

**Attitudes toward Professional Women with Children:
Development and Validation of the Career Mothers Inventory (CMI)**

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ABSTRACT

Research to date suggests that career mothers comprise a uniquely derogated social group; however, the nature and content of negativity toward this group remains unknown. The purpose of the present program of study was to construct and validate an attitudinal scale measuring negativity toward career mothers, the Career Mothers Inventory (CMI). Three theoretical tenets were posited to underlie negativity toward career mothers: 1) career mothers cannot keep up with the work expected of them in a competitive and/or productivity-based environment; 2) career mothers do not work as hard and are not as devoted to their jobs as others (i.e., their co-workers) who do not have children; and, 3) career mothers expect that concessions or special accommodations will be made for their childcare needs.

In accordance with best practices scale development literature, a pilot project and a series of three independent studies were carried out. The purpose of the pilot project was to generate potential scale items. In studies 1 ($N = 290$) and 2 ($N = 468$), the CMI was found to be unidimensional and possess “excellent” ($\alpha = .90$) and “good” ($\alpha = .82$) internal consistency. Support for the CMI’s convergent validity was found via its positive association with other measures of sexism. The CMI was inversely related to liberal and egalitarian attitudes, providing additional convergent validity evidence. The purpose of Study 3 ($N = 123$) was to triangulate evidence of negativity toward career mothers by linking the CMI to stereotypic ratings of, and behavioural intentions toward, career mothers (via an experimental study utilizing hypothetical research applicants). The results of Study 3 revealed a trend in the expected direction such that negativity toward career mothers as measured by the CMI was associated with lower ratings of competence and commitment for the hypothetical applicant. The expected relationship between the CMI and hiring intentions was not found. Limitations associated with the current series of studies and recommendations for the CMI’s use in workplace settings are outlined.

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CHAPTER ONE - INTRODUCTION

Program of Study Overview and Extant Literature Review

Career mothers comprise a social group that is viewed as occupying both traditional and non-traditional societal roles. Previous research on stereotypes and discriminatory behaviours suggest divergent evaluations of traditional women (e.g., housewives) and women who occupy non-traditional roles (e.g., business women). Specifically, there are greater positive (and perhaps paternalistic) feelings and judgments about women in traditional roles as compared to their non-traditional counterparts (e.g., Eckes, 1994; Good & Sanchez, 2009; Tracey & Rivera, 2010). Based on these divergent evaluations, it is unclear how career mothers may be perceived, given that this social group often occupies both traditional (e.g., primary caregiver and housekeeper) and non-traditional roles (e.g., working outside of the home) simultaneously. Large bodies of literature are devoted to the documentation of sexism toward women (e.g., Swann, Langlois, & Gilbert, 1998); however, women who do not occupy traditionally female societal roles appear to be the most harshly evaluated, placing them at risk for being victims of discriminatory behaviour (e.g., Hebl et al., 2007). In fact, individuals have attempted to justify violence toward women by using sexist rationales that focus on maintaining women's traditional roles (e.g., Chapleau, Oswald, & Russell, 2008; Durán, Moya, Megías, & Viki, 2010). In light of the importance of understanding sexism in its various forms, and more precisely, negative attitudes directed toward women who occupy certain social roles, a series of studies were undertaken to better understand the content and nature of attitudes toward women who bridge traditional roles as a result of being mothers and non-traditional roles due to their work in professional environments outside the home. The main objectives of the present research are to develop and validate an attitudinal measure of negativity toward career mothers. Such a measure would ideally assist in identifying sub-optimal workplace climates for women and men, and contribute to the existing bodies of literature on sexism and its subtypes. Career mothers, throughout

the present program of research, were defined as women who work outside the home for pay and who simultaneously parent one or more dependent children under the age of 16.

1.1. Main Bodies of Literature Pertaining to Career Mothers

One area of inquiry that has provided information about career women's workplaces is the 'chilly climate' literature. This literature is a growing body of primarily qualitative research from the perspective of career women and their experiences in workplace/social climates (e.g., Backhouse, 2003; Runte & Mills, 2006; The Chilly Collective, 1995; Wasburn & Miller, 2006). It generally describes the often subtle, but oppressive and harmful, inequalities that exist between the sexes in various workplace settings (e.g., expectations for women to be childless, unequal representation of mothers in upper level positions). Women within this body of literature describe experiencing interpersonal derogation within the workplace, which may negatively affect their mental health and, ultimately, advancement in their career. Second, there is a large body of existing literature on stereotypes associated with subgroups of women (e.g., Burgess & Borgida, 1999; DeWall, Altermatt, & Thompson, 2005; Wade & Brewer, 2006). This literature attests to the diverse stereotypic evaluations of female subgroups. Women are stereotyped not only based on their gender, but also due to their social roles (e.g., becoming a mother, entering a career, etc.). Finally, a handful of experimental studies suggests that career mothers are the recipients of discrimination in the workplace, and that women who occupy the roles of professional and mother simultaneously are targeted to a greater extent than other social groups (e.g., Correll, Benard, & Paik, 2007; Cuddy, Fiske, & Glick, 2004; Fuegen, Biernat, Haines, & Deaux, 2004; Heilman & Okimoto, 2008). To contextualize the present program of study, and identify critical gaps in knowledge, bodies of literature that have documented bias directed toward this unique social category are now reviewed.

1.2. Mothers in the Workplace

Statistics Canada (2010) released a gender-focused report suggesting women's roles are changing within Canadian society. Specifically, women now have fewer children and participate more frequently in career opportunities outside the home. There has been a sharp decrease in Canadian birth rates and the number of children born per woman over the past six decades: in 1947, the birth rate was 28.9% and the average number of children per woman was 3.6 whereas in 2007 the birth rate was 11.2% and the average number of children per woman was 1.66 (Statistics Canada, 2009). In contrast, women's (age 15 or over) participation in the paid labour force has increased from 37.1% in 1976 to 47.9% in 2009 (Statistics Canada, 2010). These statistics suggest a trend wherein women are devoting less energy and resources toward having children and more toward income-generating positions within the paid workforce.

A growing demographic in the paid workforce is that of career mothers. The number of mothers (with children younger than 16 years old) in paid employment positions has increased from 39.1% in 1976 to 72.9% in 2009 (Statistics Canada, 2010). Despite Canadian federal and provincial legislation that dictates pay equity between the sexes, research suggests that career mothers face unique inequalities, in addition to those that exist for women more generally. For instance, it has been estimated that having children can decrease a woman's wage by as much as 4% to 8% per child (Budig & England, 2001; Glauber, 2007): a phenomenon referred to as the "motherhood penalty" (e.g., Benard & Correll, 2010; Budig & Hodges, 2010; Lips & Lawson, 2009). In comparison to men's earnings, Blades and Rowe-Finkbeiner (2006) state that non-mothers earn as much as 90 cents for every dollar a man earns; however, single mothers earn approximately 60 cents for equal work performed. In addition to these figures from the United States, significant salary gaps between mothers and non-mothers are cited in the European Union (12.4%), Hungary (27.5%), Czech Republic (32.3%), Slovakia (24.2%), and Estonia (18.2%; Eurostat, 2009). These statistics highlight the reality that mothers constitute a unique social group within paid work environments

that is derogated on a structural level. There is no evidence for a similar “penalty” phenomenon for fathers who are actively engaged in the workforce. In contrast, according to Glauber (2008), a “fatherhood wage premium” exists wherein men’s earnings tend to *increase* with the advent of parenthood.

Crosby, Williams, and Biernat (2004) also document inequities in the workplace for women. They coined the phrase, “maternal wall,” suggesting that the proverbial “glass ceiling” within workplaces uniquely disadvantages career mothers. They argue that, although career mothers have “flooded” the North American job market in the 1970s, 1980s, and 1990s, and legislation against sex discrimination has been introduced, wage gaps persist and are particularly prominent for career mothers. Further, Crosby et al. (2004) believe there may be a link between women’s lack of pay equity and the discriminatory social climate in workplaces. That is, society has held steadfast their stereotypic thinking and discriminatory behaviour regarding career mothers (i.e., that women’s place is in the home procreating and caring for men), and these stereotypic beliefs can influence impressions, judgments, and behaviour toward career mothers.

Women who have children are at a particular disadvantage in the workplace not only in terms of pay received but also in how others perceive them. According to ‘chilly climate’ researchers, women are typically expected by their workplace colleagues to stay at home and engage in ‘intensive’ care giving, and to prioritize children above all other activities (Ridgeway & Correll, 2004). In contrast, Ridgeway and Correll (2004) emphasize that an ‘ideal worker’ is someone who is willing to be flexible and devote the majority of his or her time to the job including evenings and weekends, being generally unencumbered and being able to attend to work at a moment’s notice (Ridgeway & Correll, 2004). Thus, when women *do* participate in both parenting and career roles, they defy others’ expectations. Career mothers, by definition, cannot meet the implicit standards ascribed to either of these roles that may, in turn, result in these women being criticized or derogated by their colleagues. Indeed, research from the perspective of

Canadian academic mothers suggests they experience a ‘chilly climate’ in the workplace, including subtle forms of discrimination, interpersonal ‘coldness’, and sometimes overt hostility (The Chilly Collective, 1995).

In sum, career mothers are often paid less than men and also less than their non-parent female counterparts (Statistics Canada, 2010). In workplace settings, career women who simultaneously parent may be disadvantaged due to a perceived inability to meet demanding expectations surrounding the time it takes to adequately parent (career women are incapable of spending the “required” amount of time on this front) and commitment to one’s job (the time spent on career-related tasks is deemed insufficient regardless of career women’s dedication to their position).

Despite extant research attesting to systemic inequities directed toward working women and the inhospitable workplace environments in which some career mothers find themselves, to date, there is no research that has assessed prejudice toward career mothers; specifically, negative attitudes directed toward women who occupy both the role of professional worker and mother simultaneously. In order to better gauge the potential content and nature of prejudice toward career mothers, a review of the stereotypes directed toward women and the subgroups of particular interest to the present research was conducted.

1.3. Stereotype Ascription Literature

Stereotypes directed toward the social category “women” are diverse, so much so that researchers have identified a variety of subcategories. For example, Burgess and Borgida (1999) state that there are, at minimum, three main subtypes of women: traditional (e.g., house wife, mother), non-traditional (e.g., career women), and sexy women. Further, it seems there are distinct cognitive representations and disparate evaluations associated with each of these groups (Burgess & Borgida, 1999). As well, there are predictable characteristics that others’ believe women *do* possess, and those that they *should* possess. For instance, one stereotype of women is that they are nurturing and soft-spoken. When women occupy roles

that violate the behaviour others expect of them, they may be subjected to a backlash of some sort. By definition, therefore, the beliefs and expectations of a career mother would be more negative than those of a traditional mother given that there is a mismatch between masculine occupation qualifications and feminine stereotypes. Of particular interest to the present program of research are the stereotypes ascribed to traditional (i.e., stay-at-home mothers), non-traditional (i.e., career women), and, importantly, women who represent a combination of traditionalism and non-traditionalism (i.e., the social category “career mothers”).

1.3.1. Stay-At-Home Mothers. According to Ganong and Coleman (1995), mothers are often viewed as being solely responsible for the psychosocial development of children and are, thus, expected to possess “super-human” qualities with respect to nurturing and fostering their children’s development (p. 496). Traditional (i.e., stay-at-home) mothers tend to be positively evaluated, and are ascribed traits such as *caring, giving, trustworthy, patient, warm, understanding, helpful, and selfless* (Glick, Diebold, Bailey-Werner, & Zhu, 1997; Gorman & Fritzsche, 2002). Riedle (1991) had 226 American university students (86 women, 140 men) indicate how representative 39 traits were of “stay-at-home” mothers versus an “unspecified” mothers category. Results indicated that “stay-at-home” mothers were described significantly more often as *nurturant* and *fun-loving* in comparison to the “unspecified” mother’s category. Upon examining the commonalities between traits ascribed to these two categories, ratings differed on only one of the possible 39 traits, suggesting that when individuals conceptualize the term “mother”, they assume her to be stay-at-home and, in turn, perceive her in a positive light (i.e., by attributing positive characteristics to her).

1.3.2. Career Women. Glick and Fiske (1997) posit that men’s maintenance of traditional gender roles serves to justify and perpetuate patriarchal social structures. The authors also contend that career women are viewed as a threat to men in their workplace because they are perceived to be competitors for status

and resources. Thus, women who seek positions of power and status are met with hostility from their male counterparts. Glick and Fiske (1997) conducted two studies in the United States that evaluated how individuals subtype women and the ascriptions attributed to each subtype. In their first study, 80 Mid-western undergraduate students (half of the participants were men and half were women) were asked to generate labels they would use to classify women. They were also asked to fill out a questionnaire about each of their top eight women subtypes, including trait ascriptions associated with each sub-category. Their second study followed a similar protocol such that 100 undergraduates were asked to allocate traits to specific subgroups of women. The results of both studies indicate that the social categories of “non-traditional” and “career” women evoked comparatively harsher criticism from sexist men as compared to non-sexist men (as measured by the Ambivalent Sexism Inventory), and adjectives such as *hostile*, *aggressive*, and *selfish* were typically ascribed to non-traditional women. No such association was found with women participants (i.e., no significant correlation was found between sexism scale scores and evaluative women subtype ratings for women participants).

Eckes (1994) conducted a study examining women and men subtypes and their characteristic features with 300 German university students (both men and women, specific numbers of each unspecified). Consistent with American researchers, they found there was a clear distinction between, and separation of, women in traditional and non-traditional roles. Career women were described as *aggressive*, *dominant*, and *wanting to have the last word*. Burgess and Borgida (1999) subsequently conducted a review of the literature on gender stereotyping and asserted that negative stereotypes and discrimination were due to a lack of complementarity between masculine occupational qualifications and the stereotypes regarding the attributes women possess. Women who violate expected stereotypes and traditional roles are often met, consequently, with hostility in the workplace.

1.3.3. Career Mothers. Career mothers occupy two roles that are viewed by society appositionally. In contrast to stay-at-home mothers, mothers who work outside of the home are often perceived as less nurturing and warm. For example, Gorman and Fritzsche (2002) conducted a study in a large southern United States university where they asked 207 undergraduate students (145 women, 62 men) to evaluate vignettes of mothers who were either satisfied or unsatisfied with their work status (i.e., either stay-at-home or employed). Specifically, participants were asked to attribute personality traits to the individual in their vignette. As well, they were asked to indicate whether or not their vignette target was committed to her maternal role. Results indicated that mothers who worked outside of the home, regardless of whether or not they were satisfied in their role, were evaluated by participants as *selfish* and *less committed* to their role as parents.

Riedle (1991) documented the difference in stereotype ascriptions across three types of mothers: “the mother of two children ages one and three, who is home full time” (i.e., stay-at-home mother), “the mother of two children ages one and three, who is employed full-time” (i.e., career mother), and “the mother of two children ages one and three” (i.e., unspecified mother). Eighty-six female and 140 male American university undergraduate students participated by assigning pre-determined (selected from previous research) descriptive traits they considered to be typical of each type of mother. The stay-at-home mother category and the employed mother category differed on 36 out of the 39 trait descriptors, suggesting a polarity in perceived personality traits. Specifically, career mothers were rated higher on qualities such as *leadership* and *self-sufficiency*, and lower on qualities such as *nurturance* and *fun-loving* in comparison to stay-at-home mothers. In terms of valence, career mothers were evaluated more negatively than the other two groups (i.e., stay-at-home and unspecified mother).

In sum, it is evident that women who occupy traditional women roles (e.g., stay-at-home mothers) are perceived in a positive light and are consequently ascribed favourable personality traits. In contrast,

participants have comparatively evaluated career women more negatively and the stereotypes attributed to this subgroup have negative valences. When the two roles (motherhood *and* career) are combined, participants have attributed somewhat negative stereotypes to this group.

1.4. Limitations Associated with Stereotype Ascription Research

Stereotype ascription literature is important for understanding generalized perceptions of various social groups; however, there are a number of limitations associated with relying heavily on stereotype ascriptions when trying to understand the scope of negativity directed toward specific social subgroups. Unfortunately, the bulk of the research on negativity toward career mothers has not gone beyond documenting the stereotypic traits ascribed to career mothers and the identification of common career mother stereotypes. Although many researchers have asserted that stereotypes automatically lead to prejudice toward a given group, Devine (1989) noted that stereotypes alone give a very limited view of prejudice. Devine (1989) explained that stereotypes are most often part of the dominant culture and are thus learned by all members within the culture; however, not all members of a given culture are prejudiced toward minority group members. An important distinction is made between *stereotypes* and *personal beliefs* and Devine and Elliot's (1995) investigation demonstrated that knowledge of a cultural stereotype is conceptually distinct from participants' personal endorsement of a stereotype. According to Devine and Elliot (1995), culture is shared amongst individuals living in a prescribed geographic area whereas personal beliefs are idiosyncratic and may or may not be congruent with the dominant cultural stereotype. Therefore, Devine and Elliot (1995) stressed the importance of measuring individuals' prejudice levels in addition to their knowledge of the dominant cultural stereotypes. Ultimately, McConnell and Leibold, 2001 (p.441) stress that researchers should make "behaviour the ultimate criterion for the value of psychological methods." Therefore, we are at a disadvantage if we solely rely on the measurement of

stereotypes and assess their relationship to discrimination, without being able to assess the prejudice-discrimination relationship (i.e., half of the conceptual equation).

An additional limitation of research examining the stereotypes of career mothers is that it has relied solely on undergraduate students as study participants. Given the average age of undergraduate students and their stage of life (e.g., late adolescence and young adulthood), many may not have had a career to date and, as a result, little or no contact with workplace environments and/or career mothers. Therefore, any evaluations made by junior university students would likely be based on their presumptions or the widely known culturally-based stereotypes of career mothers rather than on their personal experience with this group (Devine & Elliott, 1995). Based on this assertion, it seems that little is known regarding the personal beliefs of career mothers' and their colleagues. In other words, the research to date has not employed ecologically valid participants.

A final limitation of the research to date is that little is known about career women (stereotypes or prejudice) within a Canadian context. The vast majority of studies to date have been conducted in the United States, and the only known non-American study was conducted in Europe (Eckes, 1994). Eckes' (1994) results show evidence of a similar trend to the American studies reviewed (i.e., negative stereotypes of career mothers were documented). Expanding the scope of empirical insight on career mothers to geographic locations that have not yet been represented in the dialogue on career mothers is imperative.

Beyond these limitations, stereotype ascription literature, by definition, does not account for *why* individuals may negatively evaluate career mothers. To begin to answer this question, theoretical explanations are considered.

1.5. Theoretical Explanations for Negativity toward Women in Workplace Settings

1.5.1. Social Identity Theory. Social identity theory (SIT: Tajfel, 1978; Tajfel & Turner, 1979) offers an explanatory framework for why women, and more specifically career mothers, may be harshly judged in their work environments. According to SIT, group identities are constructed and evaluated based on comparisons with other groups (Tajfel, 1978; Tajfel & Turner, 1979). The salience of group identities is often based on context; thus, women's group identities often become pronounced in male-dominated workplace settings (Schmitt, Spoor, Danaher, & Branscombe, 2009). If an individual's social identity is not positive, there are a number of strategies that can assist in helping achieve a positive social identity (Tajfel, 1978; Tajfel & Turner, 1979). First, the individual may compete with members of the outgroup for either material resources or other symbolic indicators of social status (via "social competition"); second, if individuals do not feel being competitive is feasible or likely to result in gains, SIT predicts that group members will begin seeking out other comparison targets or introduce alternative comparison dimensions to develop a favorable group identity. Particularly within the workplace, SIT predicts that if individuals perceive the possibility for social mobility, they will attempt to get rid of their derogated minority status by becoming members of the higher status majority work group (Jehn, Greer, & Rupert, 2008).

In traditionally male-dominated workplace settings (e.g., medicine, business), women, in general, may perceive their group identity as being disadvantaged because of their minority status. If women in workplace settings feel that their ingroup (consisting of other women within their workplace) is being unfairly discriminated against, according to SIT, women are likely to identify with women as a group and act on the group's behalf (Schmitt et al., 2009). However, if women perceive that there are equal advancement opportunities for women and men, they will focus on their individual outcomes rather than acting on behalf of women as a group. That is, SIT predicts that women will act based on their (gender-based) group membership when they perceive discrimination based on gender. If a woman's group

identity *is* threatened in this way, SIT states women will compensate by strengthening the aspects of their identity that are consistent with their ingroup (Tajfel, 1978). In these cases, women will tend to act in accordance with stereotypic women roles that, in turn, strengthen gender stereotypes.

SIT can also be applied to men who perceive women as a threat in the workplace such that men will tend to reaffirm and protect their group identity. Within workplace settings, men's identities are connected to their traditionally held positions of status and power. To the extent that men feel threatened by women who may be trying to occupy limited numbers of positions or resources, there is a tendency for men to *not* support egalitarian efforts in the workplace (Schmitt et al., 2009). For example, Diekmann and Goodfriend (2006) found that men do not evaluate women entering into traditionally male-dominated workplaces as favourably as do women. Cikara and Fiske (2009) explain that when women defy their traditional stereotypes and compete with men (as would be the case if they were competing with the outgroup or acting on individual motives), they can be penalized for this behaviour; thus, to men, their resentment of women is justified because women have violated expected roles. In such cases, women's traditional advantage (i.e., warmth) is diminished (i.e., women are perceived as both incompetent and cold) and they are further derogated as outgroup members (Cikara and Fiske, 2009).

1.5.2. Expectation States Theory. In addition to the SIT explanations for the derogation of women in workplace settings, there is additional research that explains perceptions regarding career mothers. Cikara and Fiske (2009) state that career mothers uniquely fare the worst in traditionally male-dominated workplaces because they are perceived to be not only less competent than their non-parent female counterparts, but also less competent than they were before they had children. This loss of competence decreases the perceived level of their employability because they are seen as less committed to their job. Another dominant perception of career women is that "taking on a primary caregiver role 'turns a person's brain to mush'" (Ridgeway & Correll, 2004, p. 692). Further, Ridgeway and Correll (2004) proposed that

motherhood is a *status characteristic*; this label carries with it specific cultural expectations beyond those expected of the female gender more generally. According to expectation states theory, individuals who work together on a continual basis (as is the case in work environments) look for cues from their co-workers about how to behave towards them. When a status characteristic such as motherhood becomes salient, the cultural association of that characteristic is evoked and the perceiver makes culturally-congruent judgments about their co-worker (Ridgeway & Correll, 2004). These judgments can include decisions about the salient characteristic in domains such as competence, worthiness, and status. Because motherhood is a status characteristic that accompanies perceptions of decreased competence and low status, according to this theory, mothers will be derogated in workplace settings as long as they are working with non-mothers (Ridgeway & Correll, 2004).

Motherhood as a status characteristic can become salient in a number of ways within workplace environments (e.g., when pregnancy becomes evident, taking time off of work because of a sick child, and/or when leaving a meeting early to pick up children). According to Ridgeway and Correll (2004), when the motherhood status characteristic becomes salient, the career mother will automatically be categorized as a primary caretaker. This is problematic within workplace settings given that expectations of the ideal mother and ideal worker are in tension with one another. In other words, it is assumed that a good mother could not also be a good worker given that both roles are expected to require an individual's full attention and energy if they are to be done well. Heilman and Okimoto (2008) conducted a series of studies that supported the tenets underlying expectation states theory. In both student and workplace samples, Heilman and Okimoto (2008) found that mothers were uniquely derogated in terms of competence ratings and recommendations for employment. Interestingly, fathers were not penalized based on parental status and mothers were most harshly judged compared to all other groups (non-parents and fathers).

Correll and colleagues (2007) conducted an experimental study of hiring decisions and manipulated gender and parental status. They found a similar trend of derogation toward career mothers as Heilman and Okimoto (2008), which further supported the theory that motherhood is a unique status characteristic that contributes to negatively valenced evaluations of this subgroup. In addition, fathers in this study were found to have an advantage over non-fathers in three areas: perceived commitment to the job, increased allowances for being late for work, and higher recommended starting salaries. Taken together, there is a substantial and growing body of literature that indicates that fatherhood places men at an advantage in workplace settings while mothers are uniquely penalized for both their gender and parental status (e.g., Bridges, Etaugh & Barnes-Farrell, 2002; Bridges & Orza, 1992; Correll et al., 2007; Cuddy et al., 2004; Etaugh & Folger, 1998; Glauber, 2008; Güngör & Biernat, 2009; Lips & Lawson, 2009). Interestingly, Correll et al. (2007)'s laboratory findings were also mirrored when they submitted similar applications of individuals to real job advertisements; non-mother applicants were called back for follow-up on their application twice as often as mother applicants.

Given that there is literature that substantiates that career mothers are at a disadvantage in their workplace, and there is a body of research that attests to the negative stereotypes of career mothers, it is probable that negative attitudes toward career mothers exist in a variety of (traditionally male-dominated) workplace settings. The stereotype and workplace evaluation research reviewed does not assess whether participants possess negative attitudes toward career mothers. Given this critical omission, the development of a scale designed to assess negative attitudes toward career mothers is warranted. Further, the construction of such a scale is necessary given previous suboptimal attempts to measure negative attitudes toward working mothers, a section to which we now turn.

1.6. The Measurement of Negativity toward Career Mothers

To date, there exists only one measure designed to assess negativity toward the social group “career mothers.”¹ The Attitudes toward Working Mothers Scale (AWM) was designed to “assess attitudes toward the nontraditional dual roles of mother and worker, and the effects of the dual role on the woman and/or her family” (Tetenbaum, Lighter, and Travis, 1981 p. 370). The authors stated that 45 items were originally developed for the AWM; however, information pertinent to the generation of the items is not included (Tetenbaum, Lighter, and Travis, 1983). This observation is highly problematic from a scale development perspective. For instance, Springer, Abell, and Hudson (2002) suggest that both inductive (i.e., generating items based on a review of relevant literature and a specific definition of the construct of interest) *and* deductive approaches (generating items based on consultation with research experts and lay experts in the area) can strengthen the content validity of items developed. Though Tetenbaum and colleagues (1983) did provide a definition of their construct of interest based on a review of the literature, they failed to consult experts in the field or lay experts (e.g., career mothers) to assist in the generation and review of potential scale items. This step could have strengthened the scale’s content validity by having independent scrutiny of the items’ content relevance, the appropriateness of item wording, and the elimination of items that were double, triple, or quadruple-barreled (e.g., Clark & Watson, 2003).

A further examination of the AWM’s content reveals that the listed scale items possess a number of problems. First, only a small number of items ever appeared in the published literature² (from Roberts, 1985; Tetenbaum, Lighter, & Travis 1981, 1983; Wenar, 1985) and include: “*Mothers who stay home tend*

¹ In 1981, Tetenbaum, Lighter, and Travis introduced a 32-item Attitudes toward Working Mothers scale (AWM) in a series of two studies with educators. These study samples overlap with Tetenbaum, Lighter, and Travis’ AWM original scale development and validation work, which was published after the 1981 article, in 1983. The 1983 article cited six samples of participants, though the details of each data collection effort were not reported or described in detail or as separate studies. Based on a comparison of the 1981 and 1983 articles and their participant characteristics, it seems that two samples overlapped between these two papers. Therefore, it appears that the 1983 article represents the original research efforts and development of the AWM while the 1981 article, though published earlier, was intended to provide further support for the AWM’s validity.

² It should be noted that the researcher attempted on several occasions to contact Tetenbaum et al. via telephone and e-mail correspondence to obtain the complete list of AWM scale items though these efforts were unanswered.

to be more patient and warmer than mothers who go to work” (double-barreled statement); *“Mothers who stay at home are more consistent in disciplining their children than mothers who work”* (this item pertains to parenting rather than attitudes toward working mothers); *“Children of working mothers require more attention from their teachers than children of non-working mothers”* (this item pertains to children of working mothers rather than working mothers themselves); *“No matter how well the child of a working mother seems to be handling things now, the harmful effects of her working are bound to show up at some point”* (this item pertains to developmental outcomes of children rather than perceptions of working mothers). Thus, it seems that the majority of AWM scale items refer to attitudes about a career woman’s ability to parent rather than attitudes toward career mothers per se. Because the complete list of items was never published, the use of the AWM scale and/or replication of the authors’ research would be difficult, at best.

With respect to the psychometric validation of the AWM, the 45 scale items were administered to a sample of 526 American graduate students (Tetenbaum et al., 1983). Participants rated each item of the AWM on a 7-point Likert scale and higher scores indicated greater *positivity* toward career mothers. A Principal Axis factor analysis was conducted on the data for men ($n=182$) and women ($n= 329$) separately, and a single factor was obtained in each case. Based on this finding, Tetenbaum et al. (1983) concluded that “the factor structure obtained for females was highly similar to that obtained for males indicating the sexes may be combined” for the remaining analyses (p.72). The decision to combine two data sets based on a researcher’s subjective opinion regarding the similarity of factor structures is discouraged. Instead, using a coefficient of congruence that calculates whether or not there is statistical equality between the latent structures found for their gender subgroups is recommended (Harman, 1976). Further, the authors used a .40 factor loading criterion to determine which items meaningfully contributed to the underlying construct. The rationale underlying the use of .40 as a “meaningful” cut-off was not provided, though this

is an acceptable cut-off according to scale development experts (e.g., Netemeyer, Bearden, & Sharma, 2003). Based on this criterion, a number of AWM scale items were eliminated and 32 items were retained. The alpha coefficient for the 32 items was .94 for females and .95 for males.

In an effort to establish known-groups validity, Tetenbaum and colleagues (1983) then administered the 32-item version of the AWM to two women's organizations with diametrically opposed views on women's issues – feminists ($n= 81$) and anti-feminists ($n= 73$). The researchers did not specify how their sample was recruited. Further, their data collection effort would not be replicable given that the authors did not describe the questionnaire in any amount of detail. More specifically, Tetenbaum and colleagues (1983) failed to specify the measures that were contained in their questionnaire (e.g., it is unknown whether they used a measure of feminism). Further, hypotheses were not explicitly stated; despite this, the authors indicated that, “as expected”, they found that feminists demonstrated more favourable attitudes toward working mothers compared to the anti-feminist group.

