0	0	0.0	0	0.0
Medical	N	1	2.9	0	0.0	2	5.4	1	2.7
Therapy/counselling	F	2	5.9	2	5.9	2	5.4	1	2.7
Home	U	0	0.0	2	5.9	0	0.0	0	0.0
Vague	U	3	8.8	3	8.8	1	2.7	2	5.4
Business		1	2.9	5	14.7	1	2.7	4	10.8
Administrator	F	0	0.0	0	0.0	0	0.0	1	2.7
Marketing	N	1	2.9	2	5.9	0	0.0	1	2.7
Middle management	U	0	0.0	1	2.9	0	0.0	0	0.0
Other	U	0	0.0	1	2.9	0	0.0	0	0.0

Law	N	0	0.0	0	0.0	1	2.7	0	0.0
Psychologist		4	11.8	4	11.8	5	14.7	7	18.9
Clinical psychology	F	2	5.9	1	5.9	3	8.1	3	8.1
Other	U	2	5.9	3	8.8	2	5.4	4	10.8
Teaching	F	0	0.0	4	11.8	1	2.7	2	5.4
Charity	U	2	5.9	1	2.9	4	10.8	3	8.1
Animals	F	1	2.9	0	0.0	1	2.7	0	0.0
Culinary	N	1	2.9	0	0.0	1	2.7	0	0.0
Advising	U	0	0.0	0	0.0	1	2.7	1	2.7
Journalism	N	0	0.0	0	0.0	1	2.7	0	0.0
Librarian	F	0	0.0	0	0.0	2	5.4	3	8.1
International development	U	2	5.9	1	2.9	0	0.0	0	0.0
Childcare	F	1	2.9	1	2.9	0	0.0	0	0.0
Property developer	U	1	2.9	0	0.0	0	0.0	0	0.0

Note. M = male dominated workforce, F = female dominated workforce, N = no dominant sex in workforce, U = unable to determine sex of workforce.

Men

Manipulation checks

In order to assess if there was a significant association between the condition and the response to the manipulation check item 'do most men adjust their working hours after having children?', a chi-square test was conducted. The results indicated a significant association between the condition and the response to the item, $\chi^2(1) = 20.09$, $p < .001$. Inspection of the frequencies indicated that participants in the home norms condition were more likely to respond 'yes', and participants in the work norms condition were more likely to respond with 'no'. This means that the manipulation effectively manipulated gender norms around work and home. As with the women's analysis, participants who provided an 'incorrect' response (i.e., responding 'yes' in the work norms condition) were included as their responses to the second open-ended manipulation check item indicated they comprehended the key message of the manipulation

Hierarchical regression analyses

A series of hierarchical regression analyses were performed for the men's data to predict change in the four dependent variables: career aspirations, expectations, leadership aspirations, and educational aspirations, which are described below. Table 10 summarises of the outcomes of the hierarchical regression analyses for men.

Change in career aspirations

For the career aspirations analysis, at Step 1, the overall model predicted a significant amount of variance in change in career aspirations, $R^2 = .16$, $F(2,28) = 3.89$, $p = .03$. There was a significant main effect of gender-type, $\beta = .46$, $t(28) = 2.69$, $p = .01$, meaning that as gender-type increased, there was significantly more positive change in career aspirations. The main effect of gender norm condition was not significant, $\beta = .05$, $t(28) = 0.27$, $p = .79$. The inclusion of the interaction between gender-type and gender norm condition at Step 2 did not explain significantly more variance, $R^2\text{ch} = .06$, $F\text{ch}(27) = 2.21$, $p = .15$, and the interaction was not significant, $\beta = .88$, $t(27) = 1.49$, $p = .15$.

Change in career expectations

For the career expectations analysis, at Step 1, the overall model did not predict a significant amount of variance in change in career expectations, $R^2 = .11$, $F(2,28) = 2.89$, $p = .07$, but there was a significant main effect of gender-type, $\beta = .36$, $t(28) = 2.06$, $p = .05$, meaning that as gender-type increased, there was significantly more positive change in career expectations. The main effect of gender norm condition was not significant, $\beta = .15$, $t(28) = 0.88$, $p = .39$. At Step 2, the inclusion of the interaction between gender norm condition and gender-type did not explain significantly more variance, $R^2\text{ch} = .03$, $F\text{ch}(27) = 0.85$, $p = .36$, and the interaction was not significant, $\beta = .58$, $t(27) = 0.92$, $p = .36$.

Change in leadership aspirations

For the leadership aspirations analysis, at Step 1, the overall model did not predict a significant amount of variance in change in leadership aspirations, $R^2 = .02$, $F(2,28) = 1.25$, $p = .30$, and there were no main effects of gender norm condition, $\beta = .23$, $t(28) = 1.28$, $p = .21$, or gender-type, $\beta = .13$, $t(28) = 0.71$, $p = .49$. At Step 2, the inclusion of the interaction between gender norm condition and gender-type did not explain significantly

more variance, R^2ch = .00, Fch(27) = 0.00, p = .96, and the interaction was not significant, β = -.03, t(27) = -0.05, p = .96.

Change in educational aspirations

For the educational aspirations analysis, at Step 1, the overall model did not predict a significant amount of variance in change in educational aspirations, R^2 = -.04, F(2,28) = 0.27, p = .70, and there was no significant main effect of gender norm condition, β = .15, t(28) = 0.81, p = .42, or gender-type, β = -.08, t(28) = -0.40, p = .69. At Step 2, the inclusion of the interaction between gender norm condition and gender-type did not explain significantly more variance, R^2ch = .00, Fch(27) = .00, p = .97, and the interaction was not significant, β = .03, t(27) = .04, p = .97.

Table 10.

Hierarchical regression analyses summary for gender norm condition and gender-type predicting change in career measures for men (N = 31).[9]

Variable	Career aspirations			Career expectations			Leadership aspirations			Educational aspirations		
	β	R^2	R^2ch	β	R^2	R^2ch	β	R^2	R^2ch	β	R^2	R^2ch
Step 1		.16*			.11			.02			-.04	
Condition	.05			.15			.23			.15		
Gender-type	.46*			.36*			.13			-.08		
Step 2		.20*	.06		.11	.03		-.02	.00		-.08	.00
Interaction	.88			.58			-.03			.03		

Note: * = p <.05

Career aspirations and expectations: Qualitative data

As for the women's data, in order to provide anecdotal data to contextualise participants' responses to the aspirations and expectations scales, the responses to the open-ended questions enquiring into the type of careers participants aspired to and expected to enter was analysed. All 31 men answered the open-ended questions about their career aspirations and expectations either before or after the manipulation, 28 (90.3%)

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[9] Analysis of the subcomponents of gender type revealed that masculinity had a significant main effect on change in career expectations (β = 0.38, t(27)= 2.17, p = .04), and there was a significant main effect of dissimilarity to the opposite sex on change in career aspirations (β = 0.37, t(27)= 2.10, p = .05). This means that positive change in aspirations and expectations were associated with increases in dissimilarity to the opposite sex and masculinity respectively. This indicates that the significant main effects of gender-type on aspirations and expectations may be driven by these aspects of gender-type. However, there may also be an additive effect of the additional components of gender-type, as indicated by the difference in the beta values between gender-type and masculinity and dissimilarity to the opposite sex.

provided responses both before and after the manipulation, and the career aspirations and expectations given were the same before and after the manipulation. The majority of participants reported different careers or roles for aspirations and expectations, however 8 (25.8%) reported the same career for both their career aspiration and expectation. Table 11 summarises the frequencies and percentages of the career aspirations and expectations given by men.

Academia was the most frequently reported aspiration in the work condition ($N = 6$, 33.3%), followed by therapy/counselling ($N = 2$, 11.1%). The remaining aspirations in this condition were only reported once. In the home norms condition, there were three areas that were most frequently reported: the arts, academia, and an aspiration to be a CEO or high up in an organisation ($Ns = 3$, 23.1%), followed by engineering ($N = 2$, 15.4%).

In the work norms condition, the most frequently reported expectation was in academia ($N = 6$, 33.3%), followed by teaching ($N = 3$, 16.7%), and business and engineering ($N = 2$, 11.1%). Whereas in the home norms condition, the most frequently reported expectation was in engineering ($N = 6$, 46.2%), followed by academia ($N = 4$, 30.8%), and finance ($N = 3$, 23.1%).

For the careers that the sex composition of the workforce could be ascertained, the most commonly reported careers had a gender-neutral workforce ($N = 9$, 50%), followed by male-dominated careers ($N = 5$, 27.8%), and female-dominated careers ($N = 4$, 22.2%).

Table 11.

The frequencies and percentages of types of career aspirations and expectations reported by men.

Career Code	Sex of workforce	Work norms				Home norms			
		Aspirations		Expectations		Aspirations		Expectations	
		Frequency	Percentage (%)	Frequency	Percentage (%)	Frequency	Percentage (%)	Frequency	Percentage (%)
CEO/high up in an organisation	M	0	0.0	0	0.0	3	23.1	0	0.0
Academic	N	6	33.3	6	33.3	3	23.1	4	30.8
Sports	N	1	5.6	0	0.0	0	0.0	0	0.0
Engineering	M	0	0.0	2	11.1	2	15.4	6	46.2
Arts	N	1	5.6	0	0.0	3	23.1	1	7.7
Politician	M	1	5.6	0	0.0	0	0.0	0	0.0
Financial		0	0.0	0	0.0	1	7.7	2	15.4
Accountant	N	0	0.0	0	0.0	1	7.7	1	7.7
Banker	U	0	0.0	0	0.0	0	0.0	1	7.7
Retired	U	0	0.0	0	0.0	1	7.7	0	0.0
Electrician / handyman	M	0	0.0	0	0.0	1	7.7	0	0.0
Pilot	M	1	5.6	0	0.0	0	0.0	0	0.0
Languages	U	1	5.6	1	5.6	0	0.0	0	0.0
Medical	N	1	5.6	0	0.0	0	0.0	0	0.0
Therapy/ counselling	F	2	11.1	0	0.0	0	0.0	0	0.0
Home	U	1	5.6	0	0.0	0	0.0	0	0.0
Science	N	0	0.0	1	5.6	0	0.0	0	0.0
Vague	U	0	0.0	2	11.1	0	0.0	1	7.7

		n	%	n	%	n	%	n	%
Business		1	5.6	2	11.1	0	0.0	1	7.7
Consultant	N	0	0.0	0	0.0	0	0.0	1	7.7
Project manager	N	1	5.6	1	5.6	0	0.0	0	0.0
Middle management	U	0	0.0	1	5.6	0	0.0	0	0.0
Law	N	0	0.0	1	5.6	0	0.0	0	0.0
Psychologist		0	0.0	2	11.1	0	0.0	0	0.0
Clinical psychologist	F	0	0.0	1	5.6	0	0.0	0	0.0
Other psychologist	U	0	0.0	1	5.6	0	0.0	0	0.0
Teacher	F	0	0.0	3	16.7	0	0.0	1	7.7
Librarian	F	0	0.0	0	0.0	0	0.0	1	7.7

Note. M = male dominated workforce, F = female dominated workforce, N = no dominant sex in workforce, U = unclassified

Discussion

The purpose of this study was to examine the effect of gender norms around work and home (i.e., behavioural expectations for men and women around work and home) on aspirations and expectations, and how gender-type influenced the effect of these norms. By doing this, this study addressed two thesis research questions in part: how gender influences career aspirations, and how contextual factors (here, the social contextual factors of gender norms around work and home) influence this relationship. The first hypothesis that the aspirations and expectations of participants presented with work norms would increase, whereas they would decrease for those presented with home norms was not supported by the data, as there was no main effect of condition for men or women. There was some support for the second hypothesis, that gender-type would moderate the effect of the gender norms on aspirations and expectations, but only for women's career aspirations.

Key findings

The key finding of this study was that gender-type moderated the effect of gender norms on women's career aspirations. When work norms were made salient, highly gender-typed women's aspirations increased, whereas when home norms were made salient, they decreased. This mirrors the findings of Study 2, in which participants' femininity moderated the indirect effect of feminine workplace culture on aspirations and expectations through professional identification. Taken together, the findings of these two studies indicate that gender and social and situational contextual information interact to influence aspirations, both in terms of femininity varying the 'fit' one has with feminine organisational cultures, and through gender-type influencing adherence to varying gender norms around work and home.

The increase in highly gender-typed women's aspirations when work norms were made salient indicates that it is not necessarily the content of one's gender identity (i.e., masculinity/femininity) that dictates career aspirations, as argued in previous literature (e.g., Fassinger, 1990; Karami, Ismail & Sail, 2011; O'Briend & Fassinger, 1993; Rainey & Borders, 1997). Rather, gender norms will vary the aspirations of highly gender-typed people. Therefore, it is not that femininity or a female gender role in itself is *not* associated with high career aspirations, but the cultural positioning of femininity as unrelated to career gains could potentially be underlying the lack of relationship between femininity and aspirations in the literature. This interpretation indicates that if there were cultural changes regarding the positioning of women in society, e.g., more women in higher managerial and executive positions, and increased support for women in the workplace, then highly gender-typed women may have greater aspirations. However, as discussed in Chapters 1 and 2, methodological flaws in the measurement of femininity is likely to contribute to the lack of relationship between femininity and career gains (see Chapters 1 and 2 for a more detailed discussion) Overall, this highlights the importance of understanding the wider social context when examining the effect of gender on career aspirations, as gender norms may influence the degree to which gender is related to positive career aspirations and expectation.

Despite the significant interaction between gender-type and gender norms for women's career aspirations, there was no equivalent interaction identified for men. This could be due to the small number of men in the study, and so the lack of statistical power. For instance, a power analysis indicates that to detect an effect size similar to women's aspirations, with an R^2 of .08, it would require 130 participants, whereas only 31 men were recruited. Alternatively, men's career aspirations may not be affected by information regarding other men's working patterns after having children. This may a credible explanation, as the historical and current norm among men is to continue working after having children, and there is a strong association between masculinity and work (e.g., Nentwich & Kelan, 2014). Further investigation is needed to assess how social contextual factors influence the relationship between men's gender and career aspirations, and to assess whether this lack of effect is due to low statistical power.

Limitations of study

A key limitation of the current study was the small number of men recruited, which means there is ambiguity in interpreting the lack of significant findings for men. This could be interpreted as gender norms not influencing men's career aspirations, however it may be that the lack of statistical power meant that the effects of gender norms were not detected. As the previous study only assessed women's 'fit' with feminine workplace cultures, this means that in this thesis, little is known so far about the relationship between men's gender and career aspirations. To increase recruitment of men in this study, I targeted male-dominated departments in the university, however the small sample of men relative to women may indicate an ineffectiveness of recruitment methods for men. Senn and Desmarais (2001) documented a general tendency for men to volunteer to participate in psychological research less so than women, as well as an influence of the sex of the recruiter. Therefore, additional strategies may need to be employed in order to ensure a sufficient number of men in future studies in order to establish whether there is an effect (or lack thereof) of gender norms on men's aspirations.

An additional limitation of this study was that it only assessed one direction of influence between gender and careers: how gender influences career aspirations and expectations. This direction of influence was explored here as this is the typical conceptualisation of the relationship between gender and careers (e.g., Fiebig, 2003; 2008; Karami, Ismail & Sail, 2011; Powell & Butterfield, 2013; Rainey & Borders, 1997). And so in this thesis, I sought to establish the involvement of social and situational contextual factors in this direction of influence before examining the alternative direction of influence. As this thesis seeks to explore the reciprocal relationship between gender and careers, this study only addresses part of this relationship, and so further investigation is needed into the opposite direction of influence (how careers influence gender).

Conclusion

This study sought to build of the findings of Study 1, which identified two contextual influences on career expectations: gendered workplace culture, and gender norms around work and home. This study further investigated the influence of gender norms around work and home in parallel to Study 2's investigation of gendered workplace culture. In this study, highly gender-typed women's aspirations increased when work norms were made salient, and decreased when home norms were made salient. This

indicates that gender and gender norms (i.e., expectations of the behaviour of men and women) can interact to influence aspirations, but this was only found for women (however, this may be due to the low statistical power due to the small sample of men). Taken together with the results of Study 2, these two studies indicate that gender (both in terms of femininity and gender-type) interacts with contextual factors in the form of workplace cultures and gender norms to influence career aspirations and expectations, and so addresses the thesis question: how do contextual factors influence the relationship between gender and career aspirations. The current study also provides evidence for the direction of effects between gender and careers, demonstrating that gender-type can influence career aspirations. However, this thesis aimed to investigate both sides of the possible reciprocal relationship between gender and careers. Therefore, the next study sought to investigate the opposite direction of influence, careers influencing gender, by experimentally manipulating contextual career-based information.

Chapter 6:
Study 4: The influence of gendered career feedback on aspects of gender

Introduction

The previous two studies investigated one direction of influence between gender and careers: how gender influences career aspirations and expectations. However, as outlined in Chapter 1, and indicated in Study 1, the relationship between gender and careers may be reciprocal. The findings of Study 1 indicated that individuals may negotiate themselves to 'fit' with gendered workplace cultures, i.e., they adapt or 'do' gendered behaviour (either consciously or unconsciously) in a way that is appropriate for the situation, as proposed by my novel process of 'dynamic fit'. Gendered information and feedback about suitability for particular careers may also influence an individual's gender. The purpose of this study was to address the thesis research question: how careers can influence gender. As careers were positioned as a (situational) contextual factor here, this study also addresses the research question, how do contextual factors influence the relationship between gender and careers, in part. Whilst research has suggested that people recognise that they 'do' gendered behaviours differently in different work contexts (e.g., Charles, 2014; Sheridan, McKenzie & Still, 2011; see also the findings of Study 1), it can also be 'done' unconsciously (West & Zimmerman, 1987), and the causal mechanisms for this phenomenon have not been tested experimentally. To do this, I investigated how gender is 'done' in an experimental paradigm that used a short-term timeframe to manipulate career feedback and assess its impact on aspects of gender. As such, this study investigated whether aspects of gender can change as a result of gendered contextual feedback.

The influence of gendered contextual information on gender

As discussed previously in Chapters 1 and 2, conventional theories of gender position gender as a relatively stable identity or role that may gradually change over time. However, research around 'doing' gender positions gender as situationally dependent. A 'doing' gender approach positions gender as something that individuals 'do' or 'perform' through perceptual and interactional activities, such as gendered appearance and behavioural repertoires (which can be both conscious and unconscious), in order to be perceived by others as competent members of society (West & Zimmerman, 1987). Although the individual has control of what gender is 'done', it is much more socially-guided than individually-guided, meaning that gendered behaviour is tied strongly to the social and situational context, suggesting that 'doing' gender is more of an unconscious process than a conscious process.

People can 'do' gender in different ways to improve their fit with the gender norms in organisations (i.e., the behavioural expectations of men and women; Charles, 2014; Sheridan, McKenzie, & Still, 2011). This was a key theme in Study 1, in which women discussed how they negotiated themselves into gendered environments to improve their fit with the wider group, some through 'doing' masculinity at work, or 'doing' femininity differently, such as deliberately dressing more feminine. However, in Study 1, men tended not to report any negotiation of their gendered selves. This may be due to the hierarchical

nature of gender, with masculinity generally seen as superior to femininity (Nentwich & Kelan, 2014). As such, 'doing' masculinity may produce more favourable interactions than 'doing' femininity, and so women may have to manage identities across a wider range of situational contexts. This could mean that women are more likely to change the way in which they 'do' gender in relation to the situational context than men, due to this hierarchical difference between masculinity and femininity.

