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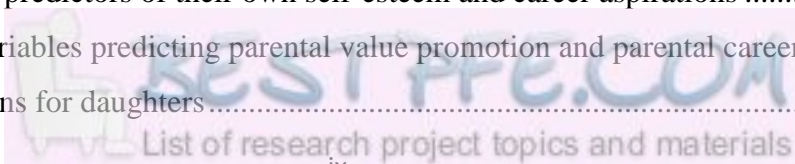
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## CHAPTER 1: INTRODUCTION

**1. Aim, Overview, and Context**

This thesis is designed to bring together research in two areas of psychology: parent-daughter relationships and the theory of ambivalent sexism. The research aims to examine the effects of parents' prejudiced attitudes in general and sexism in particular on their daughters' sexism, self-esteem and career aspirations. Parents are believed to have an important role in the development of the self-esteem of their children (Berenson, Crawford, Cohen, & Brook, 2005; Collins, Maccoby, Steinberg, Hetherington, & Bornstein, 2000; Levine & Munsch, 2011; Maccoby, 1992; Steinberg, 2001). However, little is known about how parents' benevolent and hostile sexist attitudes influence daughters' sexism, self-esteem and career aspirations. This research is designed to fill this gap.

Male domination over women is pervasive across cultures as indicated by gender inequalities in societal power (United Nations Development Programme, 2011). There is some evidence that a major cause of this discrimination and oppression is sexism or the belief that women are inferior to men (Brandt, 2011). Sexism is a form of prejudice and similar to other kinds of prejudices was once thought of as antipathy against an out-group (e.g., Allport, 1954), which in this case is against women. Yet the phenomenon of sexism is different from other prejudices because it is directed against people who may belong to the same family and with whom the person holding the prejudice may have an intimate relationship. Every man holding such an antipathy against women may also have close relationships with women as a son, father, husband, brother or other relative. The question therefore arises how people may have such close affiliations with members of another group and still feel antipathy against them?



## 1.1 Ambivalent Sexism Theory

The view of sexism as antipathy changed with ambivalent sexism theory (Glick & Fiske, 1996, 2001b; Glick et al., 2000). Glick and Fiske conceived of sexism as a multidimensional construct comprising two complementary dimensions: benevolent sexism, which is subjectively positive and hostile sexism, which is subjectively negative. Benevolent sexism views women as wonderful, warm, and morally superior to men but is sexist because at the same time it also views women as weak and fragile who need men to protect them. Benevolent sexism restricts women to a dependent position and justifies hostile sexism against those women who do not conform to this traditional dependent and submissive role. The two ideologies of hostile sexism (HS) and benevolent sexism (BS) complement each other and together are believed to maintain the inferior status of women in society (Glick & Fiske, 1996, 2001b; Glick et al., 2000).

Ambivalent sexism theory explained for the first time the nature of prejudice in intimate relationships, emphasizing the interdependence between the dominant (men) and the dominated (women) groups. Men are dependent on women to fulfil domestic roles, procreation, and heterosexual intimacy. The enormous level of interdependence between the two groups makes sexism different from other prejudices. There are genuine emotional attachments between members of families, for this reason sexism in a family context cannot be manifested in an unmitigated hostile manner. BS due to its positive tone helps to maintain smooth relationships between men and women in intimate relationships while still maintaining gender inequality at a societal level (Rudman & Glick, 2008).

Ambivalent sexism theory has been influential because it explained the universal nature of the roots of sexism and was supported by cross-national data. It also provided reliable and valid inventories to measure the two dimensions of sexism. But most of all it has been popular due to its counter-intuitive formulation of the construct of BS, which Glick and Fiske themselves acknowledged as an “oxymoron” (Glick & Fiske, 1996, p. 491). The identification

of BS as sexism and as complementary to HS has made sexism a popular area for research. Since it was first presented, around 350 journal articles devoted to the study of BS, HS, and/or ambivalent sexism have been published, and research in the area is still on-going. However, most of the research in this area has focused on the relationship between men and women in general and there has been little research investigating HS and BS in parent-daughter relationships.

Parents generally have genuine bonds of affection for their daughters. Ambivalent sexism theory might suggest that sexist parents would hold hostile sexist attitudes not against all women but against a subgroup of non-traditional women. Simultaneously they will also hold subjectively positive benevolent sexist attitudes towards their daughters who they are likely to think need their protection and support. In this respect sexism in parent-daughter relationships can be understood by ambivalent sexism theory. However, no research until now has actually investigated how parental HS and BS affect daughters.

## **1.2 Parent-Daughter Relationship**

Parents have an indisputable influence on the lives of their children. All major theories of psychology, such as the psychoanalytic, behavioural, and humanistic and attachment theories, stress the role of parents in the psychological, social, and emotional development of personality and behaviour of children (Levine & Munsch, 2011; Maccoby, 1992; McHale, Crouter, & Whiteman, 2003; Steinberg, 2001). Theorists and researchers have attempted to identify which parental attributes, behaviours, practices, and attitudes produce better outcomes for children, be they either boys or girls. But there is one area of parental influence that does seem likely to be more significant for daughters than sons: Parents' sexist attitudes. Parents' beliefs about women's inferiority are likely to determine their perception of their daughters' abilities and potentials and their expectations of their daughters' achievements and aspirations. Parents'

sexist ideology is also likely to determine their perceptions of acceptable behaviour by their daughters such as whether women should be more submissive or assertive.

There is surprisingly little research investigating the direct association between parents' sexist attitudes with the well-being of their daughters. However, there has been a significant body of research in the related area of parents' gender role socialization of children. Many researchers considered that sex-differentiated socialization practices by parents could lead to lower self-esteem, lower confidence, and more depression in girls (Block, 1983; Cox & Radloff, 1984; Maccoby & Jacklin, 1974). As a result, there has been considerable research investigating sex-differentiated socialization practices by parents and the differential treatment of sons and daughters (Leaper, Anderson, & Sanders, 1998; Lytton & Romney, 1991; Maccoby & Jacklin, 1974; Siegal, 1987). Reviews of these studies have reported either little or no difference in the manner in which parents treat their male and female children in a variety of socialization areas (Lytton & Romney, 1991; Maccoby & Jacklin, 1974; Siegal, 1987). These results generated a great deal of controversy and led some writers to conclude that parents do not have as important a role in gender socialization as was previously believed (Harris, 1998; Rudman & Glick, 2008), whereas others have criticised the methodology of the research asserting that traditional paradigms might not capture the complexities of gender socialization in the family, and that current research underestimates the family's impact on gender development (Leaper, et al., 1998; McHale, et al., 2003).

Despite the significant body of research in the area of gender socialization, little research has addressed the connection between parents' sexist (or gender role) attitudes and daughters' self-esteem. Most of the research examining the process of gender development (Leaper et al., 1998; Lytton & Romney, 1991; Maccoby & Jacklin, 1974; McHale et al., 2003; Siegal, 1987) has been focused on investigating the role of parents as a whole in this process and did not assess individual differences in parental sexism and its possible impact on the differential

treatment of daughters. McHale et al. (2003) have also pointed out that research was lacking in certain dimensions of parenting such as, parental beliefs (e.g. about what girls versus boys are like), and the content of parents' values and sexist attitudes.

As mentioned before, there is little research investigating the association between parents' sexist attitudes with daughters' well-being. Some of this research has reported no connection between the two variables (e.g., Booth & Amato, 1994). However, none of these earlier studies examining parents' sexist attitudes distinguished between subjectively positive (BS) and overtly negative (HS) forms of sexist attitudes. It is possible that BS due to its covert nature had not been detected through the procedures measuring the more obvious forms of traditional gender role attitudes. It may also be possible that the two forms of sexism may have distinct or opposite effects on certain outcome variables. Research is needed to examine whether parental BS and HS have any influence on daughters' self-esteem and whether the two forms of sexism have similar effects.

### **1.3 The Difference between the Parent-Daughter Relationship and Other Intimate Relationships**

According to ambivalent sexism theory sexist people may experience ambivalence in their relationships with both daughters and partners. Nevertheless, there are important differences between parent-daughter and husband-wife relationships that should be considered before trying to apply ambivalent sexism theory to parent-daughter relationships. These are noted below.

**1.3.1 Difference in the level of interdependence.** The level of interdependence in partner relationships is different from that in parent-daughter relationships. Both men and women as partners contribute something to the common interest of the family. Women's contributions may be considered as less by some men but still they contribute something

important. On the other hand children are totally dependent on their parents. Parents' love for daughters may be seen as based mostly on the motivation to nurture and care for their offspring.

**1.3.2 Protective paternalism: A fathers' responsibility.** Another important difference between a parent-daughter relationship and a partner relationship is protective paternalism (one of the three factors constituting BS). By definition paternalism is "the way a father would behave with his children". If a fathers' responsibility is to patronize then how can it be sexist? Researchers have recognized the difficulty within intimate relationships of determining whether protective restrictions by a partner are motivated by sexism or genuine concern for the female partner (Moya, Glick, Exposito, de Lemus, & Hart, 2007). It may be even harder to make this distinction in the attitudes of parents who may impose certain limitations on daughters solely with the motivation of benefitting them.

These are unique characteristics of parent-daughter relationships. Does parental BS have a negative influence on daughters' self-esteem and career aspirations, or due to the unique characteristics of parent-daughter relationships, might there be no effect or even a positive effect? What effect will parental HS have on daughters' self-esteem and career aspirations once parents' BS is controlled? What effect will the combination of parental BS and HS have on daughters' self-esteem and career aspirations? There has been very little research investigating these effects of parents' BS and HS on daughters' self-esteem and career aspirations. Such research is therefore needed to answer these questions and to augment ambivalent sexism theory.

#### **1.4 Women's Own Endorsement of Sexism and its Association with Self-Esteem**

Parents' sexist attitudes can influence daughters' outcome variables both directly as well as indirectly. It is also possible, for example, that parents' HS does not have direct effects on their daughters' self-esteem or career aspirations, but may increase their daughters' HS which may in turn predict their daughters' lower self-esteem and career aspirations. Therefore, this

study also aimed to investigate the associations between daughter variables and especially between daughters' sexist attitudes and their effect on the career aspirations and self-esteem of daughters. Although some research has been carried out investigating the influence of women's BS and HS on women's career related aspirations (Montanes et al., 2012; Rudman & Heppen, 2003; Sibley & Perry, 2010), there has as yet been no research investigating the possible influence of BS and HS on self-esteem.

### **1.5 The Present Research**

This investigation was therefore designed to explore individual differences in parental BS and HS and how they might predict or influence daughter outcome variables such as daughters' sexism, their self-esteem, and their career aspirations. The role of parents' social attitudes of right wing authoritarianism (RWA) and social dominance orientation (SDO), which have been strongly associated with prejudice (Adorno, Frenkel-Brunswik, Levinson, & Sanford, 1950; Altemeyer, 1981, 2004; Duckitt, 2001; Duckitt & Sibley, 2007, 2009, 2010; McFarland, 2010), the role of parental promotion of closely related values, such as conservation and self-enhancement values (Duriez, Soenens, & Vansteenkiste, 2007, 2008; Feather & McKee, 2008), and of parents' career aspirations for their daughters, will also be assessed.

In addition, the present research will also investigate the association between daughters' own sexist attitudes and their self-esteem and career aspirations. This research aims to investigate these relationships at both a cross-sectional level and in a second study, by using longitudinal follow up data to assess the possible causal directionality of the relationships.

This longitudinal data will also help to establish whether parents' sexism influences daughters' self-esteem beyond what is predicted by daughters' sexism, and whether effects of parental sexism on daughter self-esteem might be mediated through daughter sexism. A variety of variables that mediate associations between parent and daughter variables will also be

investigated, including daughters' broader social attitudes, values, and their identification with their parents.

## **2. Overall Structure of the Research Programme**

The research consisted of two studies. The first or main study consisted of surveys of daughters and their parents, and the second was a follow up study one year later of the same daughters.

### **2.1 Main Study**

In the main study a self-report survey was administered to a sample of 157 female university students for whom both parents were also available. At the same time surveys covering similar content areas were administered to both parents (fathers and mothers). In 139 cases all three members of the family (both parents and the daughter) returned the survey. The daughter survey investigated their self-esteem, career aspirations, and sexist attitudes as well as related social attitudes and values. The parent questionnaire investigated the fathers' and mothers' prejudice related social attitudes and sexism, as well as their motivational goals (values) and career aspirations for their daughters. Because of the complexity of the data, the analyses were conducted in three distinct parts with each reported in a separate chapter. The analyses in part 1 used the data from the parents and focused on how their socio-demographic background variables and their social attitudes predicted their sexist attitudes as well as their motivational goals (value aspirations) and career aspirations for their daughters. The part 2 analyses used the daughters' data to investigate how their background variables, social attitudes, and values, predicted their sexist attitudes, self-esteem, and career aspirations. Finally, the part 3 analyses investigated how all parental variables predicted the daughters' sexist attitudes, self-esteem, and career aspirations.

## **2.2 Follow-Up Study**

The second or follow up study re-surveyed most of the original daughter sample one year after the main study to investigate change in their self-esteem, career aspirations, and sexist attitudes, as well as other relevant variables included in the original main survey. This data enabled cross-lagged analyses to investigate possible causal associations between daughter variables as well as longitudinal regression analyses to assess which parental variables predicted change in daughter variables over the one year period.

## **3. Outline of the Thesis**

Chapter 2 provides a broad overview of ambivalent sexism theory and of research on the theory. It begins by outlining the nature and conceptualization of the two dimensions of BS and HS. It then goes on to give a brief overview of research on the theory with particular emphasis on how these two dimensions of sexism seem to be associated with negative outcomes for women. The few studies on parents' HS and BS are also discussed and the pressing need for more research in this area is noted.