Tetenbaum and colleague's (1983) third sample consisted of 60 graduate students (no specification about what school/country these students were recruited from). The participants were administered a questionnaire containing the AWM, the FEM scale (designed to measure attitudes towards feminism: Smith, Ferree, & Miller, 1975), the short form of the Attitudes toward Women Scale (designed to measure rights and roles of women: AWS, Spence, Helmreich & Stapp, 1973) and the Feminism II Scale (designed to measure attitudes held by women in the women's movement: Dempewolff, 1974). However, since the hypotheses were not explicitly stated, no evidence of convergent or divergent validity was provided. The AWM was found to have correlation co-efficient values of less than .25 with each of the three feminist measures (i.e., FEM, AWS, and the Feminism II Scale). The authors concluded that the non-significant and low correlations attest to the AWM's discriminant validity and they state that “it can be considered to contribute meaningfully in its own right” (p. 73). Their statement is questionable given that, in the

previous sample, they found that feminists scored higher on the AWM; thus, it would make intuitive sense that feminism should be positively related to the AWM.

Roberts (1985) wrote a review of the AWM scale construction methodology. The author stated that originally, 34 scale items pertained to the benefits of mothering, with 11 scale items reflecting positivity toward the working mother role. Roberts (1985) reported that all 11 items of positivity toward working mothers were deleted in the factor analytic procedure, leaving only the “benefits of mothering” category of items. Therefore, it is assumed that the 32 item AWM scale is comprised of statements about the quality of mothers’ ability to parent and the developmental outcomes of their children, as suggested in the AWM item *“No matter how well the child of a working mother seems to be handling things now, the harmful effects of her working are bound to show up at some point.”* Wenar (1985) also noted that the majority of AWM items are “child-” or “family-” oriented versus career mother-oriented. The information provided by the reviewers suggests this scale does not, in fact, measure attitudes toward career mothers.

Tetenbaum et al. (1981, 1983) conclude that their results provide support for the reliability and validity of the AWM. To their credit, they administered their scale to a number of diverse populations (e.g., educators, feminist and anti-feminist women, students, etc.). Internal consistency statistics (alpha coefficients) for the AWM were acceptable; however, the weaknesses of the scale outweigh its strengths. First, the scale was developed approximately thirty years ago and may, in fact, be outdated. Second, there is a lack of transparency in how the items were initially developed and no complete listing of the scale items was provided. This is unacceptable within the scale development domain and goes against best practice standards (e.g., Springer, Abell, & Hudson, 2002). From the little information provided by Tetenbaum et al. (1981, 1983) it seems that the scale was not designed to directly measure attitudes toward career mothers. Further, this scale was not significantly related to other measures of feminism, which is problematic from a construct validation standpoint. No known

studies since its inception have used the AWM as part of a questionnaire battery; therefore, no additional information about its statistical properties exists. This lack of use leaves little known in terms of the AWM's applicability, validity, or reliability across time. According to Downing (2003, p. 831), "Validity is never assumed and is an ongoing process of hypothesis generation, data collection and testing, critical evaluation and logical inference."

1.7. Rationale for the Current Program of Study

Women have traditionally been stereotyped according to their social roles such as housewife or career woman. The stereotypes elicited for each of these groups appear to exist on opposite ends of the evaluative spectrum, wherein traditional women are positively evaluated and career women are negatively evaluated. More specifically, housewives or stay-at-home mothers are ascribed seemingly positive traits that are relevant only to the narrow role of care-giver. Although many of the traits ascribed to stay-at-home mothers may be viewed as positive, members of this social group are not seen as powerful, agentic, or productive. On the other hand, career women seem to be taken seriously in their career roles, but they are perceived as being emotionally cold and mean. Career mothers are a unique group of women that represent a growing demographic in paid workplace positions. Although there is evidence of the stereotypes directed toward career mothers, with less empirical documentation about their discrimination experiences, a measure of prejudiced attitudes toward mothers in the workplace has yet to be developed.

The purpose of the present series of studies was to develop and validate a measure of prejudiced attitudes towards career mothers entitled the Career Mothers Inventory (CMI). Specifically, three studies were designed to: 1) construct and refine the CMI scale via factor analysis (Studies 1 and 2); 2) obtain evidence of the CMI's validity and reliability (Studies 1, 2, and 3); and 3) test whether or not the CMI was related to behavioural intentions (Study 3). Ethical approval for all of these steps was obtained at the University of Saskatchewan (Appendix A).

1.8. Theoretical Tenets of Negativity toward Career Mothers

Based on the literature, three theoretical tenets posited to underlie negativity towards career mothers were formulated. These tenets provided a basis for the creation and evaluation of potential scale items. First, “traditional” mothers are viewed as incompetent and thus, in competitive workplace settings mothers may be perceived as not being able to meet the demands of the workplace (e.g., Raddon, 2002). Therefore the first tenet is: *career mothers cannot keep up with the work expected of them in a competitive and/or productivity-based environment*. Second, based on the assumptions of SIT, it is assumed that mothers in male-dominated workplace environments (i.e., those that are perceived to discriminate based on gender) will enact traditionally female traits (e.g., cleaning up, getting others beverages) in the workplace to enhance their group identity. Because of this, mothers may be perceived as not doing their job or working as hard as others (Raddon, 2002). That is, because of internalized traditional female stereotypes (e.g., Gorman & Fritzsche, 2002; Riedle, 1991), it is likely that individuals continue to perceive mothers as being more devoted to their role as caregiver versus that of worker. Therefore the second tenet is: *career mothers do not work as hard and are not as devoted to their jobs as others (i.e., their co-workers) who do not have children*. Finally, it is expected that individuals will harbour negative feelings toward career mothers when the motherhood status characteristic is made salient (e.g., when workplace flexibility is required to accommodate career mothers’ needs; Ridgeway & Correll, 2004). Thus, the third tenet is: *career mothers expect that concessions or special accommodations will be made for their childcare needs*.

1.9. The Process of Scale Development

The task of constructing and validating a new scale is a complex pursuit that requires several stages (e.g., Clark & Watson, 2003; DeVellis, 2003; Hinkin, 1995; Netemeyer, Bearden & Sharma, 2003; Worthington & Whittaker, 2006; Zabriskie, 2003) including: a clear determination of what is being measured, item development, determination of the format of the new measure, review of the initial item

pool by experts in the field, item validation, administration of items, evaluation of items, and optimizing scale length. These steps are not intended to be complete within one study. The creation of a valid and reliable scale is an iterative process that requires the researcher to revisit each of these stages multiple times to refine the scale.

CHAPTER TWO – PILOT PROJECT

CMI Scale Construction and Expert Panel Review

2.1. Purpose

The purpose of the pilot project was item development, the first stage of scale construction. The goal of developing an item pool is to sufficiently represent the construct of interest while minimizing extraneous items (Hinkin, 1995). However, it also is recommended that initially developed items span beyond the construct of interest so as not to limit the scope of measurement (Clark & Watson, 2003). Two basic approaches to item development are inductive and deductive (Hinkin, 1995). Inductive methodology does not generally employ a theoretical framework; but, rather relies on a number of respondents to generate items designed to measure the construct of interest. In contrast, a deductive approach to scale development requires an understanding of the constructs being investigated via a literature review (Hinkin, 1995; Worthington & Whittaker, 2006). The literature review facilitates the development of a theoretical basis that may then be used as a guide for generating scale items (Hinkin, 1995; Worthington & Whittaker, 2006). The utilization of both inductive and deductive approaches for item generation is considered optimal, as researchers have found that either method alone is insufficient (Clark & Watson, 2003). Based on these recommendations, both inductive and deductive processes were employed to generate potential scale items.

2.2. Item Generation - Methodology

The steps recommended by Springer, Abell, and Hudson (2002) for the first phase of developing a new measurement tool include 1) identifying and defining the construct of interest, 2) selecting the measurement tool format, 3) writing the items, and 4) submitting the items for expert review to assess their appropriateness from a content and measurement standpoint. The Career Mothers Inventory (CMI) was designed to assess the negative attitudes co-workers possess about career mothers. To begin the process of generating items, an appropriate environment was identified. Specifically, after reviewing the “chilly climate” (e.g., The Chilly Collective, 1995) and “maternal wall” (e.g., Crosby, Williams & Biernat, 2004) literature, it was determined that academia was a suitable environment to begin the process of developing the CMI. Academia is representative of other workforce environments wherein women disproportionately occupy lower-level positions and are less likely to be promoted [Canadian Association of University Teachers (CAUT), 2008; Crosby, Williams & Biernat, 2004; Statistics Canada, 2009]. For example, in 2005 women represented only 28% of all Canadian tenured faculty; in contrast, they comprised almost 45% of non-tenured faculty (CAUT, 2008). According to the Canadian Association of University Teachers (2008), “academic tenure is an essential protection of academic freedom. It is vital to creating the conditions that allow excellent teaching and scholarly research to flourish... The existence of gender disparities in the awarding of tenure therefore raises serious concerns about the status of female faculty in Canadian universities” (p.1).

In addition to the structural inequalities that are present, academia was chosen because it is a competence-based environment where productivity is of paramount importance. The emphasis on productivity is particularly heightened before an individual achieves tenure. The process of going through undergraduate and graduate training and then going on to obtain an academic appointment and achieve tenure requires many years of education and work experience. A recent study of 643 Canadian graduate

students found that a) women preferred to have children at a younger age than men (i.e., during completion or after the receipt of their Master's degree), b) more women than men reported that their intentions to enter academia had been negatively influenced by their plans for parenthood, and c) more men than women agreed with the following statement: "*having children is compatible with pursuing an academic career,*" suggesting that men perceive less difficulty in having both a family and an academic career than do women (van Anders, 2004: p. 516). These findings underscore the fact that fewer women than men may be entering academia because of perceived (and potentially realistic) barriers. Having children in academia may be evaluated as a potential impediment to productivity and may, in turn, result in perceptions of mothers not being as committed to, or competent in, their job. Further, there may be physical and health implications for career mothers who perceive their workplace as discriminatory. For instance, a recent Canadian study by Hirakata and Daniluk (2009) found that, based on their motherhood status, women in academia who were raising young children (less than 13 years of age) felt vulnerable, isolated, inadequate, pressured, and felt they had a lack of acknowledgement and structural support from their workplaces. Thus, for these reasons, academia was selected as an appropriate environment for the development of the CMI.

2.2.1. Participants. In addition to generating items based on a review of the literature and the three theoretical tenets, 10 individuals (6 women, 4 men) working within academia were consulted to assist in the item generation process. These individuals included: two mothers (faculty) in academia (Educational Psychology, Women and Gender Studies), one male professor (Sociology), three female graduate students (all Psychology), three male graduate students (Mathematics, Kinesiology, and Psychology, respectively) and a female psychological research assistant who had completed a Bachelor of Arts degree in Psychology. Individuals were chosen based on their inclusion in the academic environment, with the career mothers deemed lay experts. All participants were recruited via convenience sampling.

2.2.2. Method. Interviews were conducted individually and lasted between 30 to 60 minutes. Each interview began in an open-ended fashion where individuals were asked to think of any negativity that may exist towards career mothers, particularly within their own areas of academia. This generally led to a brainstorming of ideas or individuals relating stories that they had heard of or experiences they had in their work environment. The interviewees were then given prompts based on the stereotype and chilly climate literatures such as the focus on job performance, productivity, and personality characteristics (e.g., mothers are generally seen as warm, nurturing, and devoted to family life – consider how these might influence perceptions of academic mothers). Based on these discussions, interviewees were then asked to narrow down their ideas into statements that others may make and/or endorse about academic career women.

The researcher manually recorded responses from each item generating session. Themes or main ideas, along with participants' specific statements were recorded. Results indicated that there were a number of overlapping themes. For example, time management was a theme that came up in over half of the interviews. Further, interviewees reported that others would likely perceive career mothers as having poor time management skills. When asked to generate statements related to time management, interviewees offered the following examples: *career mothers are not good time managers, it is unrealistic (time wise) to have both a family and a career, career mothers put in less time at work than others, career mothers never stick to the parameters of the work day*. Following the item generating sessions, the researcher amalgamated all items generated, eliminated or modified those that were academia specific (because the CMI is, ultimately, intended to be applicable in any workplace setting), and compared each item against the CMI tenets to ensure they were directly relevant to negativity toward career mothers. This process yielded 110 attitudinal items (found in Appendix B).

An additional (i.e., fourth) theoretical tenet was added following the item development stage. A number of items generated and themes of discussion were related to the idea that having career mothers in a workplace somehow lowered the standards of work completed for all of those within the work environment. For instance, items such as *career mothers have lower standards for work than others*, *I have no problem working with career mothers as long as my work is unaffected*, and *mothers in the workplace are a detriment to productivity* seemed to be unrelated to the three already posited tenets; thus, a fourth tenet was created. The four theoretical tenets initially proposed for the CMI were:

1. Career mothers cannot keep up with the work expected of them in a competitive and/or productivity-based environment.
2. Career mothers do not work as hard and are not as devoted to their jobs as others (i.e., their co-workers) who do not have children.
3. Career mothers expect that concessions or special accommodations will be made for their childcare needs.
4. Having mothers in workplace settings “waters down” the rigor and credibility associated with that particular workplace department.

2.3. Expert Review and Item Analysis

Once the initial scale items were developed, an expert panel was invited to review each statement. Instructions for the expert panel members are outlined in Appendix C. A total of 11 faculty members (9 women, 2 men) in both Canadian and American universities were invited to be reviewers based on their expertise in the area of gender issues or in scale development. These individuals were contacted via e-mail and of the 11 selected, 6 reviewers (5 women, 1 man) agreed to participate. Each expert was asked to review the 110 statements and rate each item on a scale from 1 (poor) to 5 (excellent) in terms of whether or not it “fit” or was reflective of the tenets provided. Reviewers also were invited to comment on the

content and clarity of the items. Once the evaluations were completed, all reviewers submitted responses electronically. The purpose of providing these ratings was to ensure that the items possessed adequate content coverage and reflected the theoretical tenets proposed to embody the CMI. Items that had three or more ratings of 2 or 1 (indicating that the majority of reviewers felt that this was a poor item) were deleted. Based on this criterion, 33 items were deleted, leaving 77 items in the initial item pool (found in Appendix D). In addition, a few items were modified slightly for clarity of wording based on reviewers' comments (e.g., "*I don't think talking about children at work is appropriate*" was changed to "*Talking about children at work is inappropriate*").

2.4. Response Format

A key decision that needs to be made when constructing a measurement scale is the type of response format to use. While true/false response formats have advantages (e.g., more time efficient for administration and scoring), Snyder and Rice (1996) advocate against their use in instances where factor analytic approaches are anticipated (as is the case in the current series of studies). Likert-scale items allow for a range of responses (e.g., *strongly agree* to *strongly disagree*) and can vary in number of options offered (i.e., 5-, 7-, or 9-point scales). Noar (2003) noted that a 7-point scale does not add a significant amount of variance over and above that of a 5-point scale. Clark and Watson (2003) concur with this assessment and reiterate that a 7- or 9-point scale does not increase the validity or reliability of a scale in comparison to one that employs 5-points. In accordance with these recommendations, a 5-point Likert-scale was used; thus, the response options for the CMI are: 1= *strongly disagree*, 2= *disagree*, 3= *neutral*, 4= *agree*, or 5= *strongly agree*.

To maximize clarity, Weems and Onwuegbuzie (2001) recommend that all statements be positively keyed. More specifically, measures that utilize both positively and negatively keyed statements have been found to provide inconsistent information (e.g., item means, reliability scores and confidence intervals).

For example, a positive response (e.g., *strongly agree*) to a negatively worded item may not invoke an identical inverse response (e.g., *strongly disagree*) to a parallel positively worded item, thus producing slightly different and therefore less reliable results. Hinkin's (1995) review of scale development practices documented similar problems with items that require reverse scoring, such that these items have been shown to reduce items' validity (e.g., Schriesheim & Hill, 1981) and may introduce systematic error into the data collected (e.g., Jackson, Wall, Martin, & Davids, 1993). Similarly, Barnette (2000) stated that research that has employed both positively and negatively keyed items over the past twenty years have yielded problems with reliability and factor structures. More specifically, Barnette (2000) conducted a study that systematically examined the effects of negatively keyed items on reliability statistics. Barnette (2000) also investigated the use of a bidirectional response set (i.e., half ordered from *strongly disagree* to *strongly agree*, and half ordered from *strongly agree* to *strongly disagree*) as compared to unidirectional response sets (response sets that are consistently *strongly agree* to *strongly disagree* or *strongly disagree* to *strongly agree*). Results indicated that the highest level of scale score reliability was obtained when all scale items were positively keyed and when response sets were bidirectional. In accordance with these findings and emergent recommendations, all CMI items (total = 77, see Appendix D) are positively keyed, and response options were bidirectional. That is, half of the response items were presented from *strongly agree* to *strongly disagree*, while the other half were presented from *strongly disagree* to *strongly agree*. With these decisions in place, the CMI and its response format were ready for initial scale administration, which was the purpose of Study 1.

CHAPTER THREE - STUDY 1

The Administration and Statistical Refinement of the CMI in a Canadian Academic Context**3.1. Overview and Purpose**

Thus far in the present program of research, a construct of interest has been identified (i.e., negativity toward career mothers), explanatory theoretical frameworks have been reviewed, four underlying tenets have been proposed, and the construct of interest has been operationalized via the generation of an initial item pool. To test the statistical and theoretical soundness of these items, an empirical investigation was conducted. The purpose of Study 1 was to theoretically and statistically refine the Career Mothers Inventory (CMI) by reducing the number of scale items. Study 1 also served to determine the CMI's dimensionality and to gather initial reliability and validity evidence for the scale.

Perhaps the most important type of validity for scale development is construct validity; in fact, Downing (2003) argued that construct validity is the *only* type of validity, under which all other forms (e.g., convergent, divergent, criterion-related, etc.) are subsumed. The author further explained that testing validity is akin to testing a theory about a particular concept (i.e., the construct of interest; Downing, 2003). Construct validity is defined by Noar (2003, p.67) as “the idea that a scale is measuring what we think it is measuring.” Construct validity is obtained by “a) articulating a set of theoretical concepts and their interrelations, b) developing ways to measure the hypothetical constructs proposed by the theory, and c) empirically testing the hypothesized relations among constructs and their observable manifestations” (Clark & Watson, 2003, p. 209). Although a vast number of scale development studies do *not* include additional measures with the preliminary item pool (due to the large number of initial items), inclusion of an additional measure was deemed an advisable practice because it enhances the researcher's ability to examine the boundaries of the theoretical construct (Clark & Watson, 2003; Messick, 1995). It was deemed important in the initial stages of the CMI scale development to ensure that the items developed

were indeed measuring negativity toward women. To ensure that the CMI was measuring a type of sexism, another measure of sexism was included. These two measures, if significantly related to one another, were expected to contribute to the initial construct validation of the CMI.

3.2. Hypotheses

Based on the goals of the present study, the following hypotheses were generated:

H₁. According to Springer and colleagues (2002), convergent validity “examines whether a construct correlates as expected with theoretically relevant variables” (p. 429). To establish initial evidence of convergent validity, a form of construct validation, the Ambivalent Sexism Inventory (ASI; Glick & Fiske, 2001) was included. In accordance with Cuddy and Fiske’s (2002) findings, it was anticipated that there would be a significant positive correlation between the CMI scale scores and the ASI scale scores. More specifically, it was expected that the CMI would have a significantly stronger relationship with the Hostility Subscale of the ASI than with the Benevolent Subscale of the ASI. The CMI is posited to be a measure of negativity toward career mothers. Hostile Sexism refers to women’s attempts to control men and usurp their power and resources. In contrast, Benevolent Sexism items reflect the sentiments that men are incomplete without women and that men should care for women. It is hypothesized that the CMI items would more closely relate to Hostile Sexism such that career mothers (in the CMI) and women (as portrayed in the Hostile Sexism subscale) are both in competition with men for their resources and positions of power (within the workplace for the CMI and more generally for the Hostile Sexism subscale).

H₂. Known-groups validity, a form of construct validation, is defined as “the extent to which a measure differs as predicted between groups who should score low and high” on a construct or trait (Netemeyer et al., 2003, p. 80). Research suggests that men tend to score higher on measures of sexism than do women (e.g., Glick & Fiske, 2001; Masser & Abrams, 1999). For instance, there is evidence that males

evaluate mothers more negatively than do females (Burgess & Borgida, 1999; DeWall et al., 2005). To establish known-groups validity, it was hypothesized that men would evaluate career mothers significantly more negatively than women. That is, it was predicted that male participants would have significantly higher CMI scale scores than female participants. This finding would also lend support to Tajfel and Turner's (1986) social identity theory that suggests individuals evaluate members of their own social group (whether or not it is a majority or minority group) more positively than they evaluate members of an outgroup. Within male-dominated workplaces, women are considered to be part of the "outgroup" while men are considered the "ingroup."

H₃. A growing body of literature that is consistent with expectation states theory (e.g., Ridgeway and Correll, 2004) has found that mothers are uniquely derogated in the workplace in terms of ratings of their competence and commitment to their job, consistently receive weaker recommendations for their hiring, and their recommended starting salary levels are lower as compared to their workplace colleagues' (e.g., Correll, Benard & Paik, 2007; Heilman & Okimoto, 2008; Lips & Lawson, 2009). Therefore, because there is evidence that career mothers are a uniquely derogated social group (i.e., career mothers are a unique minority group), it was hypothesized (in accordance with expectation states theory and social identity theory) that career mothers' CMI scale scores would be significantly lower than all other respondents' (i.e., career mothers would be least likely of all participant groups to derogate members of their own social group).

H₄. Research on prejudiced attitudes (e.g., racism, sexism, modern homonegativity) has established a positive relationship between political orientation (e.g., conservatism) and negativity towards minority social groups (e.g., Christopher & Mull, 2006; Morrison & Morrison, 2002). For example, within the sexism and racism literature, those who consider themselves to be conservative in their political orientation are more likely to express prejudicial attitudes than their liberal counterparts (Allport &

Ross, 1967; Sibley, Wilson, & Duckitt, 2007; Swim, Aiken, Hall, & Hunter, 1995). In general, political conservatism has been associated with support for capitalism versus socialism and those with conservative ideals often support the maintenance of social hierarchies rather than equality among people (Pratto, Sidanius, Stallworth, & Malle, 1994). Crosby and colleagues (2004) summarize the difference in opinions between conservatives and liberalists with respect to sexism. They stated that some conservatives believe that the persistent differences between men and women in the labour force reflect men and women's personal choices, which are based on their inherent nature and their motivations. Therefore, the women's wage gap can be attributed to the maternal instinct rather than any anti-women sentiments. Individuals who hold more liberal beliefs assert that workplace ideals continue to be modeled after men's career trajectories such that they need no time off for childbirth and women continue to outweigh men in childrearing activities. Defining workplace ideals by men's career trajectories is, according to liberalists, sex discrimination. In accordance with these findings, it was hypothesized that a significant positive relationship would be found between CMI total scale scores and political conservatism.

H₅. Research suggests that there has been a societal shift such that it is less socially acceptable to endorse sexist beliefs than in the past (Barreto, Ellemers, Cihangir, & Stroebe, 2009). Thus, those who are motivated to appear culturally appropriate may also have a tendency to respond in a socially desirable manner. Further, the construct validity of measurement scales in the areas of cognition, attitudes, and behaviour is at risk because of their heavy reliance on participants' self-report and it is recommended broadly that a measure of social desirability be used in these cases (Hoyt, Warbasse, & Chu, 2006). Thus, a measure of social desirability (the MC-SDS) was included with the prediction that the CMI would not be affected by socially desirable responding.

3.3. Methods

3.3.1. Participants. Given that the population of interest (university faculty members) consisted of individuals that communicate regularly via the Internet, a web-based survey was deemed most suitable for data collection purposes. Faculty members' e-mail addresses were obtained through the Human Resources Department at the University of Saskatchewan and faculty members listed on the University of Regina's website were contacted. The entire faculty population from both universities was invited to participate. In total, approximately 1601 (1144 University of Saskatchewan, 457 University of Regina) faculty were invited to participate via Internet e-mail invitations. Two hundred ninety responses were obtained, which constituted a 17% response rate. Manfreda and colleagues (2008) conducted a meta-analysis of 45 published and unpublished studies that employed web and other survey modes. They found that, on average, web-based surveys had 11% lower response rates than other survey methods (e.g., telephone or mail; Lozar Manfreda et al., 2008). Response rates for web-based studies ranged from 11% to 82%, with over half ($k=26$) of the studies' response rates between 11% and 29%. Thus, the 17% response rate in the current study may be considered typical of web-based survey response rates. A full description of participant characteristics can be found in the Results section.

3.3.2. Measures

3.3.2.1. Ambivalent Sexism Inventory (ASI; Glick & Fiske, 1996). The ASI is a 22-item measure of sexism that is comprised of two subscales entitled Hostile and Benevolent sexism. Higher scores on the Hostile Sexism (HS) subscale indicate negative attitudes towards women who are perceived to violate traditional gender role norms. The HS contains 11 items (e.g., "Feminists are seeking for women to have more power than men"). Benevolent Sexism (BS) refers to "kinder and gentler justifications of male dominance and prescribed gender roles" by recognizing "men's dependence on women (i.e., women's

didactic power) and embraces a romanticized view of sexual relationships with women” (Glick & Fiske, 1996: p. 121). The BS contains 11 items (e.g., “In a disaster, women ought to be rescued before men”), with higher scores indicating endorsement of paternalistic beliefs (e.g., women are frail, precious, and need to be protected). All ASI items are listed in Appendix E. Individuals indicated their level of agreement (1 = *strongly disagree*, 5 = *agree strongly*) with each item. Possible scores on the ASI (includes the combination of Hostile and Benevolent subscales) range from 11 to 110, with higher scores indicating greater ambivalence toward women. Scale score reliabilities for the ASI have been robust across a variety of studies, ranging from .83 to .92 (Glick & Fiske, 2001). Glick and Fiske (2001) attest to the ASI’s validity and reliability (e.g., known-groups validity: men score significantly higher than women; reliability: the ASI has evidenced very good alpha coefficients).

3.3.2.2. Career Mothers Inventory (CMI). The Career Mothers Inventory contains 77 items and was designed to measure negative attitudes towards mothers in workplace settings. A 5-point Likert scale response format was used with response options ranging from *strongly disagree* to *strongly agree*. The response options were reversed for half of the items. Higher scale scores indicated greater negativity towards career mothers. A copy of the 77-item CMI can be found in Appendix D.

3.3.2.3. Marlow Crowne Social Desirability Scale (MC-SDS, Form C; Reynolds, 1982). An additional variable of interest in the present study was social desirability. Form C of the MC-SDS was used to measure participants’ tendency to respond in socially or culturally appropriate ways (e.g., “*No matter who I’m talking to, I’m always a good listener*”; Reynolds, 1982). All 13 items in the MC-SDS are listed in Appendix F. A true/false response format (1 = true; 2 = false) is customary and was used for Form C’s 13 items. Scale scores can range from 13 to 26, with higher scores indicating a greater tendency to respond in a socially desirable manner. Reliability for the MC-SDS has been found to be satisfactory (e.g., $\alpha = .70$ in Aosved, Long, & Voller, 2009 and $\alpha = .63$ in Masters et al., 2009). In addition, Robinette (1991) found

support for the convergent validity of the MC-SDS (Form C) as the scale was positively related to other measures of socially desirable responding (as measured on the L, F, and K subscales of the Minnesota Multiphasic Personality Inventory, Form R).

3.3.2.4. Political Orientation. A single question asked participants to indicate their political orientation, with response options of *very liberal*, *liberal*, *somewhat liberal*, *somewhat conservative*, *conservative* and *very conservative*. In addition, an “*I don’t know*” option was provided for those who were unsure, undecided, or did not wish to specify their political orientation. The “*I don’t know*” option was excluded from correlational analyses. Therefore, scores ranged from 1 to 6, with higher scores indicating greater conservatism.

3.3.2.5. Demographic Variables. Demographic variables pertinent to the hypotheses were included in the questionnaire. Of particular importance in the present study were participants’ gender (i.e., pertinent to Hypotheses 2 and 3) and parental status. To determine parental status, participants were asked to indicate whether they had any dependents under the age of 16 living at home. All demographic variables used in Study 1 are listed in Appendix G.

It should be noted that single-item measures have been critiqued in the past because measuring their internal consistency is not possible. Sackett and Larson (1990) determined that single-item measures are most appropriately used when the construct of interest is unidimensional, clear to respondents and sufficiently narrow. Some single-item measures have been found to have adequate test-retest reliabilities. Wanous and Hudy (2001) conducted a meta-analysis on single-item measures and concluded that a reasonable minimum estimate of reliability for these items was .70. Similarly, Dollinger and Malmquist (2009) examined the reliability and validity of different types of single item measures (e.g., factual: GPA; behaviour frequencies: church attendance; unstable aspects of life: health). Their results showed that the most reliable single-item measures included items of a factual nature and behavioural frequencies such as

church attendance. Because factual and behavioural constructs were sought in the present study, single item measures were used for some constructs (e.g., demographic variables).

3.3.3. Procedure. Following ethical approval, data for Study 1 were collected. Each faculty member was sent a brief invitation asking him/her to participate in a study measuring contemporary attitudes towards women. They were provided with a link to the questionnaire, which interested participants used to access and complete the online survey. Participation took approximately 15 minutes (this estimate was based on having two graduate students complete the measure – their data were not included in the database). The consent form, debriefing form, and researcher's contact information were provided. Faculty from the University of Saskatchewan and University of Regina were each sent an initial e-mail invitation, as well as two follow-up reminder invitations at approximately two-week intervals. A draw for one of three \$100 prizes was included as incentive to participate. All disciplines were contacted for recruitment (e.g., Veterinary Medicine, Dentistry, Psychology, History, Physics). Employing a one-week follow-up time between e-mail contact (i.e., invitations and reminders) and having a lottery-type incentive have been shown to significantly increase web-based survey response rates (Deutskens, Ruyter, Wetzels, & Oosterveld, 2004) and thus were used in all three studies (i.e., Studies 1, 2 and 3). In addition, Kittleson (1997) noted that a second follow up e-mail doubled response rates but the third and fourth e-mail only had marginal effects; thus two follow up e-mails were sent.