Workplace culture is not the only career-based contextual factor that may influence the way in which people 'do' their gender; feedback around skills and abilities could also influence gender. Certain skills and abilities are gendered, in that interpersonal and person-oriented skills are associated with women and femininity, and mathematical and task-oriented skills associated with men and masculinity (Chambers, Boulet & Furman, 2011; Eagly & Karau, 2002; Kray, Galinksky & Thompson, 2002; Sczensy, 2003). The gendered nature of these skills means that they can influence ratings of men and women's abilities (Chambers, Boulet & Furman, 2001; Groves, 2005), and also actual ability in these areas (e.g., Correll, 2004). Feedback about skills and abilities could also influence how a person 'does' their gender. There are indications of this in Rudman and Fairchild's (2004) study, as when participants were told they had performed well at a task that was cross-gendered (i.e., all previous task winners were of the opposite sex) and feared backlash from others due to this success, they tended to hide their success and were more likely to gender-conform. Thus, feedback about abilities can change the way in which people 'do' their gender, such as increasing adherence to norms. Feedback about their skills and abilities is generally trusted (e.g., Bridgeman, 1974), and so this type of feedback, particularly in the form of careers guidance, may have an effect on how a person 'does' their gender. Careers guidance is a common feature of education, with the majority of universities and schools in the UK offering careers guidance. It can influence career-relevant decisions, and is related to further participation in education and increased self-confidence and decision making skills (Hughes & Gration, 2009; Killeen & White, 2000). Although, little is known about whether this (potentially gendered) contextual information can influence a person's perception of their gender, or the way in which they 'do' gender.

Summary

In summary, workers 'do' gender within gendered organisational contexts, although women may have to change the way in which they 'do' gender across different situations more so than men. However, there is a lack of research into 'doing' gender that uses quantitative methods, and there are currently no experimental investigations into the effect of the situational context on aspects of gender that uses a 'doing' gender approach. Gendered workplace culture may not be the only careers-based influence on how people 'do' gender. Feedback about skills and abilities, such as in careers guidance, may also influence how gender is 'done'. As careers guidance is a common feature of education in the UK, is generally trusted (e.g., Bridgeman, 1974), and is related to careers outcomes, this study sought to experimentally investigate short-term change in aspects of gender in response to gendered careers feedback. This study uses a 'doing' gender approach, but instead of investigating gendered behaviours, participants' perception of their gender is assessed (i.e., masculinity, femininity, typicality to other members of their sex, etc). This study therefore addresses the thesis research question: how careers influence gender, and through positioning careers as a contextual factor, addresses the research question how do contextual factors influence the relationship between gender and careers in part.

Aim and hypotheses

To build on the findings of Study 1, and test the reciprocal relationship between gender and careers, the aim of this study was to investigate the dynamic change in aspects of gender in response to gendered careers feedback. To test this, participants were provided with false feedback from a career aptitude test, stating that they either had strong analytical skills (which are stereotypically masculine) and were suited to a range of male-dominated careers, or they had strong interpersonal skills (which are stereotypically feminine) and were suited to female-dominated careers. A false-feedback paradigm was used here as it is an effective way of manipulating participants' perception of themselves or their performance on a task (e.g., Hendrick & Giesen, 1976; Rudman & Fairchild, 2004; Story & Craske, 2008). Therefore, this kind of paradigm could convincingly influence participants' belief that they possess these gendered skills and are suited for particular gendered careers.

Two hypotheses were derived from the research around 'doing' gender, in which the situation guides gender, but men and women may 'do' gender differently in different situations:

1) Participants would change aspects of their gender in line with the gendered nature of the career feedback. This means that the interpersonal skills feedback would be associated with increases in femininity, and the analytical skills feedback associated with increases in masculinity;

2) There will be significant sex differences in change in aspects of gender within the conditions, as the conditions will be cross-gendered for one sex, but same-gendered for the other.
   a. Change in the gender measures will be greater for women than men, due to the acceptability of a masculine self-expression across a range of situations (Nentwich & Kelan, 2014).
   b. Change in strength of gender identification, similarity with own sex and dissimilarity to opposite sex will be in different directions for men and women within the conditions. In the interpersonal condition, women are expected to increase in these three variables, whereas men are expected to decrease. In the analytical condition, women are expected to decrease in these three variables, whereas men are expected to increase.

Method

Sample

One hundred and fifty-six participants[10] were recruited through university email lists, posters, and an online participation scheme for first-year psychology students. One

[10] The intended sample size was calculated using GPower 3.1, which indicated that for a medium effect size, 247 participants would be needed. However, the sample size was lower than this due to issues in recruitment of participants over the academic year in which recruitment ran. Therefore, the results need to be understood in light of this relatively small sample size.

hundred and seven participants were women and 49 were men. The mean age of participants was 19.96 years ($SD = 3.53$), and this ranged from 17 to 48 years. When asked about their ethnicity, two participants declined to answer, and three did not give valid responses. For the remaining 151 participants, the most frequently reported ethnic group was White-British/European ($N = 107$, 70.8%), followed by Asian/Asian-British ($N = 18$, 11.9%). As in the previous two studies, participants were asked about their sexual orientation at the end of study. When asked about their sexual orientation, 29 participants did not provide responses. Of the remaining participants, the overwhelming majority described themselves as straight/heterosexual ($N = 116$, 91.3%); due to this relatively homogenous sample, the sample was analysed as a whole. All participants were students, and studied 18 different subjects; the most frequently reported was psychology ($N = 91$, 58.3%), followed by mechanical engineering ($N = 12$, 7.7%). The majority of participants reported that they were first-year undergraduates ($N = 111$, 71.2%), followed by 'undergraduate – other year' ($N = 24$, 15.3%).

Design

This study used an independent-groups experimental design, with two independent variables: sex (male vs. female) and false gendered career feedback (interpersonal vs. analytical). The dependent variables were five aspects of gender: masculinity, femininity, strength of identification, perceived similarity with own sex, and perceived dissimilarity to the other sex. As in the previous study, the dependent variables were assessed twice: before and after the gendered career feedback manipulation. This was due to individual differences in aspects of gender, and in order to highlight the influence of gendered career feedback on aspects of gender (rather than between-participant variance), change scores were computed using the baseline and post-manipulation scores (see analytic strategy for a more detailed description).

Materials and measures

Manipulation of gendered career feedback

Gendered career feedback was manipulated through a questionnaire-based career selection test, wherein participants were given false feedback regarding their skills and the careers for which they were suited. As discussed earlier, career guidance is a trusted source of information about skills and abilities, and is related to career outcomes (e.g., Hughes & Gration, 2009; Killeen & White, 2000). It is also a commonplace feature of education, and so, it is a prevalent situational factor that could influence the relationship between gender and careers.

The career selection test was a generic questionnaire taken online from careercolleges.com (http://www.careercolleges.com/career-assessment-test). This test was chosen as it is not a commonly used career aptitude test, and was not used by the university's careers service, so participants were less likely to be familiar with it. This was key as the study was framed as testing a new career selection test. The questionnaire consisted of 15 questions asking participants about their skills and abilities, e.g. 'Would you say you are more of a practical, hands-on worker or more of an idea person?'. Participants' responses on this scale were not evaluated at any stage during the study and were discarded when the data was collated. This was due to the fact that this study was not

concerned with participants' actual skills and abilities, rather their response to false feedback around specific gendered skills.

Following completion of the career selection test, participants were given feedback that stated they had either strong analytical or interpersonal skills, and then listed three suitable careers. Participants were given feedback on analytical and interpersonal skills due to the gender stereotypes around person-oriented skills being associated with women and task-oriented skills associated with men (e.g., Eagly & Karau, 2002; Kray et al., 2002; Sczensy, 2003). For the analytical feedback, the suggested careers were male-dominated, and for the interpersonal feedback, the suggested careers were female-dominated (this was assessed through national data on the number of men and women in each type of role (ONS, 2015)). There was no mention of gender or sex in the feedback.

The feedback text presented in the analytical condition was:

Analytical skill

According to the results of your career assessment test, you demonstrated dependable and responsible personal qualities. These qualities will prepare you for success in any job role. You also demonstrated strong analytical skills, and you may want to consider a future career that uses these skills. People with strong analytical skills typically possess an appreciation for detail, a knack for problem-solving, and the ability to think analytically. Suitable careers include law enforcement, computing and technology, and finance and accountancy.

The feedback presented in the interpersonal condition was:

Interpersonal skill

According to the results of your career assessment test, you demonstrated dependable and responsible personal qualities. These qualities will prepare you for success in any job role. You also demonstrated strong interpersonal skills, and you may want to consider a future career that uses these skills. People with strong interpersonal skills typically possess an appreciation for detail, have a knack for forming relationships, and the ability to persuade others. Suitable careers include human resources, teaching, and customer-facing roles.

To assess that the participants' perception of the feedback they were given was effectively gendered, participants were asked how useful they found the feedback, and whether they felt the feedback was accurate, both of which were completed on a 7-item Likert-type response alternative ranging from 'not at all useful/accurate' to 'extremely useful/accurate'. A Likert-type response alternative was used here rather than a 'yes/no' response as used in the previous study, in order to assess varying degrees of attitudes, compared to assessing comprehension of information.

Gender measures

In this study, five measures of gender were used. All of these measures were used in Study 3 (see Chapter 2 for a more detailed description of why these aspects of gender were assessed). The only measure that was not used here that was used in Study 3 was the

endorsement of gender norms scale. This was not included as it assess a group-level aspect of gender, i.e., endorsement of the types of norms associated with the group, rather than individual-level aspects of gender, such as masculinity or femininity. All five measures of gender were assessed both before and after the manipulation, and change scores were calculated (see analytic strategy). Each measure was analysed separately in order to determine the extent to which each discrete aspect of gender was influenced by gendered careers feedback.

These five measures assessing discrete aspect of gender included two separate items assessing masculinity and femininity 'How masculine/feminine would you rate yourself?'. The third measure assessed strength of identification (pre-manipulation $\alpha = .62$, post manipulation $\alpha = .73$), and the fourth and fifth measures consisted of the two sub-scales of Wood et al.'s (1997) self-relevance of sex role norms: similarity with own sex (pre-manipulation $r(154) = .76$, post manipulation $r(154) = .76$), and dissimilarity to the opposite sex (pre-manipulation $r(154) = .77$, post manipulation $r(154) = .80$). As these scales were all used in Study 3, further detail about the scale items can be found in Chapter 5.

Procedure

The study was framed as a trial of a new career selection test. First, participants were asked to complete the gender measures, which were framed as a measure of 'background attitudes and attributes'. Next, they were randomly assigned to one of the two conditions (analytical or interpersonal) and asked to complete the career selection test. On completion of the test, participants read the false career feedback and then completed the manipulation check items, the gender measures for a second time, and provided demographic information. On completion, participants were informed as to the aims of the study.

Analytic strategy

This study sought to investigate the effect of gendered career feedback on change in aspects of gender. To do this, a series of 2 (sex: men vs. women) x 2 (feedback condition: interpersonal vs. analytical) independent analyses of variance (ANOVAs) were conducted for each gender measure. First, in order to calculate change in each aspect of gender, residualised change scores were computed, as in Study 3 (see Chapter 5 for a more detailed discussion of why these were used instead of simple change scores). For each gender measure, the baseline scores were used to predict the post-manipulation scores in regression analyses, resulting in the creation of five new variables concerning change in masculinity, femininity, strength of identification, similarity with own sex, and dissimilarity to the opposite sex.

Following the creation of the change in gender measures, two-way independent ANOVAs were conducted wherein sex and feedback condition were entered as independent variables, and a gender measure was entered as a dependent variable. Separate analyses were conducted for each aspect of gender. For significant interactions, the simple main effects of sex and feedback condition were calculated using Tukey pairwise comparisons. This was to assess the effect of feedback condition within sex, and to assess the effect of sex within the feedback conditions.

Results

Manipulation checks

In order to check whether the careers feedback was effectively perceived as either masculine or feminine, two two-way independent ANOVAs were conducted in which sex and condition were the independent variables, and the usefulness and accuracy of feedback items were dependent variables.

For usefulness ratings, the main effect of sex was not significant, $F(1,152) = 0.01$, $p = .96$, partial $\eta^2 = .00$. However, the main effect of condition was significant, $F(1,152) = 6.28$, $p = .01$, partial $\eta^2 = .04$. Participants in the interpersonal condition rated the feedback as significantly less useful ($M = 3.92$, $SD = 1.42$) than participants in the analytical condition ($M = 4.13$, $SD = 1.35$). The interaction between condition and sex was also significant, $F(1,152) = 18.59$, $p < .001$, partial $\eta^2 = .11$, as demonstrated in Figure 7.

An analysis of the simple main effect of condition within sex indicated no significant difference between the interpersonal and analytical conditions for women, $F(1,152) = 2.59$, $p = .11$, partial $\eta^2 = .02$, but there was a significant difference between the conditions for men, $F(1,152) = 16.94$, $p < .001$, partial $\eta^2 = .10$. Men in the analytical condition ($M = 4.80$, $SD = 0.26$) had a significantly higher usefulness score than men in the interpersonal condition ($M = 3.25$, $SD = 0.27$), 1.55, 95% CI [0.81, 2.29]. Therefore, men found the analytical feedback significantly more useful than the interpersonal feedback.

An analysis of the simple main effect of sex within condition indicated that there was a significant difference between the scores of men and women in the interpersonal condition, $F(1,152) = 9.02$, $p = .003$, partial $\eta^2 = .06$. Women had a significantly higher usefulness score ($M = 4.22$, $SD = 0.18$) in the interpersonal condition than men ($M = 3.25$, $SD = 0.27$), 0.97, 95% CI [0.33, 1.61], meaning that women perceived the interpersonal feedback as more useful than men. There was also a significant difference between the scores of men and women in the analytical condition, $F(1,152) = 9.57$, $p = .002$, partial $\eta^2 = .06$. Men had a significantly higher usefulness score ($M = 4.80$, $SD = 0.26$) in the analytical condition than women ($M = 3.81$, $SD = 0.18$), 0.99, 95% CI [0.36, 1.63], indicating that men perceived the analytical feedback as more useful than women.
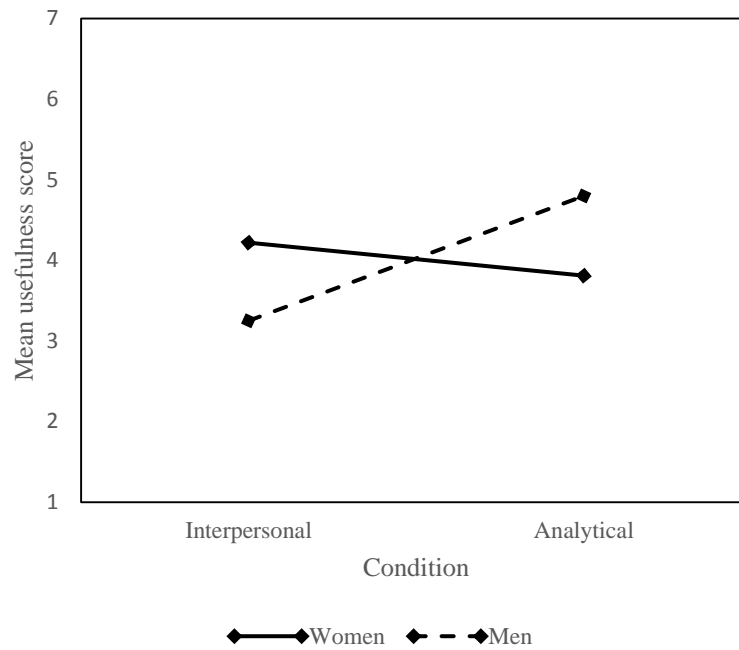
Figure 7. The mean usefulness scores for each condition, separated by sex

For accuracy ratings, the main effect of sex was not significant, $F(1,152) = 0.17$, p = .69, partial η^2 = .00, and neither was the main effect of condition, $F(1,152) = 3.66$, p = .06, partial η^2 = .06. However, there was a significant interaction between condition and sex on perceived accuracy of the feedback, $F(1,152) = 22.09$, $p < .001$, partial η^2 = .13, as demonstrated in Figure 8.

An analysis of the simple main effect of condition within sex indicated that there was a significant difference between conditions for women, $F(1,152) = 6.18$, $p = .01$, partial η^2 = .04. Women in the interpersonal condition had a significantly higher accuracy score ($M = 5.26$, $SD = 0.18$) than women in the analytical condition ($M = 4.62$, $SD = 0.18$), 0.64, 95% CI [0.13, 1.15], indicating that women saw the interpersonal feedback as more accurate than the analytical feedback. There was also a significant difference between conditions for men, $F(1,152) = 15.94$, $p < .001$, partial η^2 = .10. Men in the analytical condition had a significantly higher accuracy score ($M = 5.60$, $SD = 0.27$) than men in the interpersonal condition ($M = 4.08$, $SD = 0.27$), 1.52, 95% CI [0.77, 2.27], indicating that men perceived the analytical feedback as more accurate than the interpersonal feedback.

An analysis of the simple main effect of sex within condition demonstrated that there was a significant difference in scores between men and women in the interpersonal condition, $F(1,152) = 12.97$, $p < .001$, partial η^2 = .08. Women had a significantly higher accuracy score ($M = 5.26$, $SD = 0.18$) in the interpersonal condition than men ($M = 4.08$, $SD = 0.27$), 1.17, 95% CI [0.53, 1.81], meaning that women perceived the feedback as more accurate than men. There was also a significant difference between the scores of men and women in the analytical condition, $F(1,152) = 9.26$, $p = .003$, partial η^2 = .06. Men had a significantly higher accuracy score ($M = 5.60$, $SD = 0.27$) in the analytical condition than women ($M = 4.62$, $SD = 0.18$), 0.99, 95% CI [0.35, 1.62], meaning that men perceived the analytical feedback as more accurate than women.
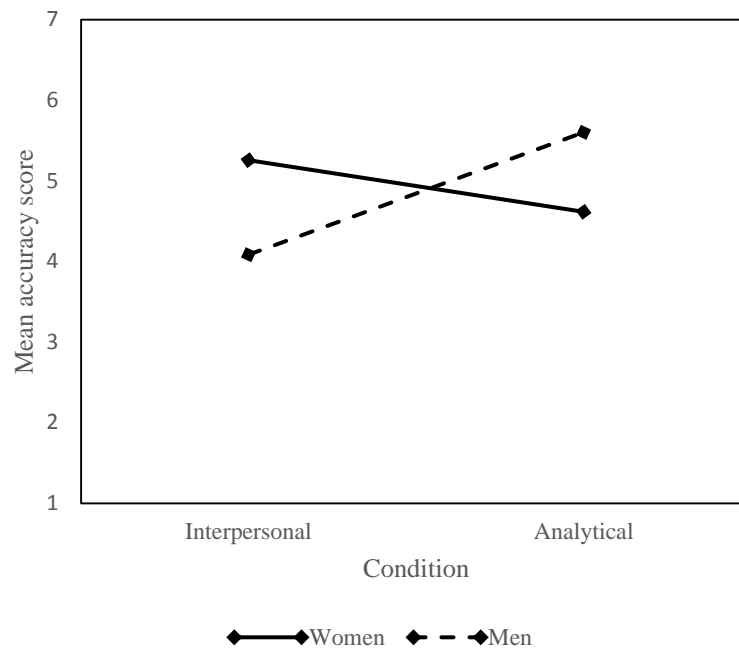
Figure 8. The mean accuracy score for each condition, separated by sex.