Chapter 3 first broadly describes the procedure for the current research. It then goes on to describe in detail the methodology used for the main study and provides the nature and characteristics of the samples (daughters and parents) and the measures used.

Chapter 4 reports the part 1 (parents' data) analyses and findings from the main study. Before reporting the findings, however, it first provides a brief review of prior research and theory directly relevant to the analyses conducted (i.e., on individual difference variables that predict prejudice in general and sexism in particular and leading to the differential motivational model of sexism and how these may predict parental value promotion and career aspirations for daughters). The chapter then outlines the hypotheses for these analyses and the path analytic



model that was tested. The chapter culminates with a discussion of the main findings and conclusions from the analyses of the parents' data.

Chapter 5 reports the part 2 (daughters' data) analyses and findings from the main study. In similar fashion to chapter 4, it first provides a brief review of prior research and theory directly relevant to the analyses conducted (i.e., on self-esteem and its association with prejudiced attitudes and values in general and sexism in particular, and the association of women's sexism with their career aspirations). The chapter then outlines the hypotheses for the analyses. After presenting the results, the chapter culminates with a discussion of the main findings from the analyses of the daughters' data and formulates conclusions.

Chapter 6 reports the part 3 (parents and daughters' data) analyses and findings from the main study. Again, it first presents a brief review of prior research and theory directly relevant to the analyses conducted (i.e., on the associations of parents' sexist attitudes with daughters' sexist attitudes, self-esteem, and career aspirations). The hypotheses and results are then presented. The analyses are more extensive than in the previous two chapters since they involve data from both those chapters (parents and daughters). Thus, in order to enhance clarity the findings for the three main daughter variables being predicted (i.e., their HS and BS; their self-esteem; their career aspirations) are presented and discussed in three separate subsections in the chapter. A final subsection sums up the main conclusions from all three sets of analyses.

Chapter 7 describes the one year follow-up study of the daughters and the findings. These comprise cross-lagged effects among daughter variables and the longitudinal analyses of parent sexist attitudes predicting change in daughters' sexist attitudes, self-esteem, and career-aspirations over time.

Finally, Chapter 8 presents and discusses the overall conclusions from the research. In addition, the chapter notes the limitations of the research and proposes possible directions for future research.

## CHAPTER 2: LITERATURE REVIEW

**1. A General Review of the Literature****1.1 Ambivalent Sexism Theory**

Ambivalent sexism theory was presented by Glick and Fiske in a series of articles (Glick & Fiske, 1996, 1997, 1999, 2001b; Glick et al., 2000). As opposed to the idea of antipathy, sexism is a special case of prejudice which is characterized by “deep ambivalence, rather than a uniform antipathy” (Glick & Fiske, 1996, p. 491). According to Rudman and Glick (2008) ambivalent sexism theory combined research in the area of intimate relationships with research in the area of sexism. The traditional approach investigating intimate relationships had concentrated more on interpersonal processes. However, several authors acknowledged (e.g., Moya, 1998) that intimate male-female relationships involved interpersonal as well as strong intergroup aspects which both needed to be taken into account in order to better understand these relationships. Ambivalent sexism theory explained how the intimate relationship between men and women co-exists with power differences and results in ambivalent feelings and ideas.

According to ambivalent sexism theory, patriarchy, gender differentiation, and sexual reproduction, are three elements common to all human societies. Each of the three is characterized by interdependence between men and women as well as power differences between the two. Together these characteristics give rise to ambivalent sexism which is cross culturally pervasive due to its common origin in human cultures.

**1.1.1 The two dimensions of sexism.** Glick and Fiske argued that sexism against women consisted of two complementary dimensions: BS, which is subjectively positive, and HS, which is subjectively negative. They defined BS as a “subjectively positive orientation of protection, idealization and affection directed toward women that, like HS, serves to justify

women's subordinate status to men", which is pervasive across cultures as a complementary ideology to HS (Glick et al., 2000, p. 763).

Glick and Fiske developed the 22-item Ambivalent Sexism Inventory (ASI) (1996) and established its convergent, discriminant, and predictive validity. They provided evidence that HS predicted negative attitudes and stereotypes towards women, whereas BS predicted positive attitudes and stereotypes towards women once the correlation between HS and BS was controlled statistically (Glick, Diebold, Bailey-Werner, & Zhu, 1997; Glick & Fiske, 1996). In general, however, HS and BS were positively correlated with each other (Glick & Fiske, 1996, 1997, 2001b; Glick et al., 2000).

**1.1.2 Structure of HS.** The HS scale is a "relatively subtle and contemporary measure of sexist hostility". It is also "an extension of and is consistent with traditional forms of sexist hostility" (Glick et al., 2000, p. 764). The HS scale is unidimensional. Glick et al. (2000) reported moderate to strong correlations between HS and other sexism scales such as the Attitude toward Women Scale (Spence & Helmreich, 1972), which measures the traditional attitude toward women's roles, the Modern Sexism Scale (Swim, Aikin, Hall, & Hunter, 1995), and the Neo-Sexism Scales (Tougas, Brown, Beaton, & Joly, 1995) (Glick et al., 2000; B. Masser & Abrams, 1999).

**1.1.3 Structure of BS.** BS is different from other contemporary forms or measures like the Modern Sexism scale (Swim et al., 1995) and the Neo-Sexism scales (Tougas et al., 1995) as these scales assume and attempt to measure sexism as antipathy, which is disguised due to the changing political and social values toward gender equality. BS, on the other hand, is not disguised as an egalitarian ideology. This ideology has been present in intimate relationships for a very long time and is similar to "medieval ideologies of chivalry" (Glick et al., 2000, p. 765).

The BS scale consists of three factors labelled as protective paternalism, complementary gender differentiation, and heterosexual intimacy.

**1.1.4 Ambivalence towards men.** Glick and Fiske (1999) proposed that ambivalence also existed against men and developed the Ambivalence toward Men Inventory (AMI) (1999). This is a 20 item self-report inventory consisting of two subscales: hostility toward men (HM), and benevolence toward men (BM). The HM scale measures attitudes toward men that contain resentment toward male power but these attitudes reinforce male dominance because they are accompanied by the assumption that this power and its abuse by men is natural and unchangeable. The BM items involve a positive and system-justifying characterization of men as protectors who ought to be taken care of by women at home. Both HM and BM serve to maintain men's superiority against women.

The ASI and AMI were originally developed to assess men and women's attitudes about members of the opposite sex, but members of either sex can endorse these ideologies about their own group as well. Most of the research in the area has focused on ASI and sexist attitudes about women because according to the United Nations Development Programme (2011) women are still the disadvantaged group. The present study limits its focus to ambivalent sexism against women only.

**1.1.5 The cross-cultural validity of ambivalent sexism theory.** Ambivalent sexism theory has been supported by cross-cultural data. Glick et al. (2000), for example, conducted research in 19 countries with 15,000 men and women. Data were also collected from six additional countries for their 2004 study (Glick et al., 2004). After these initial cross-cultural studies other researchers carried out similar investigations in several other countries the findings of which supported ambivalent sexism theory. For example, Napier, Thorisdottir, and Jost (2010) used data from the third and fourth waves of the World Values Survey Association,

(2006, as cited in Napier et al., 2010) with two items measuring hostile attitudes and one item measuring benevolent attitudes towards women. Gender inequality was measured using the Gender Empowerment Measure (United Nations Development Programme, 2000, as cited in Napier et al., 2010). Although they did not use the 22 item Ambivalent Sexism Inventory, their findings were consistent with the Glick et al. (2000) findings. Hostile and benevolent attitudes towards women were endorsed in all of the 32 countries from which the data had been derived and were positively correlated with each other.

**1.1.6 BS as a complementary ideology to HS.** Using cross-cultural data Glick et al. (2000, 2004) proposed and demonstrated that BS and HS were positively correlated. They found that at the individual level BS and HS correlated modestly (about .40) but what they found more striking was an almost perfect correlation (close to .90) between cross-national sample means. In other words, those countries where people strongly endorsed HS were also countries where people strongly endorsed BS. In addition, these countries were also rated low on gender-equality indices (Glick et al., 2000; Glick et al., 2004). These results supported the argument that BS complemented and justified HS and promoted women's subordination. It was argued that ideologically BS increased women's willingness to endorse HS because it promised them protection and adoration. It was also suggested that BS was not seen as sexism by most people, including women, since women generally endorsed HS less than men but endorsed BS as much as, or sometimes more, than men (Glick et al., 2000; Glick et al., 2004). Barreto and Ellemers (2005a) demonstrated through experimental study that BS was not perceived as an expression of gender discrimination and both men and women evaluated benevolent sexists as more likeable people.

The Glick et al. (Glick & Fiske, 1996, 1997, 2001b; Glick et al., 2000; Glick et al., 2004) data were correlational. Longitudinal research has also demonstrated that BS increased women's

willingness to endorse HS. Sibley, Overall, and Duckitt (2007) conducted two longitudinal studies with a sample of women to evaluate the proposition by ambivalent sexism theory in regard to the system-justifying effects of BS. Cross-lagged analyses revealed that women's BS predicted change in their hostile sexist attitudes over a six-month period in one study and over a twelve-month period in a second study. Moreover, there was also an interaction effect such that BS predicted increases in HS over time but only in women who were high in right wing authoritarianism. In both studies the longitudinal effect of BS on HS was unidirectional, which meant that over time only BS predicted HS but HS did not predict BS. The results supported the assumptions of ambivalent sexism theory that BS served to disarm resistance against HS and increased acceptance of HS in the long run.

## **1.2 Harmful Effects of BS**

**1.2.1 The disarming effect of BS.** Ambivalent sexism theory generated a great deal of interest in sexism by challenging the antipathy view of prejudice. Many researchers have been interested in exploring the ways in which BS is harmful for women. In addition to the correlational and longitudinal research cited above, experimental research has also demonstrated that BS justified and reinforced HS. Becker and Wright (2011) conducted a series of four experimental studies. Overall the findings suggested that when women were exposed to BS, their belief in the gender system being fair increased. Exposure to BS also resulted in feeling more positive emotions and made women believe that in being a woman they had personal advantages. In contrast, HS had the opposite effect on gender-specific system justification, positive emotions, and on the perceived advantages of being a woman. Consequently, women who were exposed to BS showed lesser engagement in collective action against gender inequality, whereas women who were exposed to HS showed increased engagement in collective action. Gender-specific system justification and women's perceived advantages of

being a woman mediated both of these effects. Exposure to BS also resulted in a greater experience of positive emotions which then mediated these relationships. Thus, the findings supported the argument that BS plays an important role in dissuading women from active engagement to improve their unfair treatment at a societal level. Consistent with this finding Moya et al. (2007) reported experimental findings showing that women who endorsed BS were more likely to accept men's behavioral restrictions.

**1.2.2 The negative impact of exposure to BS on women's performance.** Vescio, Gervais, Snyder, and Hoover (2005) found that patronizing treatment decreased women's task performance. They examined the stereotyping tendencies and patronising behaviours of people in power and the influence of patronising behaviour on subordinate's performance. Their findings indicated that females in the patronising condition (devalued position, high praise) experienced more anger and performed poorly whereas men also experienced anger but performed better. They argued that patronizing behaviour was perceived as unfair resulting in anger which then positively correlated with men's performance. Presumably men considered good performance in the masculine task as a way of proving their competence. However, women's anger did not result in better performance in the masculine task. According to Vescio et al. this probably occurred because women doubted their capacity to perform better in a masculine domain. Because they could not challenge their unfair treatment through performing better they perhaps felt "learned helplessness" which resulted in their poor performance. This issue was further studied by Dardenne, Dumont, and Bollier (2007) who pointed out that in the Vescio et al. (2007) study patronizing behaviour might be conceived of as equivalent to ambivalent sexism with both hostile and benevolent aspects. Both of these are correlated yet distinct ideologies that may have different consequences on the performance of women. In order to address this issue, they conducted research investigating the specific consequences of HS and

BS and the specific processes involved in them which influenced women's performance. Moreover, they studied women's performance in a feminine domain.

Dardenne et al. (2007) simulated a job interview situation with three experimental conditions in which a recruiter displayed HS, BS, or a neutral attitude. The results from four experiments revealed that BS was worse than HS in negatively affecting women's cognitive performance. Moreover, this negative effect existed even when the performance task demanded feminine qualities. The fourth experiment demonstrated that the poor performance was due to intrusive thoughts involving self-doubt, preoccupation, and decreased (performance) self-esteem. A similar experimental study (Dumont, Sarlet, & Dardenne, 2010) revealed that women who had been exposed to BS before performing a cognitive task as part of a job interview reported more intrusive thoughts, recalled more autobiographical memories of self-incompetence, and displayed slower performance response latencies. The authors concluded that although HS was more aggressive, BS had more powerful effects in making women internalize feelings of incompetence and thus justifying gender inequality. A study using MRI (Dardenne et al., 2013) demonstrated that BS modified task-related brain networks by recruiting areas of the brain used for thought suppression. The process was likely to be responsible for impeding optimal cognitive performance. Thus, BS seemed to provide objective proof of women's inferiority by decreasing their cognitive performance.

**1.2.3 The negative impact of BS on women's professional development.** In their experimental study, Vescio et al. (2005) found that male participants as team leaders who stereotyped their female subordinates behaved in more patronizing ways towards female subordinates by giving them more praise but assigned them lower status positions with fewer resources. It seems therefore that BS is associated with patronizing discrimination which may help to explain the underrepresentation of women at top levels in organizations. The results of



three experimental studies by King et al. (2012) suggested that women employees received less criticism than men. At the same time, men who endorsed BS were less likely to assign challenging developmental experiences to female employees even when they were equally likely to express an interest in those challenging experiences. These results suggested that stereotype-based beliefs that women should be protected may limit women's exposure to challenging assignments and hamper their professional development. Similarly, Biernat, Tocci, and Williams (2012) found that female associates at a law firm received more positive comments than males for their formal evaluations. However, the higher evaluation was limited to narrative comments only and males received better ratings on numerical evaluations related to promotion decisions.