When asking individuals to indicate their attitudes, it is important that they conjure up their evaluations of specific workplace mothers that exist within their own environments, versus a typological woman that is constructed by the researcher. To those participating, career mothers were intended to be women that they themselves have interacted with in their present workplace settings, or in workplace settings in general, past or present. If they have not worked with a career mother, the definition provided was

assumed to be broad enough for individuals to extrapolate their perceptions of what working with this social group might be like.

3.4. Results

To address the main goals of Study 1, a series of statistical analyses were conducted. Following initial data cleaning, the length of the CMI was reduced. It was important at this stage to establish the CMI's dimensionality and to gain evidence of scale score reliability. The second aim of the current study was to establish some preliminary construct validity evidence via the introduction of related constructs and hypothesis testing. The following sections indicate the results of each of these data analysis steps.

3.4.1. Data Cleaning. To ensure each participant submitted a useful amount of data for analytic purposes, each response set (i.e., each participant's response to all survey questions posed) was analysed. Karmaker and Kwek (2007) analysed a number of data cases with varying amounts of missing data (e.g., 10%, 25%, 50%). Results indicated that, as the amount of missing data per person increased, the reliability and validity of each response set decreased. Based on Karmaker and Kwek's (2007) recommendations, 5 participants were eliminated because 50% or more of their data were missing. Therefore, data from 285 (130 males, 149 females, 6 unknown) faculty members from the University of Saskatchewan ($n=230$) and University of Regina ($n=45$); 10 did not indicate their institutional affiliation) from a broad range of disciplines were included in the analyses. No significant differences were found between participants' responses on the variables of interest (e.g., ASI, CMI, political orientation) based on participant institution; thus, the data from each university were amalgamated. The number of years working in academic institutions ranged from 0 to 41 ($M=9.85$; $SD=8.52$) and participants ranged in age from 23 to 76 ($M=45.13$; $SD=9.79$) years. More specifically, female participants' average age was 42.9 ($SD=9.0$) and male participants' average age was 47.6 ($SD=10.1$). The majority (82%, $n=233$) of participants self-identified as Caucasian. A large proportion of the sample (81%, $n=232$) indicated their sexual orientation

was *heterosexual*, while 8% indicated that they *prefer not to use labels*. Of the 285 participants, 167 (59%) indicated that they had at least one dependent living at home. Table 1 contains a complete overview of participant demographics.

3.4.2. Item Reduction. To reduce the number of items in the CMI, three steps recommended by Liddle, Luzzo, Hauenstein, and Schuck (2004) for item deletion were carried out. First, items that did not attain a full item response range from participants (*strongly agree, agree, neutral, disagree* and *strongly disagree*) were eliminated. Second, it was recommended that any items with a *neutral* response rate of greater than 30% for any particular item should be eliminated. Third, and finally, to correct for statistical overlap (i.e., redundancy) between items or items that were statistically unrelated to one another, statements with item correlations $> .6$ and $< .4$ were culled. This left 32 scale items that were entered into the exploratory factor analysis (EFA).

3.4.3. Dimensionality. Factor analytic techniques allow researchers to identify the nature and number of latent constructs that underlie the items used (Fabrigar, Wegener, MacCallum, & Strahan, 1999). This is most appropriate when the researcher has no a priori hypotheses regarding the factor structure or the number of latent constructs underlying the measure (Floyd & Widaman, 1995). Traditionally, Principle Components Analysis (PCA) has been used when the goal of the analysis is data reduction, but researchers (McArdle, 1990; Widaman, 1990, 1993) have shown that factor analytic methods such as exploratory factor analysis (EFA) can be just as effective and accurate in extracting common factors as PCA. EFA is often used when the number of dimensions underlying the construct of interest is unknown, as is the case for the present study. For these reasons, EFA was decided as most appropriate for Study 1.

When conducting EFA, choosing a model-fitting procedure is necessary. The two most common types of procedures are called Maximum Likelihood (ML) and the principal factor method. It has been argued by Fabrigar and colleagues (1999) that both of these choices offer their own strengths and weaknesses, but

they also tend to produce similar results. The weakness associated with using the principal factor method is that it provides fewer goodness-of-fit indices and does not allow for the computation of significance levels or confidence intervals as does ML (Fabrigar et al., 1999). The estimates of goodness of fit are important when conducting EFA because they can aid the researcher in determining the number of factors to retain (Fabrigar et al., 1999). A third option is a Least Squares (LS) analysis. Research has shown that the LS approach has consistently been better able to provide a factor structure that is equal to, and sometimes better than, the ML approach (Briggs & MacCallum, 2003). For this reason, an unweighted least squares model was chosen for the factor analysis.

Another statistical consideration when conducting factor analysis is the type of rotation used for clarifying and defining the simple structure of the underlying factor(s) within a given data set. Orthogonal rotation assumes that the factors are not related, whereas oblique rotations allow for, but do not assume, the factors are related (Fabrigar et al., 1999). As the factor structure of the CMI is unknown, oblique rotation is most appropriate. There are several types of oblique rotation, including: direct quartimin rotation, promax rotation, Harris-Kaiser orthoblique rotation, and oblimin. Fabrigar and colleagues (1999) state that the type of oblique rotation chosen is not of crucial importance because they generally produce similar results. Oblimin has been cited as one of the most common rotations used, and thus it was selected (Henson & Roberts, 2006).

To maximize the variance accounted for by the data, an unweighted least squares EFA with oblimin rotation was run. Parallel analysis was used in conjunction with the EFA to assist in determining how many factors to retain. Although parallel analysis is not as widely used as other retention criteria (e.g., Kaiser eigenvalue greater-than-one rule, Cattell's scree test, and Bartlett's test for equality of eigenvalues), recent literature (e.g., Fabrigar et al., 1999; Hayton, Allen, & Scarpello, 2004; Lance, Butts, & Michels, 2006) suggests that the rules associated with traditional methods of factor retention are not always agreed

upon, and can produce unreliable or disparate results across researchers using the same data (e.g., Cliff, 1988; Hubbard & Allen, 1987; Zwick & Velicer, 1986). There is research suggesting that parallel analysis offers a superior level of accuracy when considering the number of factors to retain (Glorfeld, 1995). In parallel analysis, a number of correlation matrices based on random data that contain the same number of variables (p) and participants (n) as the actual data set are produced (Hayton, Allen, & Scarpello, 2004). The eigenvalues of the random data set are then compared with those of the real data set, and when the eigenvalues for the real data set exceed those of the random data set, the factor is retained because it is considered meaningful. It is assumed under this process that eigenvalues equal or less than the random data set are due to sampling error (Hayton et al., 2004).

A comparison of eigenvalues for these analyses are in Table 2. The eigenvalue comparison for a random data set versus an exploratory factor analysis suggested that four factors were present (because the first four factors' numerical value of the actual data set exceeded those obtained in the random data set). Therefore, an additional exploratory factor analysis was run, with four factors forced. All (32) items loaded onto Factor 1 with loadings in the .4 to .6 range. There were no obvious loading patterns detected on Factors 2, 3 and 4, though there were a few items that cross-loaded onto Factor 1. If these items were deleted due to cross-loading (with loading values $>.3$), 22 items would remain; however, Worthington and Whittaker (2006) warn researchers to use caution when deleting items based on cross-loadings, particularly if the additional factors are not retained or collapsed which is the case in the present study. Based on the recommendation of Worthington and Whittaker (2006), the factor loading results were taken into consideration with the items' endorsement rates.

All 32 items were scrutinized in terms of their endorsement rates. Items that had low endorsement rates (i.e., $<10\%$ of respondents indicating they either *agree* or *strongly agree*) were considered and compared with the results of the factor analysis. From these comparisons, 21 items were found to have both

satisfactory (10% or more of respondents indicated that they either *agree* or *strongly agree* with each item) endorsement rates and were not cross-loaded onto two factors and were therefore retained. Although 21 items is considered a large number of items to represent a single construct (e.g., eight to ten items per construct is recommended), it also is deemed unwise to cull all items for a scale based on a single data set (Netemeyer, Bearden, & Sharma, 2003). Therefore, no further elimination of items took place. It was expected that the dimensionality and size of the CMI would be further tested, scrutinized and refined in Study 2. The scale score reliability statistic for the 21-item CMI was .90 (95% CI = .88 - .92). All analyses that follow were conducted with the new 21-item version of the CMI (found in Appendix H).

To ensure that each of the four theoretical tenets originally proposed to underlie the construct of negativity toward career mothers continued to be represented in the CMI, they were again considered in relation to the remaining 21 scale items. Upon examination, three of the four tenets initially proposed were represented in the 21-item CMI scale. For example, the first tenet, *career mothers cannot keep up with the work expected of them in a competitive and/or productivity-based environment*, was represented by a number of items including: “asking career mothers to sit on committees is too much for them.” The second tenet, *career mothers do not work as hard and are not as devoted to their jobs as others (i.e., their co-workers) who do not have children*, was represented in the following items: “women with children are less likely to take on additional work commitments” and “most of the time, career mothers are more concerned with family than with work.” In addition, the third tenet, *career mothers expect that concessions or special accommodations will be made for their childcare needs*, was represented by items such as: “I should not be asked to accommodate a career mother’s needs” and “career mothers never stick to the parameters of the work day.” It was noteworthy that the fourth tenet, *having mothers in workplace settings “waters down” the rigor and credibility associated with that particular workplace department*, was no longer represented in the 21 items; thus, it was removed from further consideration.

3.4.4. Descriptive Statistics. All scale score means, scale score ranges, standard deviations, and alphas (including 95% confidence intervals) for the measures of interest are reported in Table 3. As outlined in Table 3, the scale means for both the CMI ($M = 39.77$) and ASI ($M = 41.51$) fell below their midpoints (63 and 66, respectively). Similarly, on both the Hostile ($M = 20.09$) and Benevolent ($M = 21.41$) subscales of the ASI participants scored below the respective scale midpoint of 33. This finding suggests that participants in the current sample did not highly endorse sexist statements. On the items measuring political orientation, the vast majority of participants ($n = 230$, 83%) indicated that they were *somewhat liberal*, *liberal*, or *very liberal*. In contrast, 48 (17%) participants endorsed a conservative political orientation (i.e., *somewhat conservative*, *conservative*, or *very conservative*). The MC-SDS also had a mean scale score ($M = 19.25$) that was slightly lower than its midpoint of 19.5 suggesting that overall participants were not responding in a socially desirable manner.

The scale score reliability coefficients (a measure of internal consistency) for each measure in the current study were calculated. According to Zabriskie (2003), alpha coefficients measure “how consistently each item measures the same information or construct” (p. 334). Clark and Watson (2003) recommend that researchers should strive for a coefficient alpha of at least .80. Cronbach’s alpha can range from 0 to 1, with higher values indicating greater internal consistency. George and Mallery (2003) offer the following categorizations for coefficient alpha values: greater than .90 is considered “excellent”; .80 - .89 is considered “good”; .70 - .79 is considered “acceptable”; .60 - .69 is considered “questionable”; .50-.59 is “poor”; and less than .50 is “unacceptable.” The CMI’s scale score reliability was .90 (95% CI = .88-.92), suggesting that the items in the CMI possess “excellent” internal reliability. The ASI had a coefficient alpha of .95 (95% CI = .94-.96), and its subscales also had “excellent” internal consistency statistics with alphas equal to .93 (95% CI = .92-.95: Hostile Subscale) and .91 (95% CI = .89 - .93: Benevolent Subscale). Consistent with past research utilizing Form C of the MC-SDS (e.g., Aosved, Long,

& Voller, 2009; Masters et al., 2009), the alpha co-efficient in the present study was “questionable” ($\alpha = .69$, 95% CI = 64. - 74).

Correlation coefficients for all measures of interest (i.e., CMI, ASI, the ASI Hostile and Benevolent subscales, Political Orientation and MC-SDS) can be found in Table 4. The associations amongst these variables are discussed in relation to the hypotheses outlined below.

3.4.5. Hypotheses. The following results pertain to the apriori stated hypotheses.

H₁. A significant positive correlation between CMI scale scores and ASI scale scores was predicted.

Pearson’s r is calculated to determine the amount of variance that is shared between two constructs (Cohen, 1988). Cohen (1988) suggests the following categorizations to guide the interpretation of correlation co-efficient sizes: 0 - .09: none; .1- .3: small; .3- .5 medium; and .5 -1: large. In Table 4, the relationship between the CMI, the ASI and its subscales are reported. Specifically, the CMI and ASI were significantly positively correlated, $r(251) = .63, p < .01$ which signifies that the two measures of sexism were strongly related to one another (shared variance = 40%). That is, individuals scoring higher on the CMI also scored higher on the ASI. Supporting Hypothesis 1, this result provides evidence of the CMI’s convergent validity, a form of construct validation.

Further analysis of the ASI subscales indicated significant positive correlations between the CMI and the Hostile, $r(255) = .65, p < .01$, and Benevolent, $r(256) = .49, p < .01$, subscales of the ASI. Negativity toward career mothers (as measured by the CMI) was associated with hostility toward women who are viewed as challenging men for their power (as measured by the Hostile Subscale of the ASI) and with the maintenance of women in dependent roles in relation to men (as measured by the Benevolent Subscale of the ASI). Steiger’s Z (a statistical analysis used to assess whether or not the two correlations obtained within a single sample are significantly different from one another: Steiger, 1980) was calculated. The magnitude of the Hostile and Benevolent subscale correlations with the CMI were found to be

significantly different, $z = 4.80$. $p < .01$. This indicates that the CMI is more closely related to hostility toward women than the paternalism of women. Because the CMI was designed to measure hostility rather than benevolence, this finding provides further evidence of the CMI's construct validity.

H₂. Men would evaluate career mothers significantly more negatively than women. To test for group differences between men and women's scale scores on the CMI, an independent samples t-test was conducted. As expected, men scored significantly higher on the CMI ($M=41.86$; $SD = 11.96$) than did women ($M=37.75$; $SD = 10.11$), $t(253) = 2.97$, $p < .01$, Cohen's $d = .37$.³ Male participants possessed significantly more negativity toward career mothers than female participants. This finding provides support for the CMI's construct (known-groups) validity, and is also supportive of the second hypothesis.

H₃. Career mothers' CMI scale scores would be significantly lower than all other respondents' CMI scale scores. A one-way analysis of variance (ANOVA) was conducted to determine if career mothers' CMI total scale scores were significantly different from all other participants' (i.e., career fathers, females with no children and males with no children) CMI total scale scores. As predicted, the ANOVA indicated that there was a significant difference such that career mothers overall CMI scale scores were significantly lower ($M = 35.53$; $SD = 9.65$) than all other participant groups (career fathers: $M = 42.36$; $SD = 12.91$; females with no children: $M = 40.57$; $SD = 10.12$; males with no children: $M = 39.72$; $SD = 11.17$), $F(3, 255) = 5.55$, $p < .01$, $\eta^2 = .062$. Tukey's HSD tests indicated that members of the target group had significantly less negativity toward career mothers compared to males (with or without children) and women with no children, supporting Hypothesis 3.

A similar analysis was run with the ASI serving as the dependent variable. Interestingly, the pattern of results described above (with the CMI) was not found. In other words, parental status was not a significant factor in predicting how participants responded to the ASI but it *was* a significant predictor of CMI scores.

³ According to Cohen (1992), a small effect size is .20, a medium effect size is .50, a large effect size is .80.

Therefore, discriminant validity evidence is found such that the CMI's underlying construct is unique from that of the ASI.

H₄. A significant positive relationship was posited between CMI total scale scores and political conservatism. To assess this relationship, a correlation coefficient was calculated (see Table 4). The CMI total scale scores and scores on the political conservatism measure produced a significant positive correlation, $r(251) = .26, p < .001$. Individuals who indicated they were more conservative evidenced greater negativity toward career mothers than those who were less conservative, supporting the fourth hypothesis.

H₅. It was predicted that responses to the CMI would not be affected by socially desirable responding. A significant albeit weak negative correlation was found between the CMI and social desirability, $r(254) = -.14, p < .05$. This statistic indicates a small proportion (2.61%) of shared variance (i.e., an overlap of variance) between CMI items and the MC-SDS items. Inter-item correlation results indicated that only two of the CMI's 21 items were significantly related to the measure of social desirability. These items were marked for further scrutiny in Study 2.

3.5. Discussion

The goals of Study 1 were the following: 1) to refine the CMI scale items by determining its dimensionality; 2) assess the reliability of the emergent CMI; and 3) provide preliminary construct validity evidence of the CMI. The scale's length was reduced in accordance with Liddle et al.'s (2004) recommendations, which included eliminating items: 1) that did not have a full response range (i.e., participants did not provide representation of all responses from *strongly agree* to *strongly disagree*); 2) if more than 30% of participants indicated a *neutral* response; and 3) whose inter-item correlations were either greater than .6 or less than .4. This process resulted in 45 items being culled from the original 77 items, leaving a 32-item scale. To determine the CMI's dimensionality, an exploratory factor analysis was

conducted. Factor analytic and parallel analysis procedures indicated that the 32-item CMI had a unidimensional factor structure. Items were scrutinized further based on both their cross-loading statistics (i.e., items that had cross-loading statistics of greater than .3 across factors in the factor analysis) as well as their endorsement rates (i.e., items that were endorsed by less than 10% of participants). If an item was cross-loaded based on the factor analysis *and* it had poor endorsement rates, it was deleted. Based on these analyses, an additional 11 items were deleted, leaving a 21-item measure. The 21-item CMI was found to have excellent scale score reliability ($\alpha=.90$, 95% CI = .88 - .92).

Descriptive statistics in the present study indicated that participants scored below the scale means for both measures of sexism: the CMI and the ASI. There are a number of possible explanations for this trend, based on findings from previous literature. First, Barreto and colleagues (2009) reported that the overt expression of sexist attitudes and beliefs is becoming less socially acceptable than in the past. It may be argued that by definition, answering paper and pencil questionnaires about various groups of women requires a degree of overt recognition of negativity; however, the ASI has continued use in contemporary research (e.g., Napier, Thorisdottir, & Jost, 2010) and there are no known studies indicating that this scale suffers from low endorsement rates (i.e., floor effects). Another explanation for the scale scores falling below their respective means in the present study may be the cultural and geographical context. Tremblay (2007) outlined work-family policies in place across countries and suggested that the United States relies heavily on the individual family and their specific workplace to accommodate childcare leaves and needs. In contrast, Canada (with a few exceptions) has standard workplace policies to accommodate women's maternity leaves. That is, in relation to the United States, Canadian citizens may endorse lower rates of sexism overall, particularly toward career mothers, because of their policies regarding work-family balance (e.g., Tremblay, 2007). Finally, this finding may also simply be due to the unique characteristics of this particular sample of participants. For instance, the majority of participants in the current study

indicated that they considered themselves to be at least somewhat liberally oriented and egalitarian. Liberally-minded individuals often score lower on measures of prejudiced attitudes than their more conservative counterparts (e.g., Christopher & Mull, 2006; Pratto et al., 1994; Sibley et al., 2007); this pattern also emerged in the current study.

Study 1's predicted hypotheses were supported and therefore initial strands of evidence for the CMI's convergent and discriminant validity were obtained. The first hypothesis was supported: the CMI, a measure of negativity toward career mothers, was related to another measure of negativity toward women, the Ambivalent Sexism Inventory (ASI). That is, individuals who endorse ambivalence (including both hostility and benevolence) toward women are also more likely to endorse negativity toward career mothers. This relationship provided preliminary evidence of convergent validity suggesting that the CMI is conceptually related to another measure of sexism. In addition, this finding is in keeping with other research that has consistently found significant positive relationships among various measures of sexism (e.g., Conn et al., 1999; Glick & Fiske, 1999). These results indicate that the CMI is statistically performing as other measures of sexism have in relation to one another, and provide a strand of construct validation evidence for the CMI.

Correlations between the CMI and the ASI subscales were also positive and significant. A supplementary analysis (calculation of Steiger's Z) indicated that the correlation between the CMI and the Hostile Subscale was stronger than its correlation with the Benevolent Subscale. This initial finding suggests that the CMI's underlying construct (i.e., negativity toward career mothers) may be more closely related to hostility toward women than benevolence. Although both of these significant correlations contribute to the CMI's convergent validity, this discrepancy in the magnitude of the correlations offers some descriptive information regarding the construct of interest (i.e., lends support to defining what the CMI *is* measuring). Specifically, the CMI was initially posited to represent hostility toward career mothers

in the workplace. The CMI's particularly strong association with the Hostility subscale offers support for this assertion. The fact that the CMI is not as strongly associated with benevolence suggests that, while the CMI and the Benevolent subscale both measure a type of sexism and are related, the particular type of sexism (hostile versus benevolent) is not the same conceptually. The goal of the current study was to begin to assess the boundaries of the CMI's underlying theoretical construct, and the difference in magnitude between these two correlations provides initial evidence that the CMI measures not only sexism, but a hostile form of sexism. This finding provides preliminary corroboration that some career mothers experience hostility in their work environment, and lends support to the chilly climate literature (e.g., The Chilly Collective, 1995).

The second hypothesis also was supported: men's overall scale scores on the CMI were significantly higher than women's. This finding established initial support for the known-groups validity of the CMI. Men consistently score higher than women on a number of measures of sexism (negativity toward women, e.g., Glick & Fiske, 2001; Masser & Abrams, 1999). Similarly, individuals consistently have more favourable opinions of ingroup members than outgroup members, and this was also the case in the current study. These results lend support for Tajfel and Turner's (1986) social identity theory such that female participants indicated more favourable evaluations of members of their ingroup (other females, in this case career mothers) in comparison to male participants (who, in relation to themselves, would view career mothers as members of an "outgroup"). Therefore, males in academia endorsed a greater level of negativity toward career mothers than their female counterparts.

As predicted, career mothers scored significantly lower on the CMI, a measure of negativity toward career mothers, than did all other participants, supporting the third hypothesis. Consistent with this pattern, career mothers endorsed CMI items to a lesser degree than all other participants (i.e., women without children, men with and without children), providing evidence that the CMI measures negativity toward a

specific subset of women (i.e., career mothers) rather than being a general measure of sexism. Expectation states theory (e.g., Ridgeway & Correll, 2004) posits that motherhood may be a status characteristic among women and indeed there is empirical evidence that mothers are evaluated more harshly than all other social groups (fathers, non-parents) in workplace situations (e.g., Heilman & Okimoto, 2008). The current finding suggests that career mothers, indeed, identify themselves as a unique social group based on their gender and parental status combined, such that their evaluation of other career mothers (as measured by the CMI) is distinct from all other participant groups. Before the present study, it was not verified that career mothers identified themselves as being a unique social group (i.e., different from other career women or women more generally). For instance, the chilly climate literature (the Chilly Collective, 1995) suggested that both mothers and female non-parents alike experienced hostility in the workplace (i.e., personal accounts were documented on behalf of both female subgroups). These specific results, supported by social identity theory (Tajfel & Turner, 1986) indicate that career mothers consider themselves to be a specific subgroup of working women, and differentially evaluate themselves accordingly (i.e., more favourably than non-parent career women).

A factorial analysis was run to examine whether participants' gender and parental status influenced their overall scale scores on the ASI as they had for the CMI. Results indicated that a significant difference in ASI scores was found between male and female participants. In other words, men scored significantly higher than women on the ASI. Parental status did not produce the same pattern of results such that parental status did not affect participants' scores on the ASI. Further, no significant interaction existed between gender and parental status, indicating that career mother participants did not respond to the ASI in a significantly different manner than any other participant group. This finding suggests that the CMI's underlying construct is dissimilar from the ASI, despite evidence that they both measure a type of sexism. Specifically, this finding indicates that the CMI represents a distinct subtype of hostile sexism toward

career mothers, which is evaluated differently than the broader ASI subgroups of feminist (i.e., women who are perceived as attempting to usurp men's power) or traditional (i.e., women who are perceived to be in need of paternalistic attention from men) women. This finding provided an important piece of evidence regarding the distinctiveness of the CMI.

The fourth hypothesis was also supported: those who endorsed negativity toward career women (as measured by higher scores on the CMI) also were likely to indicate a more conservative political orientation. This finding is consistent with past research (e.g., Morrison & Morrison, 2002; Swim, Aiken, Hall & Hunter, 1995) that suggests participants who self-identify as having a more conservative political orientation are more likely to endorse negativity toward minority group members; in this case, more conservatively-oriented participants endorsed negativity toward career mothers to a greater degree than their more liberally-oriented counterparts.

Finally, it was expected that socially desirable responding would not be significantly related to CMI scores. Although there was a small significant negative correlation between social desirability and the CMI, the strength of this relationship was weak and there was a small degree of shared variance between these two constructs. Therefore, it was surmised that the degree to which socially desirable responding influenced participants' responses on the CMI was negligible.

According to Clark and Watson (2003, p. 209), "construct validity cannot be inferred from a single set of observations" and "clearly, a series of investigations is required to even begin the process of identifying the psychological construct that underlies a measure." They further state that additional data collection efforts are necessary to replicate the measure's factor structure, correlations with other measures and differentiation between groups. In terms of factor structure, it is customary in scale development to conduct a confirmatory procedure once a researcher has initially obtained a theoretically meaningful factor structure (Worthington & Whittaker, 2006). In accordance with these recommendations, Study 2 was

designed to incrementally advance the reliability and validity of the CMI with an additional (but demographically similar) sample by again refining it via statistical means and the inclusion of additional measures of interest that were posited to be theoretically relevant and related.

CHAPTER FOUR - STUDY 2

Further Assessment of the CMI's Statistical and Theoretical Properties

4.1. Purpose

The goals of Study 2 were to: 1) confirm the CMI's unidimensionality, 2) assess the reliability of the CMI, 3) obtain evidence of the CMI's construct validity in both convergent and discriminant forms, and 4) enhance the generalizability of the CMI through the use of an independent sample (as recommended by Hinkin, 1995). First, Lounsbury, Gibson, and Saudargas (2006) advise against creating a cumbersome (i.e., lengthy) scale. Such a scale would not be easily utilized in subsequent research studies (because many times studies incorporate the use of multiple measures and researchers may choose to forgo the use of a measure because of its length); thus, further refinement of the CMI was considered in this study. With regard to confirming scale dimensionality, Gorsuch (1997) indicated that the results of an exploratory factor analysis are best supported not only by its statistics but by further replication of the findings. By testing the retained scale items with a new sample, there is confirmation of the scale's factor structure (goal 1) and internal reliability (goal 2; Gorsuch, 1997). More specifically, to gain supportive evidence for the CMI's factor structure, a confirmatory factor analysis was conducted. A confirmatory factor analysis is not only useful for confirming the dimensionality of a scale, but also to further trim and finalize a scale's length (Netemeyer, Bearden, & Sharma, 2003). Study 2 was designed to provide further evidence of convergent and construct validity. Convergent validity evidence can provide support for the assertion that a scale accurately measures the underlying construct of interest. Convergent validity is obtained when the measure of interest is highly related to other theoretically related constructs (Hoyt et al., 2006). To

accomplish this, a number of measures that have been found to be positively and inversely related to various attitudinal measures (e.g., sexism, racism) were chosen.

4.2. Hypotheses

The following hypotheses were developed for Study 2:

H₁. To provide evidence of convergent validity, a form of construct validation, it was expected that the CMI would significantly positively correlate with additional measures of sexism. The Neosexism scale (NS: Tougas, Brown, Beaton, & Joly, 1995) and the Hostility toward Women scale (HTW: Lonsway & Fitzgerald, 1995) were chosen for this purpose. Neosexism is posited to be a subtle measure of sexism defined as a “manifestation of a conflict between egalitarian values and residual negative feelings toward women” (Tougas et al., 1995, p. 843). The Neosexism scale items encompass beliefs against affirmative action and that discrimination against women is a thing of the past. A relationship between these beliefs and the CMI was expected because the CMI has been designed to measure workplace attitudes and many of the Neosexism scale items specifically address women’s employment equity. The Hostility Toward Women Scale measures negative attitudes toward women in general. Its items include beliefs that women lie to get ahead, cannot be trusted and are generally troublesome (Lonsway & Fitzgerald, 1995).

H₂. To provide further evidence of convergent validity, it was hypothesized that there would be a significant positive correlation between scores on the CMI and those on a measure of materialism. Materialism was found to be related to another form of prejudicial attitudes (i.e., racism, Roets, Van Hiel, & Cornelis, 2006). The rationale given for this relationship was that those who are materialistic have a sense of entitlement. In turn, materialistic individuals’ sense of entitlement creates hostility when there is competition for resources (e.g., job positions). Based on literature reviewed (e.g., Schmitt et al., 2009), it seemed likely that career mothers would be perceived as occupying a limited number of

positions within the work force just as other social minority group members do. Therefore, it was hypothesized that negative attitudes toward career mothers (as measured by the CMI) would be positively related to materialism (as measured by the Materialism scale).

H₃. To provide further evidence of convergent validity, it was expected that a significant negative correlation would exist between scores on the CMI and those on the Sex-Role Egalitarianism Scale (SRES). Sex role egalitarianism is defined as an individual's acceptance of both males and females who occupy non-traditional roles (Perez-Lopez, Lewis, & Cash, 2001). That is, if an individual were truly egalitarian in terms of their view of sex roles, he or she would support both men in traditionally female positions (e.g., staying home with children) and women in traditionally male positions (e.g., as a business manager). The SRES is inversely related to prejudicial attitudes (e.g., anti-fat attitudes, Perez-Lopez, Lewis, & Cash, 2001); therefore, it was hypothesized that a significant negative correlation would be found between the CMI and the Sex-Role Egalitarianism Scale (SRES, King & King, 1990).

H₄. To further assess known-groups validity, a form of construct validation, it was expected that males would score significantly higher on the CMI than would females (i.e., men would endorse more negativity toward career mothers than females; Glick & Fiske, 2001; Masser & Abrams, 1999).

H₅. Providing support for Tajfel and Turner's social identity theory, career mothers had the lowest CMI scale scores compared to other participant groups in Study 1; it was expected that this pattern would also emerge in Study 2.

4.3. Methods

4.3.1. Participants. Academic faculty from the University of Alberta, Brandon University, the University of Winnipeg and the University of Manitoba that had e-mail addresses appearing on their respective department and university websites were contacted and sent an electronic invitation to participate in the study. More specifically, the number of professors (any rank) and teaching staff

contacted were as follows: 1838 from University of Alberta, 231 from Brandon University (Manitoba), 627 from University of Winnipeg and 717 from the University of Manitoba, for a total of 3413 faculty invites. Of those sent out, 468 (271 males, 190 females, 7 missing) faculty members from the universities sampled (i.e., University of Alberta: 68%, Brandon University: 6%, University of Winnipeg: 14%, and University of Manitoba: 11%) participated. The response rate was approximately 14%.