The above analyses demonstrated that there were significant differences in the accuracy and usefulness scores between men and women within each condition. It indicated that men saw the analytical (masculine) feedback as more useful and accurate than the interpersonal (feminine) feedback, and women saw the interpersonal (feminine) feedback as more accurate than the analytical (masculine) feedback. Overall, this demonstrated that the manipulation was effectively gendered.

Descriptive statistics

Means and standard deviations for the femininity, masculinity, strength of gender identification, similarity with own sex and dissimilarity to opposite sex measures are provided in Table 12, separated by sex.

Table 12.

Means and standard deviations for femininity, masculinity, strength of gender identification, similarity with own sex and dissimilarity to opposite sex measures separated by sex.

	Women ($N = 107$)		Men ($N = 49$)	
	Mean	S.D.	Mean	S.D.
Pre-manipulation femininity	5.66	0.83	2.41	0.94
Post-manipulation femininity	5.64	0.91	2.41	0.96
Femininity residualised change score	0.04	0.85	-0.09	1.24
Pre-manipulation masculinity	2.37	1.07	5.24	0.68
Post-manipulation masculinity	2.44	1.08	5.38	0.77
Masculinity residualised change core	-0.09	1.06	0.18	0.85
Pre-manipulation strength of gender identification	5.95	0.77	5.79	0.83
Post-manipulation strength of gender identification	5.79	0.78	5.61	0.87
Strength of gender identification residulised change score	0.03	0.99	-0.05	1.03
Pre-manipulation similarity with own sex	3.96	1.46	3.81	1.53
Post-manipulation similarity with own sex	4.03	1.41	3.54	1.63
Similarity with own sex residualised change score	0.13	0.97	-0.25	1.01
Pre-manipulation dissimilarity to opposite sex	2.86	1.43	3.43	1.46
Post-manipulation dissimilarity to opposite sex	2.74	1.40	3.03	1.58
Dissimilarity to opposite sex residualised change score	0.04	0.93	-0.08	1.12

Femininity

The first gender analysis was conducted with femininity as the dependent variable. The main effect of sex was not significant, $F(1, 152) = 0.07$, $p = .79$, partial $\eta^2 = .00$, however the main effect of condition was significant, $F(1, 152) = 1.74$, $p = .03$, partial $\eta^2 = .03$. Inspection of the mean scores for each condition indicate that participants in the analytical condition decreased in femininity ($M = -0.22$, $SD = 0.67$), whereas participants in the interpersonal condition had a slight increase ($M = 0.09$, $SD = 0.49$). The interaction between sex and condition was statistically significant, $F(1, 152) = 4.84$, $p = .03$, partial $\eta^2 = .03$, as demonstrated in Figure 9.

An analysis of the simple main effect of condition within sex revealed a significant difference in women's change in femininity scores between feedback conditions, $F(1, 152) = 15.91$, $p < .001$, partial $\eta^2 = .10$, but not for men, $F(1, 152) = 0.00$, $p = .97$, partial $\eta^2 = .00$. Mean change in femininity scores for women in the interpersonal and analytical conditions were 0.16 ($SD = 0.57$) and -0.29 ($SD = 0.81$) respectively, which was a significant difference, 0.45, 95% CI [0.23, 0.67]. Therefore, women in the analytical condition had a significant decrease in femininity, whereas women in the interpersonal condition demonstrated an increase in femininity.

An analysis of the simple main effect of sex within condition indicated that the difference between men and women's change in femininity was not significant in the analytical condition, $F(1, 152) = 1.87$, $p = .17$, partial $\eta^2 = .01$, or in the interpersonal condition, $F(1,152) = 3.04$, $p = .08$, partial $\eta^2 = .02$.
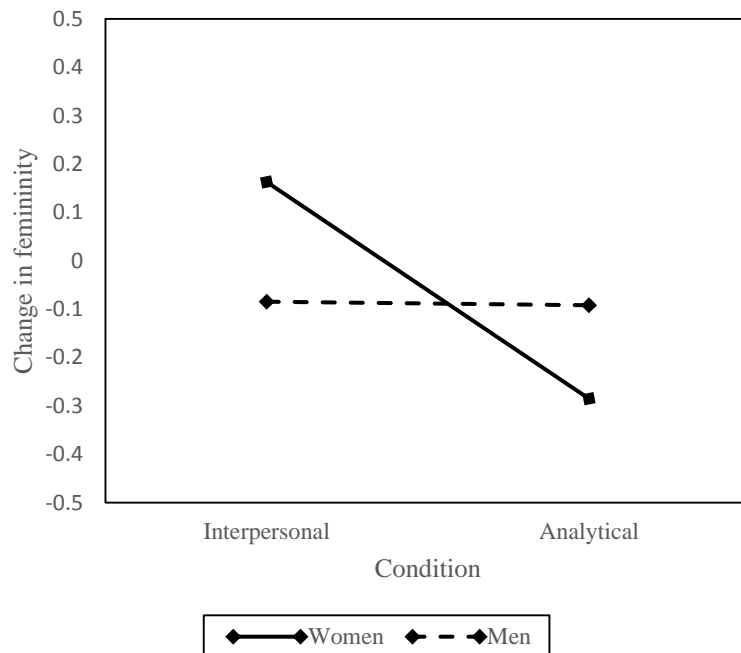

Figure 9. The mean change in femininity score for each condition, separated by sex.

Masculinity

The second gender analysis was conducted with masculinity as the dependent variable. There was no significant main effect of condition, $F(1, 152) = 3.11$, $p = .08$, partial $\eta^2 = .02$, or sex, $F(1, 152) = 3.10$, $p = .08$, partial $\eta^2 = .02$. The interaction between condition and sex on change in masculinity was not significant, $F(1, 152) = 0.22$, $p = .64$, partial $\eta^2 = .001$.

Strength of gender identification

A third analysis was conducted with strength of identification as the dependent variable. There was no significant main effect of condition, $F(1,152) = 0.26$, $p = .61$, partial $\eta^2 = .002$, or sex, $F(1,152) = 0.56$, $p = .46$, partial $\eta^2 = .004$. The interaction

between condition and sex on change in gender identification was not significant, $F(1,152) = 0.91$, $p = .34$, partial $\eta^2 = .006$.

Similarity with own sex

The fourth analysis was conducted with similarity with own sex as the dependent variable. The main effect of condition was not significant, $F(1, 152) = 0.44$, $p = .50$, partial $\eta^2 = .003$, however the main effect of sex was significant, $F(1, 152) = 4.82$, $p = .03$, partial $\eta^2 = .03$. The mean scores indicated that women increased in their perceived similarity with own sex ($M = 0.13$, $SD = 0.99$) whereas men decreased ($M = -0.25$, $SD = 1.00$). The interaction between condition and sex on change in perceived similarity with own sex was not significant, $F(1,152) = 3.51$, $p = .06$, partial $\eta^2 = .02$.

Dissimilarity to the opposite sex

The final analysis had dissimilarity to the opposite sex as the dependent variable. The main effect of sex was not significant, $F(1, 152) = 0.46$, $p = .49$, partial $\eta^2 = .003$, and neither was the main effect of condition, $F(1, 152) = 0.01$, $p = .94$, partial $\eta^2 = .00$. However, the interaction was significant, $F(1,152) = 5.54$, $p = .02$, partial $\eta^2 = .04$, as demonstrated in Figure 10.

An analysis of the simple main effect of condition within sex indicated that there was a significant difference between conditions for women, $F(1,152) = 4.13$, $p = .04$, partial $\eta^2 = .03$. Women's dissimilarity to the opposite sex scores decreased in the interpersonal condition ($M = -0.17$, $SD = 0.87$), whereas they increased in the analytical condition ($M = 0.21$, $SD = 0.93$), -0.39, 95% CI [-0.76, -0.01]. This indicates that for women, there was a lower desire to be dissimilar to opposite sex members in the interpersonal condition, but an increase in the analytical condition. There was no significant difference between conditions for men, $F(1,152) = 2.16$, $p = .14$, partial $\eta^2 = .01$.

An analysis of the simple main effect of sex within condition identified that there was a significant difference between the scores of men and women in the analytical condition, $F(1,152) = 4.66$, $p = .03$, partial $\eta^2 = .03$. Women's dissimilarity to the opposite sex scores increased in the analytical condition ($M = 0.21$, $SD = 0.93$), whereas men's scores decreased ($M = -0.30$, $SD = 1.23$), 0.52, 95% CI [0.04, 0.99]. This demonstrates that when presented with analytical feedback, women increased in the desire to be dissimilar to the opposite-sex, whereas men's desire decreased. There was no significant difference between the scores of men and women in the interpersonal condition, $F(1,152) = 1.38$, $p = .24$, partial $\eta^2 = .01$.
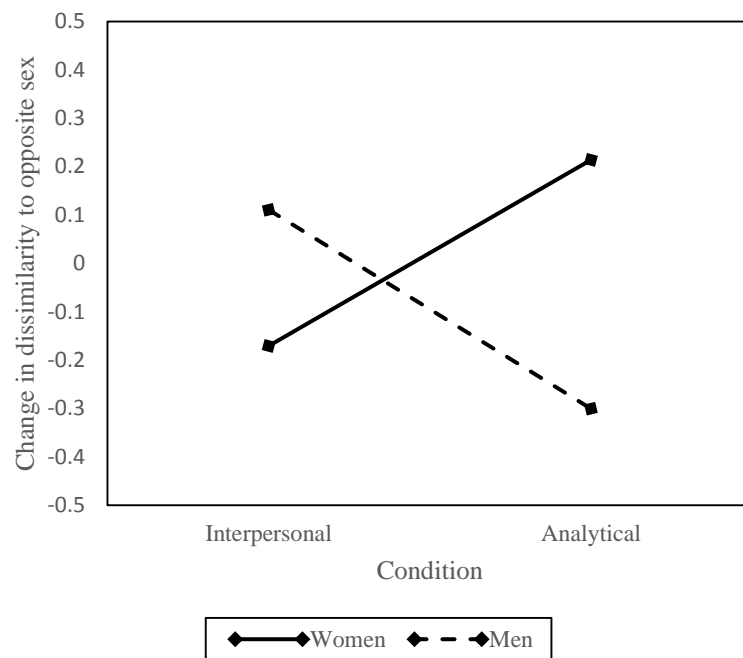
Figure 10. Mean change in dissimilarity to opposite sex for each condition, separated by sex.

Discussion

This study sought to investigate how aspects of gender changed in response to gendered career feedback, in order to address the thesis research question: how careers influence gender. As careers were positioned as a (situational) contextual factor here, it also addressed the research question, how do contextual factors influence the relationship between gender and careers, in part. The results indicated short-term, dynamic change in women's femininity and dissimilarity to the opposite sex in response to gendered career feedback. Additionally, the results indicated differences in change between men and women, i.e., men and women differed in their responsiveness to the gendered careers feedback, and in the direction of change (increases or decreases). Therefore, this study demonstrated that (situational) contextual careers-based information can influence certain aspects of women's gender, through gendered contextual feedback around skills and suitability for careers.

Main findings

There was partial support for the first hypothesis, that participants would change aspects of their gender in line with the gendered nature of the career feedback. There was a significant effect of gendered careers feedback on women's femininity, in that when women were presented with interpersonal feedback, their femininity increased, whereas their femininity decreased when presented with analytical feedback. This demonstrated a change in femininity in line with the condition, as feminine feedback around interpersonal skills was associated with an increase in femininity and masculine feedback around analytical skills was associated with a decrease in femininity. As such, here, it seems that female participants adapted their femininity in line with the gendered feedback. This result

is consistent with the finding in Study 1, in which female researchers adapted their feminine behaviour in masculine workplace cultures, with some reporting limiting their femininity, or arguing that their femininity had decreased as a result of working in a masculine environment.

However, the findings for dissimilarity to the opposite sex do not fit with the interpretation of the femininity result. Again, there was a significant difference between feedback conditions for women: women decreased in the desire to be dissimilar to the opposite sex in the interpersonal condition, and increased in the desire to be dissimilar to the opposite sex in the analytical condition. This means that when presented with feminine feedback, there was a lower desire to be different to the average man, but when presented with masculine feedback, there is a greater desire for differentiation. This goes against the explanation that participants changed aspects of their gender to 'fit' with the gendered feedback, as one would expect that women's desire to be dissimilar to men would decrease in the masculine analytical condition. This finding is more in line with Rudman and Fairchild (2004), that following success at a cross-gendered task, participants increased their conformity to gender norms, as here women increased their desire to be dissimilar to men, and so suggests a greater desire to conform to gender norms.

There were also significant differences between men and women's change in dissimilarity to the opposite sex in the analytical condition, providing some support for the second hypothesis. Women increased in dissimilarity in this condition, whereas men decreased. Therefore, in this cross-gendered situation, women had a greater desire to be different to a typical man, whereas in this same-gendered situation, men decreased in their desire to be different to a typical woman. This again echoes Rudman and Fairchild's (2004) findings, wherein cross-gendered feedback increased the relevance of gender norms. The lower relevance of gender norms to men in the same-gendered feedback condition could be interpreted as due to the assumption that the individual already possesses these skills (Correll, 2004), and so the feedback does not have great implications to the expression of one's gender, and so one can 'do' gender in different ways in this situational context. The reason why a similar pattern of results is not seen for the interpersonal condition may be due to the hierarchy of gender, wherein masculinity is acceptable in feminine conditions (Nentwich & Kelan, 2014).

Additionally, for men, there was no significant effect of the feedback conditions on any of the gender variables. One could argue that this supports the second hypothesis, as women demonstrated more change in aspects of gender than men, similar to the findings of Study 3, in which gender norms influenced women's career aspirations to a greater extent than men's, however caution needs to be used when interpreting a null effect. The lack of significant difference between conditions for men can be interpreted in three ways: first, that the conditions did not acceptably manipulate gendered situational information for men. However, the manipulation check items indicated that men did perceive the feedback as gendered, in that the analytical (masculine) feedback was rated as more accurate than the interpersonal (feminine) feedback, which fits with gender stereotypes around skills (Sczensy, 2003). Second, the relatively small number of male participants (relative to female participants) means that there was less power to detect the effects, and so there may have been differences in change in aspects of gender between the conditions, but there was not enough statistical power to detect these changes (see the participants section for a discussion of the required sample size to detect an effect). And third, masculinity or

'manhood' may be resistant to change across different situations. There are different reasons for this lack of change proposed in the literature. For instance, Nentwich and Kelan (2014) would posit that due to the hierarchical superiority of masculinity, men did not change their gender expression, as they would have a more privileged status in these career contexts than women. However, a different interpretation would come from Bosson and colleagues' work that posit that 'manhood' or masculinity is a precarious state that needs to be maintained and validated through public actions (e.g., Michniewics, Vandello & Bosson, 2014; Vandello & Bosson, 2013; Vandello, Bosson, Cohen, Burnaford & Weaver, 2008). Therefore, one would expect less change in line with situational changes as 'manhood' will need to be maintained to the same level through 'doing' masculine behaviours or actions consistently. Future research would benefit from recruiting larger samples of men in order to understand whether there are changes in aspects of men's gender in response to contextual careers-based information, or whether they 'do' gender in a similar way across a range of situations.

The results of this study indicate that careers-based feedback can influence certain aspects of gender, including femininity and the desire to be dissimilar to the opposite sex, although this was only identified for women. It also highlights that prevalent careers-based contextual information in the form of careers guidance has the potential to influence aspects of gender. Therefore, the findings of this study indicate that there is a possible reciprocal relationship between gender and careers, although this needs to be investigated further.

Limitations

A limitation of the current study concerns the measurement of change in aspects of gender. Gender was only assessed here in terms of scores on scales, and so there is uncertainty as to whether change in scores on gender measures translates to actual, meaningful gender change, in terms of attitudes and behaviours. If using a 'doing' gender approach to interpret these findings, then change in scores would qualify as 'real' change, as the act of rating aspects of one's gender can be seen as a form of 'doing' gender. Although, if a more traditional approach is adopted, it is not clear how long-term this change is, and whether this influences career-related factors such as aspirations and expectations. Therefore, subsequent research is needed to assess the longer-term variation in gender in response to careers in order to fully understand the reciprocal relationship between gender and careers.

An additional limitation of this study was that it was experimental. An experimental paradigm meant that careers feedback could be manipulated to identify its impact on aspects of gender. However, it is not known whether a similar effect of careers on aspects of gender can be found in 'real-world' situations. The findings of Study 1 indicated that careers can influence gendered behaviour outside of the lab, but as these findings were qualitative, the quantifiable contribution of careers to gender in the 'real world' is not known. In order to further understand this relationship between gender and careers, the influence of careers on gender needs to be observed in field studies as well as in the laboratory.

Conclusion

In conclusion, this study aimed to investigate the less understood direction of influence in the reciprocal relationship between gender and careers: how careers (in the form of careers feedback) influence aspects of gender, building on the findings of Study 1, which indicated that masculine workplace cultures could influence the way in which women 'did' their gender. The findings of this study demonstrated that there can be dynamic change in certain aspects of gender as a result of gendered contextual information in the form of careers feedback. This change is more apparent for women than men, which may be due to the hierarchical advantage of masculinity over femininity, but could also be due to the small sample of men in this study. Change occurred in femininity and the desire to be dissimilar to the opposite sex, with analyses indicating that analytical feedback influenced men and women's desired dissimilarity to the opposite sex differently. However, there needs to be further investigation of the reciprocal relationship between gender and careers in the field, in order to understand whether careers can influence aspects of gender outside of the lab. Therefore, the next study used a longitudinal assessment of the relationship between aspects of gender and careers during the job-application process in order to further examine how careers can influence aspects of gender, and in turn, how aspects of gender can influence careers.

Chapter 7:
Study 5: A dynamic fit model: how gender and gendered careers relate to each other over time

Introduction

As discussed throughout this thesis, traditional approaches to understanding the relationship between gender and gendered career choices typically conceptualise the relationship as only one-way, in that gender influences the careers one wishes to enter and eventually enters. For example, a masculine women is expected to aspire to more 'masculine' professions. However, this relationship can be reciprocal, in that gendered career experiences can influence a person's gender. For example, in Study 1, researchers discussed how their work environment affected their gendered behaviour, and in Study 4, aspects of participants' gender changed in response to gendered career feedback. Despite these indications of a reciprocal relationship between gender and careers, the concurrent, *bi*-directional process by which gender and gendered careers influence each other, as proposed by my 'dynamic fit' process, is yet to be assessed. To establish the extent to which the relationship between gender and careers is reciprocal, and so whether the process of 'dynamic fit' can explain the relationship between gender and careers, in this study, I explored this process using a longitudinal assessment of the impact of career choices on aspects of gender and vice versa.