**1.2.4 BS contributes to women's subjugation.** It seems that people who endorse BS subjectively think that they have positive feelings towards women. However, these positive feelings are highly conditional and limited to women who conform to an idealized and prescriptive traditional role. Paradoxically, instead of ensuring protection for women, BS seems to result in women's subjugation when women are perceived as not meeting those standards. For instance, Fiske and Glick (1995) found that BS was associated with beliefs that excuse sexual harassment. Similar findings were reported from a British sample (Abrams, Viki, Masser, & Bohner, 2003) suggesting that people high in BS were more likely than low BS or high HS people to blame the victim of an acquaintance rape, presumably because of their perception that the woman did not behave appropriately. Masser, Lee, and McKimmie (2010) found that people high in BS blamed the victim of acquaintance rape more in conditions when victim stereotypes did not provide an explanatory framework. Duran, Moya, and Megias (2010) in their experimental study found that participants who endorsed BS placed more blame on the victim of marital rape. In addition, they found that participants' BS interacted with the situational factors.

Thus, participants high in BS blamed the victim more when the perpetrator was portrayed as benevolently sexist. Their findings suggested that for high BS people, description of the aggressive husband exhibiting BS at another time presumably served to justify his violence and sexual aggression. Finally, Glick, Sakalli-Ugurlu, Ferreira, and Aguiar de Souza (2002) noted that individuals' endorsement of BS was associated with beliefs justifying spousal abuse.

**1.2.5 Declining patronizing offers may elicit hostile reaction.** Becker, Glick, Ilic, and Bohner (2011) in an experimental study presented a scenario of male colleagues offering help to female colleagues in an overtly patronizing and sexist manner. Participants were then exposed to three different experimental conditions which differed regarding the manner in which the woman responded to this offer. In the first condition she accepted the help. In the second she refused the help in a polite manner. The third condition was the control condition without any information about the woman's response. The results revealed that the women suffered negative evaluations from participants in both experimental conditions. The woman was perceived as being less competent when she accepted help than when she declined or her response was not known. However, when she declined the offer of help she was perceived as less warm. The results suggest therefore that women in such a situation face a dilemma of either maintaining an impression of competence at the cost of perceived warmth or maintaining an impression of warmth at the cost of perceived competence.

The same scenario was then repeated with the roles of man and woman reversed. However, men did not face a similar dilemma. They were also evaluated as less competent when they accepted the offer of help but were not evaluated as less warm by declining it. The results of this study were consistent with previous research in revealing that women experienced a backlash for acting in a masculine way. They may be perceived as competent but also as cold and this may engender negative evaluations concerning job decisions (Rudman & Glick, 1999).

It seems that for women but not for men the perception of warmth and competence traits was mutually exclusive and therefore sexist.

**1.2.6 BS and women's career aspirations.** Previous findings suggest that endorsement of BS makes women less oriented towards careers. BS can do this by increasing the salience of relationships as opposed to salience of achievements and by encouraging women to seek achievement indirectly such as through a relationship with a successful romantic partner. Barreto, Ellemers, Piebinga, and Moya (2010) demonstrated in two experimental studies that female Dutch college students who had been implicitly and explicitly exposed to BS attached significantly less importance to competence and academic achievement for their self-esteem and more importance to physical attractiveness and social approval. The participants also rated themselves as significantly less ambitious, self-assured, and dominant but significantly more attentive, warm, and romantic than in the HS or control condition. These studies therefore suggested that women attached more importance to their relational characteristics and less importance to task-related characteristics after being exposed to BS and especially when BS was expressed in relational terms.

Rudman and Heppen (2003) studied the role of romantic love in motivating women to limit their personal ambitions. They demonstrated that women who had more implicit romantic fantasies (such as associating romantic partners with chivalric ideals) did not aspire for high-status and high-income occupations. They also had lower educational goals and were less interested in group leadership. These relationships were independent of how women evaluated their actual partners. According to Rudman and Heppen these results were consistent with the "glass slipper effect". Women who idealized their romantic partners as heroic protectors might replace their personal ambitions of self-development with the ambition to find a successful

partner who could provide for them. They may also unconsciously inhibit themselves from competing against men.

Findings also suggest that women who endorse BS consider provider ability to be a very important trait in potential partners. Lee, Fiske, Glick, and Chen (2010) compared Chinese and US samples of men and women and reported that in both samples BS predicted provider ability as the mate selection criterion, whereas women's HS did not have a significant effect on any of the mate-selection factors. Travaglia, Overall, and Sibley (2009) obtained similar results from cross-sectional and longitudinal data and found that high BS women placed particular importance on the provider ability of partners. In addition, cross-lagged analyses revealed that BS predicted increases over time in women's preference for a high-status mate.

Results from a nine-country sample revealed a similar pattern of results. Eastwick and colleagues (Eastwick et al., 2006) assessed whether traditional gender ideology (as indexed by Glick and Fiske's ASI and AMI scales 1996, 1999) predicted attitudes to sex-typed mate preferences. Participants who had a traditional gender ideology and higher levels of BS exhibited greater sex-typing of mate preferences, such that such men preferred younger mates with homemaker skills and women preferred older mates with earning potential.

Finally, it seems BS may decrease career aspirations indirectly as well through lowered academic goals. A study of Spanish adolescent girls (Montanes et al., 2012) using questionnaire interviews revealed that adolescent girls' BS negatively predicted their goal to get an academic degree and positively predicted their traditional goals. Lower academic goals in turn predicted lower academic performance for girls. These results suggest that when women endorse BS they are less likely to have achievement goals of their own and become dependent on their partners. This can seriously undermine their potential talents and occupational attainment.

**1.2.7 BS and the quality of intimate relationships.** Research has suggested that women who endorse BS are more vulnerable in their romantic relationships when they face relationship problems, probably because they have higher expectations from their partners to adore and admire them. Overall, Sibley, and Tan (2011) found that women with high BS were more hostile and resistant during a conflict with low BS partners, presumably because they thought that their partners were not cherishing them properly. Hammond and Overall (2013) demonstrated that women who endorsed BS expressed more relationship dissatisfaction when experiencing relationship problems and hurtful partner behaviour than women who were low in BS. BS did not have a similar negative effect on men's relationship dissatisfaction. Instead, high BS men were found to behave more positively while discussing relationship problems and in other relationship interactions (Overall et al., 2011).

### **1.3 Benevolence in BS**

There is some evidence that endorsement of BS may not always be associated with negative outcomes for women. Napier et al. (2010) in a study involving men and women from 32 countries reported that endorsement of benevolent justification was associated with higher life satisfaction. They suggested that rationalizing gender inequality provided a "system-justifying buffer" against the negative effects of perceived discrimination and injustice (2010, p. 416). Hammond and Sibley (2011) demonstrated in a New Zealand sample that for women, endorsement of BS positively predicted gender-specific system justification which in turn predicted higher life satisfaction. Similar results were reported by Connelly and Heesacker (2012) suggesting that BS was indirectly associated with life satisfaction mediated through diffuse system justification. Becker and Wright (2011) reported that exposure to BS resulted in women experiencing increased positive emotions and made them believe that they possessed personal advantages in being a woman. In addition, their belief in the fairness of the gender

system increased. Taken together these findings suggest that BS may be associated with positive life satisfaction at an individual level. However, on a societal level, the system justifying effect of BS actually promotes gender inequality and therefore in the long run has harmful effects for women's well-being.

Fischer (2006) proposed a different perspective on the functions of BS and argued that women's endorsement of BS was not the same as men's endorsement of BS. She proposed that women may endorse BS as a way of celebrating their feminine qualities and of preserving positive group self-esteem. In an experimental study, Fischer demonstrated that women endorsed more BS in response to HS suggesting that endorsement of BS had a protective function for women. Finally, Sibley and Perry (2010) found that once HS was controlled, BS in New Zealand women predicted increased support for policies promoting gender equality. They suggested that BS in women represented in-group attitudes and in relatively egalitarian societies may predict positive attitudes toward women's progress (once HS was controlled).

### **1.3.1 Inconsistent findings for the association of BS with women's body esteem.**

There is some evidence to suggest that exposure to BS may negatively influence women's body esteem. Shephard et al. (2011) proposed that BS decreased women's body esteem by making beauty norms more salient for women and increasing their self-objectification. Their experimental study demonstrated that exposure to BS did result in increased self-surveillance and body shame in women. Forbes, Collinsworth, Jobe, Braun, and Wise (2007) found that endorsement of HS and (to a lesser degree) BS were associated with more value given to women's beauty and thin body ideals. Calogero and Jost (2011) found that exposure to BS and exposure to ambivalent sexism (a combination of BS and HS) resulted in women experiencing more body-shame, self-surveillance, and self-objectification.

However, these results should be viewed cautiously as some studies have obtained different results. Franzoi (2001) found that women's endorsement of BS was positively associated with sexual-attractiveness body esteem. Oswald, Franzoi, and Frost (2012) found that women who recalled more experiences with BS in the previous year had higher body esteem. Similarly, women whose fathers endorsed more BS had higher body esteem. The reasons for the inconsistent findings are not clear. According to Oswald et al. (2012) they could be due to differences in the sample composition, measurement differences, and differences in age or cultural background of the respondents.

In summary, research suggests that endorsement of BS may sometimes be associated with positive life satisfaction at an individual level. However, on a societal level the system justifying effect of BS actually promotes gender inequality. A significant body of research supports the propositions of ambivalent sexism theory that BS is an insidious form of sexist ideology which has harmful effects for women. In addition to justifying and complementing HS, it hinders women's progress on many levels. Agreement with BS diminishes women's ambitions and achievement aspirations and negatively affects their cognitive performance even when they have only been implicitly reminded of BS. Moreover, BS affected their performance in tasks which are considered traditionally feminine as well as masculine. For women who work in business organisations (and may not necessarily endorse BS themselves) BS by the employers engenders implicit discrimination that limits their opportunities for progress. In addition, BS also contributes to the subjugation of women in more traditional roles by justifying domestic violence and sexual harassment. Finally, although men's endorsement of high BS may be beneficial for intimate relationships in certain situations, women who endorse BS are more likely than women who do not endorse BS to suffer sharper declines in relationship satisfaction when faced with a relationship conflict.

#### 1.4 Harmful Effects of HS

HS is openly sexist and overtly measures negative attitudes towards women who challenge male power, such as feminists and career women (and the stereotypic temptresses who try to steal men's power). Not surprisingly, Masser and Abrams found that people who endorsed HS favoured men over women candidates in hiring decisions (2004). Similarly research has shown that people who endorsed higher HS evaluated women managers negatively (Sakalli-Ugurlu & Beydogan, 2002), expressed doubts about women's capability and work performance (Christopher & Wojda, 2008), and opposed policies designed to enhance gender equality in employment opportunities (Sibley & Perry, 2010).

In addition to the negative attitudes toward career women, HS is associated with subjugation of all women. HS has been found to be associated with higher acceptance of physical abuse of wives by husbands and for blaming women for provoking the abuse (Sakalli, 2001). HS has been found to be associated with higher acceptance of sexual harassment and blaming women for sexually provoking men (Sakalli-Ugurlu, Salman, & Turgut, 2010). HS has also been found to be associated with less positive attitudes toward rape victims (Sakalli-Ugurlu, Sila Yalcin, & Glick, 2007). Masser, Viki, and Power (2006) found that men with higher HS expressed higher self-reported acquaintance rape proclivity which did not depend on whether the victim adhered to traditional or non-traditional gender stereotypes. People who endorsed HS tend to judge women in terms of their outward appearance and give more value to physical beauty and thin body ideals (Forbes et al., 2007). In a US sample women's own endorsement of sexist attitudes was found to be associated with the internalization of thin body ideals and greater body dissatisfaction (Forbes, Doroszewicz, Card, & Adams-Curtis, 2004). Women who reported experiencing hostile sexist attitudes also reported experiencing lowered body esteem (Oswald et al., 2012). Finally Swim, Hyers, Cohen, and Ferguson (2001) found that women who



reported witnessing sexist attitudes or behaviour directed towards other women, or being targets of sexist attitudes and behaviours themselves also reported increased discomfort, anger, depression and a lowered state self-esteem.

### **1.5 Parents' HS and BS and Influence on Daughters**

The overall research findings for HS as well as BS suggest that both have harmful effects in a range of areas concerning women's well-being. The question arises whether these findings can be extrapolated to parental HS and BS? The few studies investigating how parents' endorsement of HS and BS might influence daughter outcomes are briefly discussed.

Garaigordobil and Aliri (2011, 2012) recently published two studies reporting the associations between parent and offspring HS and BS. In the first study they reported significant correlations among mothers and daughters' BS, HS, and ambivalent sexism variables and among father and sons' sexism variables. They did not find any significant correlations between father and daughters' sexism variables. In the second study they examined the associations between parenting styles and endorsement of HS and BS by the offspring. Overall, they found little correlation between parents' socialization styles and offspring sexism but that an indulgent style of parenting by both mothers and fathers had a relatively stronger (negative) association with offspring sexism.

Another recent study (Montanes et al., 2012) examined how the BS of mothers' (but not fathers') predicted daughter outcomes. Spanish adolescent girls and their mothers responded to questionnaire interviews about their BS. Daughters also reported on their future academic goals ("go to University and get a degree") and traditional goals (e.g., "get married and have a family"; "look nice and pretty all the time"). The results revealed that mothers' BS had a direct negative association with daughters' academic performance. In addition, it indirectly negatively predicted daughters' academic goals and positively predicted their traditional goals via higher

daughter BS. The results of this study were consistent with experimental research (previously reviewed) suggesting that BS had a negative influence on women's performance in cognitive tasks and lowered their achievement related goals, while increasing their relational goals.