Participants ranged in age from 23 to 57 ($M = 48.34$; $SD = 10.66$) years. Female participants' average age was 46.7 ($SD = 9.6$) and male participants' average age was 49.4 ($SD = 11.2$). The majority (85%, $n = 398$) of participants self-identified as Caucasian. A large proportion of the sample (81%, $n = 379$) indicated their sexual orientation to be heterosexual. In terms of political orientation, approximately 85% ($n = 398$) of participants indicated they were *very liberal*, *liberal*, or *somewhat liberal*. Many departments were represented in the present sample, including humanities (14%, $n = 64$), social sciences (12%, $n = 56$), natural sciences (25%, $n = 115$), medicine (21%, $n = 99$) and education (8%, $n = 39$). Further, the majority of participants were in non-sessional employment positions (assistant professor: 27%, associate professor: 27%, and full professor: 32%), with 14% of participants indicating they were either a sessional lecturer or "other." Table 5 provides a detailed overview of participant characteristics.

4.3.2. Measures.

4.3.2.1. Career Mothers Inventory (CMI). The 21-item CMI was used to assess individuals' negative attitudes towards career mothers. A sample item from the 21 item CMI is "*Career mothers often receive undue recognition at work.*" Likert-scale response options included: *strongly disagree*, *disagree*, *neutral*, *agree*, and *strongly agree*. Scores could range from 21 to 105, with higher scores indicating greater levels of negativity toward career mothers. The 21-item version of the CMI can be found in Appendix H.

4.3.2.2. Hostility Toward Women Scale (HTW; Lonsway & Fitzgerald, 1995). Lonsway and Fitzgerald (1995) created a shortened version of the original HTW scale containing only ten items. For the

purposes of the present study, a 5-point Likert scale was used, with response options ranging from 1 (*strongly disagree*) through 5 (*strongly agree*). Scale scores could range from 10 to 50 with higher scores reflecting greater hostility toward women. Sample items from this scale are: “*I think that most women would lie just to get ahead*” and “*I am easily angered by women.*” This version has been used by researchers (e.g., Cowan, Neighbors, DeLaMoreaux, & Behnke, 1998; Lonsway & Fitzgerald, 1995) and has been found to have acceptable reliability (α 's ranging from .75 to .83). The HTW also has been found to be related to other measures of hostility toward women such as the Rape Myth Scale and the Acceptance of Interpersonal Violence Scale (Lonsway & Fitzgerald, 1995) providing evidence of the scale's construct (i.e., convergent) validity. All scale items are listed in Appendix I.

4.3.2.3. Materialism Scale (Richins & Dawson, 1992). The Materialism Scale consists of 18 items and 3 factors (i.e., happiness, success, and centrality). A 5-point Likert scale was used, ranging from *strongly disagree* to *strongly agree*. Higher scores indicate materialistic values. Sample items from this scale are: “*I like to own things that impress people*” and “*I try to keep my life simple, as far as possessions are concerned.*” All scale items are listed in Appendix J. This measure has been found to have adequate scale score reliability ($\alpha = .80$ in Richins & Dawson, 1992; $\alpha = .87$ in Roets, Van Hiel, & Cornelis, 2006). Richins and Dawson (1992) also found support for construct validity in their scale development work. Specifically, participants whose scale scores were high on the Materialism Scale felt they needed more income and valued “financial security” significantly more than “warm relationships with others” as compared to lower scoring participants. Additional convergent validity was found insofar as significant relationships that emerged between the Materialism Scale and three different measures of non-generosity.

4.3.2.4. Neosexism Scale (NS: Tougas, Brown, Beaton, & Joly, 1995). Neosexism is specifically designed to measure individuals' negative attitudes towards women in workplace settings, and was defined by Tougas et al. (1995) as a “manifestation of a conflict between egalitarian values and residual negative

feelings towards women.” According to the authors, the NS measures contemporary sexist attitudes towards women, with specific attention given to negativity toward women in the labor force. It consists of 11 items, with a Likert scale response format (1= *strongly disagree*, 5= *strongly agree*). Scores can range from 11 to 55, with higher scores indicating greater levels of neosexism. Sample NS scale items include: “*Women’s requests in terms of equality between the sexes are simply exaggerated*” and “*I consider the present employment system to be unfair to women.*” Research indicates that this measure is psychometrically sound (α 's= .65 - .83, Tougas, Brown, Beaton, & St. Pierre, 1999). Tougas and colleagues (1995) also found that the NS was construct valid in that it was significantly related to another measure of sexism (Old-Fashioned Sexim) and, as expected, it predicted participants’ attitudes toward affirmative action. All scale items are listed in Appendix K.

4.3.2.5. Sex-Role Egalitarianism Scale (SRES, form KK: King & King, 1990). The Sex Role Egalitarianism Scale (SRES) was designed to implicitly and explicitly compare the roles of men and women and to assess individuals’ attitudes about equality between the genders. It includes items regarding marital, parental, educational, and social/interpersonal roles. The response format was a 5-point Likert scale ranging from *strongly disagree* to *strongly agree*. Sample items are: “*The entry of women into traditionally male jobs should be discouraged*” and “*The family home will run better if the father, rather than the mother, sets the rules for the children.*” All scale items are listed in Appendix L. The SRES (form KK) has been shown to have high internal consistency (e.g., $\alpha = .90$ in King & King, 1990; $\alpha = .92$ in Perez-Lopez, Lewis, & Cash, 2001; $\alpha = .97$ in Scandura, Tejada, & Lankau, 1995). In terms of validity evidence, King and King (1997) reported that the SRES has been found to be unrelated to various measures of social desirability in three independent samples. The SRES also was found to be significantly related to gender-related trait scales such as the BEM Sex Role Inventory in two studies (Cammarata, 1986; King & King, 1990c) and the Attitudes Towards Women Scale in one study (King & King, 1986),

all of which provide support for the scale's convergent validity. This scale also has been found to be generalizable (i.e., relevant and applicable) to many populations, such as university and college students, senior citizens, and law enforcement personnel (King & King, 1997).

4.3.2.6. Political Orientation. For details about this measure, please refer to Study 1.

4.3.2.7. Demographic Variables. Demographic information pertinent to the hypotheses was collected. Participants' age, gender, parental status, their institutional affiliation and professional rank (i.e., lecturer, assistant professor, associate professor or full professor) were asked. These questions mirrored those in the demographic section of Study 1 and are listed in Appendix M.

4.3.3. Procedure. All individuals whose addresses were listed on their university website and held faculty appointments at the University of Alberta, Brandon University, University of Winnipeg, and University of Manitoba were contacted via email and invited to participate in the study (email addresses were obtained through each university website). In accordance with the recruitment strategy recommendations outlined by Cook, Heath, and Thompson (2000), Study 2 followed the same recruitment protocol as Study 1. Each participant e-mail invitation contained a link to the questionnaire, and participation took approximately 10 to 15 minutes (based on having two graduate students complete the questionnaire, though their data were deleted). Participants were entered in a draw for one of three \$100 cash prizes that were awarded following the data collection period.

4.4. Statistical Assumptions and Analyses

4.4.1. Data Cleaning. As in Study 1, participants with more than 50% of their data missing were deleted from the database ($n=7$). Four hundred and sixty-eight cases remained.

4.4.2. Item deletion. In order to further streamline the CMI and decrease its length, a number of item analyses were conducted from both a statistical and a theoretical (i.e., additional information from the expert review panel in the Pilot Study to ensure that items were theoretically related to the construct of

interest) perspective. First, to ensure that each item of the CMI was statistically unique and independent, inter-item correlations were calculated. It is important to examine inter-item correlations before a confirmatory factor analysis (CFA) is run because if two items are very highly correlated it can result in a measurement error for the CFA and the dimensionality of the scale can be compromised (Netemeyer, Bearden, & Sharma, 2003). A criterion of .7 was used as a cutoff such that any items that correlated with another item of greater than .7 would be considered statistically redundant and therefore deleted. Indeed, there were no items that had a correlation value $>.7$; therefore, no items were deleted based on this criterion. Next, frequency analyses for endorsement of each item were run. Any items that did not have a full range of response options or those that had $<10\%$ endorsement were marked for deletion (as recommended by Liddle et al., 2004).

To ensure that the final version of the CMI took into consideration both statistical results and the recommendations of experts in the content area being studied (it is recommended by scale development experts that the items in a scale must be both statistically and theoretically sound; e.g., DeVellis, 2003), a final review of the expert panel data was conducted. To this end, a number of content validity analyses were calculated using the expert panel ratings from the Pilot Project (e.g., inter-judge agreement, additional descriptive statistics, and content validity coefficients). The process for each of these calculations were as follows: in order to assess the extent to which the expert judges were in agreement, the discrepancy between each judge's validity rating and the median of all judges' ratings for each item was calculated. These values were then summed across all items in the CMI for each judge. This procedure is known as the JDM_j (Rogers, 2000), and is represented by the following formula:

$$JDM_j = \sum_{k=1}^K |R_{kj} - Md_k|$$

To calculate the JDM_j , the median of judge's ratings for each item was computed. Second, each judge's validity rating was subtracted from the median. The absolute values of $X_{kj} - Md_k$ were then summed for each judge (see Table 6).

Descriptive statistics were then completed to determine: item ambiguity, mean item ratings, and median item ratings (Table 7). Item ambiguity is assessed by examining the range (R_k) of each panel member's ratings for each item (Rogers, 2000). More specifically, the lowest rating value is subtracted from the highest rating value and added to one to determine the range for each item. Items with ranges of 1, 2, or 3 were considered to have adequate fit, since these relatively small ranges demonstrate close agreement among the expert judges, while items with ranges of 4 or 5 were considered to be ambiguous. Further, items were considered to be relevant if their mean or median values were four or greater, since these values reflect that items were judged to have good or excellent fit.

The content validity coefficient (VI_k) is a method of statistically analyzing the level of agreement among expert ratings of scale items. This coefficient tests the significance of agreement among expert judges' validity ratings for the category specification that each item is intended to measure. The coefficient ranges from 0 to 1, with values close to one indicating high content validity (Aiken, 1985). The formula for computing the coefficient is:

$$VI_k = S/[j(c-1)]$$

Where:

VI_k = the content validity coefficient for item k ,

j = the number of raters (in this instance, 6),

c = the number of rating categories (in this instance, 5).

To calculate S , each of the judge's validity ratings are transformed to:

$$s_j = r_j - lo$$

Where:

r_j = rater j 's validity rating of the specific item,

l_0 = the lowest validity category (in this instance, 1).

The validity ratings of the CMI items were transformed into s_j . The values of s_j were then summed across all judges to produce S . The value for $[j(c-1)]$ was calculated to be 24. VI_k was then computed (Table 8). The statistical significance of the validity coefficients was determined using a right-tailed binomial probability table developed by Aiken (1985).

The additional expert panel analysis statistics were considered in unison, and a number of items were ranked as having weak construct validity evidence. All items marked for deletion in step 1 (the correlation co-efficients $> .7$ and the items with low endorsement rates) were compared with the expert panel statistics in step 2. Items that were considered weak and earmarked for deletion in both steps were eliminated, which resulted in 11 items being deleted. Therefore, an 11-item version of the CMI remained (found in Appendix N) and a structural equation model was conducted using this version.

4.4.3. Dimensionality. Confirmatory factor analysis (CFA) is appropriate when there are a specific number of factors expected, and when the researcher wants to demonstrate the stability of those factors (Fabrigar et al., 1999; Henson & Roberts, 2006; Hinkin, 1995; Springer et al., 2002). A confirmatory factor analysis also is an appropriate way to cross-validate the factor structure of a measure when it has been previously ascertained via an exploratory factor analysis (as was the case in Study 1; van Prooijen & van der Kloot, 2001). The purpose of CFA is to identify a latent structure which is explicated a priori and supported theoretically (DiStefano & Hess, 2005). As a unidimensional structure of the CMI was obtained in Study 1, CFA was deemed an appropriate statistical analysis to conduct.

In CFA, a model of the relationships between constructs and measured variables is created and tested via structural equation modeling (SEM). This allows researchers to establish a causal representation

between variables measured and underlying constructs of interest, and allows for a clear conceptualization of the theory being presented (Byrne, 1994). To do this, a model was constructed in EQS. This type of analysis is only appropriate if there are several indicators that are suspected to be contributors to a larger underlying construct, whereas researchers who have single indicators (i.e., only one item contributing to each construct being measured) are discouraged from using testing models (Weston & Gore, 2006). According to DiStefano and Hess (2005), the ratio of participants to factors should be at least 5:1 and be no less than 200 participants in total when a confirmatory factor analysis (CFA) is conducted. Thus, the sample size in the present study was sufficient to conduct this analysis.

4.5. Results

Based on the above recommendations, a CFA was conducted using EQS 6.1. The Maximum Likelihood (ML) estimation method was selected because it converges on an estimated variance-covariance matrix and maximizes the probability that the difference between the estimated and the sample's variance-covariance matrices occurred by chance (Briggs & MacCallum, 2003). Before running the CFA, there are a number of assumptions that must be satisfied to ensure that the data are appropriate to use with structural equation modeling (SEM). That is, a CFA implies that the expected (theoretical) factor structure corresponds with, or "fits", the observed factor (variances) in the data being tested (Netemeyer et al., 2003). In SEM, there is a *model* which specifies relationships among variables of interest and *specification* is the process of formally stating the intended model before the data are "fit" into the model (Hoyle, 1995).

To ensure that no errors existed in the specification process of SEM, a number of analyses were conducted with the data. Specifically, all variables were checked and deemed to have linear relationships with one another by plotting each variable against every other variable in a scatterplot. Second, the data were screened for multivariate outliers (where Mahalanobis distance values greater than $\chi^2 = 46.797$, $p < .001$ were deemed to be outliers) and univariate outliers (where standardized total scale scores, $z > 3.29$,

were considered outliers); no outliers were found. The skewness (i.e., the degree to which a distribution is not symmetrical) and kurtosis (i.e., the degree to which a distribution is peaked) for each of the variables were also assessed. Some variables were found to be mildly skewed ($z_s = .55$) and kurtotic ($z_k = 1.53$) but neither the skewness nor the kurtosis violated assumptions of normality (criterion z score of 3.29, $p < .001$); thus, it was deemed unnecessary to transform the data. Next, the data were checked for multicollinearity (i.e., an occurrence where the independent and predictor variables are highly correlated). The EQS output contained a statement that indicated multicollinearity was not a concern. Finally, it is important to examine the difference between the implied (theoretical) covariance matrix and the observed covariance matrix. If these are statistically significant, they represent a “mismatch” between what was expected and what was found (Netemeyer et al., 2003). The residuals of the variance-covariance matrix for each model that was tested were all found to be small and centered around zero. Thus, the possibility of a specification error was minimal.

In accordance with Worthington and Whittaker’s (2006) recommendations, four fit indices were used to assess the goodness-of-fit for each of the models that were tested: the chi-square test statistic; the Comparative Fit Index (CFI); the Root Mean Square Error of Approximation (RMSEA); and the Standardized Root Mean Square Residual Index (SRMR). The chi-square test statistic, RMSEA and SRMR are indicators of absolute fit, while the CFI is an indicator of comparative fit (Byrne, 2006). Ideally, the chi-square statistic should be non-significant to demonstrate good fit; however, the chi-square statistic is often significant even if the model possesses good fit because it is affected by sample size. Essentially, the larger the sample size, the more likely it becomes that the chi-square statistic will be significant (Tabachnick & Fidell, 2001). With regards to the other goodness-of-fit indices, values above .90 demonstrate adequate fit for the CFI (Hoyle, 2000); values equal to or below .08 indicate adequate fit

for the RMSEA (Browne & Cudeck, 1993), and values equal to or less than .08 suggest good fit for the SRMR (Hu & Bentler, 1999).

4.5.1. Model. The model that was tested included the 11 item CMI, wherein each item was specified to load onto the latent variable (i.e., negative attitudes toward career mothers). The goodness-of-fit statistics for this model indicated adequate fit, as all of the indices achieved the desired cut-off score: $\chi^2(44, N = 468) = 132.27, p < .001$; CFI = .92; RMSEA = .07; and SRMR = .05. The proposed model, including standardized path coefficients, is provided in Figure 1. The standard path coefficients were of acceptable magnitude according to van Prooijen and van der Kloot (2001), who reported any path coefficient values less than .30 should be considered “low” or “insignificant.” Given that this model provided a good fit for the data, the CMI-11 was accepted as the final version of the CMI scale. The reliability co-efficient for the 11 item CMI was $\alpha = .82$ (95% CI = .79-.84).

4.5.2. Descriptive Statistics. All of the following analyses utilize the 11-item CMI scale and can be found in Tables 5 and 9. Mean scale scores for each measure of sexism, including the CMI, fell below each of their respective scale midpoints. The endorsement statistics for all measures of sexism in the current study are consistent with those found in Study 1: participants in both Study 1 and 2 did not endorse sexism to a large degree. The mean score for the Materialism Scale and each of its subscales (i.e., success, centrality, and happiness) fell below their respective midpoints, suggesting participants did not highly endorse materialistic values and/or beliefs. The mean scale score of the Sex Role Egalitarianism Scale was above its midpoint indicating participant endorsement of egalitarian beliefs. This is consistent with the research of Bareto and colleagues (2009) who state that it is socially appropriate to endorse egalitarian values regardless of any residual negativity that may exist toward minority group members.

Reliability analyses for each measure were calculated (in addition to the CMI’s reliability reported in the previous section) and found to possess good scale score reliability statistics. The Hostility Toward

Women scale (HTW) had an internal consistency statistic of $\alpha = .84$ (95% CI = .82- .86) which appeared to be slightly higher than past estimates (e.g., ranging from .75 to .83 in Cowan et al., 1998 and Lonsway & Fitzgerald, 1995). Conversely, the Materialism Scale's internal consistency co-efficient was comparatively lower in the present study ($\alpha = .76$, 95% CI = .73 - .79) than past research that cited alpha statistics between .80 and .87 (e.g., Richins & Dawson, 1992; Roets et al., 2006). A closer look at the Materialism subscale co-efficients revealed that the centrality subscale alpha coefficient ($\alpha = .51$) was comparatively lower than the success ($\alpha = .71$) and happiness ($\alpha = .77$) subscale coefficients. The scale score reliability statistics for the Neosexism Scale ($\alpha = .84$, 95% CI = .82- .86) and the Sex-Role Egalitarianism Scale ($\alpha = .91$, 95% CI = .90- .92) in the present study were in keeping with internal consistency estimates in previous studies for the respective measures (e.g., Neosexism Scale: Tougas et al., 1999; Sex- Role Egalitarianism Scale: King & King, 1990).

4.5.3. Hypotheses. After finding statistical evidence in support of the CMI's unidimensionality and preliminary analysis of the measures of interest (i.e., each scale's reliability statistics and levels of endorsement), the apriori proposed hypotheses were tested.

H₁. Scores on the CMI would positively correlate with the Neosexism (NS) and Hostility toward Women (HTW) Scales. To test whether scores on the CMI correlated with scores on the NS and HTW, two correlation coefficients were calculated. Please refer to Table 10 for the correlations amongst variables of interest. As expected, the CMI was significantly positively correlated with both the NS, $r(430) = .58, p < .001$ and the HTW, $r(426) = .51, p < .001$. These correlations indicate that participants who endorsed items on the CMI also tended to endorse items on the NS and HTW. That is, as participants' CMI scale scores increased (i.e., indicating greater levels of negativity toward career mothers), their scores also increased on the NS (i.e., indicating greater hostility toward career women) and the HTW (i.e., indicating negativity toward women in general) measures. The NS and HTW were also significantly related to one

another [$r(426) = .56, p < .001$], suggesting that all three measures of sexism were significantly positively related to one another. These relationships provide further convergent validity evidence for the CMI.

H₂. It was hypothesized that negative attitudes toward career mothers (as measured by the CMI) would be positively related to materialism (as measured by the Materialism Scale). Correlational analyses (in Table 10) indicated the expected significant positive relationship between the CMI and the Materialism Scale, $r(425) = .15, p < .01$. As participants' scores on the CMI increased (indicating greater negativity toward career mothers), so too did their scores on the Materialism Scale (indicating greater investment in materialistic values). This finding, though in the expected direction, is a weak correlation. In the Roets, van Heil, and Cornelis (2006) studies, the correlations between materialism and racism in two samples were .28 and .22 respectively. More recently, McFarland (2010) tested the relationship between the Materialism Scale and generalized prejudice (consisting of multiple measures of racism, sexism, and homophobia scales). McFarland (2010) found that the Materialism Scale correlated "slightly" with the Manitoba Ethnocentrism Scale (MES; McFarland & Adelson, 1996) and racism (correlations of .17 and .16, $p < .05$ respectively) but did not correlate significantly with generalized prejudice. With regard to the Materialism subscales, the CMI was inversely, but not significantly, correlated with centrality. A significant and positive correlation emerged between the CMI and both success $r(425) = .15, p < .01$ and happiness $r(425) = .20, p < .01$ subscales. Neither Roets et al. (2006) nor McFarland (2010) outline the Materialism subscale's reliability or correlation with their measures of prejudice. From the present analyses, the centrality subscale has the weakest correlation with the CMI. This pattern of results (i.e., a negative correlation with Centrality and weak positive correlations with Happiness and Success) were also found for the other two measures of sexism in the present study (i.e., Hostility toward Women Scale and Neosexism) indicating that the CMI performed as other measures of sexism in the present study.

H₃. It was hypothesized that a significant negative correlation would be found between the CMI and the Sex-Role Egalitarianism Scale (SRES). Hypothesis 3 was supported as correlational analyses revealed a significant negative correlation between the CMI and the SRES, $r(424) = -.50, p < .001$. As participants' total scale scores on the CMI increased (indicating greater endorsement of negativity toward career mothers), their scores on the SRES decreased (indicating less egalitarian attitudes). Conversely, those with more egalitarian gender attitudes were less likely to endorse negativity toward career mothers.

H₄. Consistent with social identity theory, it was hypothesized that men would score significantly higher on the CMI than women. To test for group differences between male and female participants' CMI scale scores, an independent samples t-test was conducted. As expected, male participants scored significantly higher on the CMI ($M = 26.14; SD = 6.24$) than female participants ($M = 24.15; SD = 6.89$), $t(438) = 3.16, p < .01$, Cohen's $d = .30$. Male participants endorsed negativity toward career mothers significantly more than did female participants. This finding supports the fourth hypothesis and is evidence of the CMI's known-groups validity.

H₅. It was expected that career mother participants would score lower on the CMI than all other participant groups (i.e., females with no children, fathers, males with no children). A one-way analysis of variance (ANOVA) was conducted to determine if career mother participants scored lower on the CMI than did all other participant groups. Supporting Hypothesis 5, career mother participants obtained the lowest ($M = 22.18; SD = 5.85$) CMI scale score in comparison to all other participant groups (males with no dependent children: $M = 24.88; SD = 7.17$, career fathers: $M = 26.01; SD = 6.11$, and females with no dependent children: $M = 26.14; SD = 6.24$), $F(3, 432) = 5.41, p < .001, \eta^2 = .036$. Tukey's HSD test indicated that career mother participants scored significantly lower on the CMI than each alternative participant group (i.e., those previously listed). This finding indicates that career mother participant responses to the CMI are unique from all other participant groups, including females with no children.

The same analyses were conducted for both the Neosexism Scale (NS) and the Hostility Toward Women scale (HTW). On the NS, female participants had significantly lower scale scores than male participants, though no significant differences emerged between females without children and career mothers' total scale scores. On the HTW, significant differences emerged across all participant groups such that career mothers scored significantly lower than all other participant groups on the HTW and no significant differences emerged between all remaining participant groups (females without children, males without children, fathers). These findings indicate that career mothers responded uniquely to both measures of hostility toward women (HTW and CMI) and women endorsed neosexism significantly less than men. These findings are consistent with those in Study 1 (participant response patterns for the ASI and CMI) and lend support to the assertions that 1) the CMI is closely related to other measures of hostile sexism; and, 2) the CMI's underlying construct is unique in comparison to both Ambivalent and Neosexism.

4.6. Discussion

The current study was the second of three studies designed to evaluate the psychometric properties of the CMI. The goals of Study 2 were accomplished by shortening the length of the CMI, gain supportive evidence of its unidimensionality and internal consistency, obtaining reliability evidence with an independent sample of participants, and obtaining additional strands of construct and convergent validity evidence for the CMI. The CMI was shortened based on the endorsement rates of items and items' content relevance (as determined by further scrutiny of expert reviewer ratings). The refined 11-item CMI possessed sufficient scale score reliability providing further evidence of its internal consistency. Results provided additional support for the unidimensionality of the CMI via confirmatory factor analysis and structural equation modeling. Further, via the CMI's relationships with a number of theoretically-related constructs, additional support for the CMI's construct validity and scale reliability was obtained. The

theoretical boundaries of the CMI were explored by examining differences in CMI scores across participant groups (i.e., career mothers versus all other participant groups). Finally, the independent participant sample provided additional support for the utility of the CMI within this population.

The remaining 11 scale items were examined in relation to the three tenets proposed to underlie hostility toward career mothers as measured by the CMI. The three tenets initially created were based on the extant literature on stereotypes and discriminatory intentions toward career mothers, and it was unknown whether or not the tenets would be substantiated by the present series of studies. As previously mentioned, at the end of Study 1, it was found that the items remaining were relevant only to the initially proposed three tenets and the fourth tenet was not considered further. With the additional deletion of items in Study 2, it may have been possible that the remaining items no longer represent one or more of the remaining three tenets. Upon examination, however, it was confirmed that all three tenets continued to be reflected in the 11-item CMI. More specifically, it was determined that at least three items pertained to each tenet and the remaining two items were relevant to more than one tenet.

The descriptive statistics for measures of interest in the present study were consistent with the results of Study 1; overall, the majority of participants endorsed more liberally-oriented political orientations and egalitarian attitudes. Conversely, less endorsement of sexist attitudes and materialistic attitudes was found than expected (i.e., the scale means fell below the respective scale midpoints for each of these measures). It was posited in Study 1 that this pattern of responses may be due to changing or differing social norms in Canada wherein the expression or endorsement of sexist attitudes and conservative values were less socially acceptable than in the past; while these possibilities remain, it also seems possible that the samples in Studies 1 and 2 were comprised of individuals who are, as a group, less likely to endorse sexist, individualistic, or materialistic values, attitudes and beliefs. More specifically, there may be a self-

selection bias in this study wherein those who are more liberally-oriented and egalitarian were more likely to complete the online questionnaire.

All of the hypotheses tested in the current study were supported. First, participants who scored more highly on the Career Mothers Inventory (CMI) also had greater endorsement rates on the Neosexism Scale (NS), and vice versa. Participants who indicated greater levels of negativity toward career mothers also indicated greater levels of hostility toward women more generally. Many items in the NS assess attitudes toward women in career settings. Its items also refer to equality between the sexes in the labour force. The present study's finding that the NS and CMI are related suggests that those who believe that women are not equally qualified to be in the labour force (as measured by the NS) also believe that mothers in particular should not simultaneously raise their children and pursue their careers (as measured by the CMI). Both measures assess negativity toward women in the workforce and participants are responding to these measures in a similar fashion, which is an additional strand of convergent validity evidence for the CMI. That is, the CMI is measuring a specific type of sexism, and participants who espouse sexist attitudes have consistently endorsed all sexism measures in the present study. Similarly, the CMI and the Hostility Toward Women scale were positively related to one another. The HTW scale is a broader and more general measure of sexism. Many of its items relate to women's tendencies to be manipulative and somewhat aggressive (e.g., *I do not believe that women will walk all over you if you aren't willing to fight*). Taken together, Study 1 and 2's results provide supportive construct validity evidence suggesting that the CMI is conceptually similar to other well-established, valid, and reliable measures of sexism (i.e., ASI, NS, and HTW).

Evidence of the CMI's convergent validity was obtained as the second and third hypotheses in Study 2 were supported. As expected, the CMI had a significant positive relationship with the Materialism Scale and a significant inverse relationship with the Sex Role Egalitarianism Scale (SRES). These significant

relationships provide evidence of the CMI's performance as a measure of sexism such that it relates to a number of other constructs (e.g., egalitarianism, materialism) in the same way that other measures of prejudiced attitudes have performed in the past. For instance, Van Hiel et al., (2010) found that materialism was a strong predictor of prejudice in the form of racist attitudes. However, both in the present study and in past research, the correlation, though significant, between Materialism and other forms of prejudice have been small. Further scrutiny of the Materialism subscales indicated that the centrality subscale was not significantly correlated with the CMI. Centrality is defined by Richins and Dawson (1992, p. 304) as placing materialism and the acquisition of material possessions at the centre of one's life. In other words, the pursuit of material possessions provides a structure for one's life and orients their behaviour. The endorsement of such values does not appear, in the present study, to be related to endorsement of negativity toward career mothers. The Happiness and Success subscales were weakly related to the CMI. The Happiness subscale refers to the belief that material acquisitions provide a source of satisfaction and the Success subscale refers to judging one's success via the number and quality of possessions accumulated (Richins & Dawson, 1992). These beliefs, in the present study, were related in the expected direction to the CMI, offering initial support for the CMI's construct validity.

Previous studies utilizing measures of sexism and egalitarian beliefs also mirror the current study's findings: Masser and Abrams (1999) found significant inverse relationships for both neosexism (as measured by the NS) and hostile sexism (as measured by the Hostile subscale of the ASI) with a measure of egalitarianism (as measured by the Humanitarian-Egalitarianism Scale). These findings offer important information regarding two individual difference variables (materialism, egalitarianism) that are associated with, and that may even predict (if studied further) individuals' endorsed levels of hostility toward career mothers as measured by the CMI.