How gender can influence the gendered nature of careers

As discussed in greater depth in Chapter 1, gender may influence the type of careers that people wish to enter (e.g., Fiebig, 2003; Howard et al., 2011; Metz, Fouad & Ihle-Helledy, 2009). Longitudinal studies of the relationship between gender and careers have supported this assertion, and find a positive relationship between masculinity (or agency) and later career success (Abele & Spurk, 2011; Ever & Sierverdin, 2014). The process underlying the relationship between gender and career aspirations and outcomes can be understood as perceptions of 'fit' or 'congruence' between gender and gendered careers, in that a person may attempt to enter careers that 'fit' with their gender. For instance, role congruity theory explains this process through one's gender roles creating different levels of congruency with occupational roles, and so a person is judged as more suitable for congruent than incongruent roles (e.g., Eagly & Karau, 2002; Eagly, Wood & Diekman, 2000). This can be extended to understanding one's own career choices, rather than the decisions of employers, in that one may actively choose to enter gender-congruent occupational roles.

Conceptualising this process as one of 'fit' or congruence necessarily positions gender as being relatively stable, and so as an antecedent to career choices and aspirations. Yet, as discussed in Chapter 2, and demonstrated in Studies 1 and 4, aspects of gender can also change as a result of gendered situational information, as such, I posit that gendered careers may also influence aspects of gender. This means that the 'fit' process is actually bi-directional, dynamic and fluid (whereas the term 'fit' implies a rather mechanical fixed effect).

How gendered careers can influence gender

The findings of Studies 1 and 4 suggest that gendered situational contexts can influence people's aspects of gender. Similarly, Kirchmeyer (2002) found an influence of changing situational contexts on aspects of gender in that changing employers was associated with change in women's masculinity, which could be understood as women changing their gender as a result of different workplace environments. This means that in addition to role enactment, gendered workplace contexts could also influence gender. Abele's (2003) reciprocal relationship hypothesis best exemplifies the argument for a reciprocal relationship, contending that gender influences role enactment, such as home and work roles, and in turn, role enactment influences gender. There is some evidence to support this, for instance Corrigall and Konrad (2007) found that for women, working longer hours, i.e., spending more time enacting a work role, was related to later gender egalitarianism, i.e., less strict gender role attitudes. Similarly, Kasen, Chen, Sneed, Crawford and Cohen (2006) found that women who worked full-time increased in masculinity and decreased in femininity, when compared to women who did not work, and additionally found that women in high prestige positions increased in masculinity. Therefore, spending more time in work versus home roles is related to lower femininity and increased masculinity. However, it is unclear whether this occurs in gendered occupations, such as those dominated by one sex.

The process by which gender is influenced by careers can be explained through a modified version of the 'fit' hypothesis, which moves away from a traditional understanding in which gender is only a fixed antecedent to career choices, and conceptualises both gender and occupations as identities that can be integrated and reconciled. As explained in Chapter 1, successful integration of multiple identities (such as occupational, gender, and family identities) in one's self-concept leads to greater well-being, but a lack of integration can increase stress and lower well-being (Brook, Garcia & Fleming, 2008). To improve integration between gendered occupational identities and gender identity, individuals may either choose professions that are congruent with their gender, i.e., feminine individuals may choose feminine, female-dominated occupations, or they may *change* aspects of their gender to improve 'fit' with their gendered occupation, i.e., those who work in masculine, male-dominated occupations may become more masculine. This means that, here, gender is conceptualised as dynamic and situationally variable, as posited by a 'doing' gender approach (e.g., West & Zimmerman, 1984).

This change in gender in response to gendered workplaces was indicated in Study 1 (Chapter 3), in which some female participants reported changes in their gendered behaviour in response to working in a male-dominated workplace. However, Study 1 provided no evidence of how or when this change occurred, as it relied on retrospective recall. As such, in the current study, I sought to empirically examine the reciprocal relationship between aspects of gender (masculinity and femininity) and gendered careers and the process of 'dynamic fit' using a longitudinal, quantitative paradigm, in which I assessed this relationship at the start of the job application process, and how this changed upon entering the workplace in order to understand how the relationship develops over the job application process.

Figure 11 depicts the proposed relationship between aspects of gender and careers over the 12-month period of the study. Data was collected from participants at three time

points over 12 months: at Time 1 (T1), participants were all in full-time higher education, at Time 2 (T2) they were applying for jobs, and at Time 3 (T3) participants were in work. At the first time point, participants were asked about their aspirations for their future careers, 6 months later they were asked about their job application experiences and their preferred job role, and after a further 6 months, the organisation they were working in was assessed. Six-month gaps were left between data collection in order for participants to move into the next stage of their job application process. At each time point, the sex composition of the workforce of the jobs participants wished to enter (T1 and T2) or had entered (T3) was assessed. The sex composition of the workforce was used as a proxy for the gendered nature of careers, as in Study 1, participants used the ratio of men and women in the workplace to determine the gendered nature of the culture. Therefore, at T1, participants were asked about the sex composition of the career they aspired to; at T2, they were asked about the sex composition of the most desired organisation they had applied to; and at T3, they were asked about the sex composition of the workforce they had actually entered.
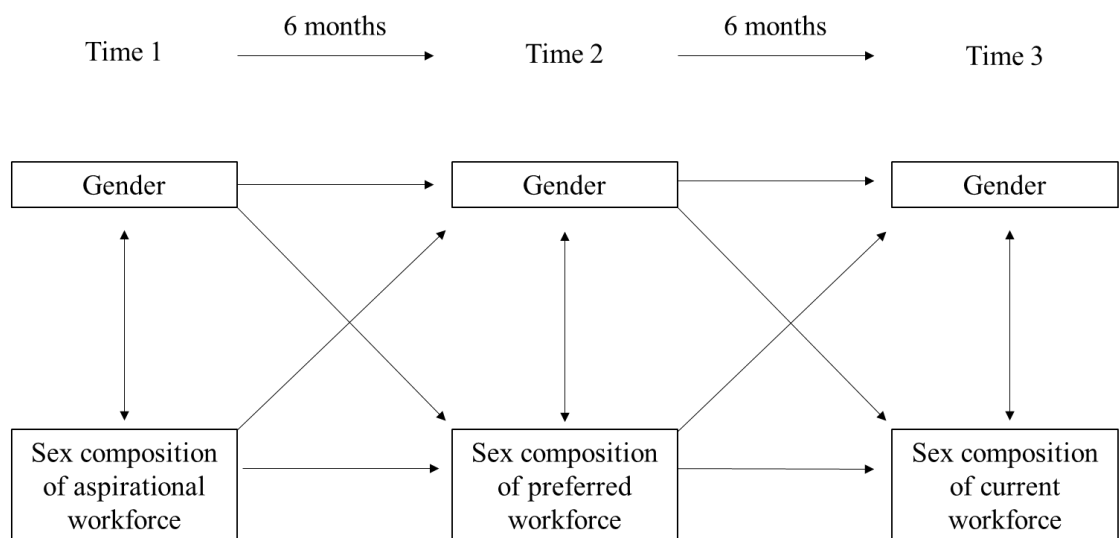

Figure 11. The proposed relationships between gender and the sex composition of workforces over time.

As this thesis was interested in how gendered career experiences and aspirations could affect gender, I was particularly interested in how the sex composition of the workforce would predict masculinity and femininity at the following time point. For instance, the sex composition of the careers participants aspired to at T1 could influence their masculinity or femininity at T2 by participants changing their masculinity or femininity in order to improve their 'fit' with their chosen career field. Similarly, at T2, the sex composition of the preferred workforce, which was participants' most preferred organisation out of the organisations that had applied to, could influence masculinity or femininity at T3, through this gendered career experience motivating participants to improve their 'fit' with this organisation. A participant may aspire to work in a male-dominated career, and so to improve their 'fit' with this career (and potentially improve

their employability by 'fitting' with an occupational field) they may become more masculine.

By doing this, this study builds on previous literature in three ways: first, by assessing the influence of gendered career experiences and aspirations on aspects of gender. This extends previous literature by incorporating the influence of gendered workplaces, rather than individual facets of work, such as prestige and work hours. Second, this study empirically captured the variable nature of gender, here masculinity and femininity, in contrast to previous studies that relied on a static, personality approach to gender. Third, this study tested the reciprocal relationship between aspects of gender and careers over time. Taken together, this means that in this study, I conceptualised gender as working dynamically and interactively with individuals' gendered career choices over time, rather than as a stable attribute.

Aim and hypotheses

The aim of this study was to examine the reciprocal relationship between aspects of gender (masculinity and femininity) and gendered career choices and aspirations, using the sex composition of the workforce as a proxy for gendered careers. This study therefore addressed the three thesis research questions: how contextual factors (here, a situational contextual factor: the ratio of men and women in the workforce) influence the relationship between gender and careers, how gender influences careers, and how careers influence gender.

There were three hypotheses for this study. To test the reciprocal relationship between aspects of gender and gendered careers, the first hypothesis was:

1) There will be significant cross-lagged relationships between gender measures and the sex composition of the workforce across time in that femininity will predict wishing to work in a more female-dominated workforce, and masculinity will predict wishing to work in a more male-dominated workforce, i.e., femininity at T1 will predict participants wishing to enter a more female-dominated workforce at T2, and wishing to enter a more female-dominated workforce at T1 will predict femininity at T2.

The two subsequent hypotheses were based on the novel process of 'dynamic fit' discussed in the introduction to this chapter and in previous chapters:

2) There will be significant correlations between masculinity/femininity and sex composition of the workforce at each time point i.e., masculinity will be correlated with a male-dominated workforce, and femininity will be correlated with a female-dominated workforce.
3) Masculinity/femininity at T1 will have an indirect effect on masculinity/femininity at T3 through the sex composition of the workforce at T2. In other words, participants' T1 masculinity/femininity will predict the sex composition of their preferred workplace at T2, which will then predict their masculinity/femininity at T3. For instance, T1 femininity would predict an intention to enter a more female-dominated workforce, which would then predict subsequent femininity at T3.

Methods

Participants and design

This study used a longitudinal design, measuring the same three variables over three time points, with 6 months lag between each measurement: recruitment for T1 occurred during December 2013 - March 2014, before participants began the job application process; T2 was during the job application process (April – August 2014); and T3 was when participants were in work (December 2014 – March 2015).

One-hundred and ninety-two participants were recruited at T1[11], all of whom intended to begin their careers in the workplace in the next 12 months. All participants were students at the University of Bath. Participants were recruited through adverts on internal message boards, through departmental email lists used to advertise the study, through advertising the study in lectures, and through the use of the careers service to advertise the study on their website and in their building. In order to maximise retention of participants, participants were incentivised to complete the T2 and T3 measures by being placed in a prize draw for Amazon vouchers, and were sent email reminders during the periods of data collection.

At T2, 66 participants (34.4%) were retained, and at T3, 64 participants were retained (33.3% of T1). However some of the T3 participants had not completed the survey at T2. In total, matched data across all three time points was available for 50 participants (26.0%). To retain all available data, data from participants across all time points was utilised in the model, and missing values were estimated and replaced using multiple imputation. Multiple imputation is a reliable way of solving issues with missing data, in which missing values are predicted from observed values, and random noise is added to preserve variability. This strategy is preferable to deleting cases, which would result in a substantial loss of power (Schafer, 1999; Schafer & Graham, 2002). To test for differences between the samples at each time point, an analysis of sample differences was conducted (see results section).

Numbers of male and female participants at each time point, along with mean age of participants are detailed in Table 9. At T1, of the 198 participants asked about their ethnicity, 16 participants did not respond. Of the remaining participants, 151 (85.7%) described themselves as White – British/European, followed by 24 participants (13.6%) describing themselves as Asian/Asian-British. As in the previous studies, participants were asked about their sexual orientation in order to conduct analyses for different subgroups. This information was collected at the end of the survey at T1. One-hundred and sixty-seven participants responded when asked about their sexual orientation, of those, 153 participants (91.6%) described themselves as heterosexual/straight. The most frequently reported year of study was 'undergraduate – second year' ($N = 87$, 45.3%), followed by

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[11] Guidelines for this type of study suggest a minimum of 100-200 participants (Boomsma, 1982; Wolf, Harrington, Clarke & Miller, 2013), however, models attempting to explain a greater amount of variance may require 440 participants (Wolf et al, 2013). Therefore, the intended sample was between 100-200 participants to be retained across the three time points. However, due to the smaller than expected sample at T1 and attrition over time, this sample was much smaller at T2 and T3. Therefore, the results should be understood in light of the small sample size, and therefore the low statistical power.

'undergraduate – final year' ($N = 60$, 31.3%). Second year undergraduates were included, as in their third year they undertake year-long work placements, wherein they gain work experience for their careers following completion of their final year of study. The most frequently reported subject participants reported studying was psychology ($N = 131$, 68.2%), followed by economics ($N = 16$, 8.3%).

At T2, of the 60 participants who provided a response when asked about their sexual orientation, the most frequently reported was heterosexual/straight ($N = 55$, 91.7%). The most frequently reported year of study was 'undergraduate – second year' ($N = 35$, 53.0%), and the most frequently reported subject studied was psychology ($N = 46$, 69.7%).

At T3, of the 59 participants who provided a response when asked about their sexual orientation, 56 participants (94.9%) indicated that they were heterosexual/straight. The most frequently reported year of study was 'undergraduate – second year' ($N = 31$, 48.4%), and the most frequently reported subject studied was psychology ($N = 46$, 71.9%).

Table 13.

Descriptive statistics of participants separated by time points.

	N	Female N	Male N	Mean age	SD
T1	192	148	44	21.93	4.44
T2	66	50	16	21.63	4.75
T3	64	49	15	21.11	2.16

Note. Age of participants was only collected at T1.

Materials

Gender measures

As this study assessed the degree of 'fit' participants' gender had with gendered workforces, only masculinity and femininity was assessed here (see Chapter 2 for a more detailed explanation of why these two measures were used). As in the previous studies, the measures assessed masculinity and femininity by asking 'How masculine/feminine would you rate yourself?' and responses were measured on a 7-point Likert-type response alternative from 'not at all' to 'very'.

Sex composition of the workforce

In Study 1, a crucial aspect of the interview studies was the ratio of men to women in the environment participants found themselves in and how that affected the way in which interviewees felt they could behave in the workplace. Interviewees argued that masculine workplace cultures were a result of a male-dominated workforce, whereas feminine cultures were due to a female-dominated workforce. Therefore, by assessing the sex composition of workforces that participants aimed to enter, this functions as a proxy for the gendered nature of the careers they aspired to and entered. Typical measures of gendered workplace culture, such as the one used in Study 2, were not appropriate here as at T1, participants were not asked about specific organisations, but rather general career

fields, and at T2 participants did not work in the organisations they were asked about, and so would not have an adequate perception of the workplace culture.

To assess the gendered nature of the workforces participants intended on entering at T1 (aspirational workforce), applied to at T2 (preferred workforce), and finally entered at T3 (current workforce), participants were asked to rate the sex composition of the workforces at each time point on a 5-point Likert-type response alternative ranging from 'heavily male dominated' to 'heavily female dominated'. This means that increases in the score indicated increasing levels of women in the workforce. The wording of the question varied over the three time points. At T1 participants were asked 'How would you rate the sex composition of the career you want to enter?', at T2 participants were asked to think of their most preferred job that they had applied for, and were then asked 'How would you rate the sex composition of this organisation?', and at T3 participants were asked about their current job role, and then asked 'How would you rate the sex composition of this organisation?'

Procedure

At T1, participants filled out the initial survey, which included the masculinity and femininity measures, the measure of the sex composition of the workforce, and demographic information. Participants were asked to provide an email address to contact them at the two future time points. Additionally, participants were asked to provide a unique 7-unit code in order to match their responses across time points whilst preserving anonymity. Six months later, participants were contacted and asked to complete the T2 survey, which included the masculinity and femininity measures, as before, and asked participants to think of their most preferred job that they had applied for, and then rate the sex composition of that organisation. Finally, after six months, participants were contacted again to complete the T3 survey, which included the masculinity and femininity measures, and asked participants to rate the sex composition of the workforce they worked in currently.

Analytic strategy

To assess the relationship between aspects of gender and the sex composition of the workforce over the three time points, path modelling techniques were used to perform cross-lag analysis (Kenny & Harackiewicz, 1979; Lewis-Beck, Bryman, & Liao, 2004). This technique assessed the relationship between the two variables (masculinity or femininity and sex composition of the workforce) at one time point, the relationship between the same variables across different time points, and the relationship between the two variables at different time points (Kenny & Harackiewicz, 1979). The current analysis cannot be defined as 'true' cross-lag analysis due to the different meaning of the sex composition of the workforce variable across the three time points, as different reference points were used, but efforts were made to ensure the meaning of these items was as close as possible across the time points. This analysis was conducted using Mplus, and good fit was assessed using four indices (Kline, 2005): a non-significant chi-square test of model fit, a root mean square error of approximation (RMSEA) between .0 - .1, a comparative fit index (CFI) above .9, and a standardised root mean square residual (SRMR) below .1.

To assess the process of 'dynamic fit', the specific indirect effects of T1 masculinity/femininity on T3 masculinity/femininity through T2 the sex composition of the

preferred workforce was assessed. This analysis was conducted using bootstrapping in Mplus, and the standardised coefficients were reported. Separate analyses were performed for men and women, as in Study 3, due to the difference in what femininity and masculinity represent for men and women, e.g., femininity is 'atypical' for men, but is 'typical' for women.

In addition, reliable change indices (RCIs) were used to assess descriptive intra-individual change in masculinity and femininity and the sex composition of the workforce between time points. RCIs provide descriptive information about the number of participants who report significant increases or decreases in these variables over time, more so than would be expected from test-retest error. It is calculated by dividing the difference between two scores by the standard error of the difference, with a result above 1.96 representing a significant increase, and a result below -1.96 representing a significant decrease (Christensen & Mendoza, 1986). RCIs provide interpretative value to the cross-lag model.

Results

Sample differences

The attrition of participants across the three time points may have introduced bias into the data due to differences between the samples. Therefore, following the methodology of Matthew, Winkel and Wayne (2014), t-tests were conducted to identify differences between the samples. The first test used the data from participants who completed the T2 measures, and compared it with those who did not, and the second test used the data from participants who completed the T3 measures, and compared it with those who did not.

For the T1 measures of masculinity, femininity, and the sex composition of the workforce, there were no significant differences between participants who completed the T2 measures and those who did not. There were also no significant differences between the two groups in terms of age, sex, year of study or subject studied.

For the T2 measures, there were no significant differences between participants who completed the T3 measures and those who did not. For the demographic variables, there were no significant differences for age, sex, or subject studied. There was a significant difference between the groups for year of study, $t(190) = 2.46$, $p = .02$, when looking at the frequencies of each year of study, undergraduates (both final and second year) made up a larger proportion of the sample who completed the T3 measures (87.5%), than the sample that did not (71.1%). The findings below should be understood with this sample difference in mind.

Descriptive statistics

See Table 14 for means and standard deviations of the three variables over the three time points. There were significant sex differences in scores of masculinity at T1 ($t(187) = -9.31$, $p < .001$), T2 ($t(64) = -4.49$, $p < .001$), and T3 ($t(62) = -5.6$, $p < .001$). As

demonstrated by the means, men reported significantly higher scores of masculinity than women across the three time points.

Similarly, there were significant sex differences in scores of femininity at T1 ($t(189) = 13.77$, $p < .001$), T2 ($t(64) = 9.29$, $p < .001$), and T3 ($t(62) = 9.91$, $p < .001$). As demonstrated by the means, women reported significantly higher scores of femininity than men across the three time points.

Regarding the sex composition of the workforce, there were significant differences between men and women at T1 ($t(189) = 2.33$, $p = .02$), but not at T2 ($t(63) = 0.68$, $p = .50$), or T3 ($t(62) = -0.57$, $p = .57$). This demonstrates that at T1, men wished to work in a workforce that was significantly more male-dominated than women, but at T2 and T3 there were no significant differences in the sex composition of workforces.