Oswald, et al. (2012) examined the association of parental sexist attitudes with women's body esteem. They found a *positive* association between fathers' BS and daughters' body esteem in two areas: weight related body esteem and physical condition body esteem. There was no significant association between fathers' BS and daughters' sexual attractiveness body-esteem. Daughters' own and mothers' BS (and HS) was not significantly associated with any of the daughters' body-esteem areas. They proposed that fathers "who highly value the traditional feminine gender role may be more likely to lavish paternalistic warmth and praise on their daughters in a manner that boosts their daughters' sense of physical worth" (p. 1123). They concluded that a benevolently sexist family environment was associated with less body-related anxiety. These results were consistent with some previous research (e.g., Franzoi, 2001). However, as mentioned earlier, previous research on the association between BS and body esteem has shown inconsistent findings (e.g., Calogero & Jost, 2011; Forbes et al, 2007; Franzoi, 2001) with some studies showing negative, while others showing positive association between BS and body esteem.

The results of these few studies on parental HS and BS suggested that parental sexism was important for a number of daughter outcome variables. However, the research has been extremely limited. For example, there is no research on the influence of fathers' HS and BS on daughters' traditional goals, academic performance, and career aspirations. Research is also lacking about the influence of parents' sexism with daughters' global self-esteem and self-esteem in areas other than body esteem. As already mentioned in the introductory chapter, researchers have noted that expressions of benevolence to women, which are inherent in

intimate relationships, make it difficult to see BS attitudes as sexist (e.g., Moya et al., 2007) and this may be even more difficult in the father-daughter relationship. Women may think that their parents impose restrictions on them because they care for them. Daughters may perceive fathers' "protective paternalism" as a sign of affection. It is possible that in contrast to the research findings reviewed earlier, fathers' unique relationships with their daughters may result in their BS having positive effects on their daughters' self-esteem and career aspirations. Therefore it is important to study the empirical association of parents' BS and HS with daughters' self-esteem and career aspirations. Research is also needed to explore possible mediating variables that may be involved in the transmission of parental HS and BS to daughters' self-esteem and career aspirations. The next chapter describes in detail the method used in the current research to investigate these questions.

## CHAPTER 3: METHODOLOGY

As noted previously, the research consisted of two studies with the first or main study being a survey of daughters and their parents and the second being a longitudinal follow-up of the daughter sample one year later. The analyses for the first study (or main study), because of its complexity, will be reported in three distinct parts in the next three chapters. The present chapter reports in detail the methodology adopted for the main study. It first outlines the objectives for the main study followed by a detailed description of the samples, procedure, and measures used in the study.

### **1. Objectives for the Main Study**

The primary objectives of the main study was to investigate how parental sexist attitudes predicted daughters' sexism, self-esteem, and career aspirations. Additional objectives were to investigate the variables that predicted sexist attitudes for both parents and daughters, and to investigate variables that might mediate associations between parent and daughter variables. These mediating variables could be certain parental motivational goals or aspirations for their daughters, as well as daughters' own related social attitudes and values and daughters' identification with their parents. Daughters' own sexist attitudes were also viewed as likely to mediate the association between parent variables and daughters' self-esteem and career aspirations.

In order to achieve these objectives two surveys were conducted, one of daughters and the second of their parents (both fathers and mothers). The parents' survey focused on parents sexist attitudes which were measured using the ASI. The parents' background and socio-demographic variables were also assessed by the survey as possible predictors of parental sexism, as were the two variables of RWA and SDO, which had been shown in prior research to

be the primary predictors of prejudice in general and sexism in particular (Adorno et al., 1950; Altemeyer, 1996, 2004; Duckitt & Sibley, 2007, 2009, 2010; McFarland, 2010). Finally, the parent survey also included measures of two constructs that seemed very likely to be important in how parents might socialize their daughters to adopt sexist attitudes and influence their self-esteem and career aspirations. These were parents' motivational goal (value) promotion and career aspirations for their daughters.

The daughters' survey involved measures of their sexist attitudes (again using the ASI), their career aspirations, and their self-esteem. Because it was possible that parental sexism might predict only some self-esteem dimensions and not others, a multidimensional self-esteem measure was used. Daughter variables that might predict their sexism, self-esteem, or career aspirations such as their RWA and SDO, their values, and their identification with their mother and father were also included in the survey.

## **2. Methodology for the Main Study**

### **2.1 Recruitment Procedure**

The participants were 157 female university students and their parents. Most of the students were recruited by advertising the research in introductory social psychology laboratory and tutorial sessions, and by announcements to other undergraduate psychology classes. Undergraduate and postgraduate students were also recruited through e-mail contact, and by written advertisements displayed on the Psychology Department website and notice board (see Appendix C).

Several procedures were used to distribute the questionnaires and for their completion, dependant on what was most convenient for the participants. The initial contact person for each participating family was typically the daughter with the exception of five cases where the parent volunteered first to participate. These five parents were either students or staff in the Psychology

Department. All the parents, including these five, completed their surveys at home. Ninety-eight daughters completed their surveys in small group sessions of approximately 30-40 minutes after their introductory psychology laboratory classes. Fifty nine daughters completed their surveys at home and then handed them in at the Psychology Department. Of these, 21 daughters had the surveys sent to them by post or e-mail. There were 139 cases where all three members of the family (both parents and the daughter) returned the survey. There were 4 cases where only two members (daughter and mother) from a participating family returned their surveys. In 14 cases only the daughter returned the survey. There were therefore a total of 139 fathers, 149 mothers, and 157 daughters. All of these families were whole families. The couples who participated as mothers and fathers had been living together with their daughter for most of the period of life of their daughter. Couples who had been divorced or separated were not included in the sample.

Each of the participating daughters received a \$25 grocery or petrol voucher as compensation for participating. Parents who participated were entered in a draw with three chances of winning a prize of one hundred dollars each (see Appendix C for the participant information sheets).

## **2.2 The Parent Sample**

Of the parents, 144 mothers and 140 fathers returned the survey. The mothers had a mean age of 49.66 (SD= 4.62) and the fathers had a mean age of 52.70 (SD= 5.84). The education and income of the parents are shown in Tables 3.1 and 3.2. Most of the parents had tertiary qualifications. The modal category for fathers was the highest income category (more than \$111,000) whereas the modal category for mothers was the lowest (None - \$20,000).

Table 3.1

*Descriptive Statistics for Parents' Education (N = 143 for mothers; N = 138 for fathers)*

Education	Mothers' percentage	Fathers' percentage
Postgraduate qualification	18.4	22.2
Tertiary qualification	43.6	43.0
Higher school certificate/Bursary	13.3	10.2
School certificate	14.6	10.8
None	0.6	1.9
Other*	3.8*	1.9*

*Note.* People who responded by checking "other" and then specified their education, were categorized and placed according to the specified area either in Tertiary Qualification (2.5% and .6 % in mothers and fathers data respectively) or High School certificate (.3% in both mothers and fathers data) categories. Percentages reported here for Tertiary Qualification and High School certificate also include the "other" categories.

Table 3.2

*Descriptive Statistics for Parents' Income (N = 140 for mothers; N = 136 for fathers)*

Income	Mothers valid percentage	Fathers valid percentage
None - \$20,000	25.7	6.6
\$21,000 - \$30,000	12.9	5.1
\$31,000 - \$40,000	12.1	12.5
\$41,000 - \$50,000	17.1	8.1
\$51,000 - \$60,000	12.9	11.0
\$61,000 - \$70,000	12.1	8.1
\$71,000 - \$80,000	2.9	8.1
\$81,000 - \$90,000	2.9	5.9
\$91,000 - \$100,000	0.0	2.9
\$101,000 - \$110,000	0.0	4.4
More than \$111,000	1.4	27.2

### 2.3 The Daughter Sample

The 157 daughters who completed the questionnaires had a mean age of 19.87 ( $SD = 2.76$ ). Of the daughters 44.3% were first born, 15.2% were second born, 12 % were second born and also the youngest in a family of two children, 3.8% were middle born, 17.1% were the youngest (with more than one older sibling) whereas 5.7% of the daughters were the only child. The modal number of children in each family was 3 (39.7%) closely followed by 2 (37.8%).

11.5% of families had 4 children, 5.6% of families had more than five children and 2.6% of families had only one child.

Table 3.3 shows the ethnic and religious composition of the sample. Most participants identified themselves as belonging to one of the seven ethnic categories provided in the survey. Some belonged to multi-ethnic families and therefore checked two categories. Participants who identified themselves as Catholic or Anglican were categorized broadly as Christian, which formed the modal category.

Table 3.3

*Descriptive Statistics for Daughters' Ethnicity and Religion (N=157)*

Ethnicity	percentage	Religion	percentage
NZ Europeans	50.6	Christian	52.4
Other Europeans	6.3	Atheist	20.2
Asians	18.4	Did not specify	7
Indians	8.9	Hindu	6.2
Other	4.8	Buddhist	3.8
Pacific Nations	1.9	Jewish	2.5
Maori (mixed ethnicity)	3.1	Muslim	2.5
Other Mixed ethnicity	4.8	Other	4.2

## 2.4 Questionnaires and Measures

All measures were included in the two questionnaires, one for parents and the other for daughters. The parents' and daughters' questionnaire were similar and included the same measures, except that the daughters' questionnaire also included the measures for self-esteem and identification with parents. In addition, parents instead of reporting their personal values reported the values they had been promoting in their daughters, and about the career aspirations they had for their daughters. Daughters' reported about their personal values and career aspirations. Parents and daughters also reported background variables such as age, parental income, parental education, religion, ethnicity and number of siblings of the daughter. Most of



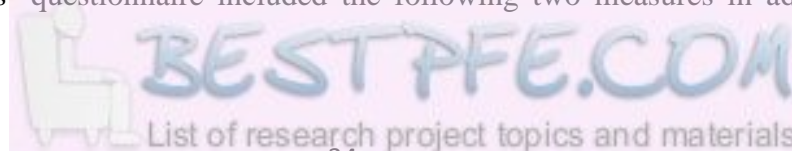
the measures used were psychometric self-report scales consisting of items which the participants responded to on seven-point rating scales ranging from 0 (strongly disagree) to 6 (strongly agree). For all the scales, item ratings were averaged to create scale scores. To partially control order effects, half of the parent and daughter questionnaires had gender attitude measures preceding the career aspirations and values measures, the order being reversed in the remaining questionnaires.

**2.4.1 The parent and daughter questionnaires.** The measures included in the questionnaires are briefly listed after which a more detailed description is given of each measure:

1. The Ambivalent Sexism Inventory (Glick & Fiske, 1996) consisting of the Benevolent Sexism (BS) and Hostile Sexism (HS) scales.
2. Right Wing Authoritarianism (RWA) scale (Altemeyer, 1981).
3. Social Dominance Orientation (SDO) scale (Pratto, Sidanius, Stallworth, & Malle, 1994).
4. Extrinsic (EXT) and Conservation (CON) Value Promotion scales (Duriez, Soenens, & Vansteenkiste, 2007).
5. Career Aspirations (CA) for daughters scale (Gray & O'Brien, 2007).

The items used to measure value promotion and career aspirations were slightly revised in the parent questionnaire to make them suitable for parents self-reporting about their daughter (e.g., the item “I find it important that I develop my talents and my personality” was changed to “I find it important that my daughter developed her talents and her personality” and the item “I hope to become a leader in my career field” was changed to “I hope my daughter will become a leader in her career field”).

The daughters’ questionnaire included the following two measures in addition to the ones listed above:



6. Fleming and Courtney's (1984) version of the Janis-Field Self-Esteem scale.
7. Identification with Parent scales (new measure).

#### ***2.4.1.1 The Ambivalent Sexism Inventory: Benevolent sexism (BS) and hostile sexism***

**(HS)**. BS and HS were assessed using the Ambivalent Sexism Inventory (ASI) (Glick & Fiske, 1996). The ASI is a widely used and well validated scale (e.g., Forbes et al., 2007; Glick et al., 2000; Sibley, Overall, & Duckitt, 2007) with 11 items assessing BS and 11 items assessing HS. Higher scores indicate higher levels of BS and HS. The items are shown in Table 3.4. The reliabilities and other descriptive statistics for this and all other measures that follow are reported in the results chapters.

Table 3.4

#### *The Items in the Ambivalent Sexism Inventory*

B	1.	No matter how accomplished he is, a man is not truly complete as a person unless he has the love of a woman.
H	2.	Many women are actually seeking special favours, such as hiring policies that favour them over men, under the guise of asking for "equality."
B*	3.	In a disaster, women ought not necessarily to be rescued before men.
H	4.	Most women interpret innocent remarks or acts as being sexist.
H	5.	Women are too easily offended.
B*	6.	People are often truly happy in life without being romantically involved with a member of the other sex.
H*	7.	Feminists are not seeking for women to have more power than men.
B	8.	Many women have a quality of purity that few men possess.
B	9.	Women should be cherished and protected by men.
H	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.
B	12.	Every man ought to have a woman whom he adores.
B*	13.	Men are complete without women.
H	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.
B	17.	A good woman should be set on a pedestal by her man.
H*	18.	There are actually very few women who get a kick out of teasing men by seeming sexually available and then refusing male advances.
B	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.
H*	21.	Feminists are making entirely reasonable demands of men.
B	22.	Women, as compared to men, tend to have a more refined sense of culture and good taste.

*Note.* B = Items measuring Benevolent sexism; H = Items measuring Hostile sexism; \* Reverse coded Items.

**2.4.1.2 The Right-Wing Authoritarianism scale.** Right-wing authoritarianism (RWA) was assessed using a set of 8 balanced items from the Altemeyer's (1981) RWA Scale. Higher scores indicate higher level of RWA. Similarly shortened versions of the RWA scale had been used in a number of previous studies with adequate to good reliabilities (e.g., Asbrock, Sibley, & Duckitt; Sibley & Duckitt, 2010). The items are shown in Table 3.5.