To address the fourth hypothesis, a comparison between participant gender groups was made in an effort to obtain known-groups validity evidence for the CMI. As Swim et al. (1995) have noted, “most tests of the construct validity of sexism scales seek to determine whether women and men respond differently to these scales” (p. 201). To this end, it was found in the present study that men scored significantly higher than women on the CMI. This finding is consistent with research that suggests multiple forms of sexism are more highly endorsed by men than women (e.g., Ambivalent Sexism: Glick & Fiske, 2001; Hostility toward Women Scale: Lonsway & Fitzgerald, 1995; Modern Sexism and Old-Fashioned Sexism: Swim et al., 1995; Neosexism: Campbell, Schellenberg & Senn, 1997). The final hypothesis was also supported; career mothers had the lowest overall scale scores on the CMI as compared to all other participant groups. This trend supports Tajfel and Turner’s (1986) theoretical assertions that ingroup members evaluate their own group more positively than do outgroup members.

According to Snyder and Rice (1996), the process of scale construction is much like that of building a home. They argue that home construction generally follows a number of basic principles and includes core elements such as a foundation, each of which can jeopardize the integrity of the entire structure. The same is true in the initial stages of scale construction, such that the process of obtaining reliability and validity evidence for a scale is recognized as being highly important for establishing a measure’s utility. In addition, there are many components necessary to incrementally advance the scale’s utility, including pieces of reliability and validity evidence that can support the foundation and psychometric soundness of a measure.

The Pilot Project, Study 1, and Study 2 in the current program of research have served to lay the psychometric and theoretical foundation of the CMI. First, in the Pilot Project, scale items were created to reflect the construct of interest (i.e., negativity toward career mothers) and expert reviewers ensured that items theoretically mapped on to the three tenets proposed (which were based on previous research

findings). Studies 1 and 2 served to establish the existence of negative attitudes toward career mothers via the initial endorsement of the CMI items. Both studies also established the CMI as a measurement tool that reflects a single (i.e., unidimensional) construct. The CMI's statistical properties, including its scale score reliability coefficients, provide evidence of its internal reliability. Further, two independent samples assisted in establishing initial strands of reliability evidence for the CMI.

The theoretical boundaries of the CMI were explored by the inclusion of various additional measures that were posited to be related to the CMI. From these inclusions and their analyses, strands of CMI convergent validity evidence are gained and the CMI can be regarded as a measure of sexism. More specifically, the CMI is deemed a unique measure of sexism because of its focus on negativity toward career mothers. Career mother participants respond to the CMI in a different way (by endorsing it to a lesser degree) than do all other participant groups, providing construct validity evidence for the CMI. Based on the strength of the CMI's relationship to various measures of sexism, there is evidence that the CMI is a hostile form of sexism. The CMI is less related to benevolent attitudes or attitudes toward women in general than hostility toward women in workplace situations. Other constructs such as egalitarian or liberal political orientations are inversely related with the CMI, suggesting that the endorsement of negativity toward career mothers is not compatible with also espousing more liberal or egalitarian attitudes. Each of the analyses and investigated hypotheses in Studies 1 and 2 have offered incremental advances in establishing the boundaries of the CMI's construct and in establishing the CMI as a psychometrically robust measurement tool. In sum, the studies conducted thus far have offered supportive evidence for the presence of negative attitudes toward career mothers and for the CMI's utility.

Negativity toward minority group members can be assessed via a number of methodological means. Social psychologists who study attitudes are often interested in the cognitive (stereotypes, beliefs), affective (emotional responses), and behavioural components of negativity (e.g., Fiske 1998). The CMI

was created as a means of examining quantitatively attitudes toward career mothers, with the expectation that those who endorse negativity toward career mothers might also behave in discriminatory ways. The process of utilizing an attitudinal measure to predict discriminatory behaviours is customary in sexism, racism, and sexual minority group research (Devine, 1989; Devine et al., 1991; Fiske & Lee, 2008; Morrison & Morrison, in press). In fact, research that has employed all three components (stereotypes, attitudes, and discriminatory behaviours) indicates that the attitudinal measures are a stronger predictor of discrimination than are stereotypes (Cuddy et al., 2007). For instance, Stangor, Sullivan, and Ford (1991) found that affective reactions to national, ethnic, and religious groups were a better predictor of discriminatory behaviours such as social distancing than were stereotypes of those particular groups. If the CMI was associated with discriminatory evaluations of career mothers, such a finding would strengthen the measure's utility (i.e., in being able to differentiate between those who are more likely to be discriminatory and those who are less likely). To this end, Study 3 was designed to evaluate the CMI in relation to stereotypic evaluations and behavioural intentions toward career mothers, and all three components of prejudiced attitudes were intended to provide triangulated evidence for the existence of negativity toward career mothers in the workplace.

CHAPTER 5 - STUDY 3

The Triangulation of Negative Attitudes toward Career Mothers

5.1. Purpose

As reviewed in Chapter 1, negative stereotypes of career mothers have been documented. The development and preliminary validation of the CMI was undertaken in Studies 1 and 2. These studies provided initial support for the psychometric soundness of a new measure of sexism directed specifically toward career mothers, the CMI. This measure is designed to extend existing knowledge of negativity toward career mothers which, to date, has been alluded to in stereotype ascription literature (reviewed in

Chapter 1) and documented in behavioural intentions studies (reviewed below). Study 3 was conducted to accomplish two main goals: 1) test the linkages between career mother stereotype ascriptions and the CMI; and, 2) introduce an experimental behavioural intentions component and test its relationship to the CMI.

Within the broader context of attitudes research, the CMI is considered an attitudinal measure that assesses others' personal beliefs (representing the cognitive component of attitudes). In the larger body of social psychological research, prejudiced attitudes are customarily described in accordance with the tripartite model (Harding, Proshansky, Kutner, & Chein, 1969; Secord & Backman, 1974) and are thought to be comprised of three components: cognition, affect, and behaviour (Devine, 1998; Fiske, 1998). Devine (1998) stated the cognitive component of attitudes can be further delineated into two distinct processes, stereotypes and personal beliefs (i.e., stereotypes are culturally shared and personal beliefs are idiosyncratic). Based on this widely accepted model of attitudes, the CMI is considered a cognitive (belief-based) measure of prejudiced attitudes. The information gathered by using the CMI is therefore conceptually distinct from the already-existing career mother stereotypes.

To date, a handful of studies that document stereotype ratings and discriminatory intentions toward career mothers have been conducted (reviewed below). The inclusion of the CMI in a similar type of study would allow for the triangulation of three types of negativity toward career mothers: via stereotypes, beliefs (i.e., the CMI), and behaviours. Additionally, Study 3 was designed to further test psychometrically the 11-item version of the CMI. As was the case in Studies 1 and 2, an additional independent sample is needed to establish the internal consistency of the shortened CMI version. The goal was to replicate Study 1 and 2's pattern of findings, including the CMI's relationship with other measures of sexism and demographic variables. In summary, the purposes of Study 3 were to: 1) explore the CMI's relationship with stereotype ascriptions and behavioural intentions, 2) accrue further evidence of the CMI's internal

consistency, and 3) replicate the CMI's relationship with other measures and variables of interest. First, a review of the relevant behavioural intentions (toward career mothers) research is provided.

5.2. Stereotypic Evaluations of, and Behavioural Intentions toward, Career Mothers

Research has linked stereotype endorsement with negative assessments of career mothers' personal attributes and passive discriminatory behaviours (e.g., choosing an alternate candidate for an employment position). For example, in an American study by Fuegen, Biernat, Haines, and Deaux (2004), 107 undergraduate students evaluated a candidate for a law attorney position. Participants were 90% Caucasian and were attending university in the Midwest United States. The researchers manipulated the name of the law attorney (either Katherine or Kenneth) and parental status (children or no children). Following their review of the applicant, participants in the experimental condition were asked to give their impressions about the applicant's competence, commitment to the job, job-related ability, agency, and warmth (stereotypic perceptions and evaluations). Finally, participants were asked whether or not they would hire the applicant, and whether or not the applicant would be a good candidate for future promotion, an indicant of discriminatory behaviour.

Results indicated that, when the law attorney candidate was a parent, the employment position was perceived as being lower in status (as measured by rating a number of standards set for an "ideal" candidate; Fuegen et al., 2004). Applicants who were parents were perceived as being less committed to the job compared to their non-parent counterparts (measured by the number of sick days per month the applicant might take and the number of times the applicant was thought to possibly be late for work). This is consistent with the "career mother" stereotype wherein women with children are perceived as caring only about their family obligations, and are viewed as less available and serious about their career than females without children (e.g., Riedle, 1991). In terms of gender differences, when the law attorney was a mother, the hiring standards became more stringent in comparison to fathers. For example, women were

expected to have higher scores on a general standardized ability test measuring such skills as leadership, decision-making, oral communication, problem solving, and stronger reference letters. The authors conclude that these results fit with the shifting standards model (Biernat & Manis, 1994; Biernat, Manis & Nelson, 1991) wherein males and females are generally compared to respective within-group members (e.g., women compared with other women); however, in the workplace, women may be compared to men based on their job-related competence. In these settings, parental status may become salient and exaggerated and women may be held to stricter standards to prove their competence. In contrast, standards for hiring fathers are more lenient than even those outlined for an “ideal worker.” Fathers are supposedly fulfilling their “provider” role by obtaining employment whereas mothers are violating their expected full-time caregiving role when employed outside the home. This also is consistent with the literature on stereotypes of career mothers, wherein they are perceived as less competent in their work and denigrated if they do not occupy traditionally feminine roles (e.g, raising children, Gorman & Fritzsche, 2002; Riedle, 1991).

In terms of discriminatory intentions, Fuegen and colleagues’ (2004) found that parental status was not detrimental to the male parent applicant’s chances of being hired, but it *was* detrimental to the female parent’s chances. Similarly, women with children were perceived as significantly less suitable for promotion compared to their non-parental female counterparts. No difference was apparent for male applicants based on their parental status. Thus, parenthood was detrimental to the evaluation of females only, given that negative perceptions were not directed toward fathers. In fact, fathers were evaluated even more positively than their non-parent male counterparts. In summary, the results of this study suggest that professional women with children are the unique recipients of discrimination in the workplace, over and above that experienced by women without children.

In another investigation linking career mother stereotypes and discriminatory behaviours, Cuddy, Fiske, and Glick (2004) manipulated both gender and parental status across four experimental conditions. One hundred and twenty-two American undergraduates evaluated a candidate for a professional business-related position. Following the description of the candidates, participants were asked to evaluate each candidate on twenty stereotypical traits (4 related to competence, 4 related to warmth, and 12 filler items). Once the trait ratings were completed, participants were given three behavioural intention questions (i.e., the likelihood that they would hire, promote, or recommend continuous training for the applicant).

Results from Cuddy et al.'s (2004) study revealed noteworthy effects based on the manipulation of gender and parental status. Parents, overall, were rated higher on warmth than their non-parental counterparts. Also, neither women with children nor women without children received ratings reflective of *both* warmth and competence. Looking more closely at the dimensions of warmth and competence, professional women with children were perceived as high on warmth but significantly lower on competence, with diametrically opposite perceptions of women without children. In contrast, men who had children were rated high on *both* warmth and competence, whereas men without children were rated as higher in competence but lower in warmth. No significant difference in the ratings of competence for male applicants emerged as a function of parental status.

Cuddy et al.'s (2004) results also indicated that participants were less interested in hiring, promoting, and training professional women with children compared to professional women without children. They suggest that a professional woman with children was evaluated more negatively than a professional woman without children, and a professional man with a child was preferred over a professional man without a child. In addition, it was found that the discrimination proxy scale (a composite score on all three items: hiring, promoting, and recommending the candidate for continuous training) emerged as a significant correlate of competence, which they conclude indicates that competence is associated with

higher status occupations (e.g., such as a management consultant job). Career mothers were rated as more warm than competent but their increased warmth ratings did not boost their ratings on any of the outcome measures. Instead, their decreased ratings of competence *did* seem to affect their ratings of job suitability in a negative manner.

More recently, an American study by Correll, Benard, and Paik (2007) had 192 undergraduate participants (84 men, 108 women) review two applicants each for a given job listing (created by the researchers) and provide a number of evaluative and behavioural ratings. The study's design included three manipulations: applicant gender (male, female), race (African-American or white), and parental status (parent, non-parent). The researchers told participants that they were evaluating real job applicants for a mid-level marketing position and that their feedback would impact the actual hiring decisions. After participants read about the job description and requirements, they were asked to give initial impressions, provide a list of pros and cons, and evaluate the applicant on a number of given measures. Outcome measures included: ratings of competence, commitment and ability and recommendations for salary, promotion if hired, further training, and hiring.

Correll and colleagues' (2007) results were consistent with previous studies (i.e., Cuddy et al., 2004; Fuegen et al., 2004) such that mother applicants were judged to be significantly less competent and committed than women without children. Mothers were also held to stricter standards than non-mothers in terms of expectations for performance (as judged by expected management exam scores) and punctuality (measured by number of times late to work). Further, salary recommendations for mothers were, on average, \$11,000 less than the recommended starting salary for non-mothers. In terms of hiring, non-mothers were recommended for the job 84% of the time while mothers were recommended significantly less (47% of the time). Finally, as expected, fathers and non-fathers were evaluated more favourably than mother applicants across all dependent measures. In fact, fathers seemed to garner a "fatherhood

premium” such that they were granted significant advantages over non-fathers in terms of commitment ratings, allowances for being late, and higher recommended salaries.

Heilman and Okimoto (2008) employed a similar experimental design as those already reviewed with 65 male and female American undergraduate students. Participants evaluated applications for an assistant vice-president of financial affairs position. Results indicated that, unlike the previous studies reviewed, female parents were rated as less competent than non-parents, with mothers being rated as significantly less competent than non-mothers. No significant differences between the two male groups (fathers and non-fathers) emerged for ratings of competence. An identical pattern for recommendations regarding the position was found wherein mothers were recommended significantly less frequently than non-mothers for hiring, while no differences between male applicants emerged. This pattern was maintained in recommendations for elimination as the mother applicants were the most likely of all applicant groups to be suggested for termination. Heilman and Okimoto (2008) conducted a second study with 100 (34 female, 66 male) Masters of Business Administration students who were employed full-time in business organizations. Results of their second study were consistent with the first study (parent applicants were expected to be less committed to their jobs, less dependable and less “achievement striving” than nonparent applicants), except that no significant differences were found for applicant gender, and no significant interaction was found between applicant sex and parental status on any of the three ratings. Ratings of competence did significantly differ for gender (female applicants were rated as less competent than male applicants). Further, career mothers were rated as being significantly less competent than non-mothers but no differences were found between male applicant subgroups (i.e., fathers and non-fathers). These results do not map seamlessly onto previous studies as no “fatherhood premium” (i.e., fathers being rated as significantly more competent, committed, dependable than all other applicant groups) was found by Heilman and Okimoto (2008).

The most recent investigation of hiring discrimination toward career mothers took place at an American university and again utilized undergraduate student participants (72 males, 46 females, Güngör & Biernat, 2009). Participants evaluated two factory worker applicants, the first whose gender and parental status were manipulated and the second whose gender and parental status remained the same across all experimental conditions (i.e., a single male applicant who was used as the “ideal worker” comparison condition). The goals of the study were similar to those previously reviewed, though the rationale was that previous studies had only examined evaluations of professional (i.e., white-collar) positions and differences in results for a blue-collar worker applicant were warranted. Güngör and Biernat (2009) did not find support for the motherhood bias as had previous studies. Instead, they found that there was only a gender-based bias where male applicants were rated as significantly more competent and committed than female applicants. Similarly, male applicants were recommended for hiring significantly more than female applicants. Parental status did not significantly affect participants’ ratings on any of these variables. The authors concluded that perhaps gender was more salient in their investigation because each participant evaluated two applicants rather than a single applicant. Aside from this point of divergence with past research protocols, this study suggests that the motherhood bias may be more pronounced in occupations where gender role expectations are somewhat more ambiguous (i.e., blue-collar positions are perceived to be better suited to males than white-collar positions). Thus, in blue-collar work environments, female subgroups are not differentially rated but perceived and rated as a single minority group.

The research reviewed above suggests that career mothers have been, but are not consistently, evaluated more negatively than other possible workplace applicants (non-mothers, fathers, and non-fathers). This variable pattern of results suggests a need to further examine any variables that may determine or influence participants’ evaluations of career mothers. To this end, the measurement of attitudes toward career mothers may help elucidate the factors that are related or contribute to hostility toward career mothers.

Further, although each component of prejudice (i.e., cultural stereotypes, personal beliefs as measured by the CMI, and discriminatory behavioural intentions) has been documented independently, how each of these components corresponds is unknown. In addition to exploring these three components (cultural stereotypes, personal beliefs, and behavioural intentions) simultaneously, Study 3 was designed to obtain further incremental validity and reliability evidence for the 11-item CMI with an independent participant sample. Finally, as was the case with other literature reviewed pertaining to career mothers, there is a dearth of information available with regard to the perceptions of career mothers using Canadian participants. In keeping with Studies 1 and 2, Canadian prairie province university faculty members were sampled and an electronic survey format was employed.

5.3. Experimental Design

The behavioural intentions and stereotypic ratings components of the present study were intended to replicate findings from similar previous studies (such as those reviewed above) in a Canadian academic context. To this end, the development of Study 3's methodology and design was based broadly on pertinent (i.e., sexism) stereotype and behavioural intentions research but more specifically (and primarily) on the work of Cuddy et al. (2004) and Feugen et al. (2004). Both Cuddy et al. (2004) and Feugen et al. use the Stereotype Content Model (SCM) as a framework for understanding stereotypes. The SCM delineates stereotypes as existing on two primary dimensions: warmth and competence. This framework has been used to plot stereotypic evaluations of many minority groups, including career women and stay-at-home mothers (e.g., Cuddy et al., 2004). The SCM therefore provided a stereotype framework for Study 3. An experimental design was developed wherein participants would evaluate a candidate for an academic research position and judge the applicant's competence, commitment, and job suitability (i.e., whether or not they would recommend hiring the candidate). Because each discipline in academia has different foci in terms of their hiring criteria, it was decided that an application for a faculty position would not be suitable.

Rather, all academic disciplines carry out research in some form and thus a generic application for a research assistant was deemed appropriate for a wider variety of academics to evaluate. To this end, a short description of a research assistant position was constructed along with a general description of the applicant and some information gathered during a short interview (contained in Appendix O and described further in the following Method section).

5.4. Hypotheses

Hypotheses pertaining to the newly constructed 11-item version of the CMI were made in an effort to gain further evidence of the scale's reliability and validity. These hypotheses were based on the CMI's statistical properties and its relationship to other variables of interest in the previous two studies. In addition, hypotheses were generated based on the hiring intentions research reviewed (i.e., Cuddy et al., 2004; Fuegen et al., 2004) which linked the stereotypic evaluations of, and discriminatory intentions toward, career mothers. The hypotheses for Study 3 were as follows:

- H₁. To replicate previous research findings (e.g., Cuddy et al., 2004 and Fuegen et al., 2004), it was hypothesized that a motherhood bias would emerge. It was expected that the career mother applicant would be evaluated significantly more negatively than all other applicants (i.e., women and men who took a year off to travel, fathers) as evidenced in fewer recommendations for hiring and lower ratings on job skills. In addition, it was expected that the career mother applicant would receive higher ratings of warmth and lower ratings of competence and commitment than all other applicant groups.
- H₂. It was hypothesized that, *within the career mother applicant condition*, significant inverse correlations would emerge between participants' scores on the CMI and their ratings of the applicant's competence, commitment, and availability. A positive correlation was expected to emerge between the CMI and ratings of warmth for the career mother applicant. That is, negativity toward career mothers would be evident both in participants' attitudes (as measured by the CMI) and in their stereotypic evaluations of

this minority group. This finding would support the CMI's construct validity such that it would be related to another component (i.e., stereotypic traits) of negativity toward career mothers.

- H₃. It was hypothesized that, *within the career mother applicant condition*, scores on the CMI would be inversely related to recommendations for hiring. That is, negativity toward career mothers would be evident both in participants' attitudes (as measured by the CMI) and in their behavioural intentions toward this minority group. This finding would support the CMI's construct validity such that it would be related to another component (i.e., behavioural intentions) of prejudice toward career mothers.
- H₄. It was hypothesized that, *within the career mother applicant condition*, the CMI would negatively correlate with positive stereotypic career woman traits, and positively correlate with negative career woman traits. Within this condition, it was also expected that the CMI would negatively correlate with stay-at-home mother stereotypes.
- H₅. To enhance the known-groups validity of the CMI, it was expected that female participants would have significantly lower CMI scale scores than male participants. Similarly, it was expected that career mothers would have significantly lower total scale scores on the CMI than all other participant groups (i.e., non-mothers, fathers, and non-fathers). These group differences are consistent with previous research (e.g., Glick & Fiske, 2001; Masser & Abrams, 1999; Tajfel & Turner, 1986) including the results of Studies 1 and 2 in the current program of study.
- H₆. To provide further incremental convergent validity evidence for the 11-item CMI, it was expected that the findings of Study 1 would be replicated and a significant positive correlation between the CMI and the ASI would be found. Further, the relationship between the CMI and the Hostile subscale would be significantly stronger than the relationship between the CMI and the Benevolent subscale.
- H₇. A conservative political orientation has consistently been associated with the endorsement of prejudicial attitudes (e.g., Christopher & Mull, 2006; Morrison & Morrison, 2002). To replicate the

results of Studies 1 and 2 and to increase evidence for the CMI's construct validity, it was hypothesized that political orientation would be significantly related to participants' CMI scale scores. Specifically, it was expected that higher scores on political orientation (indicating conservatism) would be associated with higher scores on the CMI (indicating the endorsement of negativity toward career mothers).

5.5. Method

5.5.1. Participants. The recruitment strategy included a web-based e-mail invite and two follow up reminders, each approximately one week apart. Participants also were entered into a draw to win one of three one hundred dollar prizes, which were awarded at the study's completion. Out of the 640 faculty members at the University of Calgary and the 217 faculty members at the University of Lethbridge invited to participate in the study via e-mail (total of 857 invites), 123 (70 male, 40 female, 13 unknown) faculty members in a wide variety of departments (e.g., Accounting, Medicine, Education) participated. Thirty-four percent of participants were parents (23% were fathers, 11% were mothers). The response rate was 14%, which was comparable to Studies' 1 (17%) and 2 (14%) response rates. Participants' age ranged from 32 to 73 ($M = 50.6$, $SD = 9.9$). More specifically, female participants' average age was 48.3 ($SD = 9.1$) and male participants' average age was 51.9 ($SD = 10.2$). The average number of years participants had been employed at an academic institution ranged from 1 to 48 ($M = 16.91$, $SD = 10.72$). In terms of rank, 7% ($n = 9$) of participants were sessional instructors, 22% ($n = 27$) were assistant professors, 29% ($n = 36$) were associate professors, 35% ($n = 43$) were full professors, and 5% ($n = 6$) were professor emeriti. Sixty-seven percent ($n = 82$) of participants reported they were married, while 9% ($n = 11$) were single, 7% ($n = 9$) were common-law and 8% ($n = 10$) were widowed or divorced. In terms of political orientation, 70.5% ($n = 86$) of the sample indicated they were *somewhat liberal*, *liberal* or *very liberal*. A complete overview of participant demographics is found in Table 11.

5.5.2. Experimental Materials. The hiring scenario component of the electronic questionnaire included short instructions indicating that the researchers were interested in how others quickly form first impressions and make important decisions using little information. Participants were encouraged to evaluate a job candidate with their initial uncensored impressions. In Part 1 of the materials, participants were asked to review a short job description for a generalized 3 year academic research assistant position (most suitable for disciplines conducting research: e.g., natural and social sciences, humanities), including the duties of the job (e.g., development of methodology and research instruments, data analysis and writing academic reports) and ideal qualifications (e.g., Master's degree, ability to work independently, previous research experience). Following the job description, Part 2 of the protocol included information regarding the applicant, including his or her résumé information (e.g., 50th percentile GPA in a Master's degree) and information collected during a brief interview (e.g., reasons for interest in the job, perceived strengths and weaknesses). The 50th percentile GPA was selected as being appropriate based on previous literature's (e.g., Dovidio & Gaertner, 2000; Dovidio, Gaertner, Kawakami, & Hodson, 2002) suggestion that applicants with clearly strong or clearly weak qualifications do not produce varied ratings for job suitability. Thus, a Master's degree student performing at the 50th percentile among their peers would be considered average, not weak or excelling. Finally, part 3 of the study questionnaire contained a series of rating scales and the participant was instructed to rate the given candidate for the research position. Candidates were rated on personality traits (e.g., aggressive, warm, intelligent: derived from career mother stereotype literature), job related skills (e.g., decision making, interpersonal relations, planning), competence, commitment and availability, and the participants' recommendation for hiring the candidate.

5.5.3. Measures.

5.5.3.1. Ambivalent Sexism Inventory (ASI; Glick & Fiske, 1996). For details of this scale, please refer to Study 1. A complete listing of ASI items is found in Appendix E.

5.5.3.2. Career Mothers Inventory (CMI). The 11-item CMI is a measure of sexism that assesses negativity toward career mothers. Sample items include “*missing meetings for family obligations is ridiculous*” and “*I should not be asked to accommodate a career mother’s needs.*” Likert-type response options range from *strongly disagree* to *strongly agree*. Possible scale scores range from 11 to 55, with higher scores representing greater levels of negativity toward career mothers. A complete listing of the 11-item CMI is found in Appendix N.

5.5.3.3. Stereotypic Evaluations of Job Applicants. Individuals were asked to rate their hypothetical research position candidate for a research position on common stereotypic career mother traits (e.g., Cuddy et al., 2004; Fuegen et al., 2004; Heilman & Okimoto, 2008) including competence, commitment, availability and warmth. Each trait was evaluated independently. Scores for each variable could range from 1 to 5, with greater scores indicating that the applicant was evaluated as possessing each respective stereotypic trait.

5.5.3.4. Job Skills. Participants rated their hypothetical research applicant on eight job-related skills (e.g., *problem solving, planning, leadership*). Scores for the eight skills were summed and could range from 8 to 72 (midpoint = 40). Higher scores indicated the perception that the research applicant possessed high levels of job-related skills.

5.5.3.5. Stay-at-Home Mother Stereotypes. In accordance with stereotype ascription literature (e.g., Glick et al., 1997; Gorman & Fritzsche, 2002), stereotypes of stay-at-home mothers were assessed. Participants were asked to evaluate the research candidate on six personality traits consistent with the stay-at-home mother stereotypes: *helpful, kind, warm, understanding, aware of others’ feelings, and trustworthy*. Participants indicated the degree to which each trait would describe the research candidate on a 5-point Likert scale (1 = not at all, 3= somewhat, 5= very). Higher scores indicated that participants perceived their research applicant to possess stereotypic traits consistent with stay-at-home mothers.

5.5.3.6. Career Woman Stereotypes. Stereotype ascription literatures indicate that career women are often described as “competent” but not “warm” (e.g., Cuddy et al., 2004). Therefore, trait ascriptions of career women were subdivided into clusters of 3 “positive” traits (i.e., independent, intelligent, and self-confident) and 3 “negative” traits (aggressive, competitive, and dominant). Participants rated their research applicant’s personality traits using a 5-point Likert scale (1 = not at all, 3= somewhat, 5= very). Higher scores indicated greater endorsement of positive and negative career woman stereotypic traits.

5.5.3.7. Hiring. Participants’ intentions to hire the candidate were evaluated via one question: *If you had to make a decision, how likely would it be that you would hire this candidate?* Response options included: *I would not hire this candidate, It would be unlikely that I would hire this candidate, It would be likely that I would hire this candidate, and I would definitely hire this candidate.* For a complete listing of the evaluative components of the survey (i.e., stereotype evaluations, job skills and suitability, and hiring intentions), refer to Appendix O.

5.5.3.8. Political Orientation. The political orientation measure in the current study was also utilized in Study 1. Please refer to Study 1 for a description of this measure.

5.5.3.9. Demographic Variables. Pertinent demographic variables were included such as participants’ age, gender, sexual orientation, current rank (e.g., assistant, associate or full professor) at the university, academic department, number of years employed in an academic position and parental status (i.e., participants were asked to indicate if they had any dependent children less than 16 years of age living with them). All demographic questions in Study 3 are listed in Appendix P.

5.5.4. Candidate Manipulation. The manipulated variables across the four applicant conditions were the gender (i.e., male, female) and the parental status of the hypothetical job applicant (i.e., parent, non-parent). Parental status was manipulated via the rationale for a recent one-year break (i.e., either took a one year maternity leave or travelled for a year). Four experimental conditions were thus created: mother who

took maternity leave, father who took a one year parental leave, female who travelled for a year, male who travelled for a year). Information regarding each applicant's parental status was contained within the "perceived weaknesses" interview question (see Appendix N). All candidates were described as absent from academic work in the previous year (i.e., to either have a child or travel). An "additional notes" section followed the interview information and contained the gender of the applicant (i.e., male or female).

5.5.5. Procedure. An online questionnaire was developed and administered at the Universities of Calgary and Lethbridge. The complete protocol of the survey is contained in Appendix O. A short paragraph invited potential participants into the study and an electronic link was provided if they were interested. Two follow up reminder invitations were subsequently sent at one-week intervals. E-mail invitations contained a website link that connected participants to the survey. Following their provision of informed consent (via an option to agree on the webpage), participants were assigned (based on computer-generated random assignment) to one of four conditions. Specifically, the research applicant was either a father, non-father, mother, or non-mother, where parental status was indicated by an absence from academia due to parental leave or travel. Participants were provided with brief instructions to review the position description including the applicants' relevant resume information and the interview information. Participants were also asked to evaluate their hypothetical applicant in terms of personality characteristics, perceived level of job skills, suitability for the job, and to provide an opinion as to whether they would be likely to hire the research candidate. Following the evaluations of their given research applicant, participants were asked to complete attitudinal (i.e., CMI, ASI) and demographic items. Two graduate students volunteered to complete the questionnaire and based on their involvement, the estimated time to complete the survey was ten minutes.

5.6. Results

5.6.1. Data Cleaning. One participant was deleted because more than 50% of his or her data were missing (recommended by Karmaker & Kwek, 2007), leaving 122 participants for all subsequent analyses.