In order to examine sex differences in change in the variables over time, a series of mixed analyses of variance were conducted, in which time was entered as a within-subject variable, and sex was entered as a between-subject variable, and the dependent variables were masculinity, femininity, and the sex composition of the workforce.

There was no significant main effect of time on masculinity, $F(2,94) = 2.37$, $p = .10$, partial $\eta^2 = .05$, femininity, $F(2,94) = 0.42$, $p = .66$, partial $\eta^2 = .01$, or sex composition of workforce, $F(2, 94) = 1.03$, $p = .36$, partial $\eta^2 = .02$. There were significant main effects of sex on masculinity, $F(1,47) = 32.24$, $p < .001$, partial $\eta^2 = .41$, and femininity, $F(1,47) = 114.76$, $p < .001$, partial $\eta^2 = .71$, but not the sex composition of the workforce, $F(1,47) = 0.51$, $p = .47$, partial $\eta^2 = .01$. As sex differences were discussed previously, the main effect of sex will not be discussed further.

There was no significant interaction between time and sex for masculinity ($F(2) = 0.07$, $p = .93$, partial $\eta^2 = .002$), femininity ($F(2) = 0.18$, $p = .84$, partial $\eta^2 = .004$), or sex composition of the workforce ($F(2) = 0.19$, $p = .83$, partial $\eta^2 = .004$). Therefore, men and women did not change in masculinity, femininity or sex composition of the workforce significantly differently over time.

Reliable change indices

Women

The RCIs indicated that there was some significant change in variables between time points. For femininity, at T2, 12 (24.0%) participants' scores increased (relative to T1 scores), 14 (28.0%) decreased, and 24 (48.0%) remained the same. At T3, 8 (22.9%) participants' scores increased (relative to T2 scores), 16 (45.7%) decreased, and 11 (31.4%) remained the same. Overall, when assessing change from T1 to T3, 10 (20.4%) participants' scores increased, 17 (34.7%) decreased, and 22 (44.9%) remained the same.

For masculinity, at T2, 11 (22.4%) participants' scores had increased (relative to T1 scores), 19 (38.8%) had decreased, and 19 (39.8%) remained the same. At T3, 8 (33.9%) participants' scores had increased (relative to T2 scores), 7 (20.0%) had decreased, and 20 (57.1%) remained the same. Overall, when assessing change from T1 to T3, 5 (10.2%) participants' scores had increased, 20 (40.8%) had decreased, and 24 (49.0%) had remained the same.

For the sex composition of the workforce, at T2, 15 (30.6%) participants' scores had increased (become more female-dominated), 17 (34.7%) had decreased (become more male-dominated), and 17 (34.7%) remained the same. At T3, 13 (37.1%) participants' scores had increased, 10 (28.6%) had decreased, and 12 (34.3%) had remained the same. Overall, when assessing change from T1 to T3, 14 (28.6%) participants' scores had increased, 17 (34.7%) had decreased, and 18 (36.7%) had remained the same. See Table 10 for the mean scores at each time point.

Men

Similar to the women's results, the RCIs indicated some significant change in the variables between time points for men. For femininity, at T2, 5 (31.3%) participants' scores increased (relative to T1 scores), 4 (25.0%) had decreased, and 7 (43.8%) had remained the same. At T3, no participants' scores had increased (relative to T2 scores), 1 (7.1%) had decreased, and 13 (92.9%) had remained the same. Overall, when assessing change from T1 to T3, 4 (26.7%) participants' scores had increased, 4 (26.7%) had decreased, and 7 (46.7%) had remained the same.

For masculinity, at T2, 2 (12.5%) participants' scores had increased (relative to T1 scores), 4 (25.0%) had decreased, and 10 (62.5%) had remained the same. At T3, 2 (14.3%) participants' scores had increased (relative to T2 scores), 2 (14.3%) had decreased, and 10 (71.4%) had remained the same. Overall, when assessing change from T1 to T3, 2 (13.3%) participants' scores had increased, 7 (46.7%) had decreased, and 6 (40.0%) remained the same.

For the sex composition of the workforce, at T2, 3 (18.8%) participants' scores had increased (become more female-dominated), 3 (18.8%) had decreased (become more male-dominated), and 10 (62.5%) had remained the same. At T3, 6 (42.9%) participants' scores had increased, 2 (14.3%) had decreased, and 6 (42.9%) had remained the same. Overall, when assessing change from T1 to T3, 7 (46.7%) participants' scores had increased, 2 (13.3%) had decreased, and 6 (40.0%) had remained the same. See Table 10 for the mean scores at each time point.

Table 14.

Means and standard deviations of men and women's sex composition, femininity, and masculinity scores at each time point.

			Sex composition of workforce †		Femininity		Masculinity	
		N	Mean	*S.D.*	Mean	*S.D.*	Mean	*S.D.*
Women								
	T1	147	3.23	1.21	5.41	1.03	3.06	1.35
	T2	49	3.10	1.23	5.38	0.97	3.10	1.39
	T3	49	3.18	1.36	5.35	0.90	2.84	1.33
Men								
	T1	44	2.75	1.18	2.86	1.23	5.14	1.09
	T2	16	2.88	0.89	2.69	1.14	4.81	1.11
	T3	15	3.40	0.99	2.60	1.06	4.80	0.41

Note. † Increase in score indicates a more female-dominated environment; a score of 3 is classed as equal men and women in environment.

Cross-lag analysis: Femininity and sex composition of the workforce

Women

Cross-lag analysis was conducted to assess the relationship between women's femininity and the sex composition of the workforces they aspired to and entered. The results suggested a good fit between the model and the data, χ^2 (4) = 6.69, p = .15, RMSEA = .07, 90% CIs [.00, .15], CFI = 0.97, SRMR = .05. See Figure 12 for a depiction of the relationships between variables.

Analyses of the paths between variables over time indicated a significant positive relationship between femininity at T1 and T2, β = 0.56, p < .001, however there was no significant relationship between T2 and T3, β = 0.18, p = .34. For sex composition of the workforce, there was a significant relationship between the aspirational workforce at T1 and the preferred workforce at T2, β = 0.43, p < .001, and between the preferred workforce at T2 and the current workforce at T3, β = 0.39, p = .02, indicating that the previous sex composition of the desired workforce predicted the subsequent sex composition of the workforce entered.

When looking at the cross-lag relationships between the variables, there was a significant positive relationship between T1 femininity and T2 sex composition of the preferred workforce, β = 0.38, p = .001, indicating that higher femininity was associated with desiring to work in a more female-dominated workforce, but there was no relationship between T1 sex composition of the aspirational workforce and T2 femininity, β = 0.16, p = .13. There was a significant effect of T2 femininity on T3 sex composition of the current workforce, β = 0.48, p = .001, indicating that femininity was associated with entering a more female-dominated workforce. There was also a significant effect of T2 sex composition of the preferred workforce on T3 femininity, β = 0.35, p = .008, indicating that wishing to work in a female-dominated workforce at T2 was associated with greater femininity at T3.

The cross-sectional relationship between femininity and sex composition of the workforce was positive and significant at T1, β = 0.18, p = .02, indicating greater femininity was associated with aspiring to enter a more female-dominated workforce. However, this relationship was not significant at T2 or T3 (β = 0.09, p = .54; β = -0.07, p = .66)

Indirect effects

A test of the indirect effect of T1 femininity on T3 femininity, through T2 sex composition of the preferred workforce was significant, β = 0.26, p = .02, 95% CIs [0.08, 0.44]. Therefore, T1 femininity influenced T3 femininity through T2 sex composition of the preferred workforce, rather than a direct influence of T1 femininity on T3 femininity (β = 0.19, p = .34).

Time 1   Time 2   Time 3
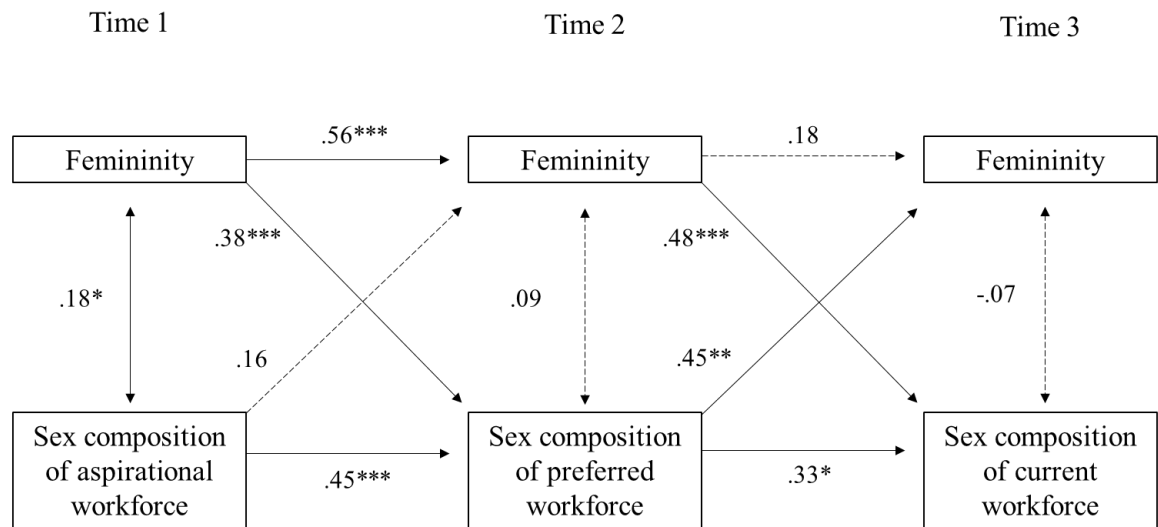

Figure 12. Cross-lagged model with standardised coefficients depicting the relationship between women's femininity and sex composition of the workforce. Solid lines represent significant pathways, dotted lines represent non-significant pathways. * $p < .05$, ** $p < .01$, *** $p < .001$.

Men

The results of the cross-lag analysis assessing the relationship between men's femininity and the sex composition of the workforce suggested good fit between the model and the data, $\chi^2 (4) = 5.02$, $p = .28$, RMSEA = .08, 90% CI [.00, .25], CFI = .98, SRMR = .09. See Figure 13 for a depiction of the relationships between the variables.

Analyses of the paths between variables over time indicated a significant positive relationship between femininity at T1 and T2, $\beta = 0.67$, $p < .001$, and between T2 and T3, $\beta = .96$, $p < .001$. These results indicate that previous femininity predicted subsequent femininity. For the sex composition of the workforce, there was a significant positive relationship between the aspirational workforce at T1 and the preferred workforce at T2, $\beta = 0.59$, $p < .001$, but the relationship between the preferred workforce at T2 and the current workforce at T3 was non-significant, $\beta = 0.17$, $p = .49$.

When looking at the cross-lag relationships between femininity and sex composition of the workforce, the only significant relationship was between T1 femininity and T2 sex composition of the preferred workforce, $\beta = 0.39$, $p = .03$, suggesting that femininity at T1 led to wanting to enter a more feminine workforce at T2. See Figure 13 for the coefficients of the other cross-lag relationships.

The cross-sectional relationship between between femininity and sex composition of the workforce was not significant at T1 ($\beta = 0.07$, $p = .71$), T2 ($\beta = -0.04$, $p = .89$), or T3 ($\beta = -0.32$, $p = .21$).

Indirect effects

The test of the indirect effect of T1 femininity on T3 femininity through T2 sex composition of the preferred workforce was not significant, $\beta = 0.03$, $p = .86$, and instead

demonstrated a significant direct effect of T1 femininity on T3 femininity, $\beta = 0.51$, $p = .04$.
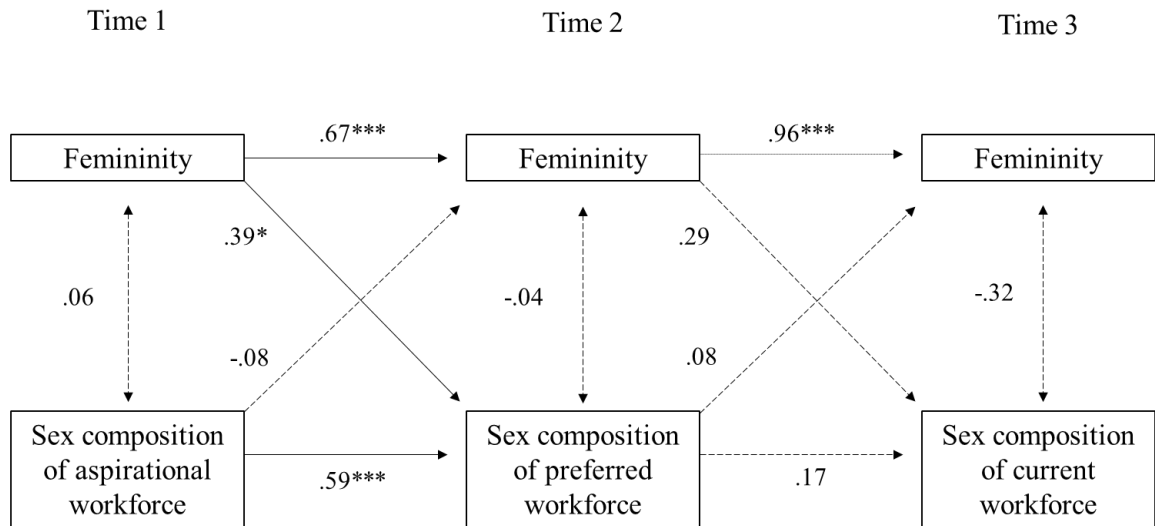
Time 1   Time 2   Time 3

Figure 13. Cross-lagged model with standardised coefficients depicting the relationship between men's femininity and sex composition of the workforce. Solid lines represent significant pathways, dotted lines represent non-significant pathways. * $p < .05$, ** $p < .01$, *** $p < .001$.

Cross-lag analysis: Masculinity and sex composition of the workforce

Women

Results of the cross-lag analysis assessing the relationship between women's masculinity and the sex composition of the workforce indicated that the model had adequate fit, $\chi^2 (4) = 16.17$, $p = .003$, RMSEA $= .14$, 90% CI [.08, .22], CFI $= .91$, SRMR $= .05$. See Figure 14 for a depiction of the relationships between the variables.

Analyses of the paths between variables over time indicated that there were significant positive relationships between masculinity at T1 and T2, $\beta = 0.73$, $p < .001$, and between T2 and T3, $\beta = 0.82$, $p < .001$, indicating the previous masculinity predicted subsequent masculinity. There were also significant positive relationships between the sex composition of the workforce between T1 and T2, $\beta = 0.54$, $p < .001$, and between the preferred workforce at T2 and the current workforce at T3, $\beta = 0.64$, $p < .001$.

When looking at the cross-lag relationships between masculinity and sex composition of the workforce, the only significant relationship was between T1 masculinity and T2 sex composition of the preferred workforce, $\beta = -0.29$, $p = .004$, indicating that masculinity at T1 predicted the desire to work in a more male-dominated workforce at T2. See Figure 14 for the coefficients of the non-significant paths.

The cross-sectional relationship between masculinity and sex composition of the workforce was not significant at T1 ($\beta = -0.22$, $p = .11$), T2 ($\beta = 0.02$, $p = .84$), or T3 ($\beta = 0.13$, $p = .28$).

Indirect effects

The indirect effect of T1 masculinity on T3 masculinity through T2 sex composition of preferred workforce was not significant, $\beta = 0.05$, $p = .34$, and instead shows a significant direct effect of T1 masculinity on T3 masculinity, $\beta = 0.73$, $p < .001$.
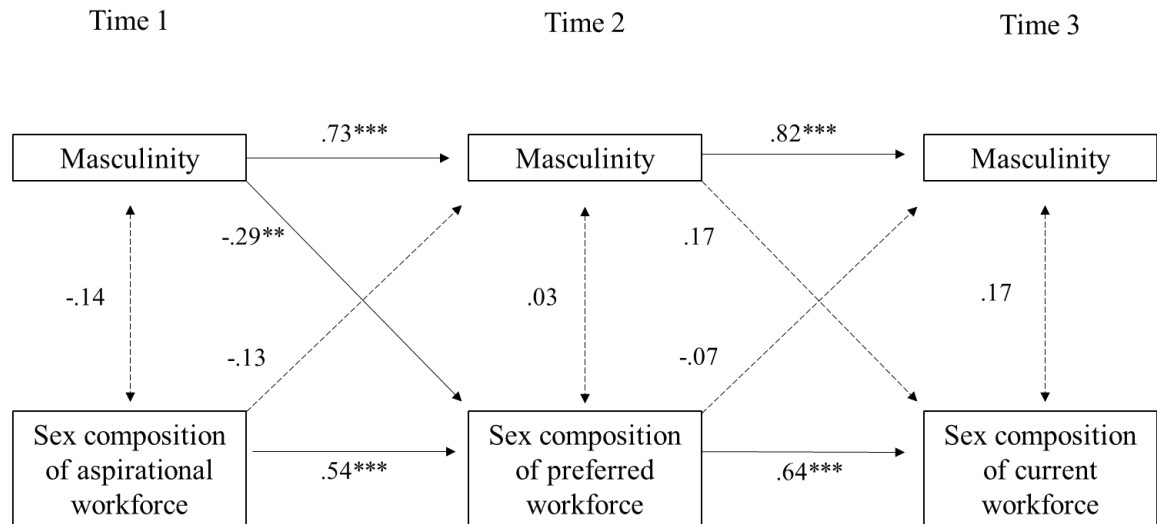

Figure 14. Cross-lagged model with standardised coefficients depicting the relationship between women's masculinity and sex composition of workforce. Solid lines represent significant pathways, dotted lines represent non-significant pathways. * $p <.05$, ** $p < .01$, *** $p < .001$.

Men

The results of the cross-lag analysis assessing the relationship between men's masculinity and the sex composition of the workforce suggested a good level of fit between the data and the model: $\chi^2 (4) = 1.48$, $p = .83$, RMSEA = .00, 90% CIs [.00, .13], CFI = 0.99, SRMR = .05. See Figure 15 for a depiction of the relationships between the variables.

Analyses of the paths between variables over time indicated a significant positive relationship between T2 and T3 masculinity, $\beta = 0.74$, $p < .001$, however there was no significant relationship between T1 and T2 masculinity, $\beta = 0.32$, $p = .21$. The relationship between sex composition of the workforce was significant between T1 and T2, $\beta = 0.60$, $p = .001$, but non-significant between T2 and T3, $\beta = 0.49$, $p = .09$.

No cross-lag paths were significant (see Figure 15), but there was a significant negative cross-sectional relationship between masculinity and sex composition of the workforce at T1, $\beta = -0.37$, $p = .005$, at T2, $\beta = -0.78$, $p <.001$, but not at T3, $\beta = -0.02$, $p = .84$,. This indicates that a higher masculinity score was associated with desiring to enter a more male-dominated, or less female-dominated, workforce at T1 and T2.