**2.4.1.3 The Social Dominance Orientation scale.** Social dominance orientation (SDO) was assessed using a set of six balanced items from the original Social Dominance Orientation scale (Pratto, Sidanius, Stallworth, & Malle, 1994). This shortened SDO scale had been used in a number of studies (e.g., Asbrock et al.; Sibley & Duckitt, 2010) with adequate to good reliabilities. Higher scores indicate higher level of SDO. The items are shown in Table 3.5.

Table 3.5

*Items used in the shortened Right-Wing Authoritarianism (RWA) and Social Dominance Orientation (SDO) scales*

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**Items assessing RWA**

1. Obedience and respect for authority are the most important virtues children should learn.
2. The real keys to the "good life" are obedience, discipline, and sticking to the straight and narrow.
- 3.\* We should treat protestors and radicals with open arms and open minds, since new ideas are the lifeblood of progressive change.
- 4.\* Nobody should stick to the "straight and narrow". Instead people should break loose and try out lots of different ideas and experiences.
5. What our country really needs instead of more "civil rights" is a good stiff dose of law and order.
- 6.\* A lot of our rules concerning modesty and sexual behaviour are just customs which are not necessarily any better or holier than those which other people follow.
- 7.\* People should pay less attention to the bible and the other old-fashioned forms of religious guidance, and instead develop their own personal standards of what is moral and immoral.
8. Our country will be great if we honour the ways of our forefathers, do what the authorities tell us to do, and get rid of the "rotten apples" who are ruining everything.

**Items assessing SDO**

- 1.\* We should strive to make incomes as equal as possible
  2. It's OK if some groups have more of a chance in life than others.
  - 3.\* No one group should dominate in society.
  4. Some groups of people are simply inferior to other groups.
  5. To get ahead in life, it is sometimes necessary to step on other groups.
  - 6.\* We would have fewer problems if we treated people equally.
- 

*Note.* Items with asterisks were reverse coded.

**2.4.1.4 Daughters own motivational values and perception of parental value promotion.** The 20-item Values/Value Promotion scale previously used by Duriez, Soenens, et al. (2007) was used to measure how daughters perceived their own values and also to measure the extent to which they perceived how their parents (separately assessed for their fathers and mothers) had promoted these values while raising them. The two value dimensions assessed by these twenty items are intrinsic versus extrinsic values and openness versus conservation values.

There were 6 intrinsic and 6 extrinsic values and 4 conservation and 4 openness to change value items. The intrinsic value items covered the values of self-development, affiliation, and community contribution with two items for each value. The extrinsic value items covered the values of financial success, social recognition and physical attractiveness with two items for each value. The openness to change value items covered the values of self-direction and stimulation with two items for each value. The conservation value items covered the values of conformity and tradition with two items for each value. The items are shown in Table 3.6. These four sets of items made up the scales of Intrinsic, Extrinsic, Conservation, and Openness to Change Values.

Because the four sets of items (Intrinsic, Extrinsic, Conservation, and Openness to Change) were all protrait the scoring procedure used by Duriez, Soenens, et al. (2007) (see also Schwartz, 1992) was used to control response sets. This procedure, which is described below has been used for the measurement of values and parental value promotion in a number of studies (Duriez, Soenens, et al., 2007; Duriez et al., 2008; Duriez, Vansteenkiste, Soenens, & De Witte, 2007).

For assessing daughters' perception of father and mother's value promotion the items were slightly modified for example, the item "I find it important that I become financially successful in life" was changed to "My father/mother thought it was important that I became financially successful in life".

Table 3.6

*The Items in the Values Scale*


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	I find it important
1.(I)	...that I develop my talents and my personality.
2.(I)	...that I develop good and intimate friendships with other people.
3.(E)	...that I become financially successful in life.
4.(E)	...that I receive recognition and admiration for the things I do.
5.(E)	...that I look beautiful and attractive.
6.(I)	...that I am surrounded by friends who care about me.
7.(I)	...that I do something to help improve society.
8.(E)	...that I become rich and have expensive possessions.
9.(E)	...that I am known by many people and that I am popular.
10.(E)	...that I am up-to-date with fashion trends (clothing, hair style, etc.).
11.(I)	...that I develop myself as a person and continue to grow.
12.(I)	...that I try to make the world a better place through tiny things.
13.(O)	...that I am creative and do things in my own, original way.
14.(O)	...that I can do a variety of different things in life.
15.(C)	...that I stick to rules and regulations, even if nobody is watching.
16.(C)	...that I show respect for the customs of my family and the society I live in.
17.(O)	...that I make my own choices, am free, and not dependent upon others.
18.(O)	...that I can lead an adventurous and exciting life.
19.(C)	...that I behave in an exemplary fashion and refrain from doing things others would disapprove.
20.(C)	...that I honor the customs that are passed on to me by my family and the society I live in.

---

*Note.* I = Intrinsic values (with Items 1&1 assessing self-development, 2& 6 assessing affiliation, 7 & 12 assessing community contribution). E = extrinsic values (with items 3 & 8 assessing financial success, 4 & 9 assessing social recognition, 5 & 10 assessing physical appearance). O = openness to change values (with items 13 & 17 assessing self-direction, 14 & 18 assessing stimulation). C = conservation values (with items 15 & 19 assessing conformity, 16 & 20 assessing tradition).

The scoring procedure for the Values scale was as follows. Each participant's mean value rating over all the 20 values items was computed giving a mean overall value rating (MRAT) for each participant. This mean rating was subtracted from the individual scores on each individual item. In this way each of the items for an individual was centred around that individual's MRAT. The total scores for the values were then computed for Intrinsic, Extrinsic, Conservation and Openness to Change Values, by taking the means of their centred items. Extrinsic versus Intrinsic Values (EXT) for each participant was computed by subtracting the averaged Intrinsic from the averaged Extrinsic scales. Similarly Conservation versus Openness to change values was computed by subtracting the averaged Openness to change score from

averaged Conservation values. The higher the EXT and CON scores the higher the extrinsic and conservation values *relative* to intrinsic and openness values respectively.

**2.4.1.5 The Parents' Value Promotion scale.** The 20-item value promotion scale previously used by Duriez, Soenens, et al. (2007) was used to measure parental value promotion. As mentioned previously, Duriez, Soenens, et al. (2007, 2008) slightly revised the items used to measure values to make them suitable for parent self-report about their daughter (e.g., the item "I find it important that I develop my talents and my personality" was changed to "I find it important that my daughter developed her talents and her personality" and the item "I hope to become a leader in my career field" was changed to "I hope my daughter will become a leader in her career field").

The parental value promotion variables were scored using a slightly different procedure to Duriez, Soenens, et al. (2007, 2008) who have previously used these scales. In their studies Duriez, Soenens, et al. (2007, 2008) combined parent and daughter ratings of parental value promotion in a single score arguing that both assessed the same construct of parental value promotion. In the present study, however, parental value promotion was computed only by parents own reports of value promotion. This was because the aim of the present study was to see which parent variables predicted daughter variables, so for this reason combining the parent and daughter perceptions of parental value promotion would not be useful.

**2.4.1.6 Career Aspirations scale.** Gray and O'Brien's (2007) Career Aspirations Scale was used to assess daughters' own career aspirations as well as parents' career aspirations for their daughters. Gray and O'Brien established the scale's validity and reliability in five studies. The scale has 10 items, with 6 protrait and 4 contrait. Higher scores meant higher career aspirations. The items are shown in Table 3.7. As mentioned previously, the items used to measure parental career aspirations for daughters were slightly revised to make them suitable for

parent self-reporting about their daughter (e.g., the item “I hope to become a leader in my career field” was changed to “I hope my daughter will become a leader in her career field”).

Table 3.7

*The Items in the Career Aspirations Scale*

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1.	I hope to become a leader in my career field.
2.	When I am established in my career, I would like to manage other employees.
3.*	I would be satisfied just doing my job in a career I am interested in.
4.*	I do not plan to devote energy to getting promoted in the organization or business I am working in.
5.	When I am established in my career, I would like to train others.
6.	I hope to move up through any organization or business I work in.
7.*	Once I finish the basic level of education needed for a particular job, I see <u>no</u> need to continue in school.
8.	I plan on developing as an expert in my career field.
9.	I think I would like to pursue graduate training in my occupational area of interest.
10.*	Attaining leadership status in my career is <u>not</u> that important to me.

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*Note.* Items with asterisk were reverse coded.

**2.4.1.7 Self-Esteem.** The multidimensional Fleming and Courtney (1984) version of the Janis-Field Self-Esteem scale was used to assess daughters’ self-esteem in five domains, that is, self-regard, social confidence, school abilities, physical appearance and physical abilities. The scale has well-established reliability and validity (e.g., Lucas, Diener, & Suh, 1996). The scale was shortened from 36 to 20 items so that there were four items assessing each domain. Higher scores meant higher self-esteem. The items in this version are phrased as questions rather than statements and, as shown in Table 3.8, they were used as such for the present study.

Table 3.8

*The Items in the Self-Esteem Scale*


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<b><u>Self-Regard</u></b>	
1.	Do you ever think that you are a worthless individual?
2.	Do you ever feel so discouraged with yourself that you wonder whether you are a worthwhile person?
3.*	In general, how confident do you feel about your abilities?
4.	How often do you have the feeling that there is nothing you can do well?
<b><u>Social Confidence</u></b>	
5.	How much do you worry about how well you get along with other people?
6.	When in a group of people, do you have trouble thinking of the right things to talk about?
7.	How often do you worry about whether other people like to be with you?
8.	How often do you feel worried or bothered about what other people think about you?
<b><u>School Abilities</u></b>	
9.	When you have to read an essay and understand it for a class assignment, how worried or concerned do you feel about it?
10.	How often do you have trouble expressing your ideas when you try to put them into writing as an assignment?
11.	How often do you have trouble understanding things you read for class assignments?
12.	Compared with classmates, how often do you feel you must study more than they do to get the same grades?
<b><u>Physical Appearance</u></b>	
13.	Have you ever felt ashamed of your physique or figure?
14.	Do you often feel that most of your friends or peers are more physically attractive than yourself?
15.	Do you often wish or fantasize that you were better looking?
16.*	How confident are you that others see you as being physically appealing?
<b><u>Physical Abilities</u></b>	
17.	Have you ever thought of yourself as physically uncoordinated?
18.	Have you ever felt inferior to most other people in athletic ability?
19.	When involved in sports requiring physical coordination, are you often concerned that you will not do well?
20.	When trying to do well at a sport and you know other people are watching, how rattled or flustered do you get?

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*Note.* Items with asterisks were reverse coded.

**2.4.1.8 Identification with Parent scale.** Identification with parents was measured using five items derived from studies by Barling, Zacharatos, and Hepburn (1999), Jodl, Michael, Malanchuk, Eccles, and Sameroff (2001) and Sinclair, Dunn, and Lowery (2005). Sinclair et al. (2005) and Barling et al. (1999) each used four items, whereas Jodl et al. (2001) used two items to measure identification with parents. There was considerable overlap of content between the items from the three studies therefore some items were excluded and five items were selected. Participants responded to the same five items separately for their father and mother.



The items and the response categories are shown in Table 3.9. The scale achieved high reliability for fathers and mothers (.88 and .85 respectively).

Table 3.9

*The Identification with Parent Scale*

<u>Items</u>	<u>Response options</u>
1. How much do you care about making your father/mother proud?	Do not care at all 1 2 3 4 5 6 Care a lot
2. How much do you share common beliefs and attitudes with your father/mother?	Do not share at all 1 2 3 4 5 6 Share a lot
3. How much do you enjoy spending time with your father/mother?	Do not enjoy at all 1 2 3 4 5 6 Enjoy a lot
4. How much do you want to be like, your father/mother?	Not at all 1 2 3 4 5 6 Exactly the Same
5. How close do you feel to your father/mother?	Not at all 1 2 3 4 5 6 Very Close

## 2.5 Analyses and Findings of the Main Study

As noted previously, because of the amount and complexity of the data from the main study, the analyses and findings are reported in three distinct parts with a separate chapter devoted to each. Part 1 of the analyses and findings (Chapter 4) reports on the data from the parents' survey and focuses on how the parents' socio-demographic background variables and their social attitudes predict their sexist attitudes as well as their value promotion and career aspirations for their daughters. Part 2 of the analyses and findings (Chapter 5) reports on the data from the daughters' survey to investigate how the daughters' background variables, social attitudes, and values, predict their sexist attitudes, self-esteem, and career aspirations. Finally, part 3 of the analyses and findings (Chapter 6) reports on how the parental variables predict daughters' sexist attitudes, self-esteem, and career aspirations, as well as investigating possible mediation of these effects by parental value promotion and career aspirations, daughters' social attitudes and values, and daughters' identification with their parents. Each of these three chapters is introduced with a brief review of prior research and theory on the specific issues

investigated in the chapter followed by a description of the hypotheses or research questions proposed and the hypothesized model that will be tested.

## CHAPTER 4: ANALYSES WITH PARENTS' DATA

**1. Parent Variables Predicting Parental Sexism, Parent's Value Promotion and Career Aspirations for Daughters (Main Study - Part 1)**

The objective of the analyses reported in this chapter was to use the data from the parents' survey to investigate which parent variables (specifically socio-demographic background variables, RWA, and SDO) predicted parental sexism (BS and HS). The data were also analyzed to investigate whether parental social attitudes and sexism variables predicted the two important daughter related parent attitude and behavior constructs of parents' value promotion for their daughters and their career aspirations for their daughters. For the latter two variables, parental BS and HS were also treated as potential predictors.