5.6.2. Scale Statistics. To examine participants' responses to the CMI and ASI, descriptive (i.e., scale means, standard deviations) and scale statistics (i.e., scale score reliability) were conducted (see Table 12). Consistent with Studies 1 and 2, participants' total scale scores on the CMI ($M = 26.49$, $SD = 5.71$) and ASI ($M = 50.43$, $SD = 5.10$), on average, fell below each respective scale's midpoint (CMI: 33, ASI: 66). That is, participants did not possess considerable negativity toward career mothers, nor did they highly endorse strong hostile or benevolent sexist attitudes. The CMI scale score reliability was .78 (95% CI = .72-.84), which was slightly lower than in previous studies but likely due to the decreased length of the scale. Research indicates that it is typical for a scale's reliability to decrease as the number of items decrease (Netemeyer, Bearden, & Sharma, 2003). The ASI also produced good internal consistency, with its overall alpha co-efficient being .91 (95% CI = .89-.93).

All Job Skills variable items were significantly correlated with one another, and this variable created for the purposes of the present study had an excellent alpha co-efficient of .94 (95% CI = .92-.95). Similarly, significant correlations were found for items within the positive and negative career woman stereotype and stay-at-home mother stereotype scales, and alphas were therefore calculated for each respective scale. The career mother stereotype (both positive and negative) scales possessed poor alpha statistics (.57, 95% CI = .42-.69 and .66, 95% CI = .53-.75 respectively); however, it should be noted that each scale was comprised of only three items which likely contributes to their low alpha coefficients. The stay-at-home mother stereotype scale possessed a comparatively better alpha statistic of .84 (95% CI = .79-.88). Overall, participants rated the research candidates as possessing more positive stereotypic traits as the average participant scores for both the career positive and stay-at-home mother average scale scores (10.07 and

19.30 respectively) fell above their midpoints (9 and 18 respectively) and the career negative average scale score (6.40) fell below its midpoint (9).

5.6.3. Hypotheses. Each apriori-developed hypothesis was tested, and the results are as follows:

H₁. It was hypothesized that a motherhood bias would emerge, reflected in participants' recommendations for hiring, job skills, and ratings of warmth, competence, and commitment. Specifically, it was expected that career mothers, compared to all other research applicant conditions, would be less frequently recommended for hire compared to all other applicant groups. Similarly, career mother applicants would be perceived as possessing fewer job related-skills. In terms of stereotypic evaluations, it was expected that career mother applicants would be rated higher on warmth but lower on commitment and competence than all other applicants. To test this hypothesis, two 2 (applicant gender: male, female) X 2 (applicant parental status: parent, non-parent) ANOVAs were calculated with hiring intention and job skills scores serving as dependent variables. The results of this analysis yielded non-significant main effects for applicant gender, applicant parental status, and non-significant interactions between these two variables when either hiring intentions or job skills was the outcome variable. An additional one way ANOVA was conducted comparing the career mother applicant condition to all other conditions with regards to ratings of competence, commitment and warmth. No significant differences were found for career mothers' ratings of warmth and competence compared to all other applicant conditions. Contrary to expected results, career mother applicants were rated as more committed than other applicant groups, and this difference was significant for ratings of commitment, $F(3, 117) = 6.77, p = .01, \eta^2 = .055$. In sum, no motherhood bias emerged for ratings of job skills and hirability. In terms of stereotypic evaluations, career mothers were rated as being committed than all other applicants.

H₂. It was hypothesized that, within the career mother applicant condition, scores on the CMI would be inversely related to ratings of competence, commitment, and availability and positively related to warmth.

Correlational analyses were conducted to determine whether or not the CMI was related to evaluations of the career mother applicant. To do so, the data for the career mother applicant condition was isolated from all other conditions. The correlational analysis (Table 13) included 32 participant ratings. Only the correlation between the CMI and availability was statistically significant, $r(32) = -.48, p < .01$. The CMI's negative correlation with availability indicates that greater negativity toward career mothers is associated with lower ratings of the career mother applicant's perceived availability for the research position. The posited relationships between the CMI and competence, commitment, and warmth were non-significant.

H₃. It was hypothesized that, within the career mother applicant condition, scores on the CMI would be inversely related to recommendations for hiring. The correlational analysis between the CMI and hiring recommendations revealed a non-significant relationship. This finding indicates that no significant relationship exists between the endorsement of hostility toward career mothers and recommendations for hiring a career mother research applicant.

H₄. It was hypothesized that, within the career mother applicant condition, the CMI would negatively correlate with positive stereotypic career woman traits, and positively correlate with negative career woman traits. Within this condition, it was also expected that the CMI would negatively correlate with stay-at-home mother stereotypes. The correlations between the CMI and stereotypic ratings of career women and stay-at-home mothers were not statistically significant (please see Table 13 for all correlations and their significance levels).

H₅. It was hypothesized that female participants would have significantly lower scale scores on the CMI in comparison to male participants. Further, it was hypothesized that career mothers would have significantly lower total scale scores on the CMI than all other participants. To test this hypothesis, a 2 (participant gender: male, female) x 2 (participant parental status: parent, non-parent) factorial ANOVA was conducted with CMI scores as the dependent variable. Differences between male participants' average

scores on the CMI females' scores were not statistically significant. However, a significant main effect for parental status emerged such that participants who indicated they had dependent children ($n = 40$) scored significantly lower on the CMI ($M = 25.0$, $SD = 5.00$) than those who indicated they did not have dependent children ($n = 69$, $M = 27.4$, $SD = 6.00$), $F(1, 107) = 4.15$, $p < .05$. The interaction between gender and parental status was non-significant. Despite the lack of statistical significance, participants' scores based on their gender and parental status were in the expected direction with career mothers having the lowest overall mean score ($M = 24.31$, $SD = 5.95$) on the CMI as compared to all other groups (fathers: $M = 25.33$, $SD = 4.55$; female non-parents: $M = 26.52$, $SD = 6.17$; male non-parents: $M = 27.95$, $SD = 5.89$).

H₆. The 11-item CMI was expected to significantly positively correlate with the ASI. Further, it was hypothesized that the CMI would be more strongly correlated with the hostile subscale of the ASI than the benevolent subscale of the ASI. This hypothesis was supported (Table 14); scores on the CMI were significantly positively correlated with total ASI scale scores, $r(111) = .65$, $p < .01$. That is, individuals endorsing increased negativity toward career mothers also have elevated levels of ambivalent sexist attitudes. In addition, the correlation between the CMI and the Hostile Subscale, $r(111) = .71$, $p < .01$ was stronger than the CMI's correlation with the Benevolent subscale, $r(111) = .41$, $p < .01$, Steiger's $Z = -5.06$, $p < .01$. This is consistent with the findings in Study 1, suggesting that the 11-item CMI is more closely related to feelings of hostility rather than benevolence.

H₇. It was hypothesized that higher scores on political orientation (indicating conservatism) would be associated with higher scores on the CMI (indicating the endorsement of negativity toward career mothers). As predicted, there was a significant negative correlation between the CMI scale scores and political orientation, $r(111) = -.29$, $p < .01$ (Table 14). Thus, possessing a more conservative political orientation was associated with negativity toward career mothers. This is also consistent with Studies 1 and 2, and these results provide further convergent validity evidence for the 11-item CMI.

5.7. Discussion

Study 3 was primarily designed to test the linkage between scores on the CMI, stereotypic evaluations of career mothers, and behavioural intentions toward career mothers. More specifically, the aim was to test whether higher scores on the CMI would lend themselves to less favourable stereotypic evaluations of, and behavioural intentions toward, career mother applicants (compared to all other applicant conditions). Further reliability and validity evidence for the CMI was expected in accordance with Study 1 and 2's findings, including its internal consistency, utility with independent samples, and relationships with variables and measures of interest (e.g., ASI, political orientation, gender). The internal consistency coefficient of the 11-item CMI was slightly lower in the present study ($\alpha = .78$) than in Study 2 ($\alpha = .82$), though some variation of alpha coefficients across studies is common (e.g., ASI: Glick & Fiske, 2001).

The predictions of the first hypothesis were intended to provide support for the findings of previous behavioural intentions studies. It was expected that participants, in recommendations for hiring, would more negatively evaluate career mother applicants, compared to all other applicant groups. This prediction was not supported, contrary to past research findings (e.g., Cuddy et al., 2004; Fuegen et al., 2004), nor was the prediction of Hypothesis 3 (i.e., the CMI was expected to be negatively correlated with hiring intentions). These results suggest that participants in the present study did not have discriminatory behavioural intentions or evaluations of career mothers. However, Study 3 possessed a few limitations that may have affected the results of the hiring scenario portion of the study. Taylor and Sheppard (1996) indicate that in any investigation where researchers are asking participants to follow instructions and provide candid responses, a manipulation check is important. They also indicate that participants often fail to follow explicit instructions and may fail to attend to all information provided – post-experimental inquiries, including manipulation checks, allow researchers to rule out these possibilities. According to Taylor and Sheppard (1996), the exclusion of a manipulation check may compromise the researcher's

ability to test their proposed hypothesis(es). Thus, a post-experimental inquiry would have ensured that participants were attending to the manipulation (whether or not the applicant was male, female, parent, or non-parent) and a greater level of confidence in the validity of the results would be obtained.

It is noteworthy that a number of participants in the current study submitted qualitative comments indicating that they needed additional information or a comparison applicant in order to make a decision about hiring. Thus, pilot testing various versions of an applicant questionnaire containing varied levels of detail regarding applicants may have assisted in determining participants' level of comfort with making judgments regarding the applicant. Alternatively, an additional "ideal" candidate (as in Güngör & Biernat, 2009) might provide a point of comparison so that participants feel better able to make judgments (in terms of suitability, personality traits etc.). Further, because the population of interest is faculty members in the current study, the applicant for evaluation would ideally be a potential colleague for the participant; however, this is very difficult given that various departments were sampled. To achieve the specificity necessary and make the experimental design as ecologically valid as possible, it would likely be beneficial to narrow the population of interest to one discipline or a small group of highly related disciplines (e.g., accounting, marketing, finance). Such narrowing may lend itself to greater participant confidence in their ability to make a hiring judgment. In addition, if a more specific job application regarding a colleague was created, participants could be asked about their willingness to work with the applicant and about the likelihood that the candidate would receive funding and promotion within their department. Finally, the use of a single item "hiring" variable may have been insufficient in being able to measure participants' behavioural intentions toward the candidate. Future research may consider the use of multiple item variables and/or the use of several outcome measures.

With regard to the second hypothesis, the career mother applicant condition was analysed in isolation from all other applicant conditions. The correlations between the CMI scale scores and ratings of

competence, commitment, and warmth were non-significant. One significant correlation emerged between the CMI and availability, indicating that greater endorsement of negativity toward career mothers was associated with decreased ratings of career mother applicant's availability. The current results offer very preliminary incremental support for the CMI's construct validity as its relationship with cultural stereotype ascription scales were in the expected direction. The third and fourth hypothesis aimed to test the CMI's relationship with hiring recommendations, stereotypes of career women (both positive and negatively valenced) and stay-at-home mothers. Similar to Hypothesis 2, the resulting correlations were non-significant.

In relation to the fifth hypothesis (i.e., that women would score lower than men on the CMI and career mothers would have the lowest CMI scale scores compared to all other participant groups), the pattern of scale scores on the CMI across participant groups (i.e., mothers, fathers, non-mothers, non-fathers) were non-significant.

The sixth hypothesis of the current study, which sought to replicate findings from Study 1, was supported and a significant positive relationship between the CMI and the ASI was found. This result provides further evidence of the 11-item CMI's convergent validity such that it positively relates to other measures of sexism. Further, a Steiger's Z calculation indicated that, as expected, the Hostile Sexism subscale was significantly more strongly related to the CMI than was the Benevolent Sexism subscale. That is, those who endorse hostility toward women also endorse feelings of negativity toward career mothers more so than do those who score highly on benevolent sexism. In other words, feelings of benevolence (e.g., wanting to cherish women and put them on a pedestal), are relatively less related to beliefs about career mothers as compared to hostility toward women. This is not a surprising result because benevolence is often directed at women who occupy traditional and subservient roles (e.g., housewives). Further, benevolent sexism is theorized to be used to "reward women who embrace conventional gender

roles...whereas hostile sexism punishes women who challenge the status quo” (Glick & Fiske, 2001, p.113). It can be argued that career mothers are challenging the status quo by participating in two ambitious social roles simultaneously. Thus, career mothers as a minority group are much more likely to be perceived by sexist others in a hostile manner as opposed to a benevolent manner.

The seventh hypothesis in Study 3 was also supported. The CMI was significantly correlated with political orientation, suggesting that participants who indicate ascribing to conservative political orientations also tend to endorse greater levels of negativity toward career mothers. This finding is consistent with the previous two studies and the extant literature on prejudicial attitudes/beliefs and their association with liberal attitudes (e.g., Allport & Ross, 1967; Fiske, 1998; Morrison & Morrison, 2002; Swim et al., 1995). This finding provides further convergent validity support for the CMI.

5.7.1. Summary. Study 3 provided further incremental validity evidence for the CMI. Study 3 was intended to accrue two additional sources of information about negativity toward career mothers: stereotypic evaluations and behavioural intentions. Unfortunately, the hypothesized relationship between the CMI and behavioural intentions was not supported. Possible explanations for these results include the lack of an “ideal candidate” comparison group and what may be viewed as modest information contained in the applicant description. Further, a post-experimental check was not performed and a modest number of outcome measures were employed. Another important consideration is the validity of the experimental condition created for the purposes of the present study; more specifically, Social Identity Theory (SIT) and Expectation States Theory (EST) indicate that an important factor in stereotypic judgments is the fact that others are perceived as being in direct competition over resources. In the current study, faculty members were asked to rate a research assistant applicant. The position of research assistant may not be perceived as being particularly “threatening” to professors due to students’ status as “non-colleagues.” In addition, a number of findings (e.g., the CMI’s relationship with other variables of interest, known-groups differences)

from Studies 1 and 2 were replicated using the 11-item version of the CMI and support its utility as a measure of sexism as well as its reliability and validity.

CHAPTER SIX - GENERAL DISCUSSION

The Career Mothers Inventory (CMI) is the first known measure of negative attitudes toward career mothers. This series of studies is the first known Canadian research on negativity toward career mothers, and it is also the first known research to document attitudes of faculty members toward this unique social group. Over the course of conducting a pilot project and three empirical investigations, the utility and psychometric soundness of the CMI has been tested. Additional aims of the current program of research included: 1) creating a measurement tool that is easy to administer (i.e., relatively short) and applicable in a diverse range of workplace settings; 2) documenting and supporting theoretical explanations for the existence of negativity toward career mothers; 3) gain initial strands of reliability and validity evidence for the CMI by adhering to scale construction best practice standards; and 4) conducting an empirical exploration of the relationships between multiple indicants (i.e., stereotypes, beliefs and discriminatory behavioural intentions) of negative attitudes toward career mothers.

This chapter will review the major findings of the current program of research and outline their significance to career mothers. The utility and psychometric viability of the CMI will also be reviewed in the context of sexist attitudes. Finally, discussion of the key limitations associated with the current research program and recommendations for future research are outlined.

6.1. Overview of Aims of the Current Program of Research

The aim of the current program of research was to create a measure of negativity toward career mothers. As reviewed, research to date has identified the problem that career mothers are uniquely negatively evaluated (via stereotypes and discriminatory behavioural intentions). Although the research to date has partially described the problem of negativity toward career mothers, no known

empirical studies have attempted to explain *why* others may perceive career mothers in a negative light (i.e., the content of personal objections to having career mothers in workplace settings). Attitudinal scales often elucidate the main objections others have toward minority group members (e.g., Morrison & Morrison, 2002). The only known attitudinal scale related to career mothers is the Attitudes toward Working Mothers scale (AWM: Tetenbaum et al., 1981 & 1983); however, the AWM possesses a number of psychometric limitations and the content of the available scale items do not seem to measure negativity toward career mothers within the workplace *per se*. Therefore, the development of a psychometrically sound scale measuring negativity toward career mothers (i.e., the CMI) served to fill a gap in the existing literatures on negativity toward career mothers.

To guide the development of items for the new CMI measure, three theoretical tenets were developed and are believed to address some of the objections others have regarding career mothers. The three theoretical tenets upon which the CMI was developed are: 1) career mothers cannot keep up with the work expected of them in a competitive and/or productivity-based environment; 2) career mothers do not work as hard and are not as devoted to their jobs as others (i.e., their co-workers) who do not have children; and, 3) career mothers expect that concessions or special accommodations will be made for their childcare needs.

6.2. Development of the CMI and Theoretical Frameworks

The items generated during the pilot project phase were based on the reviewed stereotype ascription literature and reflected the tenets outlined above. Individuals within academia contributed to the creation of potential scale items, and an expert review panel assisted in refining items before the CMI's first administration in Study 1. The expert review panel data were also used in Study 2 to ensure that the items being retained via statistical analyses (e.g., Exploratory, Parallel, and

Confirmatory Factor Analysis) were also rated highly in relation to the theoretical tenets. In this way, both inductive and deductive approaches to the data were used throughout the program of research.

The CMI items and statistical data provide supportive evidence both of the initially proposed theories, which were posited to at least partially explain the motivation to derogate career mothers in the workplace. First, social identity theory (SIT) posits that individuals are based on group membership, and women's gender identity is often pronounced within male-dominated workplaces (Schmitt et al., 2009; Tajfel, 1978). Canadian universities have historically, and continue to be, male-dominated. A recent Statistics Canada (2009) report revealed that the number of males employed ($n=762$) at the assistant, associate, and full professor ranks at the University of Manitoba was more than double that of women ($n=366$) in the same positions. Statistics indicate that the number of male academics outweigh the number of female academics in all Canadian universities listed ($n=27$) except Mount Saint Vincent University in Nova Scotia (Statistics Canada, 2009). Women in these universities also experience inequalities in terms of their pay, with the average female academic's salary at the University of Manitoba being \$98,269 per year in comparison to the average male academic's salary of \$112,895 per year in the same university. Again this pattern of pay inequity was listed for all Canadian universities (Statistics Canada, 2009). These statistics support the assertion that inequalities in Canadian universities exist between the genders, both in terms of the number of women employed, and in the advancement of women into higher paid positions. The present series of studies' results support SIT – women's minority status in a male-dominated workplace environment is salient. Because of their gender salience, women are not just perceiving hostility within an academic context (as is posited by 'chilly climate' researchers; e.g., Crosby et al., 2004; Ridgeway & Correll, 2004), but their workplace colleagues also endorsed moderate levels of hostile sexist beliefs in all three of the present series of studies (Studies 1, 2, and 3).

Expectation states theory (e.g., Ridgeway & Correll, 2004) predicted that in male-dominated workplace settings, motherhood would become particularly salient and evaluated as a ‘status characteristic’ that would further delineate career mothers from their larger female social group categorization. In support of this theory, the CMI emerged as a unique measure of hostile sexism, which was endorsed in Studies 1, 2, and 3. Career mother participants across all three studies had the lowest scale scores in comparison to all other participant groups (females with no children, males with no children, fathers), indicating that career mothers are also aware of their motherhood ‘status characteristic’ and evaluate their unique social group differently than the other participant groups (i.e., females and males with no children, fathers). This pattern of results was not found in relation to other measures of sexism (e.g., ASI, NS), indicating that, indeed, mothers are a uniquely evaluated subgroup within the broader “women” social category. These findings are consistent with the mounting body of evidence that mothers suffer a unique “motherhood penalty” within paid workplace settings (e.g., Benard & Correll, 2010; Budig & Hodges, 2010; Lips & Lawson, 2009).

6.3. Psychometric Properties of the CMI

Specifically, the newly developed Career Mothers Inventory (CMI) is an 11-item attitudinal measure, which assesses the degree to which others feel negatively toward career mothers in workplace settings (and more specifically academia in the present series of studies). The CMI was developed utilizing best practice standards recommendations in the field of scale development (e.g., Clark & Watson, 2003; Downing, 2003; Hoyt et al., 2006; Snyder & Rice, 1996; Springer et al., 2002; Worthington & Whittaker, 2006). It possesses a unidimensional factor structure, initially found via Exploratory Factor Analysis (EFA) and Parallel Analysis (PA) in Study 1, and replicated via Confirmatory Factor Analysis (CFA) and Structural Equation Modeling (SEM) statistical procedures in Study 2.

6.3.1. CMI Validity Evidence. In addition to the construction of the CMI, various strands of its convergent validity evidence were accrued across the current program of research. For instance, the CMI shares important commonalities with other pre-existing measures of sexism including the Ambivalent Sexism Inventory (ASI, including subscales of benevolent and hostile sexism: Glick & Fiske, 2001), the Neosexism Scale (NS: Tougas et al., 1995) and the Hostility Toward Women scale (HTW: Lonsway & Fitzgerald, 1995). The CMI's significant positive correlations with these measures of sexism indicate that the CMI related to sexist beliefs and attitudes, and hostility toward women in non-traditional roles. These relationships offer some initial evidence of the CMI's convergent validity and they support the underlying construct of negativity toward career women. The correlation between the CMI and the Hostile subscale in Studies 1 and 3 was significantly stronger than its correlation with the Benevolent subscale of the ASI. This finding indicated that the CMI's underlying construct is more closely related to feelings of hostility versus paternalistic beliefs.

Known-groups validity evidence for the CMI also was obtained through its relationship with other measures of interest. For instance, negativity toward career mothers was found to be positively related to materialism (Study 2, as measured by the Materialism Scale: Richins & Dawson, 1992) and inversely related to egalitarian values (measured by participants' liberal political orientation in Studies 1, 2, and 3, and the Sex-Role Egalitarian Scale in Study 2: King & King, 1990). These relationships highlight that individuals who endorse the equality of resources, social roles and employment positions among people (and more specifically women) are less likely to endorse negativity toward career mothers than those who do not endorse equality (i.e., conservative individuals). These relationships are consistent with past research (e.g., Allport & Ross, 1967; Crosby, Williams, & Biernat, 2004; Morrison & Morrison, 2002; Swim et al., 1995) and lend further supportive evidence for the CMI's construct validity.

Also consistent with past research in the area of sexism, women's CMI scale scores were consistently lower than men on the CMI in each of the three studies. This difference is theoretically accounted for by Tajfel and Turner's (1986) ingroup and outgroup favouritism hypothesis, which states that ingroup members are less likely to derogate their own members compared to outgroup members. In keeping with this theory, career mothers across all three studies were found to have the lowest scale scores on the CMI, which provided further evidence for the CMI's known-groups validity.

A significant albeit small correlation was found between the CMI and the MC-SDS. Ideally, this correlation would have been non-significant, and discriminant validity evidence for the CMI would have been non-significant, suggesting the scores on the CMI were not affected by social desirability, and discriminant validity evidence for the CMI would have been evidenced. The degree of shared variance between the two measures, however, indicates that only a small portion of overlap existed. As the CMI was further refined in the subsequent study, additional research examining the relationship between the CMI and social desirability is necessary. Other measures that may also assist in establishing discriminatory validity should also be considered such as the Ambivalence Attitudes toward Men Inventory (AMI: Glick & Fiske, 1999).

6.3.2. CMI Reliability Evidence. The CMI was found to be reliable and valid across three independent samples of Canadian university faculty members. The internal consistency statistics for the CMI were found to be excellent (Study 1: 21 items, $\alpha = .91$), good (Study 2: 11 items, $\alpha = .82$), and acceptable (Study 3: 11 items, $\alpha = .78$). These statistics, in concert with the supportive evidence for the CMI's unidimensionality suggest that the items that comprise the CMI are adequately related to one another and represent a single construct. In Study 1, any items that were highly correlated or had low correlations with other items were eliminated; thus, it is likely that all of the remaining scale items contribute uniquely to measuring the construct of interest and are not redundant.

6.3.3. CMI, Career Mother Stereotypes and Behavioural Intentions. Study 3 was designed to gather multi-dimensional sources of information regarding negativity toward career mothers by employing a gender x parental status manipulation including stereotypic and behavioural intentions ratings of a hypothetical research assistant applicant. No support was found for the hypotheses in the behavioural intentions portion of Study 3. Instead, a significant difference was found for the career mother applicant in terms of increased ratings of commitment. This finding, in the context of Study 3, does not support the theory of a motherhood bias but may conversely suggest that a motherhood premium exists. An alternate possibility is that the population sample in Study 3, being very liberal and egalitarian, overcompensated (i.e., a compensation bias) in the career mother condition. There was limited support found for a link between the CMI and stereotype ratings. Within the career mother applicant condition, the CMI was correlated with lower ratings of availability. This provides preliminary support for the relationship of the CMI with stereotypic ratings; however, the majority of relationships posited between the CMI and stereotype ascriptions were non-significant. Further inquiry is necessary in this area to determine whether or not the stereotypes previously ascribed to stay-at-home mothers and career women apply to career mothers.

6.4. Contribution to Extant Literature

The CMI contributes broadly to research on attitudes, particularly in the realm of sexism (i.e., by creating an attitudinal measure of negativity toward this unique social group, career mothers). There is scant existing research on negativity toward career mothers, and though research on the topic dates back to the early 1980's (e.g., Tetenbaum et al., 1981), the majority has been conducted in the past decade. Specifically, research to date has been limited to stereotype ratings (e.g., Bridges et al., 2002; Gorman & Fritzsche, 2002; Riedle, 1991) and behavioural proxy studies (i.e., Correll et al., 2007; Cuddy et al., 2004; Fuegen et al., 2004; Güngör & Biernat, 2009; and Heilman & Okimoto, 2008). The CMI contributes to

this area of research such that it contributes: 1) an understanding of the nature and content of objections toward career mothers in workplace settings, and, 2) the ability to assess the degree to which hostility toward career mothers exists within a workplace setting (i.e., academia thus far). The CMI also serves to support and partially explain the subjective experiences of career mothers who have indicated that a “maternal wall” and “chilly climate” exist within their workplaces (the Chilly Collective, 1995; Crosby et al., 2004).

6.5. Limitations and Future Directions

6.5.1. Pilot Project. Efforts were made to ensure that the item generation and expert review stages adhered to best practice scale development standards; however, there were some notable limitations associated with these two stages. In the item-generation stage, only three of the ten participants were faculty members. Although graduate students also work within the academic sphere and may have knowledge of the social climate of academia, their awareness about personal faculty dynamics and experiences is likely limited. Further, it is unlikely that faculty members would consider graduate students as colleagues, so the social interactions between these two groups may not be representative of those that the CMI is attempting to capture. In addition, the participants at this stage of the research were recruited via convenience sampling. Further, the researcher came from a liberal arts background and, subsequently, many of those selected possessed similar types of academic training. These factors (graduate student involvement and convenience sampling) may have contributed to the CMI’s item content being somewhat more narrow than if these factors were not present.

Upon reflection, another limitation was the fact that the number of panel members being content experts and scale development experts was discrepant; specifically, five of the expert panel review members had expertise in the area of gender discrimination and one had expertise in scale development

methodology. Therefore, having additional expert panel reviewers with scale development methodology may have lead to greater insights not provided by gender discrimination experts.

6.5.2. Response Rates. Despite an effort to conduct the present series of studies utilizing scale development best practice standards, there are a few noteworthy limitations associated with the present program of research. For instance, the response rates in the current program of research were on the lower end of the range of rates cited in other web-based survey research. A number of meta-analyses have been conducted on electronic survey response rates that report average survey response rates ranging between 22 and 49 percent (Cook, Heath, & Thompson, 2000; Shannon & Bradshaw, 2002; Sheehan, 2006). The response rates obtained in Studies 1, 2 and 3 were 17%, 14% and 14% respectively. A few possible explanations for this discrepancy are offered to guide future directions in conducting web-based survey research. First, Deutskens and colleagues (2004) suggest that the length of the questionnaire has an effect on response rates and rates of missing data, where shorter questionnaires (e.g., 36 items) tend to accrue higher response rates than longer questionnaires (e.g., 76 items). Each survey in the present series of studies was at least 76 items in length and would be classified, based on Deutsken and colleagues' (2004) definition, as a long questionnaire. Second, although it was a recommendation that a cash draw incentive be used (Deutskens et al., 2004), academic faculty generally make higher than average salaries (e.g., >100,000 in 2008/9: Statistics Canada, 2009); thus, offering a \$100 cash draw incentive to participate may not have been as appealing or effective for recruiting faculty members as a cash draw might be in lesser paid professions. Third, internet surveys have been criticized because they are not personalized, and sending a postcard before the web-based survey is sent has been shown to increase response rates (e.g., Kaplowitz, Hadlock & Levine, 2004). In accordance Kapolowitz and colleagues' recommendations, future research should consider making more personalized contact with potential participants by sending post-cards or by making other types of personalized contact (e.g., telephone calls).

6.5.3. Related Constructs. Research suggests that negativity toward minority group members, as measured by attitudinal scales in different prejudicial domains (e.g., racism, sexism, ageism) are interrelated. For example, Aosved and Long (2006) conducted a large ($N = 998$) study in the United States examining measures of rape myth acceptance, homophobia, modern and old-fashioned racism, ageism, classism (i.e., attitudes toward the economically disadvantaged), religious intolerance, and sexism (i.e., Neosexism Scale: Tougas et al., 1995; Attitudes toward Women Scale: Spence & Helmreich, 1972). Results of Aosved and Long's (2006) investigation indicated significant correlational relationships between all attitudinal measures. More specifically, the two measures of sexism were highly correlated ($r = .63, p < .0001$) and both measures were significantly and positively correlated with homophobia, racism, ageism, religious intolerance, and negativity toward the economically disadvantaged. As a measure of sexism, the CMI should also be positively related to these various attitudes. A limitation of the current program of research is that attitudinal scales outside of the realm of sexism were not included. Therefore, it is recommended that future CMI research include diverse attitudinal measures to further attest to its convergent validity. Two personality factors have emerged in the literature as being reliably related to, and predictive of, various forms of prejudice: right-wing authoritarianism (RWA) and social dominance orientation (SDO) (e.g., Altemeyer 1998; Whitley, 1999). In addition, McFarland (2010) recently found support for moral reasoning and empathy as negative mediational variables between RWA, SDO and generalized prejudice. Based on their utility in the area of prejudice, it is recommended that RWA, SDO, moral reasoning, and empathy scales are utilized in future studies involving the CMI.