Indirect effects

The analysis of the indirect effect of T1 masculinity on T3 masculinity through T2 sex composition of preferred workforce was not significant, $\beta = 0.08$, $p = .74$, and neither was the direct effect of T1 masculinity on T3 masculinity, $\beta = -0.03$, $p = .94$.
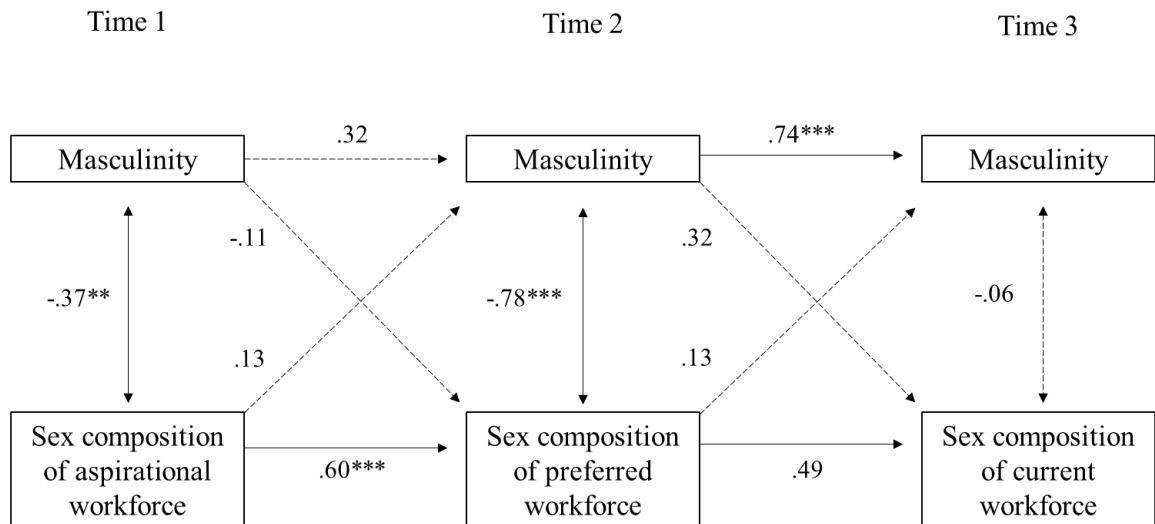

Figure 15. Cross-lagged model with standardised coefficients depicting the relationship between men's masculinity and sex composition of workforce. Solid lines represent significant pathways, dotted lines represent non-significant pathways. * $p < .05$, ** $p < .01$, *** $p < .001$.

Discussion

The aim of this study was to explore the reciprocal relationship between aspects of gender and gendered careers, and whether a process of 'dynamic fit' could explain this relationship. I hypothesised that there would be congruent relationships between aspects of gender and the sex composition of the workforce, whereby masculinity would be associated with more masculine workforces, and femininity with more feminine workforces. I also hypothesised that there would be significant cross-lagged relationships between aspects of gender and the sex composition of the workforce across time, in which masculinity/femininity would predict subsequent sex composition of the workforce, and vice versa. Finally, I hypothesised that there would be an indirect effect of T1 masculinity/femininity on T3 masculinity/femininity through T2 sex composition of the preferred workforce, therefore demonstrating a reciprocal relationship between aspects of gender and careers in the job application process. There was partial support for all three hypotheses, which suggests a role of 'dynamic fit' in understanding the relationship between gender and careers.

Process of dynamic fit

I predicted a significant indirect effect of T1 masculinity/femininity on T3 masculinity/femininity through T2 sex composition of the preferred workforce, in order to explore the process of 'dynamic fit', in which career choices are 'fitted' to gender, and also gender is 'fitted' to gendered careers. There was evidence to support this hypothesis, as there was a significant indirect effect of women's T1 femininity on T3 femininity through the sex composition of the workforce they wished to enter at T2. This means that T1 femininity predicted the gendered nature of the organisation that participants wished to enter at T2, which then predicted their subsequent femininity. Despite the workforce variable being a career choice at T2, in that participants had applied to work for this organisation, it also represented an aspiration, in that this was the organisation participants wished to work for the most. Therefore, this finding indicates that the gendered career aspiration female participants had at T2 predicted their subsequent femininity, and so suggests that it is not only working in a gendered organisation that can influence aspects of one's gender, but aspiring to work in an organisation may influence aspects of gender as well. This indicates that 'dynamic fit' may not necessarily occur only when in work, i.e., gender can influence career choices, and gendered workplaces can influence gender, but could also occur in the job application process, i.e., gender can influence aspirations and the types of jobs one applies for, and one's aspirations and choices can influence gender. This is strengthened by the findings of Study 4, in which gendered career feedback, in the form of a career aptitude test, influenced aspects of women's gender, and as such, the results of these two studies indicate that careers can influence aspects of gender before entering work. However, there was no similar indirect effect for women's masculinity in this study. This could be interpreted through Nentwich and Kelan's (2014) understanding of the hierarchy between masculinity and femininity, with masculinity being more acceptable than femininity across a range of situations, so there should be less of an effect of the situational context on masculinity than femininity. Similarly, the lack of significant indirect effects for men may be attributable to men having a more privileged status in career contexts than women, and as such, they may not have to 'fit' themselves to gendered careers to the same extent that women do. Although there needs to be caution in interpreting theses lack of indirect effects, as they may be attributable to the low sample size of men and (and so low statistical power). Similarly, the lack of significant indirect effect for women's masculinity needs to be understood in light of the small sample size (see the participants section for a discussion of the necessary sample size), in that a larger number of participants may be needed to detect an effect for masculinity.

Taken together with previous findings from Studies 2 and 3, the finding of an indirect effect of T1 femininity on T3 femininity through the sex composition of the workforce in the preferred organisation at T2 extends previous literature which has predominantly focused on the relationship between masculinity and careers (e.g. Karami, Ismail & Sail, 2011; O'Brien & Fassinger, 1993), with some research concluding there is *no* relationship between femininity and careers (e.g. Abele, 2003; Abele & Spurk, 2011). These studies demonstrate that there *is* a relationship between femininity and career aspirations and choices, and this relationship is positive, i.e., femininity is positively associated with career aspirations and choices, but only within the context of feminine workplaces and workforces. The reason why a positive relationship between femininity and career aspirations and expectations has been found in this thesis could be due to two

reasons. First, this could be due to the focus on feminine and female-dominated workplaces, which creates a different gendered context to typical workplaces; and second, it could be due to differences in the measurement of femininity. Previous studies have relied on trait assessments of femininity, such as the BSRI, which was critiqued in Chapter 2. By moving away from a trait-based approach to femininity, I was able to identify a significant relationship between femininity and gendered career aspirations, therefore indicating that the measurement of femininity may be contributing to the lack of relationship between femininity and career aspirations identified in previous literature.

The reciprocal relationship between gender and careers

There was some support of 'fit' between aspects of gender and gendered careers, as measured by correlations between masculinity/femininity and the sex composition of workplace within each time point. There were significant relationships between the sex composition of the workforce and men's masculinity at T1 and T2, in that increased masculinity was associated with aspiring to a more male-dominated workforce, and women's femininity at T1, in that increases in femininity were related to a desire to enter a more female-dominated workforce. This indicated a certain degree of 'fit' between aspects of one's gender and the gendered nature of one's career aspirations, although perhaps more so for men, and so supports the idea of 'fit' or congruence proposed by SIT and RCT (see Chapter 1 for a more detailed discussion). However, this relationship was not present for male or female participants at T3, at which time participants were in work. This may indicate that 'fit' is more evident during the career decision-making process, in that one chooses workplaces that fit with aspects of one's gender. The cross-lagged relationships support this to a certain degree, as women's T1 femininity and masculinity, and men's T1 femininity were significantly related to the T2 sex composition of the preferred workforce, indicating a role of aspects of gender in career aspirations, but only women's T2 femininity was related to the workplace participants actually entered. Therefore, gender may be less of a factor in determining the sex composition of the workplace individuals actually work in, and more of a factor in determining the sex composition of the workplace in which individuals wish to work. However, again, due to the low numbers of participants at T2 and T3, the discussion for the reasons underlying these relationships should be understood as speculative rather than probative, and further research is warranted into whether the relationship between gender and gendered careers holds when in the workforce.

Overall change in gender and gendered career

The analyses indicated that masculinity/femininity predicted subsequent masculinity/femininity, as overall, masculinity/femininity at one time point tended to predict masculinity/femininity at the subsequent time point. But this was not the case for men's masculinity between T1 and T2, and women's femininity between T2 and T3. The lack of relationship between women's femininity at T2 and T3 could be due to the influence of the sex composition of the preferred workforce at T2 on the relationship between T1 and T3 femininity. In other words, the process of considering which workplace to apply for at T2 may have had a significant effect on femininity, thus interrupting any direct relationship between T2 and T3 femininity. The lack of predictive ability of men's T1 masculinity could be explained through the strong relationships between masculinity and the sex composition of the aspirational and preferred workforces at T1 and T2. These relationships could indicate that men were 'fitting' themselves to prospective careers by

changing or performing masculinity in different ways, and as such, there would be disruption in the stability of masculinity between T1 and T2. Therefore, there may be a situational contextual effect on masculinity as well as femininity, although due to the low number of men in this study, this is speculation and should be explored further in future research.

In support of the above interpretations, there was considerable variability in masculinity and femininity as demonstrated by the reliable change indices. These revealed that approximately half of the participants demonstrated significant change in femininity between time points. Similarly, approximately half of men changed in masculinity between time points, but (anecdotally) more women changed in masculinity, with only 34.3 – 36.7% reporting the same level of masculinity between time points. Overall, this highlights that for some, there is stability in aspects of gender over time, but for others, there is considerable change. This indicates that positioning gender as a stable and enduring trait may not be entirely useful when exploring masculinity and femininity over time as this will only apply to a subset of participants.

There was also change in the gendered nature of careers between time points. For women, between 63.8 – 65.7% demonstrated change, whereas only 37.5 – 60% of men demonstrated change. This provides anecdotal evidence that women may consider a wider range of gendered careers than men.

Limitations

The key limitation of this study was the initial sample size and the retention of participants over time. Efforts were made to recruit the largest initial sample as possible, and to retain those participants, but there was still significant attrition. The small sample size may have affected the analyses through a failure to detect significant pathways due to a lack of power, for instance in the cross-lag analysis of men's data, there were some pathways with moderate standardised coefficients, but the pathways were not significant. The attrition in participants may also have introduced bias into the study. The analysis of sample differences indicated that the T3 sample contained a significantly greater proportion of undergraduates. This difference in itself is unlikely to bring bias to the sample, but there may be self-selection bias such as increased conscientiousness, or an interest in gender and workplace issues. Future research with greater numbers of participants would remedy these issues.

In addition, there were limitations associated with the measures used. First, as only two items were used to assess gender, it does not give a complete understanding of change in gender as a whole. Only masculinity and femininity were used here as they are the key variables that indicate the 'content' of a gender identity, and so would be the most appropriate to represent 'fit' with masculine and feminine workforces. But as seen in Study 4, there can be change in how one views oneself in relation to other men and women, and there may be changes in other areas of gender, such as endorsement of gender norms, and strength of identification. Future research, with greater numbers of participants, could measure additional aspects of gender to understand how gender as a whole is influenced by gendered careers. Also, the gendered nature of careers was assessed here by the sex composition of the workforce. This was used due to the importance placed on the ratio of men and women in the workforce by participants in Study 1. However, the gendered nature

of the workplace cultures was not directly assessed, and workforces with similar sex ratios may differ in their gendered cultures. Therefore, further research would benefit from using additional measures of the gendered nature of cultures in addition to the sex composition of the workforces.

Conclusion

In conclusion, this study explored the reciprocal relationship between aspects of gender and gendered careers, testing the process of 'dynamic fit'. By doing this, this study sought to address the three thesis research questions: how gender influences careers, how careers influence gender, and how contextual factors (here, the sex composition of workforces) influence the relationship between gender and careers. This study demonstrated that masculinity and femininity can predict the sex composition of the workforces that participants wished to enter, but there was little effect of aspects of gender on the sex composition of the workplaces that participants entered, although this finding warrants further research before reaching any conclusions. The key finding of this study was the indirect effect of women's early femininity on subsequent femininity through the sex composition of the preferred workforce at T2, as this demonstrated that a gendered situation can predict subsequent aspects of gender. As a result of this, this study provided some support for the process of 'dynamic fit' between gender and careers, in that individuals may wish to enter workforces that 'fit' with their gendered selves, but gendered workforces can also influence aspects of gender. In addition to this, in this study, there was evidence of considerable change in aspects of participants' gender over time, as around half of the sample displayed significant change in masculinity or femininity between the time points. Therefore, this study demonstrates that gender may not be as stable as previously conceptualised, and 'dynamic fit' can help explain the relationship between femininity and gendered careers.

Chapter 8:
General discussion

In this thesis, I aimed to investigate the social psychological process of 'fit' that may underlie the relationship between an individual's gender and their career aspirations and outcomes, in order to establish a better evidentiary base for understanding the supply-side processes contributing to continuing sex segregation in the workplace. By doing so, I sought to address theoretical limitations in role congruity theory (RCT; Eagly & Karau, 2002) and social identity theory (SIT; Tajfel & Turner, 1979), which are typically used to explore the relationship between gender and careers, as well as address methodological issues in the literature, such as the reliance on trait-based approaches to gender. In order to address these limitations, I investigated the process of 'fit' using more holistic measures of gender (see Chapter 2 for a more detailed discussion of how gender was conceptualised), and incorporated a 'doing' gender approach (e.g., West & Zimmerman, 1987), which allows for a reciprocal relationship between gender and careers (e.g., Abele, 2003) to create a novel process of 'dynamic fit' in which careers are 'fitted' to gender, and gender can be changed to 'fit' with career choices and gendered organisations. This conceptualisation of the reciprocal relationship between gender and career's differed from Abele's (2003) conceptualisation in terms of the approach to gender, the role of femininity in careers, and the process by which careers can influence gender, moving away from an experiential-based process (i.e., participating in a masculine role will lead to greater experience in and development of masculine skills and abilities) to a process in which gender is redefined in the self-concept based on occupational roles.

In this chapter, I will summarise each study, noting the key findings and novel contributions. I will then discuss the implications of this body of work, in terms of methodological implications around the measurement of gender, and theoretical implications, describing the facets needed in a new theory in order to better explain the processes underlying the relationship between gender and careers. I will then discuss the limitations of this research, and directions for future research, focusing on the applicability of these findings to men, and different careers and organisations, as well as noting issues around gender that need to be investigated further in order to build a comprehensive theory explaining the relationship between gender and careers.

Summary of research

To meet the aims described above, I conducted five studies which answered the research questions: a) how contextual factors influence the relationship between gender and careers; b) how gender affects careers; and c) how careers affect gender. I achieved this using a range of methods, including interviews, experiments, longitudinal and cross-sectional field surveys; and with a range of samples, including students, academics, and care professionals.

In Study 1, I explored how gender and gendered workplace cultures interact to influence academics' career expectations, and whether workplace culture can influence gender. This study therefore explored all three research questions, and looked at the extent

to which participants' 'fit' between gender and work environment influenced their career expectations, and also how they 'did' gendered behaviours to improve their 'fit'. There were some indications that 'fit' between participants' gender and organisational culture influenced their career expectations, as some female researchers discussed having lower career expectations as a result of not 'fitting' with their workplace. This was particularly apparent in the negative anticipatory effect of having children on female participants' careers, in that they anticipated how to manage their future careers in relation to their future families, as a result of the social norm of women being primary caregivers. In addition, female participants discussed how they negotiated their gendered selves into the gendered workplace cultures to improve their 'fit', in terms of 'doing' masculinity, or limiting the femininity of their clothes and behaviours. Men did not discuss any equivalent negotiation, instead some discussed an awareness of the privileges that were afforded to them by being a man in academia, and as such their gendered behaviour and career expectations seemed to be 'protected' by a masculine workplace culture (although this may be due to a lack of awareness of change in gendered behaviour, or a lack of desire to discuss this in the interviews). Overall, Study 1 indicated that perceptions of (lack of) 'fit' may play a role in career expectations, in terms of how one's gender 'fits' with the gendered workplace culture. This study also highlighted two contextual influences on the relationship between gender and career expectations: workplace culture and gender norms around work and home (i.e., the behavioural expectation of men and women in work and in the home). This study therefore made two significant novel contributions: first, it goes beyond previous literature investigating fit in suggesting that 'fit' plays a role in career expectations and choices, rather than only the decisions of others (i.e., hiring processes, e.g., Garcia-Retamero & López-Zafra, 2006; Hoyt & Burnette, 2013; Ritter & Yoder, 2004; Rudman & Glick, 1999). Second, this study indicated that workplace culture may influence the gendered behaviour of workers, and workers can 'do' gender in different ways in order to increase their 'fit' with the workplace culture. Accordingly, this supports the idea that the relationship between gender and careers is reciprocal. As this study indicated two contextual influences on the relationship between gender and careers, the next two studies explored workplace culture and gender norms around work and family in parallel, both using quantitative methods in order to establish the quantifiable contribution of 'fit' between gender and gendered culture to career aspirations and expectations.

In Study 2, the influence of 'fit' between gender and gendered workplace culture on aspirations and expectations was explored further, by testing the process in a highly gendered profession: care work. Hence, this study sought to address two research questions: how contextual factors (here, the situational contextual factor of workplace culture) influence the relationship between gender and careers, and how gender influences careers. As previous literature has focused on male-dominated careers, and particularly the effect of masculine cultures on women (e.g., Cahusac & Kanji, 2014, Van Wijk & Finchilescu, 2008), I explored the aspirations and expectations of women in a female-dominated career, to understand if 'fit' is still a salient process for majority-group members. The results demonstrated a significant interaction between women's femininity and workplace culture, in that the feminine organisational culture influenced aspirations and expectations through increasing professional identification, but only for women with high levels of femininity. This supports the process of 'fit', as good 'fit' between self and culture can increase aspirations and expectations. Importantly, this study made a novel contribution to the literature by demonstrating the positive role of femininity in careers, as

previous investigation has either demonstrated no relationship between femininity and careers (Abele & Spurk, 2011), or only assessed masculinity (e.g. Fiebig, 2003; 2008).

In parallel to Study 2, Study 3 assessed the role of gender norms around work and home on the relationship between gender and career aspirations and expectations, addressing the same two research questions as the previous study: how contextual factors (here, the social contextual factor of gender norms) influence the relationship between gender and careers, and how gender influences careers. In this study, gender norms around work and home were experimentally manipulated, finding that for highly gender-typed women (women with high femininity and gender identification, and strong endorsement of feminine gender norms), exposure to work norms (i.e., associating women with work) led to an increase in career aspirations, and exposure to home norms (i.e., associating women with the home and family) led to a decrease in career aspirations. This demonstrated that gender norms can influence women's career aspirations, and also that women with a particularly central gender identity can 'fit' themselves to gender norms around work and home, i.e., they changed their aspirations in line with the group norm. This finding also provides a possible explanation for how gender norms can influence some individuals more than others. In this study, highly gender-typed women's aspirations changed in line with the gender norm, but there was no effect of the gender norm on low gender-typed women. Using an SIT approach, this can be explained as those for whom gender is a more central identity being more likely to attend to gender group norms and change their behaviour in line with these norms (e.g., Smith et al., 2007; Terry et al., 2000). However, this study goes beyond a purely SIT approach, as I did not only measure the centrality of the identity. Rather, I used a multi-dimensional measure of gender, including femininity, perceived gender similarity and dissimilarity, strength of identification and endorsement of group norms, and so providing a more holistic measure of gender. Therefore, this study provides a more comprehensive understanding how gender as a whole can moderate the impact of gender norms on career aspirations.