Prior to reporting the analyses and findings, relevant prior research and theory is reviewed followed by a description of the main hypotheses and the hypothesized path analytic model that was tested. The literature review focused on the following three topics:

- The predictors of generalized prejudice and the role of RWA and SDO in predicting sexism with a particular emphasis on the differential motivational model of sexism (Sibley, Wilson, et al., 2007).
- Extrinsic (versus intrinsic) and conservation (versus openness) values and the possible role of parental sexism (HS and BS) and other social attitudes (parental RWA and SDO) in promoting these values in offspring.
- The association of BS, HS, and other social attitudes with career aspirations with a particular emphasis on the opposing process model of BS (Sibley & Perry, 2010).

## 2. Literature Review

### 2.1 Predictors of Generalized Prejudice and Sexism

Theorists have long attempted to discover a relatively stable single personality variable that could explain a range of out-group prejudices. In their classic study Adorno, Frenkel-Brunswik, Levinson, and Sanford (1950) proposed the concept of an authoritarian personality. Allport (1954), based on his observation that people who were prejudiced against one out-group were also prejudiced against a number of other out-groups, also proposed that personality was one of the sources of prejudice. Allport (1954) and Adorno et al. (1950) both identified prejudice against women (or HS) as arising from a generalized “prejudiced personality”. After decades of research the two strongest individual difference predictors of generalized prejudice and of sexism have emerged as right wing authoritarianism and social dominance orientation (Adorno et al., 1950; Altemeyer, 1996, 2004; Duckitt & Sibley, 2007, 2009, 2010; McFarland, 2010).

**2.1.1 Right wing authoritarianism.** Based on psychoanalytic theory, Adorno et al. (1950), proposed an attitudinal syndrome consisting of nine covarying traits. They developed a scale named the F scale to assess the authoritarian personality, which they thought engendered fascist ideologies. They assumed that parenting characterized by strict discipline, harsh punishment, and lacking in warmth would produce this pathological authoritarian personality. However, partly due to many weaknesses in their scale, their perspective later lost popularity (Altemeyer, 1981; Duckitt, 2001). Altemeyer (1981) pointed out that the F scale was not unidimensional and measured several poorly related factors. Of the original nine traits Adorno et al. (1950) had listed as characteristic of the authoritarian personality, Altemeyer identified only three factors: conventionalism, authoritarian aggression, and authoritarian submission which covaried strongly. Altemeyer (1981) developed his Right-wing Authoritarianism (RWA) scale

measuring these three factors as one social attitude dimension. Additionally, Altemeyer assumed that RWA was acquired through social learning (rather than resulting from harsh parenting). Subsequent research showed that the RWA scale was a unidimensional and reliable measure of authoritarianism that powerfully predicted prejudice against a variety of out-groups including prejudice against women (Altemeyer, 1981, 1996, 2004; McFarland, 2010; Sibley, Wilson & Duckitt, 2007).

**2.1.2 Social dominance orientation.** Pratto, Sidanius, Stallworth, and Malle (1994) developed social dominance theory which attempts to explain intergroup conflicts and the oppression and discrimination found in many human societies. They defined social dominance orientation (SDO) as “the extent to which one desires that one’s in-group dominate and be superior to out-groups” (Pratto et al., 1994, p. 742). They suggested that SDO as measured by their scale was a generalized orientation for preferring equal versus hierarchical intergroup relations, which correlated highly with other measures of prejudice such as sexism.

SDO and RWA have both been found to predict social and political conservatism and generalized prejudice (Altemeyer, 1996, 2004; Duckitt & Sibley, 2007, 2009, 2010; McFarland, 2010; Wilson & Sibley, 2013). At first RWA and SDO were viewed as different aspects of a single personality trait that gave rise to generalized prejudice. However, Duckitt (2001) presented the dual process model arguing that RWA and SDO were two distinct dimensions.

**2.1.3 The dual-process model: RWA, SDO and sexism.** Duckitt (2001) pointed out that the two scales showed differential patterns of correlations and sometimes predicted generalized prejudice independently. He outlined a dual-process motivational model of how these two dimensions originated from particular personality dispositions and socialized worldview beliefs. In addition, the model explained how and why the different underlying motivational values of RWA and SDO influenced a range of social outcomes. Duckitt also pointed out that the items in the RWA and SDO scale did not measure personality but attitudes.

According to Duckitt's (2001) dual process model, RWA arises from harsh and punitive parenting, which gives rise to a heightened sense of threat and a perception of the world as threatening. This in turn, produces dispositional social conformity to escape threat and engenders authoritarianism. Therefore, authoritarianism correlates strongly with values of conformity, security, and traditionalism and with a perception of the world as threatening. On the other hand, SDO is rooted in an absence of childhood affection, which creates cold-heartedness and striving for superiority; these in turn, engender a perception of a competitive world and gives rise to SDO which correlates strongly with Machiavellianism and Altemeyer's (1998) Exploitive Manipulative Amoral Dishonesty Scale (Duckitt, 2001).

RWA and SDO serve as differential predictors of prejudice in immediate social contexts because they arise from differential motivational goals, different personalities, and different social world views. For example, Duckitt and Sibley (2007, 2010) demonstrated that RWA, but not SDO, predicted prejudice towards dangerous out-groups while SDO, but not RWA, predicted prejudice towards derogated groups and both SDO and RWA predicted prejudice against dissident groups.

**2.1.4 Applying the dual-process model to the prediction of HS and BS: A differential motivational model.** RWA and SDO have both been shown to predict sexist attitudes (Altemeyer, 1996; Pratto et al., 1994). However, before the development of ambivalent sexism theory researchers did not differentiate between hostile and benevolent forms of sexism. Sibley, Wilson, and Duckitt (2007) combined the dual process model with ambivalent sexism theory and showed that RWA and SDO differentially predicted BS and HS in men. Sibley, Wilson, et al. (2007) argued that a threat-driven motivation to seek security and cohesion, which was indexed by RWA, produced BS because BS was a conservative ideology about women and may not necessarily arise from a motivation to subjugate women. On the other hand, a

competitively driven motivation for intergroup dominance, indexed by SDO produced HS because HS represented overt hostility towards women who challenged male power.

They conducted three studies. In the first study they reported a meta-analysis of six previous studies computed separately for men and women and demonstrated that men's SDO (controlling for RWA) was moderately positively associated with HS but not BS, whereas men's RWA (controlling for SDO) was moderately associated with BS but only weakly associated with HS. For women, however, the differential effects hypothesis was not clearly supported. Women's RWA was positively associated with both HS and BS (the effect was marginally stronger for BS). Similarly, women's SDO had a weak positive association with both HS and BS. According to Sibley, Wilson, et al. (2007), sexism for women was not merely a form of out-group prejudice but represented in-group attitudes. Therefore, the motive for in-group domination indexed by SDO may not produce HS in women as strongly as in men. They further suggested that for women the relationship between HS and SDO may be moderated by the extent to which they identified with women as a group or with men (or, more generally, with male dominated society).

In their second study, Sibley, Wilson, et al. (2007) used cross-sectional data (men only) and structural equation modeling to investigate how dual personality traits (social conformity, tough mindedness), social worldviews (dangerous and competitive worldview) and motivational goals (security-cohesiveness motive indexed by RWA; dominance-superiority motive indexed by SDO) predicted HS and BS. The results showed that consistent with the dual process model there was differential prediction of HS and BS. A personality disposition high in social conformity led men to perceive a dangerous social world which in turn led to heightened levels of RWA. In contrast, a personality disposition high in tough-mindedness led men to perceive a competitive social world which in turn led to heightened levels of SDO. RWA and SDO then directly and uniquely predicted BS and HS respectively. In addition, the model indicated that BS

predicted HS which was consistent with Glick and Fiske's (1996) proposal that BS justified and propagated HS. In Study 3, Sibley, Wilson, et al. used longitudinal analyses to demonstrate that SDO predicted increases in HS (but not BS) and RWA predicted increases in BS (but not HS) over a 5-month period in men. Unexpectedly, BS did not predict significant increases in HS over the five month period although the effect was in the hypothesized direction and approached significance ( $\beta = .15, p = .10$ , one tailed). Women's data was not studied in this research.

The research of Sibley, Wilson, et al. (2007) was important for understanding the nature of BS and HS in terms of the different motivational bases, world views, and personalities which may underlie these two different dimensions of sexism. The results extended the application of the dual process model as well as ambivalent sexism theory and suggested that the motivational bases of HS and BS were different for men and for women.

#### **2.1.5 Other research on the association of RWA and SDO with BS and HS.**

Christopher and Wojda (2008) examined the effects that people's RWA and SDO had on their attitudes about working women, and investigated how BS and HS mediated these relationships. Their findings closely resembled the findings of Sibley, Wilson, et al. (2007). Christopher and Wojda argued that prejudice against working women might manifest itself in either blatant or subtle ways. They used a 10-item Brief Multidimensional Aversion to women Scale (Valentine, 2001, as cited in Christopher & Wojda 2008) to measure attitudes towards women in the workplace. This measure contained two subscales: employment skepticism and traditional role preference. They noted that items measuring employment skepticism represented blatant prejudice whereas items measuring traditional role preferences represented a subtle kind of prejudice. They argued that traditional role preference was endorsed by people who believed in a traditional division of roles for men and for women. These people therefore opposed women entering non-traditional careers not because they perceived women as being inferior to men but because they thought women were better at being home-makers. They suggested that SDO was



more strongly related to blatant prejudices (Van Hiel & Mervielde, 2005; cited in Christopher & Wojda, 2008) such as HS and employment skepticism. BS and traditional role preference in their view represented a more subtle kind of prejudice with more emphasis on traditionality and was more strongly related to RWA. Christopher and Wojda (2008) offered two hypotheses. Their first hypothesis was that SDO would uniquely predict employment skepticism and this relationship would be mediated by HS but not by BS. Their second hypothesis was that RWA would uniquely predict traditional role preference, and this relationship would be mediated by BS, but not by HS.

Consistent with their hypotheses they found that SDO, but not RWA, significantly predicted employment skepticism, after controlling for other variables. Additionally HS partially mediated the relationship between SDO and employment skepticism. RWA (and to a lesser extent, SDO) significantly predicted traditional role preference, after controlling for other variables. Additionally BS fully mediated the relationship between RWA and traditional role preference.

They discussed their findings in the light of the multifaceted nature of prejudice toward working women and inferred that different facets of this prejudice had different ideological bases. Thus, in their view an individual high in SDO maintained a clear differentiation between men and women through HS and thus justified feelings of employment skepticism about women. In the same manner, BS was the means through which an individual high in RWA maintained the traditional division between men's and women's roles and thus justified feelings of traditional role preference for women.

Their findings resembled those of Sibley, Wilson, et al. (2007) in many ways although they did not use the dual process model to explain them. They also found that HS and BS were differentially predicted by SDO and RWA respectively and mediated effects of SDO and RWA on blatant and subtle types of prejudice against working women respectively. They interpreted

the different kinds of sexism and prejudice indicated by their research in terms of blatant versus overt prejudice and tried to understand how they might influence each other. The interpretation provided by Sibley, Wilson, et al. (2007) on the other hand went further by combining two existing theories (ambivalent sexism theory and the dual process model of prejudice) and by extending them.

The relationships of RWA and SDO with BS and HS have also been reported in other studies with findings consistent with those of Sibley, Wilson, et al. (2007). For example, Christopher and Mull (2006) investigated the associations between different facets of conservative ideology, Protestant work ethic, and sexism. They did not report men and women's data separately. Nevertheless, their hierarchical regressions revealed similar findings to Sibley, Wilson, et al.'s (2007) since RWA was reported to most strongly predict BS whereas SDO (and Protestant work ethic) most strongly predicted HS.

Sibley and Overall (2011) studied the role of the dual process motivational model in mate selection. They found that the effect of men's SDO on mate selection was mediated through HS, whereas the effect of women's RWA on mate selection was mediated through BS. These results also suggested that the motivational bases of BS may be more consistent with RWA whereas the motivational bases of HS may be more consistent with SDO.

Although researchers have investigated other variables as predictors of generalized prejudice (see for example, McFarland, 2010) RWA and SDO invariably explain most of the variance associated with generalized prejudice (Altemeyer, 2004; McFarland, 2010). Therefore, RWA and SDO were included in the current research as the main predictors of HS and BS along with demographic variables.

## 2.2 Extrinsic and Conservation Values

Values are defined as desirable, abstract goals in peoples' lives that work as guiding principles and apply across situations (Schwartz, 1992). Values are important because they serve as criteria to choose, justify, and motivate actions (Schwartz, 1992). Schwartz elaborated a cross cultural values model that consisted of 10 human value types. These were ordered along two major orthogonal dimensions: openness to change versus conservation and self-enhancement versus self-transcendence. The self-enhancement versus self-transcendence dimension encompasses power values and is very similar to the extrinsic versus intrinsic value categorization of self-determination theory (Deci & Ryan, 2008; Duriez, Soenens, et al. 2007; Duriez et al. 2008; Sheldon & Kasser, 2001)

Self-determination theory researchers have proposed that some kinds of values are better and healthier than others (Deci & Ryan, 2008; Kasser, 2002; Sheldon & Kasser, 2001). They offered a multidimensional model of values that distinguished between extrinsic and intrinsic types of values and argued that focusing on extrinsic or materialistic values (such as financial success, fame, and physical appearance) rather than on intrinsic values (such as growth, community contribution, and affiliation) were detrimental to people's well-being. This was because extrinsic pursuits less directly satisfy psychological needs for growth and lead to excessive interpersonal comparisons and unstable self-esteem and less satisfied growth needs. On the other hand, intrinsic values were directly related to satisfying authentic psychological needs for growth, greater goal attainment and self-actualization (Deci & Ryan, 2008; Kasser, 2002; Sheldon & Kasser, 2001).