6.5.4. Generalizability. It is recommended that the CMI be tested within a different workplace environment. Güngör and Biernat (2009) did not find support for a bias against career mothers amongst blue-collar workers suggesting there may be variability in attitudes toward career mothers across various workplace settings. The present series of studies identified academia as an appropriate environment for

developing and validating the CMI; however this population, based on its demographic composition and its socio-economic standing, likely limits the generalizability of the current findings. For instance, Canadian academic faculty members' average salaries (\$4,631/month) are comparatively higher than the average of other Canadian working sectors (all sector average: \$3,156/month; Canada average salaries and expenditures, 2005). Many theories about social group relationships and stereotypes state the importance of competition for scarce resources. As a group, Canadian faculty generate greater salaries than the average working person and therefore the competition for resources may not be as pronounced among this demographic group as compared to other workplace settings.

Another interesting avenue for research with the CMI would be in a cross-cultural context. First, Tremblay (2007) recently reviewed mother-pertinent workplace policies across a number of countries and cultural contexts. Her review indicated that Canada's philosophy and policies supporting motherhood in workplaces is quite different than those of the United States and some European countries. Therefore, research utilizing a mother-specific attitudinal measure such as the CMI would be expected to produce different results across diverse cultural groups. Further, there is a growing body of literature (recently reviewed by Henrich, Heine, & Norenzayan, 2010) stating that the vast majority of academic research on psychology and human behaviour comes from Western, Educated, Industrialized, Rich, and Democratic (WEIRD) societies. Research within WEIRD societies (most often being comprised of young college or university student samples) arguably is not representative of most human populations in the world that are demographically much more diverse than typical WEIRD samples and populations (Henrich et al., 2010). In the present series of studies, the sample and population was purposely kept as narrow as possible (academic faculty in prairie provinces) to minimize the chance that any differences seen across samples were not due to geographic and/or cultural differences. The CMI's generalizability therefore is limited to

this population and its generalizability would be greatly enhanced by diversifying its use in various workplace and cultural populations.

6.5.5. Challenges in Measuring Attitudes. A limitation of the CMI is that it relies on participants' to self-report negativity toward a social minority group, which is increasingly becoming less socially acceptable in Canadian culture. Research in the areas of racism and sexism (e.g., Barreto et al., 2009; Dovidio, 2001; Pearson et al., 2009) indicate that egalitarian values and equality among all social groups are becoming dominant ideologies and negativity toward social minority group members is being suppressed. Individuals who harbour residual negative attitudes toward minority group members may outwardly endorse egalitarian beliefs but express their hostility and prejudiced attitudes in very subtle forms, often in ambiguous situations.

As the trend toward acceptance of egalitarian social norms continues, it is becoming increasingly difficult for researchers to have participants complete paper and pencil questionnaires regarding prejudiced attitudes because it requires conscious recognition of the same. The results of the present research in Studies 1, 2, and 3 may be partially explained by this shift. That is, the majority of participants in all three studies indicated ascribing to a liberal political orientation. Also, in Study 2, the mean score for a measure of egalitarian beliefs (i.e., the SRES) was above its midpoint, suggesting high levels of endorsement. It may be difficult for individuals to consciously espouse egalitarian and liberal beliefs and simultaneously endorse negativity toward minority group members, which may explain why mean scale scores for all sexism measures including the CMI fell below their respective midpoints on all three studies. In addition, correlations between egalitarianism, liberal political orientation, and the CMI were negative, suggesting that as participants self-identified as egalitarian and/or liberally minded, their endorsement of negativity toward career mothers decreased.

In order to circumvent the problem of self-report measures, social scientists are developing different methods of gathering information related to prejudicial attitudes. The third component of attitudes, aside from the cognitive and behavioural components, is the affective component. This is difficult to measure, often automatic versus controlled. It is recommended that alternative methodologies be employed in conjunction with the CMI to measure negativity toward career mothers. Having multiple indicants of negativity toward career mothers that are inter-related would offer further CMI reliability and validity evidence. Possibilities for other methodologies include the use of an implicit association task (IAT; a computerized task that is intended to measure the automatic responses of participants: e.g., Richeson & Shelton, 2003). The IAT is a widely used instrument that assesses attitudes by having participants respond quickly to stimuli using response keys (McConnell & Leibold, 2001). Often, images or words associated with a minority group are paired with positive or negative stereotypes and participants must respond quickly and press a key that indicates the appropriate pairing (stereotype to group). Response times and accuracy of pairings are recorded. Researchers using this technology have found that, in the case of racial prejudice, participants respond more quickly to stereotypic pairings.

McConnell and Leibold (2001) triangulated the use of IAT methodology with semantic differential ratings, behaviour (e.g., observer-rated judgments of body language, eye contact, social distance, speaking time, smiles), and an attitudinal scale. They found that, in the case of racial prejudice, all three cognitive measures of prejudiced attitudes (semantic differential ratings, the attitudinal measure and the IAT) were significantly related to behaviour. McConnell and Leibold (2001) demonstrate that discrimination occurring at the implicit level manifests itself in subtle forms or uncontrollable ways such as eye blinks, eye contact, number of smiles and that these are related to uncontrollable cognitive appraisals. Perhaps, given the population of interest in the present series of studies, individuals would be hesitant to discriminate on explicit measures (e.g., paper and pencil measures) and negative biases may be more

likely to manifest themselves when implicit techniques are used. This may be the case in academia and in Canada more broadly where there is widespread policy stating that individuals should not be discriminated against or derogated based on their gender or parental status (e.g., Tremblay, 2007).

The use of other technology such as facial electromyography (EMG) has also been shown to be useful in measuring affective reactions toward minority group members, another important component for understanding the nature of prejudiced attitudes. For instance, Vanman, Saltz, Nathan, and Warren (2004) conducted an experiment utilizing facial EMG methodology to measure participants' responses to Black and White teaching fellowship applicants. In this study, the EMG recorded the movements of participants' cheek and brow muscles as they viewed photos and made judgments about a series of applicants. They found that participants did not frown implicitly at pictures of Blacks, but they did make imperceptible smiles at pictures of Whites. These results do not suggest outgroup derogation per se toward Blacks by Whites, but rather an ingroup bias (more favourability toward Whites). Studies such as Vanman and colleagues' (2004) demonstrate the complexities of measuring various components of attitudes, and highlight the fact that prejudiced attitudes can be studied in a variety of ways. Future research examining the perception of career mothers should consider employing one or more method of data collection and one or more type of data (e.g., cognitive, affective or behavioural evidence).

Qualitative Canadian research may be another avenue for gathering information for use in ongoing empirical testing regarding discriminatory practices against mothers in paid workplace settings. Glass and Fodor (2011) recently conducted a series of in-depth interviews with employers and headhunters for large financial firms in Hungary. Contrary to their expectations, the study participants ($N = 33$) were forthcoming in discussing the discriminatory strategies used to "weed out" mothers from applicant pools. Glass and Fodor (2011) outline a series of strategies employers use to shed, demote, and marginalize mothers during and following recruitment. For instance, any woman whose application has a gap in

employment is assumed to have taken maternity leave and is therefore eliminated from the application pool. Age is another common demographic variable that is used to screen women (and subsequently remove them) before an interview has even taken place (i.e., women who are 25 are assumed to be less likely to take maternity leave in the near future than a 30 year old female applicant, if their parental status is unknown). Although it is illegal in Hungary to ask about an applicant's family status and discriminate based on this information, employers and headhunters in this study admitted that they routinely did so and that the legal penalties for the same were negligible or non-existent.

Further, once a woman takes maternity leave, there are a number of strategies employers reported that increase the likelihood that she will not return to work or, if she does, be further demoted. These strategies include "restructuring" the position (e.g., by changing the nature of the position) or providing incentives and ultimatums to take shortened leaves. A marked strength of this study is that the findings are clear: there is direct and overt evidence for the existence of discrimination toward career mothers. It may prove useful to employ a similar methodology within Canada, and within academia more specifically, to strengthen the argument that a similar phenomenon exists within these contexts. Simultaneous use of the CMI in such a methodology may assist in establishing the relationship between discriminatory practices and the employers' attitudes toward career mothers.

6.5.6. CMI Utility. An exciting avenue for future research is the potential for the CMI to be used as a workplace "climate" indicator. That is, the CMI could potentially be used to measure the degree of hostility toward career mothers in workplace environments. There are two possible uses for the CMI in these contexts: first, it may assist in legitimizing the experiences of career mothers who have indicated that the 'maternal wall' exists and that workplace settings are perceived as 'chilly climates' and second, if CMI and discriminatory intentions are found to be inter-related, the CMI may be able to identify work environments that are hostile and discriminatory toward career mothers. Understanding these social

climates is becoming increasingly relevant as the career mother demographic in workplace settings continues to grow (Statistics Canada, 2010).

Hirakata and Daniluk (2009) conducted a Canadian qualitative study with academic mothers. From their analysis, a number of themes emerged. Academic mothers indicated feeling: vulnerable, isolated, compromised and inadequate, stressed and pressured, unacknowledged and unsupported in their workplace environments, which they at least partially related to their dual roles of motherhood and career-based. Cain (1997) indicated that mothers who return to hostile and inhospitable work environments following a maternity leave often have difficult choices to make to accommodate these environments. For instance, Cain (1997) listed a number of ways that mothers adapt to stressful work environments including: seeking self-employment, having fathers increase their level of child care involvement, advocating for greater flexibility in their current work situation, or removing themselves from the job market. None of these options directly address the role that managers, employers, co-workers or health care providers can play in supporting mothers in the workplace; instead, the responsibility is left solely to the mother to make a difficult situation work. According to Cain (1997), a hostile workplace benefits neither the employer nor the employee and leads to decreased productivity and increased employee stress. Many researchers maintain the importance of improving policies and regulations for mothers in the workplace; but, more difficult to address is the pervasive subtle prejudicial stereotypes that mothers encounter on a daily basis.

Hirakata and Daniluk (2009) conclude that Canadian women in academia need both structural supports (e.g., allowance for extension of the tenure clock without negative consequences and release of time from teaching and supervision, additional research personnel, and part-time tenure track options) and personal supports (e.g., personal or couples counselling, senior faculty mentorship, networking with other mothers in academia). While these interventions may assist career women in their dual roles, Hirakata and Daniluk

(2009) fail to consider a systematic change within the work environment that may reduce negativity toward career mothers. Interventions designed to reduce hostility toward career mothers in workplace settings may prevent career mothers from suffering the negative emotional consequences of hostility and discrimination by increasing the level of tolerance and understanding amongst their co-workers.

Mechanisms for reducing sexism and its associated stereotypes, with a particular focus on career mothers in the workplace, have yet to be explored in academic literature. Interventions from other areas of prejudice (e.g., sexism more generally) may inform some initial attempts to do so. For instance, Kilmartin and colleagues (2008) state that men often overestimate other men's level of hostility toward women, and such overestimation errors can result in the perceiver's reluctance to challenge the sexist attitudes of other men. Sibley and colleagues (2009) found that for men, perceptions of other men's levels of sexism can influence their own sexist attitudes, in a positive or negative direction. In addition, research has indicated that men behave in sexist ways to win the approval of other men (Kilmartin and Berkowitz, 2005). In order to correct for the problem of men's overestimation biases, Kilmartin et al. (2008) introduced a brief cognitive intervention which included education on perceptual errors and how such errors affect behaviour. Participants were then given feedback about their own overestimation of others' sexist attitudes and information on the steps required to intervene in a sexist situation. At a three-week follow up, male participants who were exposed to the intervention described had more accurate perceptions of other men's level of sexism, thereby decreasing their likelihood of being influenced by sexist others. This study indicates that with even a brief cognitive intervention, stereotypes and prejudiced attitudes can be challenged and may, in turn, lead to a decrement in sexist attitudes and behaviours.

In accordance with Kilmartin et al. (2008), other researchers such as Barber-Madden, Petschek and Pakter (1987) also advocate for staff education as a way to improve workplace conditions for career mothers. There is mounting evidence that contradicts many career mother stereotypes, which may be

useful in educating workplace personnel and challenging their stereotypic attitudes. For instance, Bielby and Bielby (1984) found that career mothers work commitment did not decline following their maternity leaves; instead, they found that women who had large families actually were more committed to work as compared to other women. In 1988, Bielby and Bielby reported that having and being responsible for school age children did not reduce women's work effort. They also stated that increased housework decreased *men's* but not women's work effort. Marsden and colleagues (1993) also found that being a mother was unrelated to a woman's organizational commitment. More recently, Kmec and Gorman (2010) found no difference between career mothers and career fathers in terms of work effort. In Canada, Wallace (2008) sampled approximately 1800 practicing lawyers and found that career mothers were more committed to their law careers than were fathers, despite career mothers reporting less work control, spouses with longer working hours and less workplace support than fathers. Taken together, these studies defy any objections to career mothers that may be based on the assumption that they are less committed to their workplace because of their dual roles.

In addition to assessing career mothers' workplace commitment, Kmec (2011) analysed a large American database from a National Survey of Midlife Development. Kmec (2011) narrowed the database to include 2078 employed adults between the ages of 35 and 65. The analysis included multiple indicants based on stereotypes of career mothers including job engagement, work intensity, work effort, motivation to work because of family, and included pertinent variables such as job and workplace characteristics, individual characteristics (e.g., work experience, level of education, age, etc.). Results indicated that, compared to fathers, career mothers reported significantly higher levels of work effort and job engagement. Both mothers and fathers reported similar levels of reduced job efforts due to home responsibilities, work intensity, and home life relaxation. Compared with female non-parents, mothers reported significantly greater work effort levels and higher levels of work intensity. Surprisingly, these

two groups reported similar frequencies for reduction of job effort due to home responsibilities. Mothers, female non-parents, and male non-parents all reported similar levels of job engagement. The results of Kmec's (2011) research stand in contrast to cultural stereotypes and expectations of career mothers. These results do not support the assertion that career mothers are less available, committed, or put forth less effort than their workplace counterparts. Instead, it seems that mothers may be aware of others' high expectations of them and overcompensate by being more committed, exerting more effort, and being more engaged in work than their co-workers.

The ultimate goal for researchers studying attitudes is not only to describe the social problem but also to decrease prejudicial attitudes. It is anticipated that applied researchers may use the CMI to identify workplaces where additional supports for career mothers are needed and, where possible, interventions (e.g., in the form of education and stereotype reduction) can be implemented to reduce workplace hostility.

CHAPTER SEVEN - REFERENCES

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Table 1. Participant's Demographic Data, Study 1 ($N= 285$)

Variable	<i>n</i>	%
Gender		
Male	129	45.3
Female	149	52.3
Missing	7	2.5
Sexual Orientation		
Exclusively Homosexual	11	3.9
Primarily Homosexual	2	.7
More Homosexual than Heterosexual	1	.4
Bisexual	4	1.4
More Heterosexual than Homosexual	4	1.4
Primarily Heterosexual	22	7.7
Exclusively Heterosexual	206	72.3
I don't know	2	.7
I prefer not to use labels	23	8.3
Missing	10	3.5
Parental Status (children under 16)		
Parents	162	56.8
Male	80	28.1
Female	82	28.8
Non-Parents	107	29.3
Male	43	15.1
Female	64	22.5
Missing	16	5.6
Political Orientation		
Very Conservative	2	.7
Conservative	10	3.5
Somewhat Conservative	36	12.5
Total Conservative	48	16.7
Somewhat Liberal	57	19.7
Liberal	112	38.8
Very Liberal	61	21.1
Total Liberal	230	79.6
Missing	11	3.8

Table 2. Comparison of eigenvalues: Exploratory Factor Analysis and Parallel Analysis (Study 1, $N=285$).

Random Data Eigenvalues	Exploratory Factor Analysis Eigenvalues (32 item CMI, no factors forced)
1.686	9.122
1.592	2.089
1.524	1.815
1.464	1.521
1.409	1.223
1.360	1.146

Table 3. Descriptive Statistics and Alpha Coefficients for Measures, Study 1 ($N= 285$).

Measure	<i>M</i> (midpoint)	<i>SD</i>	Range	Min./Max.	α (95% CI)
CMI (21)	39.77 (63)	11.26	21-105	21/93	.90 (.88 -.92)
ASI	41.51 (66)	16.48	22-110	22/106	.95 (.94 -.96)
Hostility Subscale	20.09 (33)	8.59	11-55	11/55	.93 (.92 -.95)
Benevolent Subscale	21.41 (33)	9.05	11-55	11/53	.91 (.89 -.93)
MC-SDS	19.25 (19.5)	2.91	13-26	13/26	.69 (.64 -.74)

Note: CMI= Career Mothers Inventory; ASI= Ambivalent Sexism Inventory; MC-SDS= Marlow-Crowne Social Desirability Scale, Form C

Table 4. Intercorrelations Among Validation Measures, Study 1 ($N= 285$)

	CMI (21)	ASI	Hostile	Benevolent	MC-SDS	PO
CMI (21)	-----	.63**	.65 **	.49**	-.14**	.26**
ASI		-----	.93**	.94**	.04	.44**
Hostile			-----	.75**	.01	.39**
Benevolent				-----	.05	.44**
MC-SDS					-----	.09
PO						-----

*Significant at $p < .05$

**Significant at $p < .01$

Note: CMI= Career Mothers Inventory, 21-item version ; ASI= Ambivalent Sexism Inventory (Comprised of Hostile and Benevolent Subscales); MC-SDS= Marlow Crowne Social Desirability Scale; PO= Political Orientation.

Table 5. Participants' Demographic Data, Study 2 ($N=468$)

Variable	<i>n</i>	%
Gender		
Male	271	57.9
Female	189	40.4
Missing	8	1.7
Sexual Orientation		
Exclusively Homosexual	20	4.3
Primarily Homosexual	3	.6
More Homosexual than Heterosexual	0	0
Bisexual	8	1.7
More Heterosexual than Homosexual	8	1.7
Primarily Heterosexual	31	6.6
Exclusively Heterosexual	345	73.7
I don't know	1	.2
I prefer not to use labels	40	8.5
Missing	12	2.6
Parental Status (children under 16)		
Parents	163	34.8
Male	110	23.5
Female	53	11.3
Non-Parents	295	63.1
Male	159	34.0
Female	136	29.1
Missing	10	2.1
Political Orientation		
Very Conservative	2	.4
Conservative	14	3.0
Somewhat Conservative	37	7.9
Total Conservative	53	11.3
Somewhat Liberal	71	15.2
Liberal	209	44.7
Very Liberal	118	25.2
Total Liberal	398	85.1
Missing	17	3.6

Table 6. Inter-Judge Agreement for the 21-item CMI (JDM_j)

Item #	$X_{ki} - Md_k$ for each Judge					
	Judge #1	Judge #2	Judge #3	Judge #4	Judge #5	Judge #6
1	0.5	0.5	1.5	0.5	2.5	1.5
2	0.5	0.5	1.5	0.5	0.5	0.5
3	0	1	0	1	0	0
4	2.5	0.5	1.5	0.5	1.5	1.5
5	2	1	1	1	2	1
6	2	0	2	1	2	0
7	1.5	1.5	2.5	1.5	2.5	1.5
8	1.5	0.5	2.5	0.5	0.5	0.5
9	0.5	0.5	0.5	0.5	3.5	3.5
10	0	0	0	1	4	0
11	0	1	0	0	0	1
12	0.5	0.5	0.5	0.5	3.5	3.5
13	2	1	2	0	2	0
14	0	0	2	0	1	1
15	2	1	1	1	1	2
16	1	1	1	1	2	2
17	1	1	1	1	3	1
18	2	1	1	0	2	0
19	1	0	0	1	0	-
20	0	0	0	1	2	-
21	1	1	1	1	1	1
JDM _j	21.5	13.5	23.5	14.5	36.5	21.5

Table 7. Descriptive Statistics for 21-item CMI: Expert Panel Review Item Ratings

CMI #	Item	Mean	Median
	Ambiguity		
1	5	3.6	4*
2	3*	4.3*	4.5*
3	2*	4.7*	5*
4	5	2.7	2.5
5	5	3	3
6	5	2.8	3
7	5	3.2	3.5
8	5	3.3	3.5
9	5	3.5	4.5*
10	5	4.2*	5*
11	2*	4.7*	5*
12	5	3.5	4.5*
13	5	2.8	3
14	4	3.7	4*
15	5	3	3
16	5	3	3
17	5	3.7	4*
18	4	2.7	3
19	2*	4.6*	5*
20	4	3.4	3
21	3*	3.5	4*

*Item meets or surpasses minimum criterion for having adequate fit

Table 8. Expert Panel Review VI_k calculations for the 21-item CMI

Item #	VI_k
1	0.667
2	0.833*
3	0.917*
4	0.417
5	0.500
6	0.458
7	0.542
8	0.583
9	0.625
10	0.792*
11	0.917*
12	0.625
13	0.458
14	0.667
15	0.500
16	0.500
17	0.667
18	0.417
19	0.750*
20	0.500
21	0.750*

Note. * $p < .05$

Table 9. Descriptive Statistics and Alpha Coefficients for all Measures, Study 2 ($N = 468$)

Measure	<i>M</i> (midpoint)	<i>SD</i>	(Range)	Min.	Max.	α (95% CI)
CMI	25.30 (33)	6.59	(11-55)	11	43	.82 (.79 -.84)
HTW	17.19 (30)	5.10	(10-50)	10	38	.84 (.82 -.86)
MAT	43.19 (54)	8.14	(18- 90)	23	69	.76 (.73 -.79)
Success	12.88 (18)	3.87	(6- 30)	6	27	.71 (.67- .75)
Centrality	19.13 (21)	3.62	(7- 35)	9	29	.51 (.44- .58)
Happiness	11.10 (15)	3.62	(5- 25)	5	22	.77 (.74- .80)
NS	21.16 (33)	6.02	(11-55)	11	43	.84 (.82 -.86)
SRES	108.93 (75)	10.72	(25-125)	69	125	.91 (.90 -.92)

Note: CMI= Career Mothers Inventory; HTW= Hostility Towards Women Scale; MAT= Materialism Scale; NS= Neosexism Scale; SR= Sex Role Egalitarianism Scale

Table 10. Intercorrelations Among Validation Measures, Study 2 ($N= 468$)

	CMI	HT	MAT	Success	Centrality	Happiness	NS	SRES	PO
CMI	-----	.51**	.15**	.15**	-.05	.20**	.58**	-.50**	.22**
HTW		-----	-.14**	.17**	-.06	.16**	.56**	-.60**	.19**
MAT			-----	.83**	.66**	.70**	-.11*	.11*	.05
Success				-----	.35**	.43**	.11*	-.10*	.02
Centrality					-----	.11*	-.08	.07	.00
Happiness						-----	.19**	-.18**	.02
NS							-----	-.63**	.38**
SRES								-----	-.35**
PO									-----

*Significant at $p < .05$

**Significant at $p < .01$

Note: CMI= Career Mothers Inventory; HTW= Hostility Towards Women Scale; MAT= Materialism Scale; NS= Neosexism Scale; SR= Sex Role Egalitarianism Scale; PO= Political Orientation.

Table 11. Participants' Demographic Data, Study 3 ($N= 122$)

Variable	<i>n</i>	%
Gender		
Male	70	57.4
Female	40	32.8
Missing	12	9.8
Parental Status (children under 16)		
Parents	41	33.6
Male	28	23.0
Female	13	10.6
Non-Parents	69	56.6
Male	42	34.4
Female	27	22.2
Missing	12	9.8
Political Orientation		
Very Conservative	2	1.6
Conservative	6	4.9
Somewhat Conservative	14	11.5
Conservative Total	22	18
Somewhat Liberal	23	18.9
Liberal	42	34.4
Very Liberal	21	17.2
Liberal Total	86	70.5
Missing	12	9.8

Table 12. Descriptive Statistics and Alpha Coefficients for all Measures, Study 3 ($N = 111$)

Measure	<i>M</i> (midpoint)	<i>SD</i>	(Range)	Min.	Max.	α (95% CI)
CMI	26.49 (33)	5.71	(11- 55)	13	43	.78 (.72 - .84)
ASI	50.43 (66)	5.10	(22- 110)	24	83	.91 (.89 - .93)
Benevolent	26.30 (33)	6.18	(11- 55)	12	43	.81 (.75 - .86)
Hostile	27.74 (33)	7.14	(11- 55)	12	50	.92 (.89 - .94)
Job Skills	53.48 (40)	9.23	(8- 72)	32	72	.94 (.92- .95)
CareerPos	10.07 (9)	1.74	(3- 15)	3	14	.57 (.42- .69)
CareerNeg	6.4 (9)	1.82	(3- 15)	3	13	.66 (.53- .75)
Stay-at-Home Mother	19.30 (18)	3.48	(6- 30)	6	27	.84 (.79- .88)

Note: CMI= Career Mothers Inventory; ASI= Ambivalent Sexism Inventory (with Benevolent and Hostile Subscales); CareerPos = Positive Stereotypic Career Woman Traits; CareerNeg = Negative Stereotypic Career Woman Traits; Stay-at-Home Mother = Stereotypic Traits of Stay-at-Home mothers

Table 13. Intercorrelations for Career Mother Applicant Condition Only

Hypotheses 2, 3, and 4; Study 3 ($n = 32$)

	1	2	3	4	5	6	7	8	9	10
1. CMI	-----	-.19	-.22	.01	-.48**	.02	.02	-.10	.10	-.23
2. Competent		-----	.50**	.16	.35*	.40*	.15	.48**	.24	.39*
3. Committed			-----	.40	.36*	.37*	-.16	.14	.27	.18
4. Warm				-----	-.11	-.09	.23	.25	-.26	.70**
5. Available					-----	.14	.19	.25	.18	.09
6. Hiring						-----	.23	.47**	.45*	.31
7. Job Skills							-----	.53**	.33	.50**
8. CareerPos								-----	.22	.55**
9. CareerNeg									-----	-.01
10. Stay-at-Home Mother										-----

*Significant at $p < .05$ **Significant at $p < .01$

Note: CMI = Career Mothers Inventory

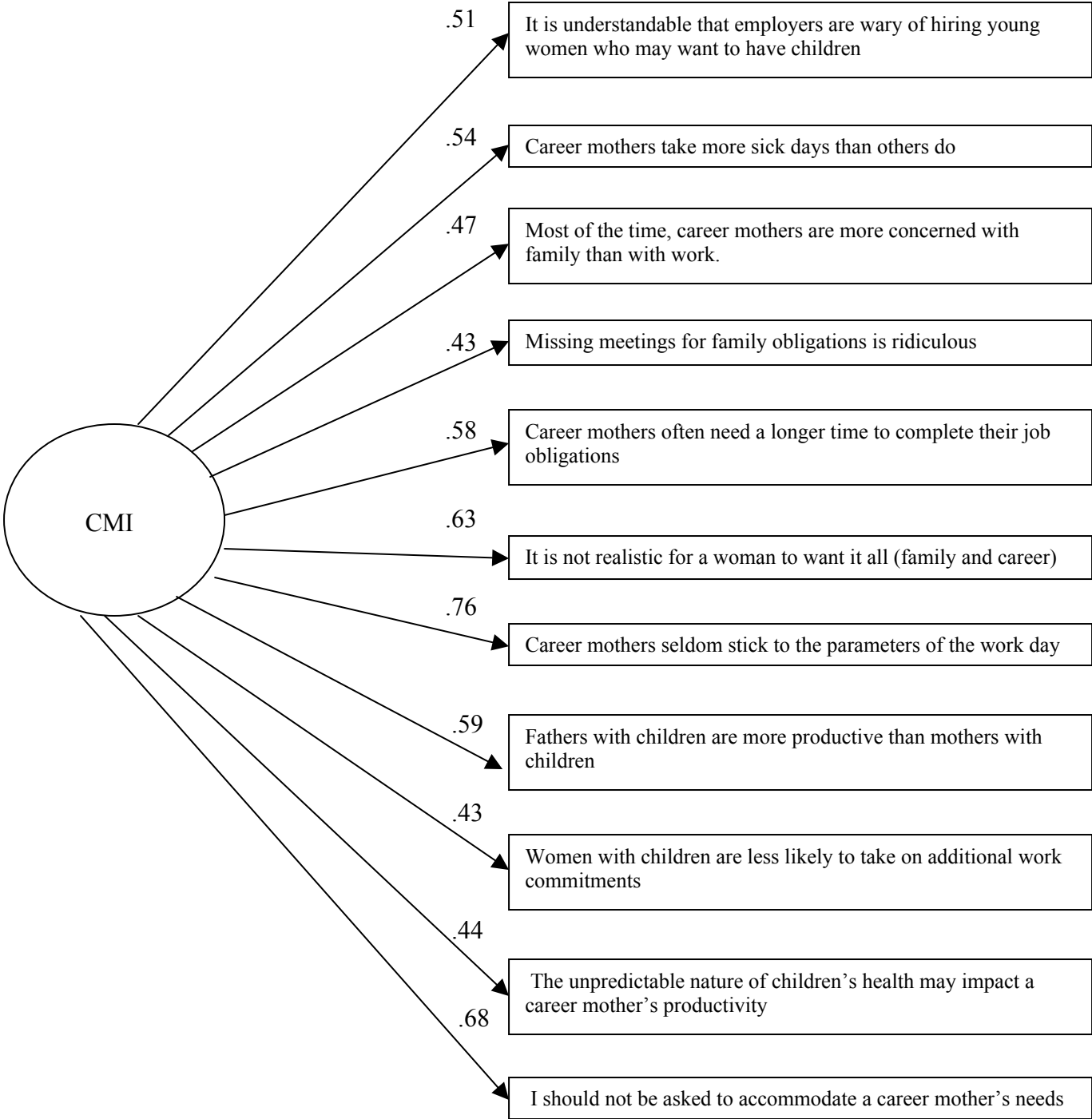
Table 14. Intercorrelations Among Validation Measures, Study 3 ($N= 111$)

	CMI	ASI	Benevolent	Hostile	PO
CMI	-----	.65**	.41**	.71**	.29**
ASI		-----	.86**	.94**	.49**
	Benevolent		-----	.69**	.41**
	Hostile			-----	.48**
PO					-----

**Significant at $p < .01$

Note: CMI = Career Mothers Inventory; ASI = Ambivalent Sexism Inventory (comprised of Benevolent and Hostile Subscales); PO= Political Orientation

Figure 1. EQS Model from Study 2 (N= 468): 11 Item CMI



APPENDIX A
ETHICAL APPROVAL

UNIVERSITY OF SASKATCHEWAN

Behavioural Research Ethics Board (Beh-REB)

Certificate of Approval

PRINCIPAL INVESTIGATOR DEPARTMENT Melanie Morrison Psychology

INSTITUTION(S) WHERE RESEARCH WILL BE CARRIED OUT University of Saskatchewan Saskatoon SK

STUDENT RESEARCHER(S) Rebecca Harriman

SPONSORING AGENCIES SOCIAL SCIENCES AND HUMANITIES RESEARCH COUNCIL OF CANADA (SSHRC)

TITLE Understanding Workplace Attitudes Within Academia

Beh # O748

APPROVED ON 27-Aug-2007

APPROVAL DATE 22Mar2007

EXPIRY DATE 21-Mar-2008

APPROVAL OF Have added three draws each for a \$100.00 prize. There will be one draw for each of the three online surveys.