Studies 2 and 3 both investigated only one direction of influence between gender and careers: how gender influences careers. This direction was explored in order to establish the role of 'fit' in individuals' career aspirations and expectations before moving on to assessing the more underexplored direction of influence: how careers influence gender. Study 4 tested the novel proposition that career feedback (i.e., situational careers-based information) could influence aspects of gender, and so addressed two research questions: how contextual factors (careers feedback) can influence the relationship between gender and careers, and how careers influence gender. To do this, the career feedback that participants received from an ostensible career selection test was manipulated. Participants either received 'masculine' feedback, which reported they had strong analytical skills and were suited for male-dominated careers such as computing, technology, and law enforcement; or 'feminine' feedback, which stated they had strong interpersonal skills and were suited for female-dominated careers such as human resources and teaching. This feedback had a significant effect on women's femininity, which increased after they received interpersonal feedback, and decreased after they received analytical feedback. Furthermore, in the analytical condition, women increased in the desire to be dissimilar to a typical man. This means that when presented with cross-gendered feedback, women sought to differentiate themselves from men.. Overall, this study demonstrated that aspects of gender can be situationally malleable (although

apparently more so for women than men), in that one's perception of femininity can be changed by the type of career feedback one receives, and also indicated that in response to cross-gendered feedback, female participants wished to 'do' their gender differently, as they wished to be dissimilar to men. This evidence of situational malleability in aspects of gender conflicts with previous research that positions gender as a stable, enduring trait or identity (e.g., Fiebig, 2003; Rainey & Borders, 1997), and instead supports the idea of gender as something that is 'done', and as such, is contextually-dependent. Therefore, this finding, taken with the findings of the previous two studies, indicates that gender can be understood both as an antecedent of careers, and as an outcome.

Based on these findings, in Study 5, I further explored the reciprocal nature of the relationship between gender and careers by conducting a longitudinal survey in which aspects of gender and careers aspirations and choices of students were measured at three time points over 12 months: prior to applying for their first graduate job, during the job application process, and then when they entered the workplace. By doing this, I was able to assess the (potentially) bi-directional relationship between aspects of participants' gender and the gendered careers they aspired to, applied for, and actually entered. Results provided some support for the process of 'dynamic fit', as there was an indirect effect of women's initial femininity on later femininity through the gendered nature of the organisation participants wished to enter at Time 2. This means that women's initial femininity influenced the gendered nature of the organisation they aspired to enter at T2, which then influenced their subsequent femininity. This set of relationships suggests that the relationship between femininity and careers is (to some extent) reciprocal. Additionally, I quantified change in gender over time, as over the 12 month period, approximately half of the participants demonstrated substantial change in masculinity and femininity between time points. This suggests that for some, gender is a relatively stable construct, but for others, there is considerable change over time. As such, this indicates that in previous studies of gender, group-level stability may have obscured individual-level change, i.e., the gender of the group may remain fairly constant, but there could be substantial increases or decreases in individuals' masculinity and femininity. This has implications for future longitudinal studies of gender and careers, as assuming that gender is stable and so only measuring it at T1 may not reliably indicate participants' gender at subsequent time points.

Taken together, the results of Studies 1 – 5 address the three research questions of this thesis. They demonstrate that: a) social and situational contextual factors in the form of gender norms (i.e., behavioural expectations of men and women), workplace culture, and careers feedback influence the relationship between gender and careers by creating varying situations that will influence the level of 'fit' between gender and careers; b) gender may influence careers in that individuals may choose careers that 'fit' with their gender, and more gender-typed individuals may adhere more to gender norms around work and home; and c) career-based contextual information, such as the ratio of men and women in the workforce or feedback about skills and suitable careers, may motivate change in gender or the way in which gender is 'done' to promote 'fit' between gender and careers. Therefore, there is evidence of a reciprocal relationship between gender and careers that needs to be situated in the social and situational context. The implications of this will be discussed later in this chapter. Based on these findings, I put forward a modified version of the 'fit' hypothesis to better explain the relationship between gender and careers: 'dynamic fit'.

Specifically, I suggest that there is a reciprocal and dynamic relationship between gender and career aspirations and choices, based on evidence that people can choose careers that 'fit' with their gender, and gender can be changed to 'fit' with careers. This potential new theory explaining the relationship between gender and careers will be discussed later in this chapter.

How the findings relate to previous literature

The findings of the five studies in this thesis support general findings from previous literature that there is a relationship between gender and career aspirations and expectations, which explains more variation in aspirations than when considering the influence of sex alone. However, these findings contrast with a range of previous literature. Previous research has predominantly found a positive relationship between masculinity and career aspirations (e.g., Fassinger, 1990; Fiebig, 2003; Karami, Ismail & Sail, 2011; O'Brien & Fassinger, 1993; Powell & Butterfield, 2013; Rainey & Borders, 1997). However, I have found little relationship between masculinity and higher aspirations and expectations, instead finding that femininity is positively related to career aspirations and expectations. This differs to previous research that positions femininity as related to lower aspirations (Fiebig, 2003; 2008), or as unrelated to aspirations (Abele, 2003; Abele & Spurk, 2011). The reason why I have found positive relationships between femininity and aspirations and expectations may be due to the type of measure I have used, which moves away from traditionally-used trait measures to a more abstract measure, and due to the different occupational contexts that I have investigated. The key consequence of this is that femininity should be seen as a positive contributor to career aspirations and expectations, but perhaps only within feminine occupational contexts.

In addition, this research highlights the importance of the gendered situational context in understanding the relationship between gender and career aspirations and choices. The findings support the idea that gendered workplace cultures can support the careers of one sex (e.g. Acker, 1990; Kantola, 2008). However, the findings also extend this literature to move from sex to gender, i.e., feminine workplaces do not only support the aspirations of women, they support the aspirations of highly feminine women. In this thesis I have focused on feminine workplaces, such as the care industry, which extends previous research that has focused on masculine workplaces (e.g., Cahusac & Kanji, 2014; Kantola, 2008; Van Wijk & Finchilescu, 2008; Williams, Muller & Kilanski, 2012). In addition to workplace cultures, this research has highlighted the influence of gender norms around work and home on the relationship between gender and career aspirations and expectations. This supports previous literature that attempts to explain how gender is related to career outcomes (e.g., Eagly & Karau, 2002). For instance, in Study 3, varying gender norms around work and home influenced highly gender-typed women's aspirations, demonstrating that gender norms can influence to what extent femininity is related to aspirations. This finding also indicates that gender norms around work and home may be underlying the lack of positive relationship between femininity and aspirations in previous literature, as typically men, and so masculinity, are more strongly associated with work than women. Therefore, by manipulating the social norms, I could demonstrate a positive relationship between femininity and career aspirations. As such, in this thesis, I contribute to the literature by demonstrating that the gendered context is crucial in understanding the relationship between gender and career aspirations and expectations, as it can alter which

aspects of gender relate to aspirations and expectations, and it can help explain *why* gender and careers are related.

In sum, through this programme of studies, I have made the following novel and significant contributions to our understanding of the relationship between gender and careers:

- Demonstrated that 'fit' can be a reciprocal process, as aspects of one's gender can influence the type of careers one aspires to, but also the gendered nature of the careers one aspires to can influence aspects of gender, and one can actively change aspects of one's gender or gendered behaviours to improve fit (Studies 1 and 5).
- Provided the first experimental study of gender using a 'doing' gender approach, and in doing so have demonstrated that there is dynamic, short-term variation in aspects of gender in response to gendered careers feedback (Study 4).
- Demonstrated that femininity can influence and be influenced by careers (Studies 2, 4, and 5). This means that femininity should not be neglected in future studies into career aspirations as it has been in the past, as it is related to career aspirations and choices.
- Demonstrated short-term contextual malleability in career aspirations and expectations (in response to gender norm manipulations around work and home) (Study 3).

Implications

The findings discussed in the previous section indicating a reciprocal relationship between gender and careers have significant theoretical implications for understanding the relationship between gender and careers. There is some support for aspects of existing theories that attempt to explain persistent sex segregation in the workplace, such as RCT, SIT, and the reciprocal relationship hypothesis (Abele, 2003), although some of the findings cannot be adequately explained by these theories. Additionally, through my exploration of the nature of gender and how it changes over time and across situations, there are implications for gender theory. As well as theoretical implications, there are methodological implications for future research in this area, particularly around the measurement of gender, and there are wider implications for intervention into sex segregation in the workplace. I describe these implications below.

Theoretical implications

This this section, I will discuss the implications of the findings of this thesis for theories of gender and theoretical explanations of the relationship between gender and careers. First, I will explore to what extent the findings of this thesis support RCT and SIT, before highlighting the results that these theories cannot adequately explain. Following this, the new theory of the process linking gender and careers will be discussed, before discussing the implications of the findings for gender theories.

How the findings support role congruity theory and social identity theory

The key concept of both RCT (Eagly & Karau, 2002) and SIT (Tajfel & Turner, 1979) was congruence or 'fit' between gender and occupational roles/identities. Some of the findings in this thesis support the process of 'fit': 'fit' between the gendered self and gendered workplace culture was a key theme in Study 1; in Study 2, 'fit' between care workers' femininity and a feminine workplace culture was associated with greater career aspirations through increased professional identification; and in Study 5, there was some evidence that students chose careers that 'fitted' with aspects of their gender. As such, there seems to be a process of 'fit' between gender and occupations, supporting elements of both RCT and SIT. In this thesis, I extended the process of 'fit' to help explain the supply-side causes of sex segregation, i.e., career aspirations and choices. This extends previous research that has focused on demand-side causes, i.e., hiring processes, and indicates that this process can be used to understand how individuals perceive their own suitability for occupational roles, as well as understanding bias in hiring decisions.

Some of the findings in this thesis can be better explained by one theory over the other. The findings of Study 3 can be better explained by SIT than RCT. In this study, the career aspirations of highly gender-typed women changed in line with the gender norm around work and home, i.e., aspirations increased when work norms were made salient, and decreased when home norms were made salient. This can be explained using an SIT approach, as people who have a more central gender identity would be more motivated to change their aspirations in line with group norms. In contrast, RCT does not provide an adequate explanation of why gender norms would affect the aspirations of some women and not others. Instead, it would predict that all women would change their aspirations in line with gender norms (Eagly, Wood & Diekman, 2000).

Additionally, the greater role of masculinity and femininity in the relationship between gender and career aspirations and choices in comparison to other aspects of gender can be better explained by RCT than SIT. This was demonstrated in Study 4, in which career feedback had a significant effect on women's femininity, but no effect of more SIT-based aspect of gender, such as strength of identification. Additionally, masculinity and femininity can be the most useful aspects of gender to assess 'fit' with masculine or feminine workplace cultures, in that varying levels of masculinity or femininity indicate varying levels of 'fit' with the workplace culture. Therefore, RCT's focus on these aspects of gender may allow a better understanding of the relationship between gender and careers than using a purely SIT-based approach that would incorporate additional factors of gender, and so may complicate the level of 'fit' individuals have with workplace cultures.

In sum, RCT and SIT can be seen as complementary theories that can help explain the relationship between gender and career aspirations and choices, as one fills theoretical gaps in the other. However, there are a number of findings in this thesis that cannot be explained using only these theories, and so this indicates a need to create a new theory to explain the process underlying the relationship between gender and careers.

How the findings diverge from these theories

Despite the utility of RCT and SIT in understanding how gender relates to career aspirations and choices, there are some results in this thesis that cannot be adequately

explained by either theory. First, both theories position gender as stable or semi-stable, i.e., change can occur in the long-term, or differences in social contexts can vary the salience of gender. This means that both theories position gender as an independent variable that influences the choice of occupational roles and gendered organisations. In particular, RCT positions gender as a stable role, arguing that only gradual social change in the division of labour between men and women can affect gender roles (Eagly et al., 2000). Nonetheless, in this thesis, I have demonstrated a relatively rapid effect of social-contextual variables on gender. In Study 1, participants reported changes in their gendered behaviour as a result of the culture of their workplace; in Study 4, aspects of women's gender changed in response to gendered feedback about their skills and career suitability; and in Study 5, women's femininity was influenced by the sex composition of the workplace they aspired to enter. SIT can explain some variability in gender, due to incorporating changing group norms and the varying salience of identities across different social contexts, but it fails to explain the active and agentic way in which people can 'do' gender, as indicated in Study 1. As such, this thesis demonstrates that gender can be both a precursor and outcome of careers, and so a traditional 'fit' argument fails to capture the dynamic and sometimes conscious, change in gender. In order to better understand this, theory needs to incorporate a 'doing' gender approach to its conceptualisation of gender.

The second finding that cannot be fully explained using RCT or SIT is the positive association between femininity and work. In Study 2, greater femininity was associated with greater career aspirations, to the extent that the workplace culture was also feminine, and in Study 5, femininity was positively associated with the femininity of the workforce students wished to enter. This goes against RCT's predictions that the female gender role is associated with the home, whereas the male gender role is associated with work and careers. The findings in this thesis demonstrate that masculinity is not the only aspect of gender that is associated with careers, femininity also plays a role, but only in feminine workplaces. As such, the positive association between masculinity and careers found in previous research (and the absence of research into the relationship between femininity and careers, e.g., Abele, 2003) may be due to the majority of workplaces having masculine cultures (Acker, 1990). Through deliberately exploring feminine workplace cultures, I have demonstrated a positive role of femininity in career aspirations and choices.

A new theory to understand the relationship between gender and careers

RCT and SIT can explain some of the processes underlying the relationship between gender and careers, particularly when incorporating elements of Abele's (2003) reciprocal relationship hypothesis (work and home roles will influence gender). However, there are several deficiencies in these theories that warrant a novel theory to better explain the relationship between gender and careers.

Based on the findings of the studies in this thesis, I suggest that a new theory explaining the relationship between gender and careers needs to incorporate the two following elements. The first element that needs to be incorporated is the process of 'dynamic fit', in which careers are 'fitted' to gender, but gender can also be changed to improve 'fit' with gendered careers (as demonstrated in Figure 16). The traditional conceptualisation of 'fit', as per SIT and RCT, does appear to have a role in the relationship between gender and careers, in that good 'fit' between gender and organisational culture is related to higher aspirations and expectations (Study 2), and

people may choose careers and organisations that 'fit' with aspects of their gender (Study 5). Yet, this conceptualisation of 'fit' is too simplistic, as it does not capture the dynamic change in gender across situations, and fails to incorporate the hierarchical nature of gender, in which masculinity is seen as superior to femininity across a range of situational contexts (Nentwich & Kelan, 2014). The current conceptualisation of 'fit' – *dynamic, recursive* fit – incorporates a 'doing' gender approach to the understanding of 'fit'.

Therefore, the second element that needs to be incorporated into a new theory is a 'doing' gender approach, in which gender is viewed as contextually-based, and as such, has the potential to be highly variable. Evidence of people 'doing' gender to improve 'fit' with careers is provided by Study 1, wherein participants discussed changing their masculinity and femininity in response to gendered workplace cultures; in Study 4, where women's femininity and desired dissimilarity to men changed as a result of gendered careers feedback; and in Study 5, where the gendered careers women aspired to at Time 2 influenced their femininity at Time 3. Using a 'doing' gender approach highlights the situational pressures that can influence gender, and so situates the relationship between gender and careers contextually. Additionally, incorporating a 'doing' gender approach allows for a more dynamic process of 'fit', in which short-term change in the situational context can elicit rapid, and conscious, intra-individual changes in gender.
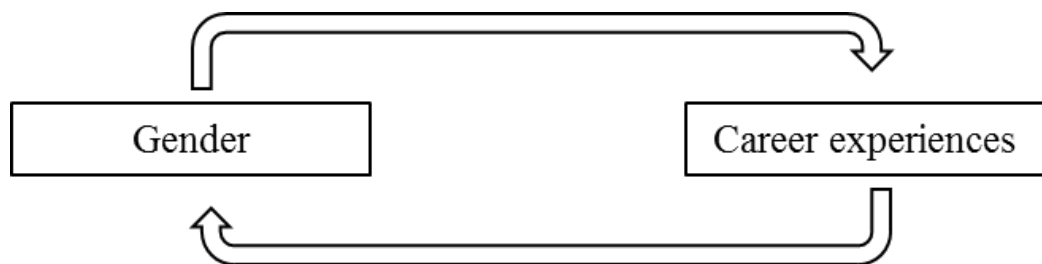

Figure 16. Proposed model of effects between gender and career experiences and aspirations.

By incorporating these two elements of a 'doing' gender approach, and a process of 'dynamic fit' into a new theory to explain the process underlying the relationship between gender and careers, it will provide a better explanation than currently offered by the existing conceptualisation of 'fit' or congruence. This new theory could help explain how sex segregation in perpetuated workplaces, i.e., how workplace cultures can foster a specific gender of workers, and will offer new avenues of intervention in order to reduce the supply-side causes of sex segregation in the workplace.

Implications for gender theory

The findings in this thesis also have implications for theories of gender. The findings tend to support a 'doing' approach to gender, in which gender is contextually variable (e.g., Ridgeway, 2009; West & Zimmerman, 1987). This is evidenced in Study 1, where female researchers seemed to actively 'do' gender in different ways in response to different situational contexts, and in Study 4, where aspects of participants' gender changed in response to different careers feedback. Additionally, the findings support the

general idea that there is variation in gender over time, as demonstrated by Jones, Peskin and Livson (2011), who found that femininity varied over time. Although not over the same timespan as Jones, Peskin and Livson's study, there was substantial variation in masculinity and femininity between time points in Study 5, with around half of the sample demonstrating increases or decreases in aspects of gender that would not be expected with simple test-retest variability. Despite identifying this variation over time, I was not able to understand how this related to certain career experiences (e.g., success in job interviews, the types of careers participants applied to and entered), and so I was unable to test the idea that changes in variation may be related to certain life events, and so cannot provide any support for theories that argue gender changes in response to specific life events (e.g., McDermott & Schwartz, 2012; O'Neil, Egan, Owen & McBride Murry, 1993).

In sum, the findings of this thesis support the idea that there is variation in gender, both over time, and contextually. This refutes theory that positions gender as a static trait (e.g., Bao & Swaab, 2011), and provides some support for the idea of 'doing' gender. The implication of this is that some more traditional theories of gender are not adequately explaining what gender is or how it behaves over time and across situational contexts. However, this support of a 'doing' gender approach is only to a certain extent, as there was no uniform effect of the situational context on the way in which people 'did' gender, for instance, in Study 1, some female academics 'did' masculinity in certain situations, whereas others 'did' femininity. Therefore, additional research is required to understand how and why gender is 'done' in different ways in different contexts, and how gender may change for some and not for others. The methodological implications of this approach to gender are discussed below.

Methodological implications

In addition to these theoretical implications, the findings in this thesis have three key methodological implications: the importance of assessing gender (rather than/in addition to sex), how masculinity and femininity are measured, and the use of multidimensional measures to assess gender. The findings highlight the importance of measuring an individual's gender in addition to recording their sex. Sex is still important to include due to there being possibly different processes for men and women, and in contextualising aspects of gender such as masculinity and femininity. For instance, femininity is typically expected of women, but less so of men, and so femininity means different things for men and women. Gender can be used as an independent or dependent variable, due to the reciprocal relationship between gender and careers, and it can also be conceptualised as a process variable, in that gender can be influenced by social and situational contextual information, and can also influence career aspirations and choices. Gender should not be assumed to be stable, and so it would be beneficial to take a baseline and a post-measure of gender, particularly in longitudinal studies, to check its stability within a research project (where relevant). In Study 5, I found that for approximately half of participants, aspects of their gender was relatively stable, whereas the other half demonstrated significant change. This highlights a potential issue of group-level stability in gender obscuring individual-level change, and as such reliable change indices are a useful way of assessing individuals' change in gender instead of relying on group-level data used in tests such as regression analyses.