Schwartz's (1992) conservation value dimension (as the opposite pole of openness to change) includes the value types of conformity and tradition. Schwartz defined conformity as valuing obedience, self-discipline, politeness and honouring of parents. Tradition values were

categorized as respect, commitment and acceptance of ones' culture and religion. According to the dual process model, conformity is extremely important for the development of RWA (Duckitt, 2001) and conservation versus openness to change values has been shown to be associated with RWA (Duriez, Soenens, et al., 2007; Duriez et al., 2008).

**2.2.1 Extrinsic and conservation value promotion by parents.** Parental value promotion is an important parenting technique which should be studied in order to understand parental influence on children (Darling & Steinberg, 1993). According to Darling and Steinberg parental value promotion pertains to the content of what parents socialise in their children as opposed to parents' rearing style which pertains to how the emotional climate within the family facilitates the socialization process. Parents and teachers as significant socializing agents can play a very important role in value acquisition by children (Vansteenkiste, Lens, & Deci, 2006). According to Altemeyer (2004) parents' encouragement of children to adhere to norms and obey authority may be sufficient to make children endorse RWA. Similarly, teaching children that one can only get ahead in life at the expense of others may heighten their endorsement of SDO. Parental conservation versus openness and extrinsic versus intrinsic value promotion variables have been found to play important roles in their offsprings' learning of social attitudes and ethnic prejudice (Duriez et al., 2008; Duriez, 2011).

In addition to the development of offspring attitudes, parental value promotion may also play an important role in offspring well-being. A substantial body of research in the field of self-determination theory has confirmed that focusing on intrinsic values relative to extrinsic values is associated with greater well-being for individuals (Sheldon, Gunz, Nichols, & Ferguson, 2010; Sheldon & Kasser, 2001). Furthermore, research has shown that the negative relationship of extrinsic values with well-being exists regardless of the predominant environmental value types (Vansteenkiste, Duriez, Simons, & Soenens, 2006). This seems to imply that parental extrinsic value promotion will also likely produce lower well-being in children regardless of the

fact that their values match their environment. Research has also revealed that extrinsic (relative to intrinsic) value promotion lowered individual functioning, including engagement in learning, performance, and persistence (Vansteenkiste, Simons, Lens, Sheldon, & Deci, 2004). Parents therefore may play a very important role in optimizing the learning process of their children by encouraging the right values.

The association of conservation relative to openness values with well-being has not been investigated as much as for extrinsic values. Sagiv and Schwartz (2000) investigated the associations between value preferences and subjective well-being and found a positive association between conformity (and security) values and affective well-being but not between conformity and security values and cognitive well-being. However, conformity values have been found to cluster with extrinsic goals in a circumplex model (Grouzet et al., 2005) and parental promotion of both these two value dimensions (Duriez, Soenens, et al., 2007) has been reported in several studies as underlying the parental transmission of RWA and SDO to their offspring (Duriez, Soenens, et al., 2007; Duriez et al., 2008).

Duriez, Soenens, et al. (2007) examined the importance of two different aspects of parenting in the prediction of adolescent RWA and SDO. These included the styles parents used when relating to their children (parental regulation and need support) and the types of values they promoted (extrinsic and conservation values) while raising their children. They carried out two studies with high school students who responded to questionnaires reporting on their own RWA and SDO and parents' value promotion and parenting styles. The first study involved only cross-sectional data whereas the second used longitudinal data. The results revealed that only the value promotion variables predicted adolescents' RWA and SDO longitudinally, whereas parenting styles were not related to increases in RWA and SDO longitudinally. Conservation value promotion by the parent predicted increases in RWA in the cross-sectional data as well as

over a period of one year. Extrinsic value promotion by the parents predicted increases in SDO as well as RWA in the cross-sectional analyses as well as over a one year period.

The cross-sectional analyses in both of the studies also revealed that there were significant main effects of parenting styles on RWA as well as moderated effects between need support and the two value promotion variables. Extrinsic and conservation value promotion predicted heightened RWA only when parents had a more need-supportive style. When parents had a less need-supportive style, conservation value promotion was associated with a decrease in RWA. These interaction effects did not appear in the longitudinal analyses therefore the authors suggested that they should be interpreted with caution. Overall, the results of the longitudinal analyses revealed that parental value promotion was more powerful than parenting styles in predicting adolescent's attitudes.

In another article, Duriez, et al. (2008) examined conservation and extrinsic variables as mediators or process variables in the transmission of RWA and SDO from parents to offspring in a sample of middle adolescents. Parents and adolescents both responded to the questionnaire and reported on their RWA and SDO. Parents and adolescents also reported on the extent to which parents promoted extrinsic and intrinsic values and conservation and openness values in their offspring. The parents own and offspring report about parental value promotion were combined to make a single index of parental value promotion.

Consistent with expectations, adolescent's RWA and SDO were positively associated with parents' RWA and SDO. Parents who were high in SDO promoted more extrinsic values in offspring. Parents who were high in RWA promoted more conservation as well as more extrinsic values in offspring. Duriez et al. (2008) then used structural equation modelling to demonstrate that parental conservation value promotion fully mediated the association between parent and offspring RWA whereas parental extrinsic value promotion fully mediated the association between parent and offspring SDO. The results were consistent with Duriez et al.

(2007) except that there was no significant concurrent path from parental extrinsic value promotion to RWA. In addition, there were significant indirect effects of parental RWA on offspring SDO through extrinsic value promotion. Duriez et al. (2008) discussed these results in light of Duckitt's (2001) dual process theory of prejudice. Parental RWA was uniquely and specifically associated with offspring RWA. Parental SDO was uniquely and specifically associated with offspring SDO. Parental extrinsic versus intrinsic value promotion specifically affected adolescent's SDO. Parental conservation versus openness specifically affected adolescent's RWA. These results therefore suggested that SDO and RWA had different origins and should be considered independent cognitive-motivational systems as proposed by the dual process theory of prejudice.

Duriez et al. (2008) also discussed the unexpected indirect effect of parents' RWA on adolescents' SDO through parental extrinsic value promotion. They argued that parents high in RWA may promote more extrinsic values rather than intrinsic values in children because they may believe that these values might be useful in maintaining the prevailing way of life. Overall, the results highlighted the role of parental extrinsic versus intrinsic and conservation versus openness to change value promotion in relation to SDO and RWA (Duriez et al., 2008).

**2.2.2 The association between parental sexist attitudes and parental value promotion.** SDO and RWA are closely associated with HS and BS (Sibley, Wilson, et al., 2007). Parents who are high in SDO are more likely also to be high in HS and parents who are high in RWA are more likely also to be high in BS and HS. Parents' HS and BS may be especially relevant for daughters and may affect the values which parents promote in daughters. However, no research has yet reported the role of parental BS and HS in extrinsic and conservation value promotion.

There is reason to believe that sexist attitudes may have positive associations with conservation and extrinsic value promotion. BS may be associated with conservation value

promotion because both are positively associated with RWA (Sibley, Wilson, et al. 2007; Duckitt, 2001). BS is a traditional ideology (Glick & Fiske, 1996) that may engender conservation values because of its system-justifying effect (Glick & Fiske, 1996; Hammond & Sibley, 2011). BS may also be associated positively with extrinsic values because RWA has been found to be associated with extrinsic value promotion (Duriez, Soenens, et al., 2007; Duriez et al., 2008).

Previous research also suggests that BS might be associated with extrinsic and conservation values. BS was found to mediate the association between RWA in women and women' increased preference for a partner of high financial status (categorized as an extrinsic goal) (Sibley & Overall, 2011), and more concern with physical appearance, cosmetic use and intentions to spend time in appearance management activities (Calogero & Jost, 2011; Forbes et al., 2004).

HS may be positively related to extrinsic value preference because both are associated with SDO (Duriez et al., 2008; Sibley, Wilson, et al., 2007). Both men and women who endorse higher HS put more emphasis on women's physical attractiveness, beauty, and thinness rather than personal qualities (Forbes et al., 2007). Travaglia et al. (2009) demonstrated that although all men preferred an attractive partner, men higher in HS preferred it significantly more than men lower in HS. Sibley and Overall (2011) obtained similar results and demonstrated that men high in SDO reported more preference for a physically attractive romantic partner and that the association was mediated by their HS.

Taken together, these findings suggest that parents high in BS and HS seem more likely to want their daughters to have a wealthier partner, and more likely to want their daughters to look physically attractive than parents low in HS and BS. Alternatively, parents higher in HS and BS seem less likely to promote intrinsic values (such as community contribution, self-development or affiliation) in daughters.



Similarly parents high in BS seem more likely to promote conservation rather than openness to change values in daughters because they might believe that their daughters will be able to gain the benefits of BS by conforming to the idealized stereotypes of women being nicer. Parents high in HS will also be more likely to promote conservation rather than openness to change values in daughters because they believe in a male dominated society and have negative attitudes about women who do not conform to these values.

### **2.3 Parental Sexism and Parental Career Aspirations for Daughter**

Prior research has shown that women in non-traditional roles such as career-women are perceived less favourably than women in traditional roles (Brescoll & Uhlmann, 2005; Heilman, Wallen, Fuchs, & Tamkins, 2004). Recent research on the hostile and benevolent dimensions of sexism, as noted previously in the general literature review, has also shown consistent results. People endorsing higher HS evaluated women managers more negatively (Sakalli-Ugurlu & Beydogan, 2002), evaluated female candidates for a managerial job less favorably, made lower employment recommendations for female candidates and higher recommendations for male candidates (Masser & Abrams, 2004), and express increased opposition to gender equality in employment opportunities (Sibley & Perry, 2010).

Similarly, people endorsing BS perceive women as warm and wonderful but also weak and incompetent (Eckes, 2002; Glick & Fiske, 1996) and therefore less suitable for high-status careers which require competence. Vescio et al. (2005) found that male participants as team leaders who behaved in more patronizing ways towards female subordinates gave them more praise but assigned them few resources and less valued positions in the team. Similar findings were reported by Biernat et al. (2012) about female law associates receiving lower numerical ratings required for promotions but more positive narrative evaluations which did not help them

in career development. Benevolent sexist managers assigned women employees less challenging tasks than were required for professional growth (King et al., 2012).

Christopher and Wojda (2008), as noted previously, revealed that HS and BS both predicted negative attitudes towards working women but in different ways. They demonstrated that HS mediated the association between SDO and employment scepticism whereas BS mediated the association between RWA and traditional role preference for women. These findings are consistent with ambivalent sexism theory suggesting that BS and HS are complementary ideologies which both engender negative views about women's pursuit of career and thus perpetuate gender-inequality.

There has been little research directly on the relationship of parental BS and HS with their daughters' career aspirations. In a recent study that was discussed earlier, Montanes et al. (2012) investigated mother-daughter dyads and found that mothers who endorsed more BS had daughters with worse academic performance. Mothers' BS positively predicted daughters' BS which then predicted lower intentions for an academic degree, lower academic performance, and more traditional goals. Mothers higher in BS therefore indirectly promoted traditional role preference in daughters through lower actual and aspired academic achievement and more traditional goals (Montanes et al., 2012).

In summary, previous research suggests that people who are higher in HS and BS will be more likely to disapprove of their daughters being career-oriented and more likely to approve when daughters are oriented toward traditional familial roles. This may be true for parents high in HS as well as in BS. However, there is some evidence that higher BS may sometimes have a *positive* influence on people's career related attitudes about women. Two findings suggesting this are summarised below.

**2.3.1 The opposing process model of BS.** There is some research suggesting that BS may have a positive association with attitudes about women's careers *once the association*

*between HS and BS was controlled.* Sakalli-Ugurlu and Beydogan (2002) investigated the association between the endorsement of patriarchy, sexism, and attitudes towards women managers in Turkish undergraduate students. They found, as expected, that participants who scored higher on patriarchy and HS had less favorable attitudes towards women managers. However, unexpectedly, participants who endorsed more BS had more favorable attitudes toward women managers. The association between BS and a favorable attitude towards women managers was weak and became significant ( $\beta = .16, p < .01$ ) in multiple regression only after controlling for HS and patriarchy, while at the correlational level there was a negative association between the two variables ( $r = -.11$ ). Sakalli-Ugurlu and Beydogan suggested that this unexpected positive effect in the regression analysis was probably due to the more traditional and more sexist Turkish culture where people might not recognize BS as sexism. They suggested that studies conducted in less sexist countries might have different results.

Sibley and Perry (2010) proposed the opposing process model of BS to explain how BS simultaneously gives rise to dual and opposing effects in women with regards to support for gender-equality. They carried out two studies to investigate their model. The first study used cross-sectional data collected from 336 New Zealanders who responded to the ASI and a scale assessing attitudes to social policies promoting gender equality in income and employment opportunity. The results showed that HS was negatively correlated with gender equality policies whereas BS did not have a significant association with gender equality policies at the bivariate correlation level. However, after controlling for HS they found two significant interactions. The first was that gender moderated the effects of BS on HS and the second was that gender moderated the effects of BS on attitudes toward gender equality in income and employment opportunities. The results demonstrated that once HS was controlled, women's BS (but not men's BS) was associated with endorsement of policies enhancing gender equality (of income

and employment opportunities). At the same time women's BS also exerted an opposing effect by indirectly predicting opposition to social policies promoting gender equality through HS.

Sibley and Perry (2010) conducted a second study to extend these analyses using a cross-lagged panel design over 9 months with female undergraduate students. The cross-lagged analyses supported the assumptions of the opposing process model of BS and replicated the findings of the first study. Thus, it was found that women's HS predicted increased opposition to social policies promoting gender equality of income and employment opportunity over the 9-month period while BS predicted increased support for those social policies over the same period. Sibley and Perry (2010) therefore suggested that BS in women partially reflects in-group favoritism. Thus, BS resulted in support for policies enhancing gender equality while also increasing HS and therefore resulted in opposition of these policies indirectly.