Information about the draws will be included in the recruitment invitation and in the consent.

Participants will be invited to enter the draw after they have submitted the form, even if the survey has not been completed.

CERTIFICATION The University of Saskatchewan Behavioural Research Ethics Board has reviewed the proposed revisions to your study. The revisions were found to be acceptable on ethical grounds. The principal investigator has the responsibility for any other administrative or regulatory approvals that may pertain to this research project, and for ensuring that the authorized research is carried out according to the conditions outlined in the original protocol submitted for ethics review. This Certificate of Approval is valid for the above time period provided there is no change in experimental protocol or consent process or documents.

Any significant changes to your proposed method, or your consent and recruitment procedures should be reported to the Chair for Research Ethics Board consideration in advance of its implementation.

ONGOING REVIEW REQUIREMENTS In order to receive annual renewal, a status report must be submitted to the REB Chair for Board consideration within one month of the current expiry date each year the study remains open, and upon study completion. Please refer to the following website for further instructions:

http://www.usask.ca/research/ethics_review/

Behavioural Research Ethics Board

Please send all correspondence to:

Office University of Saskatchewan Room 306 Kirk Hall, 117 Science Place Saskatoon SK S7N 5C8 Telephone: (306) 9662084 Fax: (306) 9662069

APPENDIX B
CMI INITIAL ITEM POOL – PILOT PROJECT

When considering the term career mother in the following statements, please think of women (preferably within your own work environment) in a career setting who have one or more dependent children (under the age of 16 years) that they care for.

1. It is inappropriate for women to mention their children during job interviews.
2. It is understandable that employers are weary of hiring young women who may want to have children.
3. Women of child-bearing age should be given a lower priority in job interviews because they are likely to have children.
4. Career mothers should be accountable for their hours worked.
5. Career mothers should not miss work related meetings because they have family obligations.
6. Career mothers believe that others should change their schedules to accommodate them.
7. Career mothers do not put in the same amount of work that others do.
8. Career mothers think that it is okay to leave work early.
9. Career mothers use their children as an excuse to get out of work.
10. Women should consider their work schedule when planning to have children.
11. Career mothers take more sick days than others do.
12. Career mothers are not as productive as other workers.
13. Career mothers are too tired to be as productive as they need to be.
14. Career mothers are slackers at work.
15. It is unfair that career mothers are given the same salary as others.
16. Career mothers cannot be competitive in demanding work environments.
17. Career mothers are likely to be overly emotional, which could get in the way of the objectivity needed for work.
18. It seems that once women have children, their intelligence decreases.
19. In general, mothers only want to talk about their children at work.
20. Career mothers are not “cut throat” enough to get ahead in a career.
21. Career mothers often have a hard time managing their time.
22. Most of the time, career mothers are more concerned with family than with work.
23. Career mothers have their priorities mixed up.
24. Career mothers are not as serious about their work as they need to be.
25. Career mothers are generally less dedicated to their jobs than others.
26. Career mothers are not good time managers.
27. Career mothers do not strive for advancement.
28. Career mothers are not concerned with receiving recognition for their job.
29. Career mothers are better suited for dealing with people.
30. Career mothers are not well suited to solitary jobs.
31. Work should be a person’s main priority.
32. Career mothers are not as involved in their children’s lives as they need to be.
33. Women who are busy with both children and careers must be bad spouses.
34. Career mothers must neglect their romantic partners.
35. Career mothers must not have time to do housework.
36. Men may have to pitch in to do chores when women with children and careers cannot keep up.

37. It is a mystery why career mothers would want to put themselves through the impossible task of trying to be successful at work.
38. Career mothers must be bad parents.
39. Career mothers are usually happy with the status quo.
40. I would rather not have career mothers in my work environment.
41. Career mothers do not put in the same amount of work as others.
42. Career mothers often get undeserved attention in my workplace.
43. Women coming back to work from maternity leave must be relaxed.
44. It is unfair that women get paid for a whole year of maternity leave.
45. Career mothers cannot keep up in a fast-paced work environment.
46. Smart women who want to get ahead in their career do not have kids.
47. It is a waste for an intelligent woman to take time off for babies.
48. It is a shame that an intelligent woman's skills are not fully put to use because of children.
49. Women who have children are sacrificing their career.
50. Missing meetings for family obligations is ridiculous.
51. Career mothers think others are unfulfilled.
52. Career mothers expect others to fill in for their responsibilities.
53. Career mothers are not taken seriously in a competitive environment.
54. Career mothers are spread too thin.
55. Career mothers often produce lower quality work because they are distracted.
56. Career mothers often need a longer time to complete their job responsibilities.
57. Career mothers expect others around them to make special allowances for them because they have kids.
58. If career mothers cannot follow the rules and guidelines of their jobs, they should let someone more capable take their position.
59. Women who want a family and a career are greedy.
60. It is not realistic for a woman to want it all (family and career).
61. Career mothers are overburdened.
62. A career mother should not be treated as a special case.
63. Career mothers are often tired at work.
64. Career mothers wear themselves out when they try to work full time.
65. Work is not an environment for children.
66. I believe it is important to keep your private family life separate from your work life.
67. Either you have a career or you stay at home to raise a family.
68. I think it's safe to say working mothers have an easier job than the rest of us.
69. Career mothers are unreliable.
70. Taking days off because a woman's child is sick is wrong.
71. Career mothers are exhausted much of the time.
72. Mothers in the workplace are a detriment to productivity.
73. Women use their kids as excuses for poor work performance.
74. Career mothers often receive undue recognition at work.
75. Career mothers are usually unavailable for evening functions/meetings.
76. Career mothers do not have time for networking.
77. When women decide to have children, they have to understand that their work will suffer.
78. Career mothers never stick to the parameters of the work day.
79. Career mothers are often too distracted by family obligations to care about what is going on in the workplace.

80. Career mothers have priorities that are different from mine.
81. Career mothers have boundary problems.
82. Career mothers will never aspire for advancement in their field.
83. I would feel less comfortable in asking favors from career mothers because I know they are already over-burdened.
84. Asking career mothers to sit on committees is too much for them.
85. I would rather work with a woman who had no kids versus one who did have kids.
86. Career mothers have to work twice as hard as others to accomplish the same amount.
87. Career mothers are generally grumpy.
88. Career mothers are generally tired at work.
89. Women with children don't have the aggressiveness needed to drive their work forward.
90. I would be really mad if a woman with children was promoted ahead of myself.
91. Hiring a man or a woman who does not intend to have children is financially smart.
92. I would never bring a picture of my family into work.
93. I don't think talking about children at work is appropriate.
94. Women with children are less articulate than those without children.
95. Fathers with children are more productive than mothers with children.
96. It would be inappropriate for women to bring their children to work.
97. It would be disruptive for me if a woman brought her kids to our workplace.
98. Women with children are less likely to take on additional work or commitments.
99. Women with children only do what is required of them.
100. Workplace structures do not readily accommodate the needs of career mothers.
101. Career mothers do not have flexible schedules.
102. It would be risky to hire a woman with children.
103. The unpredictable nature of children's health may impact a career mother's productivity.
104. Inevitably, someone has to pick up the slack for career mothers in group projects.
105. Career mothers have lower standards for work than others.
106. I have no problem working with career mothers as long as my work is unaffected.
107. I should not be asked to accommodate career women's needs.
108. Having career mothers in the workplace negatively affects the work environment.
109. I am tolerant of career mothers as long as I do not have to change.
110. Career mothers are not as focused on their work as others.

APPENDIX C
EXPERT PANEL REVIEW MATERIALS – PILOT PROJECT

Program of Research: Attitudes Toward Professional Women With Children: The Development and Validation of the Career Mothers Inventory (CMI)

Expert Panel Member Suggestions

Construct of Interest

There are a number of important considerations to take into account when trying to evaluate potential scale items. The most important consideration is the degree to which the items will be measuring the construct of interest. Simply put, the construct of interest in this case includes *any negative thoughts, attitudes, or feelings* an individual may have towards career mothers. Based on a thorough literature review, it seems that there are a number of objections co-workers may have about career women. I have grouped these objections into four basic tenets which I believe may underlie these negative attitudes. The four tenets are as follows:

1. Career mothers cannot keep up with the work expected of them in a competitive and/or productivity-based environment.
2. Career mothers do not work as hard and are not as devoted to their jobs as others who do not have children (i.e., their co-workers).
3. Having mothers in workplace settings “waters down” the rigor and credibility associated with that particular workplace unit or department.
4. Career mothers expect that concessions or special accommodations will be made for their childcare needs.

Ratings:

For each of the following statements, I would appreciate it if you could rate the degree to which each item fits the construct I am trying to measure. That is, is each item appropriate or inappropriate in measuring negative attitudes towards career mothers?

Please rate the degree of construct fit for each item based on the following scale:

1	2	3	4	5
very poor fit		unsure		excellent fit

Note: If you are completing this by hand, simply write your rating beside each item. If you are completing this electronically, please use the track changes option or use a different color font to place in your ratings for each item.

Additional Ratings

There are a number of other qualities of the items which you are more than welcome to comment on if you wish. Important things to watch for can include (but are not limited to):

1. statements that can have more than one interpretation
2. statements that may be endorsed by everyone or no one
3. grammar (spelling, punctuation)
4. level of readability/clarity

Finally, please feel free to change any statements or add any statements that you may think would be relevant.

***The items to be reviewed are on the following page.

Thank you so much again for your willingness to be an expert panel member, I know your time is very valuable, and I very much appreciate your help!

Sincerely,
Rebecca Harriman

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APPENDIX D

77-ITEM CMI FOLLOWING EXPERT REVIEW AND ITEM ANALYSIS - PILOT PROJECT

1. It is inappropriate for women to mention their children during job interviews.
2. It is understandable that employers are wary of hiring young women who may want to have children.
3. Women of child-bearing age should be given lower priority in job interviews because they are likely to have children later on.
4. Career mothers should be accountable for their hours worked.
5. Career mothers should not miss work related meetings because they have family obligations.
6. Career mothers believe that others should change their schedules to accommodate them.
7. Career mothers do not put in the same amount of work that others do.
8. Career mothers think that it is okay to leave work early.
9. Career mothers use their children as an excuse to get out of work.
10. Career women should consider their work schedule when planning to have children.
11. Career mothers take more sick days than others do.
12. Career mothers are not as productive as other workers.
13. Career mothers are too tired to be as productive as they need to be.
14. Career mothers are slackers at work.
15. It is unfair that career mothers are given the same salary as others.
16. Career mothers cannot be competitive in demanding work environments.
17. In general, mothers only want to talk about their children at work.
18. Career mothers are not “cut throat” enough to get ahead in a career.
19. Career mothers often have a hard time managing their time.
20. Most of the time, career mothers are more concerned with family than with work.
21. Career mothers have their priorities mixed up.
22. Career mothers are not as serious about their work as they need to be.
23. Career mothers are generally less dedicated to their jobs than others.
24. Career mothers are not good time managers.
25. Career mothers do not strive for advancement.
26. Career mothers are not concerned with receiving recognition for their job.
27. Work should be a person’s main priority.
28. Career mothers are not as involved in their children’s lives as they need to be.
29. Career mothers typically do not have time to do housework.
30. It is a mystery why career mothers would want to put themselves through the difficult task of trying to be successful at work.
31. Career mothers are usually happy with the status quo.
32. I would rather not have career mothers in my work environment.
33. Career mothers do not put in the same amount of work as others.
34. Career mothers often get undeserved attention in my workplace.
35. It is unfair that women get paid for a whole year of maternity leave.
36. Career mothers cannot keep up in a fast-paced work environment.
37. Smart women who want to get ahead in their career do not have kids.
38. It is a waste for an intelligent woman to take time off to raise children.
39. Women who have children are sacrificing their career.
40. Missing meetings for family obligations is ridiculous.
41. Career mothers expect others to fill in for their responsibilities.

42. Career mothers are not taken seriously in a competitive environment.
43. Career mothers often produce lower quality work because they are distracted.
44. Career mothers often need a longer time to complete their job responsibilities.
45. Career mothers expect others around them to make special allowances for them because they have kids.
46. If career mothers cannot follow the rules and guidelines of their jobs, they should let someone more capable take their position.
47. Women who want a family and a career are greedy.
48. It is not realistic for a woman to want it all (family and career).
49. Either you have a career or you stay at home to raise a family.
50. Career mothers are unreliable.
51. Taking days off because a woman's child is sick is wrong.
52. Mothers in the workplace are a detriment to productivity.
53. Women use their kids as excuses for poor work performance.
54. Career mothers often receive undue recognition at work.
55. Career mothers are usually unavailable for evening functions/meetings.
56. Career mothers do not have time for networking.
57. When women decide to have children, they have to understand that their work will suffer.
58. Career mothers never stick to the parameters of the work day.
59. Career mothers are often too distracted by family obligations to care about what is going on in the workplace.
60. Career mothers will never aspire for advancement in their field.
61. Career mothers should not be asked for favors because they are already over-burdened.
62. Asking career mothers to sit on committees is too much for them.
63. I would rather work with a woman who had no kids versus one who did have kids.
64. Women with children don't have the aggressiveness needed to drive their work forward.
65. I would be really mad if a woman with children was promoted ahead of myself.
66. Hiring a man or a woman who does not intend to have children is financially smart.
67. Talking about children at work is inappropriate.
68. Fathers with children are more productive than mothers with children.
69. It would be inappropriate for women to bring their children to work.
70. Women with children are less likely to take on additional work or commitments.
71. Women with children only do what is required of them.
72. The unpredictable nature of children's health may impact a career mother's productivity.
73. Inevitably, someone has to pick up the slack for career mothers in group projects.
74. Career mothers have lower standards for work than others.
75. I should not be asked to accommodate career women's needs.
76. Having career mothers in the workplace negatively affects the work environment.
77. Career mothers are not as focused on their work as others.

APPENDIX E
 AMBIVALENT SEXISM INVENTORY (ASI; GLICK & FISKE, 1996 –STUDIES 1 AND 3)

1. No matter how accomplished he is, a man is not truly complete as a person unless he has the love of a woman. (B)
2. Many women are actually seeking special favours, such as hiring policies that favour them over men, under the guise of asking for “equality.” (H)
3. In a disaster, women ought to be rescued before men. (B)
4. Most women interpret innocent remarks or acts as being sexist. (H)
5. Women are too easily offended. (H)
6. People are not truly happy in life without being romantically involved with a member of the other sex. (B)
7. Feminists are seeking for women to have more power than men. (H)
8. Many women have a quality of purity that few men possess. (B)
9. Women should be cherished and protected by men. (B)
10. Most women fail to appreciate fully all that men do for them. (H)
11. Women seek to gain power by getting control over men. (H)
12. Every man ought to have a woman whom he adores. (B)
13. Men are incomplete without women. (B)
14. Women exaggerate problems they have at work. (H)
15. Once a woman gets a man to commit to her, she usually tries to put him on a tight leash. (H)
16. When women lose to men in a fair competition, they typically complain about being discriminated against. (H)
17. A good woman should be set on a pedestal by her man. (B)
18. Many women get a kick out of teasing men by seeming sexually available and then refusing male advances. (H)
19. Women, compared to men, tend to have a superior moral sensibility. (B)
20. Men should be willing to sacrifice their own well-being in order to provide financially for the women in their lives. (B)
21. Feminists are making unreasonable demands of men. (H)
22. Women, as compared to men, tend to have a more refined sense of culture and good taste. (B)

(H): Hostile Subscale

(B): Benevolent Subscale

APPENDIX F
MARLOWE CROWNE SOCIAL DESIRABILITY SCALE, FORM C
(MC-SDS; REYNOLDS, 1982 - STUDY 1)

1. It is sometimes hard for me to go on with my work if I am not encouraged.
2. I sometimes feel resentful when I don't get my way.
3. On a few occasions, I have given up doing something because I thought too little of my ability.
4. There have been times when I felt like rebelling against people in authority even though I knew they were right.
5. No matter who I'm talking to, I'm always a good listener.
6. There have been some occasions when I took advantage of someone.
7. I'm always willing to admit it when I make a mistake.
8. I sometimes try to get even rather than forgive and forget.
9. I am always courteous, even to people who are disagreeable.
10. I have never been irked when people expressed ideas very different from my own.
11. There have been times when I was quite jealous of the good fortune of others.
12. I am sometimes irritated by people who ask favors of me.
13. I have never deliberately said something that hurt someone's feelings.

APPENDIX G
DEMOGRAPHIC INFORMATION COLLECTED IN STUDY 1

1. Age : _____
2. Sex:
 - a. Male
 - b. Female
3. Employed Position:
 - a. Sessional Lecturer
 - b. Assistant Professor
 - c. Associate Professor
 - d. Full Professor
 - e. Other (please specify)
4. Do you currently have any dependents living with you (i.e., children, older adults)? Yes or No
5. How many children under the age of 16 presently live with you?
 - a. Full time
 - b. Part of the time
6. Religious Attendance: How often do you attend religious meetings or services
 - a. Less than once per month
 - b. 1-3 times per month
 - c. Once per week
 - d. More than once per week
7. Would you consider yourself:
 - a. Very religious
 - b. Somewhat religious
 - c. Not at all religious
8. Sexual Orientation: Generally, I consider myself to be:
 - a. Exclusively homosexual
 - b. Primarily homosexual
 - c. More homosexual than heterosexual
 - d. Bisexual
 - e. More heterosexual than homosexual
 - f. Primarily heterosexual
 - g. Exclusively heterosexual
 - h. Don't know
 - i. I prefer not to use labels
 - j. Queer

9. Race: Please indicate your racial background:

- a. African
- b. Aboriginal
- c. Metis
- d. Caucasian
- e. East Indian
- f. Asian
- g. Other (please specify):

10. Political Orientation: I would consider myself to be:

- a. Very conservative
- b. Somewhat Conservative
- c. Neutral
- d. Somewhat Liberal
- e. Very Liberal
- f. I don't know

APPENDIX H:
21-ITEM VERSION OF THE CMI (USED IN STUDY 2, OBTAINED IN STUDY 1)

1. Career mothers take more sick days than others do.
2. Most of the time, career mothers are more concerned with family than with work.
3. Career mothers are not concerned with receiving recognition for their job.
4. Career mothers are not as involved in their children's lives as they need to be.
5. It is a mystery why career mothers would want to put themselves through the difficult task of trying to be successful at work.
6. Career mothers are usually happy with the status quo.
7. Career mothers often get undeserved attention in my workplace.
8. It is unfair that women get paid for a while year of maternity leave.
9. Missing meetings for family obligations is ridiculous.
10. Career mothers often need a longer time to complete their job responsibilities.
11. It is not realistic for a woman to want it all (family and career).
12. Career mothers often receive undue recognition at work.
13. Career mothers never stick to the parameters of the work day.
14. Asking career mothers to sit on committees is too much for them.
15. I would rather work with a woman who had no kids versus one who did have kids.
16. I would be really mad if a woman with children was promoted ahead of myself.
17. Fathers with children are more productive than mothers with children.
18. Women with children are less likely to take on additional work or commitments.
19. The unpredictable nature of children's health may impact a career mother's productivity.
20. I should not be asked to accommodate a career mother's needs.
21. It is understandable that employers are wary of hiring young women who may want to have children.

APPENDIX I

HOSTILITY TOWARD WOMEN SCALE (HTW; LONSWAY & FITZGERALD, 1995 – STUDY 2)

1. I feel that many times women flirt with men just to tease them or hurt them.
2. I feel upset even by slight criticism by a woman.
3. It doesn't really bother me when women tease me about my faults.
4. I used to think that most women told the truth but now I know otherwise.
5. I do not believe that women will walk all over you if you aren't willing to fight.
6. I do not often find myself disagreeing with women.
7. I do very few things to women that make me feel remorseful afterward.
8. I rarely become suspicious with women who are friendlier than I expected.
9. There are a number of women who seem to dislike me very much.
10. I don't agree that women always seem to get the breaks.
11. I don't seem to get what's coming to me in my relationships with women.
12. I generally don't get really angry when a woman makes fun of me.
13. Women irritate me a great deal more than they are aware of.
14. If I let women see the way I feel, they would probably consider me a hard person to get along with.
15. Lately, I've been kind of grouchy with women.
16. I think that most women would not lie to get ahead.

APPENDIX J
MATERIALISM SCALE (RICHINS & DAWSON, 1992 – STUDY 2)

Subscale: Success

1. I admire people who own expensive homes, cars, and clothes.
2. Some of the most important achievements in life include acquiring material possessions.
3. I don't place much emphasis on the amount of material objects people own as a sign of success. *
4. The things I own say a lot about how I am doing in life.
5. I like to own things that impress people.
6. I don't pay much attention to the material objects other people own. *

Subscale: Centrality

7. I usually only buy things I need.
8. I try to keep my life simple, as far as possessions are concerned. *
9. The things I own aren't all that important to me. *
10. I enjoy spending money on things that aren't practical.
11. Buying things gives me a lot of pleasure.
12. I like a lot of luxury in my life.
13. I put less emphasis on material things than most people I know. *

Subscale: Happiness

14. I have all the things I really need to enjoy life. *
15. My life would be better if I owned certain things I don't have.
16. I wouldn't be any happier if I owned nicer things. *
17. I would be happier if I could afford to buy more things.
18. It sometimes bothers me quite a bit that I can't afford to buy all the things I'd like.

*Items that require reverse coding.

APPENDIX K
NEOSEXISM SCALE (NS: TOUGAS ET AL., 1995 – STUDY 2)

1. Discrimination against women in the labor force is no longer a problem in Canada.
2. I consider the present employment system to be unfair to women.
3. Women shouldn't push themselves where they are not wanted.
4. Women will make more progress by being patient and not pushing too hard for change.
5. It is difficult to work for a female boss.
6. Women's requests in terms of equality between the sexes are simply exaggerated.
7. Over the past few years, women have gotten more from government than they deserve.
8. Universities are wrong to admit women in costly programs such as medicine, when in fact, a large number will leave their jobs after a few years to raise their children.
9. In order not to appear sexist, many men are inclined to overcompensate women.
10. Due to social pressures, firms frequently have to hire under qualified women.
11. In a fair employment system, men and women would be considered equal.

APPENDIX L

SEX-ROLE EGALITARIANISM SCALE (SRES, FORM KK: KING & KING, 1990 – STUDY 2)

This measure is copyrighted and available through Sigma Assessment Systems, Inc. (www.sigmaassessmentsystems.com). Sample items for each subscale are provided below as listed in King & King (1997).

1) Marital Domain:

The husband should be the head of the family.

Things work out best in a marriage if a husband stays away from housekeeping tasks.

2) Parental Domain:

It is more appropriate for a mother, rather than a father, to change their baby's diapers.

Keeping track of a child's activities should be mostly the mother's task.

3) Employment Domain:

It is wrong for a man to enter a traditionally female career.

Women can handle job pressures as well as men can.

4) Social-Interpersonal-Heterosexual Domain:

A woman should be careful not to appear smarter than the man she is dating.

A person should be more polite to a woman than a man.

5) Educational Domain:

Home economics courses should be as acceptable for male students as for female students.

Choice of college is not as important for women as for men.

APPENDIX M
DEMOGRAPHIC INFORMATION COLLECTED IN STUDY 2

1. Age : _____
2. Sex:
 - a. Male
 - b. Female
3. Employed Position:
 - a. Sessional Lecturer
 - b. Assistant Professor
 - c. Associate Professor
 - d. Full Professor
 - e. Other (please specify)
4. Do you currently have any dependents living with you (i.e., children, older adults)? Yes or No
5. How many children under the age of 16 presently live with you?
 - a. Full time
 - b. Part of the time
6. Religious Attendance: How often do you attend religious meetings or services
 - a. Less than once per month
 - b. 1-3 times per month
 - c. Once per week
 - d. More than once per week
7. Would you consider yourself:
 - a. Very religious
 - b. Somewhat religious
 - c. Not at all religious
8. Sexual Orientation: Generally, I consider myself to be:
 - a. Exclusively homosexual
 - b. Primarily homosexual
 - c. More homosexual than heterosexual
 - d. Bisexual
 - e. More heterosexual than homosexual
 - f. Primarily heterosexual
 - g. Exclusively heterosexual
 - h. Don't know
 - i. I prefer not to use labels
 - j. Queer

9. Race: Please indicate your racial background:

- a. African
- b. Aboriginal
- c. Metis
- d. Caucasian
- e. East Indian
- f. Asian
- g. Other (please specify):

10. Political Orientation: I would consider myself to be:

- a. Very conservative
- b. Somewhat Conservative
- c. Neutral
- d. Somewhat Liberal
- e. Very Liberal
- f. I don't know

APPENDIX N
11-ITEM VERSION OF CMI (OBTAINED IN STUDY 2)

1. I should not be asked to accommodate a career mother's needs.
2. The unpredictable nature of children's health may impact a career mother's productivity.
3. Women with children are less likely to take on additional work commitments.
4. In general, fathers with children are more productive than mothers with children.
5. Career mothers seldom stick to the parameters of the work day.
6. It is not realistic for a woman to have it all (both a family and a career).
7. Career mothers often need a longer time to complete their job obligations.
8. Missing meetings for family obligations is ridiculous.
9. Most of the time, career mothers are more concerned with family than work.
10. Career mothers take more sick days than others do.
11. It is understandable that employers are wary of hiring young women who may want to have children.

APPENDIX O
STUDY 3 APPLICANT DESCRIPTION AND EVALUATION

Following the invitation to participate and informed consent page, the participants were led to a page with the following information:

Instructions: We're studying how people quickly form first impressions and make important decisions from little information. We'd like you to read the profile of a candidate you are hiring for a 3 year research assistant position and answer a few questions about the candidate. Please try and respond with your first, uncensored impressions.

PART 1: Job Description

Duties will include:

- Meet with supervisor (yourself) to determine specific goals and outcomes monthly
- Collaborate in the development of methodologies and research instruments for gathering data
- Collect and analyse data
- Collaborate in drafting a final, publicly relevant, publishable report

Ideal Qualifications:

- Previous research experience
- Master's degree in relevant field of study
- Ability to develop and use qualitative and quantitative data collection tools
- Strong oral and written communication skills
- Ability to work collaboratively with community partners and other researchers
- Ability to work independently to follow timelines and meet project goals and deadlines

PART 2: Applicant Information

Resume Information:

- Education: Master's degree in a related field
- GPA equivalent to 50% of Master's students

You decide to interview this individual and ask a few questions. The following are your notes from the interview conducted:

Question: Why are you interested in this job?

- Hoping to get into a doctoral program at the university
- Extra income is welcome
- Interested in this area of research
- This position will provide good research experience

Question: What are your strengths as a candidate for this position?

- Has a mix of both relevant courses and applied research experience, well rounded
- Has had to work both in groups and independently and feels confident in both circumstances

Question: What do you think your weaknesses as a candidate for this position are?

- Not outstanding or specialized in any particular area (applied or academic work)
- Has not been working for a year (**Manipulation: explained that has been staying at home to parent first child or explained that he or she has been travelling**) so coming back to work will be somewhat of an adjustment

Additional Notes from Interview:

- (**Manipulation: Female or Male**), appeared to be in late 20's (approx. 27)
- Casually but professionally dressed
- Pleasant and courteous
- Seemed keen and interested in the job
- Has academic knowledge of the research area

PART 3: Applicant Evaluation

1. Please rate this candidate in terms of how you think they may perform in the job described above: (5 point Likert scale provided, 1 = not at all, 3 = somewhat, 5 = very)

Competent
Commitment to the job
Availability for the job

2. Based on the little information given, please indicate your initial perceptions by rating this candidate on the following personality traits: (5 point Likert scale provided, 1 = not at all, 3 = somewhat, 5 = very)

Aggressive
Helpful
Competitive
Kind
Dominant
Warm
Independent
Understanding
Intelligent
Aware of Others' Feelings
Self-Confident
Unlikeable
Trustworthy
Unfriendly
Hard-Working
Narrow-Minded
Irresponsible
Unreliable

3. If you had to make a decision, how likely would you be to hire this candidate?

- I would NOT hire this candidate
- I would be unlikely to hire this candidate
- I would likely hire this candidate
- I would definitely hire this candidate

4. Please indicate the level of skill you would expect to see from the candidate in the following areas: (9-point Likert scale provided with 1= poor skills, 5 = mediocre, 9 = excellent)

- Decision making
- Interpersonal relations
- Leadership
- Motivation
- Oral communication
- Problem solving
- Planning
- Seeking / accepting advice

APPENDIX P
DEMOGRAPHIC INFORMATION COLLECTED IN STUDY 3

1. Gender:

Male
Female

2. Age: (Entered Numeric Value)

3. Marital Status:

Single (may or may not be dating)
Common-law
Married
Divorced
Widowed

4. Institution:

University of Calgary
University of Lethbridge

5. Rank:

Sessional
Instructor
Assistant Professor
Associate Professor
Full Professor
Professor Emeritus

6. Academic Department:

Liberal Arts
Social Sciences (e.g., Sociology, Anthropology)
Humanities (e.g., English, History, Languages)
Education
Kinesiology
Medicine or Nursing
Engineering
Science
Social Work
Veterinary Medicine
Environmental Design
Communication and Culture

Business

7. How many years in total have you been employed in an academic institution (not counting graduate student years)?

8. In thinking about contemporary social issues, I would consider my opinions to generally be:

- Very Conservative
- Conservative
- Somewhat Conservative
- Somewhat Liberal
- Liberal
- Very Liberal
- I don't know

9. I attend organized religious services:

- Never
- On special occasions
- Now and then
- Regularly (e.g., weekly)

10. I would consider myself to be:

- Very religious
- Somewhat religious
- Not at all religious

12. Do you have any dependent children age 16 or younger living with you?

- Yes
- No