The second methodological implication of this thesis concerns how masculinity and femininity are measured. Previous authors have critiqued trait-based approaches to measuring gender due to their historical and cultural specificity (see Chapter 2 for a more detailed discussion), and there is an impetus towards using less culturally-specific ways of measuring gender. In this thesis, I have not used a trait measure of masculinity or femininity, instead only asking how masculine and feminine participants see themselves. This allows for the incorporation of participants' idiosyncratic understanding of these aspects of gender, and so is a less culturally-biased measurement. Through using these measures, I have demonstrated a positive relationship between femininity and careers, something that has not been demonstrated when using traditional trait measures of femininity, possibly due to the historically and culturally-specific definition of femininity in these measures. As such, future studies would benefit from using similar measures of masculinity and femininity as I have used in this thesis, particularly if they are investigating femininity, as these types of measures introduce less bias into the measurement of gender.

The final methodological implication of this thesis is in relation to the measurement of gender, particularly the use of a multidimensional measure of gender, which incorporates elements of Egan and Perry's (2001) model, and applies them to adults (instead of children and adolescents, as originally conceptualised by Egan and Perry). This updates the research to fit with contemporary understandings of gender, and by using a multidimensional measure, I was able to explore the dynamic nature of the discrete aspects of gender in Study 4, which demonstrated that some aspects are more flexible than others, i.e., there was change in femininity and how one views themselves in relation to gender ideals. This is not something I would have found if using a traditional trait-based approach to gender. Thus, future studies would benefit from using multidimensional gender measures, which can be adapted for varying levels of complexity, as it allows a more detailed understanding of which aspects of gender are related to careers, and so can guide more targeted interventions into supply-side causes of gender segregation.

Wider implications

The research in this thesis also has implications for workplaces, particularly the role workplace culture may have in perpetuating sex segregation in the workplace. The findings in this thesis indicate that gendered workplace culture is implicated in female researchers' lower career expectations (Study 1), it varies the aspirations and expectations of highly feminine care workers (Study 2), and it may influence aspects of women's gender (Study 5). This means that workplace cultures may have a substantial role in the aspirations and expectations of women, and could potentially influence women's perception of their gender, and so it may be that organisations have a greater role in perpetuating sex segregation in their workplaces than currently appreciated. Therefore, if organisations aim to reduce the dominance of one sex in higher managerial or executive positions, or across the organisation as a whole, it may not be enough to only recruit more men or women, they may also have to change the gendered nature of their workplace cultures. For instance, if organisations aim to have more women in higher managerial and executive positions, they may have to change their workplace culture to be more feminine, in order to improve women's 'fit' with the organisational culture, and so improve their aspirations and expectations. However, this implication is speculative at present, and further research into the role of workplace culture in influencing workers' gender and

career aspirations and expectations will clarify the implications for organisations attempting to address sex segregation in the workplace.

Limitations

There are four key limitations with the research in this thesis, mainly around the samples of the studies, the type of organisations sampled, and the time scales of the studies. These limitations will be discussed below, in addition to what the implications are for the research in this thesis, and ways in which they could be remedied in future research.

The studies had relatively few male participants to female participants. This mean that I could draw any firm conclusions around the process of 'dynamic fit' for men. This difficulty in recruiting adequate numbers of men fits with documented issues in recruiting men for psychological research (Senn & Desmaraios, 2001), which indicate a general tendency for men to volunteer for participation in psychological research less so than women. It is important to study the process of 'dynamic fit' with male participants because the literature suggests that the processes may be different for men and women. This is due to the predominance of masculine workplace cultures, and the meaning of being male and female within them. For example, it may be that gender-career 'fit' is not as relevant to men as it is to women, possibly due to the hierarchical 'superiority' of masculinity over femininity (Nentwich & Kelan, 2014). Alternatively, due to the predominance of masculine workplaces (e.g., Acker, 1990), men may have good 'fit' with a wider range of careers and workplaces than women. This would mean that the process of fit is still involved in men's careers, but it is less apparent than for women due to the fewer instances of poor 'fit'. Future research would benefit from recruiting larger samples of men, and continuing to investigate this process in careers or workplaces in which men are the majority, in order to understand if the process of 'dynamic fit' affects men's gender, and career choices and aspirations.

The second key issue with the samples was that they were relatively homogenous in terms of race/ethnicity, socioeconomic status, and sexuality. Participants tended to be White-British/European, middle-class (with the exception of participants in Study 2), and heterosexual/straight. As discussed in Chapter 1, race/ethnicity and socioeconomic status interact with gender to influence career aspirations (Cochran et al., 2011; Dillard & Perrin, 1980; Jacobs, Karen & McClelland, 1991; McWhirter, Hackett & Bandabs, 1998), in that White, middle-class people tended to have higher aspirations than ethnic-minority people, or those with a lower socioeconomic status. Due to the small numbers of participants who were ethnic-minority persons, or described themselves as non-heterosexual, I could not conduct any meaningful analyses with their data, to see if there were any differences in aspirations or 'fit' in comparison to the White, heterosexual samples. Therefore, the findings of these studies are limited to this sample, and this means that it is unknown whether 'dynamic fit' also applies to ethnic-minority, lower socioeconomic status, and non-heterosexual persons.

In addition, the studies in this thesis sampled two specific types of organisation: university and care organisations. Whilst these studies provide insight into these particular types of organisations, they have limited applicability to other organisational contexts. In

particular, the findings of Study 2 may not extend to similarly skilled occupations that have more masculine cultures, due to factors such as pay and opportunities for promotion. For instance, care work is typified by low pay, and as such, a sense of belonging to or 'fit' with the organisation may play a greater role in job satisfaction and professional identification than industries with higher amounts of pay, such as 'skilled trades' e.g., building, plumbing, and machine work. This mean that caution should be exercised when applying the process of 'fit' to different occupational contexts, as further research across a range of occupational contexts is needed, as well as replication within these contexts.

Finally, the research is limited in terms of assessing the timescale of change in gender, and how the relationship between gender and careers may change over time. This limitation is evident in Study 4, in which aspects of women's gender changed in response to career feedback. This change was assessed immediately after participants received the feedback, and so we do not know if this change was enduring, or whether it reverted back to its baseline level over time. It could be that these changes are short-lived, or they may build to more enduring change over time. Similarly, Study 5 used a relatively short timescale of 12 months. Therefore, the findings are only relevant to the initial stages of a career. It could be that the influence of career experiences and workplace culture is stronger as one advances to more senior job roles, as this could be seen as 'institutional sanctioning'. Therefore, future research would benefit from either following participants over a longer period of time as people become established in their careers, or attempting to assess the process of 'dynamic fit' across a range of occupational levels. In conclusion, this limitation means that there are gaps in understanding of the timescales involved in the process of dynamic fit.

These four limitations with the research mean that the findings, and the process of 'dynamic fit' cannot be applied to a range of populations and organisations, and also means that we do not fully understand the timescales of how and when gender and careers influence each other. As such, future research is necessary into the process of 'dynamic fit' in order to build a more comprehensive theory to explain the relationship between gender and careers.

Directions for future research

Based on the findings of this thesis and the discussion of the limitations of the studies, I suggest several possible directions for future research. These include identifying whether the process of 'dynamic fit' is relevant to men, and whether they adapt their gender in masculine workplaces, or whether their gender is 'protected' as reported by male researchers in Study 1. In addition to conducting future research with male samples, it would be beneficial to use samples with a wider range of socioeconomic status, ethnicity, and sexual orientations in order to examine the extent to which the process of 'dynamic fit' is only applicable to a range of populations. Furthermore, as the studies in this thesis used a relatively short time frame to examine the relationship between gender and careers, it would be beneficial for future research to examine this relationship over a longer period of time, particularly further into people's careers, in order to understand the relationship between gender and careers when in work. In addition to these ideas for future research, I propose further investigation into the dynamics of gender change in order to develop a

more comprehensive theory explaining the process underlying the relationship between gender and career aspirations and choices.

To build a theory based around the modified process of 'dynamic fit', a key direction of future research is to explore the unconscious versus conscious nature of gender change, e.g., do people actively and consciously change their gender in response to different social or situational contexts, or is this more of an unconscious process? Study 1 indicated that there can be conscious change in gender, as some of the female participants discussed deliberately changing their gendered dress or behaviours in different situations. This fits with Butler's (1990) approach to 'doing' gender, whereby gender is a performance that the individual has control over. However, Study 4 measured unconscious or subconscious change in gender, as participants were instructed not to think about their responses to the gender items. This type of 'doing' gender fits more with West and Zimmerman's (1987) approach, which focuses on the mundane, everyday nature of 'doing' gender. Understanding whether there are similarities or differences in the processes of conscious and unconscious gender change is an important future direction. Based on this future exploration of gender, research should also aim to establish whether 'doing' gender can be strategically used as a coping mechanism in workplaces that do not 'fit' with workers' gender. If this is possible, it means that this is potentially a new area of intervention. If change in gender is something that happens primarily unconsciously, there is a greater emphasis on the influence of careers on gender, i.e., workplaces may be changing people's gender without them having control over it. However, if this is a conscious change, then in addition to the more passive effect of careers on gender, individuals may be actively constructing gendered workplaces, through the way in which they are 'doing' gender. This would mean that this could be an area of intervention, in altering the way in which workers 'do' gender in order to influence the gendered nature of workplaces.

Another aspect of change in gender that would benefit from further exploration is why some people experience change in their gender over time, whereas others remain relatively stable. In Study 5, approximately half of the participants demonstrated substantial change in aspects of their gender between time points, whereas half remained relatively stable. The split in participants who changed in gender and those who did not warrants further investigation to understand the antecedents and processes of intra-individual stability and instability in gender. For instance, participants whose gender remained stable may have chosen careers that had greater 'fit' with their initial gender, and so did not need to change their gender to improve fit, and so this stability would support the process of 'dynamic fit'. Alternatively, these participants may have chosen careers with a poor level of 'fit', but their gender remained stable, which would suggest additional elements or processes would need to be incorporated into a new theory in order to fully explain this process. Therefore, in order to establish a comprehensive theory explaining the relationship between gender and careers, the antecedents of change in gender over time need to be explored.

Concluding remarks

In this thesis, I have tested the process of 'dynamic fit' to explain the supply-side processes of sex segregation, i.e., the career choices and aspirations of men and women, in order to highlight possible processes underlying the issue and informing possible interventions. This modified process of 'fit' can be understood as dynamic and reciprocal, in that gender influences the type of careers one aspires to, but also gendered organisational cultures and contextual careers-based information can influence one's gender. Furthermore, this influence of careers on gender can happen both consciously and unconsciously, and in the relatively short-term (e.g., as social contextual changes cause fluctuations in the salience of social norms). I have indicated that there is considerable intra-individual variability in gender, both over time and in response to gendered situational contexts, which provides support for incorporating a 'doing' gender approach into research and theory in this area, and poses methodological implications for future research, as gender should not necessarily be considered a stable trait. Overall, these findings provide some support for both RCT and SIT explanations of the process underlying the relationship between gender and careers, but some of the current findings go beyond the scope of these theories. Specifically, these theories fail to explain the contextual, dynamic nature of gender, particularly intra-individual change in masculinity and femininity. Therefore, a new theory is needed to explain this modified process of fit, in which gender is understood as dynamic and contextually-dependent, and there is a reciprocal relationship between gender and careers. A new theory could potentially provide fruitful new avenues of investigation and intervention in the role of career choices and aspirations in contributing the sex segregation in the workplace.

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Appendix A: Study 1 interview schedule

1. **Can you describe your experience in your current role to date?**
   a. How do you feel about your role?

2. **Following the end of your contract in this role, what role do you expect to go into?**
   a. How do you view this new role in relation to the one you occupy now?
      i. Would you say they are similar?
   b. What do you think has affected your decision regarding the next role you expect to have?
      i. Such as wider funding trends / family commitments and expectations / your wider career goals.
   c. Has anyone discussed your future career with you?
      i. Have they discussed future plans regarding family?
      ii. Do you perceive any barriers or roadblocks in your future career?

3. **Are you currently a grade 7 or grade 8 researcher?**
   For grade 8
   a. How was your experience of getting re-graded?
      i. Did you have any difficulties in this process?
      ii. Did you have to change the way you normally act at work in order to accomplish the re-grading?
   b. Would you like to see any changes in the process of re-grading for future researchers?
   c. Why do you think some people don't try for re-grading?
   For grade 7
   a. Are you planning to go through the process of moving into grade 8?
   b. What are the barriers to moving into grade 8?
      a. Do you feel you would have to change the way you act at work in order to accomplish the re-grading?
   c. Do you feel supported in your decision to remain at grade 7/ move to grade 8?

4. **How would you describe your relationship with your principal investigator?**
   a. Do you feel you are supported by your principal investigator?
   b. Is your principal investigator a man or a woman?
   c. Has your PI (or another more senior staff member) ever asked you about your plans for having a family? To what extent to you think that conversation affected your career expectations?

5. **How would you describe the culture of your workplace?**
   a. Do you feel you fit in with this culture?
   b. Are there any elements you are happy with?
   c. Are there any elements that you are unhappy with?
      i. What improvements would you like to see?
   d. Do you think your culture is masculine or feminine?
      i. Would you consider this as positive or negative?

6. **How do you think the culture of your workplace influences what role you expect to go into after your contract comes to an end?**
   a. Are you choosing your next role based on any aspects or experiences you have had in your workplace?

7. **To what extent would you say that you're masculine/feminine?**
   a. Would you say that you gender is an important aspect of yourself?
   b. To what extent do you feel that your gender has changed since working in this context?
      i. What do you think has affected this change?

8. **How do you feel that as someone with these personal qualities, that you relate to the culture of your workplace?**
   a. Do you feel that there are expectations of how to act that are at odds with yourself?
   b. Do you feel that your workplace is open to different types of people, or has a preference for a certain kind of person?

9. **How do you think your gender plays a part in your career expectations?**
   a. How do you feel that it affects the choices you make in your career?
   b. How do you feel it affects other people in their perception of you occupying your current role and your future role?
   c. Do you feel that as a person of your gender, that your current workplace culture helps you reach the next career step?

10. **We are conducting this study to follow-up a finding in the CROS data that men expected a career in academia more than women.**
    a. Do you have any ideas as to why there is a sex difference in career expectations?
    b. Do you think there is anything practical your department could do to reduce this sex difference?
    c. For instance, do you feel that you would need more support?
    d. Are there any networking or career development opportunities that would help?

Appendix B: Career aspirations and expectations scale

Items 1-5 = career aspirations, items 6-10 = career expectations. Measured on a 7-point Likert-type response alternative from 'strongly disagree' to 'strongly agree'.

1. The career I aspire to will be something that I find enjoyable.
2. The career I aspire to will offer me opportunities to advance up the career ladder.
3. The career I aspire to will utilise my knowledge and skills.
4. The career I aspire to is held in high regard by others.
5. The career I aspire to will provide me with a good wage.
6. I expect I will end up in a career that I find enjoyable.
7. I expect to end up in a career that will offer me opportunities to advance up the career ladder.
8. I expect to end up in a career that will utilise my knowledge and skills.
9. I expect to end up in a career that is held in high regard by others.
10. I expect to end up in a career that will provide me with a good wage.

Appendix C: Study 3 gender norm manipulations

Work norms

In the UK, it is now the norm that most young women go to university and enter the workforce after graduating. These women enter a range of careers, with some reaching higher managerial and executive positions.

By the age of 35, most women will have at least one child. Recent statistics show that roughly 85% of these women maintain the same work hours as they did before having children. This is good news for children, as a wealth of research into parenting has demonstrated that having a mother who maintained their work hours was associated with better mental development of the child, better academic performance throughout their time at school, and the child having more friends at school.

A recent study conducted by Jones and Wright identified that women who maintained their work hours reported being more satisfied with life, happier, and having better social relationships than women who adapted their work hours to raise children.

Although, that is not to say that these women did not enjoy their home lives, but many reported that their family and home-life made them understand how important their careers were. Many reported that their work lives helped them develop as individuals, one of the participants stated: 'What I've achieved at work has made me realise what I can do, as my partner takes care of the kids, it means that I can work on projects that I wouldn't otherwise have time for, and I can keep building my skills and rise up that corporate ladder.'

In the UK, it is now the norm that most young men go to university and enter the workforce after graduating. These men enter a range of careers, with some reaching higher managerial and executive positions.

By the age of 35, most men will have at least one child. Recent statistics show that roughly 85% of these men maintain the same work hours as they did before having children. This is good news for children, as a wealth of research into parenting has demonstrated that having a father who maintained their work hours was associated with better mental development of the child, better academic performance throughout their time at school, and the child having more friends at school.

A recent study conducted by Jones and Wright identified that men who maintained their work hours reported being more satisfied with life, happier, and having better social relationships than men who adapted their work hours to raise children.

Although, that is not to say that these men did not enjoy their home lives, but many reported that their family and home-life made them understand how important their careers were. Many reported that their work lives helped them develop as individuals, one of the participants stated: 'What I've achieved at work has made me realise what I can do, as my partner takes care of the kids, it means that I can work on projects that I wouldn't otherwise have time for, and I can keep building my skills and rise up that corporate ladder.'

Home norms

In the UK, it is now the norm that most young women go to university and enter the workforce after graduating. These women enter a range of careers, with some reaching higher managerial and executive positions.

By the age of 35, most women will have at least one child. Recent statistics show that roughly 85% of these women adapt their work hours to spend more time with their family. This is good news for children, as a wealth of research into parenting has demonstrated that having a mother who has adapted their work hours to raise their children was associated with better mental development of the child, better academic performance throughout their time at school, and the child having more friends at school.

A recent study conducted by Jones and Wright identified that women who adapted their work hours to raise their children reported being more satisfied with their life, happier, and having better social relationships than women who maintained their work hours.

Although, that is not to say that these women did not enjoy their time at work, but they generally reported that their careers took a back seat to their home lives. Many reported that their home lives helped them develop as individuals, one of the participants stated: 'What I've achieved at home has made me realise what I can do, as my partner works full-time, it means that I can focus on my family and I can be the best parent I can be.'

In the UK, it is now the norm that most young men go to university and then enter the workforce after graduating. These men enter a range of careers, with some reaching higher managerial and executive positions.

By the age of 35, most men will have at least one child. Recent statistics show that roughly 85% of these men adapt their work hours to spend more time with their family. This is good news for children, as a wealth of research into parenting has demonstrated that having a father who has adapted their work hours to raise their children was associated with better mental development of the child, better academic performance throughout their time at school, and the child having more friends in school.

A recent study conducted by Jones and Wright identified that men who adapted their work hours to raise their children reported being more satisfied with life, happier, and having better social relationships than men who maintained their work hours.

Although, this is not the say that these men did not enjoy their time at work, but they generally reported that their careers took a back seat to their home lives. Many reported that their home lives helped them develop as individuals, one of the participants stated: 'What I've achieved at home has made me realise what I can do, as my partner works full-time, it means that I can focus on my family and I can be the best parent I can be.'