### **3. The Present Research**

The objective in this section is to analyse parents' data to investigate what parental background and attitudinal variables predict their BS and HS, and to what extent these variables all predict the values they promoted in their daughters and their career aspirations for their daughters. The results of the investigation are presented in three steps.

The first step is concerned with the prediction of sexism and will test whether SDO and RWA (in addition to the demographic variables of age, income and education) differentially predict parents' BS and HS. This step in the analyses will therefore partially replicate study 1 of Sibley, Wilson, et al.'s (2007) research with a sample of parents.

In the second step the aim is to investigate how BS and HS (in addition to RWA, SDO and demographic variables) predict parental value promotion for their daughters. On the basis of the prior findings by Sibley, Wilson, et al. (2007) and Duriez et al. (2008) it is hypothesized that parents' HS should (at least partially) mediate the association between SDO and extrinsic versus

intrinsic value promotion, whereas parents' BS should (at least partially) mediate the association between RWA and conservation versus openness and extrinsic versus intrinsic value promotion.

Finally, in the third step the specific aim is to investigate how BS and HS (in addition to RWA, SDO and demographic variables) predict parental aspirations in regard to their daughter's career.

### **3.1 Parents and the In-group Bias for Daughters' Career Aspirations**

In the present investigation parents will not be expressing their attitudes about the career aspirations of women in general but about the career aspirations of their own daughters. It is likely therefore that daughters' status as an in-group family member will influence their responses about aspirations for their daughter's career. Both RWA and SDO, which predict BS and HS, are also associated with in-group bias. Therefore persons higher in RWA and SDO, and consequently HS and BS, should be disposed to exhibit in-group bias and express higher career aspirations for their own daughters regardless of their attitudes towards women in general.

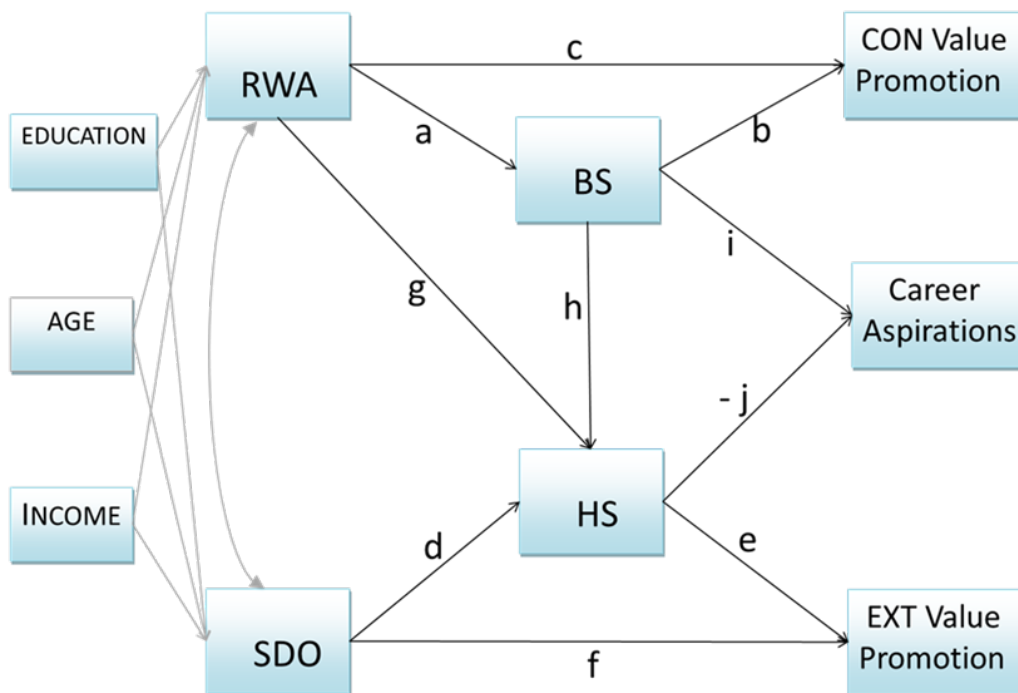
Therefore, consistent with the opposing process model of sexism, it was hypothesized that parents' BS may be positively associated with daughters' career aspirations once their HS is controlled because of this in-group bias for daughters. Due to the blatant hostile beliefs expressed in the HS scale against non-traditional women, it is still more likely that parents' HS will have a negative overall association with their career aspirations for their daughters.

### **3.2 Proposed Path Model**

A path model was derived based on prior findings from Sibley, Wilson, et al. (2007), Duriez et al. (2008), and Christopher and Wojda (2008) to show possible mediational pathways in the way in which SDO and RWA might predict the two forms of sexism (BS and HS) and in turn, how they might together predict the two kinds of parental value promotion (extrinsic

versus intrinsic and conservation versus openness value promotion) and their career aspirations for their daughters.

This path model is shown in Figure 4.1. At the first level, background variables (parents' education, income, and age) are entered. Parents' RWA and SDO are entered as predictors at the second level. BS and HS are entered as predictors at the third level. Finally parental value promotion and career aspirations for their daughters are entered as outcome variables at the fourth level.



*Figure 4.1:* Model of proposed associations of social dominance orientation (SDO), right wing authoritarianism (RWA), benevolent sexism (BS) and hostile sexism (HS) on subsequent levels of extrinsic (EXT) and conservation (CON) value promotion and career aspirations for daughters.

All the assumed paths are positive except path *j*.

As detailed in Figure 4.1, the demographic variables of parents' age, income and education were assumed to predict parents' RWA and SDO directly and they were included in

the models for regression and path analyses. Next, it was posited that RWA should predict the endorsement of BS (path *a*) which in turn should predict conservation versus openness (CON) value promotion (path *b*). Path *c* denotes the direct associations of parents' RWA with CON value promotion and it is hypothesized that parents' BS should (at least partially) mediate this association. At the same time SDO should predict the endorsement of HS (path *d*) which in turn should predict EXT value promotion (path *e*). Path *f* denotes the direct association of parents' SDO with EXT value promotion and it is hypothesized that parents' HS should (at least partially) mediate this association. Similarly the association between RWA and HS (path *g*) is assumed to be mediated by BS. As RWA is expected to also predict EXT value promotion, this effect is assumed in the present model to be mediated by BS and HS and so a direct path is not depicted. For the prediction of career aspirations it is assumed that HS should negatively predict career aspirations (path *j*) and BS should positively predict career aspirations for daughters (path *i*). Finally the endorsement of BS should predict the endorsement of HS (path *h*). This is because prior longitudinal research has suggested a particular causal ordering with BS being causally prior to HS (Sibley, Overall, et al., 2007; Sibley et al., 2009). All the hypothesized paths are positive except path *j* which is negative as is shown in the Figure 4.1. (Although directional effects were hypothesized, all the analyses reported used two-tailed tests of significance.)

The model presented in Figure 4.1 is intended only as a preliminary hypothetical model for deriving hypotheses for testing by correlational and regression analyses. This preliminary model would then be modified in light of those results and that model would then be tested using path analyses. The hypothesized model was the same for mothers and fathers. However, some differences were expected between mothers and fathers. As Sibley, Wilson, et al. (2007) pointed out for women sexism partly represents own-group attitudes so that in women the motivation for endorsing HS should not be based on group domination but on conservation of traditional societal norms which is indexed by RWA. Therefore, clear-cut differential

associations of RWA and SDO with BS and HS respectively were not found in women's data in their meta-analysis and are not expected for mothers in the present case. It is expected that for mothers RWA may predict HS as strongly as SDO.

The results of the zero-order correlations and hierarchical multiple regression analyses conducted to test the above hypothetical model and derived hypotheses are presented in the next section followed by the results of the path analyses.

## **4. Results**

This section presents the results of statistical analyses of the parents' data. The descriptive statistics are presented first. Before the analyses expectation maximization (Schafer & Graham, 2002) was used to estimate isolated missing values (0.56% for mothers', 0.71% for fathers' and 0.49% for daughters' data) so that the full data sets could be used for analyses.

### **4.1 Descriptive Statistics and Internal Consistency**

Descriptive statistics and alpha coefficients to assess the internal consistency of the scales used for measuring father and mother variables are shown in Table 4.1 and 4.2 respectively. Most of the scales were satisfactorily internally consistent with alpha levels above .70. The alphas for SDO and Intrinsic value promotion for both parents and Openness value promotion for mothers were somewhat low but still acceptable given the shortness of these scales with only six and four items respectively (Gregory, 2004).



Table 4.1

*Descriptive Scale Statistics for Fathers (N = 138)*

Scale	No. of items	$\alpha$	Mean inter-item correlation	$M$	$SD$	Skewness	SE of Skewness	Kurtosis	SE of Kurtosis
Social attitudes									
BS	11	.83	.31	3.20	1.13	-.50	.21	.08	.41
HS	11	.89	.43	2.83	1.19	-.22	.21	-.56	.41
RWA	8	.71	.23	3.03	1.03	-.61	.21	-.23	.41
SDO	6	.65	.25	1.89	1.20	.40	.21	-.23	.41
Value promotion*									
EXT (E-I)	12	.85/.65	.48/.26	-1.42	1.12	-.36	.21	-.06	.41
CON (C-O)	8	.74/.72	.30/.40	-.28	1.15	-.25	.21	.99	.41
Career aspirations for daughters	10	.77	.28	4.14	.84	-.10	.21	-.71	.41

*Note.* BS = Benevolent Sexism; HS = Hostile Sexism; SDO = Social Dominance Orientation; RWA = Right Wing Authoritarianism; E = Parent's Promotion of Extrinsic Values in daughter; I = Parent's Promotion of Intrinsic Values in daughter; EXT = Parent's Promotion of Extrinsic relative to Intrinsic Values in daughter (calculated as E minus I); C = Parent's Promotion of Conservation Values in daughter; O = Parent's Promotion of Openness to Change Values in daughter; CON = Parent's Promotion of Conservation relative to Openness to Change Values in daughter (calculated as C minus O).

\* Alphas and mean inter-item correlations for the value promotion scales were calculated separately for I, E, O and C scales before centring the scales.

Table 4.2

*Descriptive Scale Statistics for Mothers' (N = 143)*

Scale	No. of items	$\alpha$	Mean inter-item correlation	$M$	$SD$	Skewness	SE of Skewness	Kurtosis	SE of kurtosis
Social attitudes									
BS	11	.86	.37	2.71	1.28	-.06	.20	-.50	.40
HS	11	.84	.33	2.32	1.10	.39	.20	.28	.40
RWA	8	.77	.29	3.06	1.12	-.10	.20	-.17	.40
SDO	6	.65	.24	1.65	1.08	.17	.20	-.85	.40
Value promotion*									
EXT (E-I)	12	.79/.69	.38/.30	-1.71	1.09	-.04	.20	-.08	.40
CON (C-O)	8	.70/.63	.39/.30	-.42	1.20	.48	.20	2.04	.40
Career aspirations for daughters	10	.77	.27	4.28	.82	.05	.20	-.76	.40

*Note. Note.* BS = Benevolent Sexism; HS = Hostile Sexism; SDO = Social Dominance Orientation; RWA = Right Wing Authoritarianism; E = Parent's Promotion of Extrinsic Values in daughter; I = Parent's Promotion of Intrinsic Values in daughter; EXT = Parent's Promotion of Extrinsic relative to Intrinsic Values in daughter (calculated as E minus I); C = Parent's Promotion of Conservation Values in daughter; O = Parent's Promotion of Openness to Change Values in daughter; CON = Parent's Promotion of Conservation relative to Openness to Change Values in daughter (calculated as C minus O).

\* Alphas and mean inter-item correlations for the value promotion scales were calculated separately for I, E, O and C scales before centring the scales.

The comparison of the mean scores of mother and father variables was also carried out using t-tests. The comparisons revealed that fathers were significantly higher than mothers in the endorsement of SDO ( $t = 2.32, p < .01$ ), HS ( $t = 4.51, p < .00$ ), and BS ( $t = 4.11, p < .00$ ). Fathers also promoted significantly more extrinsic values relative to intrinsic values in daughters than mothers ( $t = 2.79, p < .01$ ). For career aspirations mothers scored significantly higher than fathers ( $t = -2.00, p < .05$ ). The fathers' and mothers' scores did not differ significantly for RWA ( $t = -0.50, p = .55$ ) and for conservation relative to openness to change value promotion ( $t = 1.03, p = .31$ ).

According to West, Finch, and Curran (1995) skewness values greater than 2.00 and kurtosis values greater than 7.00 show significant departures from normality. The kurtosis and skewness values in the present data fall below these values suggesting that non-normality was not a problem.

## 4.2 Correlations

Correlational analyses were conducted first to investigate the associations among the father variables, then among the mother variables, and finally between mother and father variables. The correlations among the father and among the mother variables are presented in Table 4.3.

**4.2.1 Intercorrelations among father and mother variables.** The zero order correlations within the mother and father variable sets showed very similar patterns of significant associations in the two data sets. As expected one cluster of significant correlations was between ideological and gender attitude variables in both data sets. The two sexism variables had significant positive relationships with each other as well as with RWA, SDO and EXT and CON value promotion by parents. An exception was BS in fathers, which did not have a significant association with fathers' SDO.

Consistent with prior research on the role of parental value promotion in the inter-generational transmission of RWA and SDO (Duriez, Soenens, et al., 2007; Duriez et al., 2008), SDO in both parents was positively correlated with only their EXT value promotion whereas RWA was positively correlated with both CON and EXT value promotion.

Table 4.3

*Bivariate Correlations between Father Variables (N = 138) on the Lower Diagonal, and Bivariate Correlations between Mother Variables (N = 143) on the Upper Diagonal*

Parent variables	1	2	3	4	5	6	7	8	9	10
	BS	HS	RWA	SDO	EXT	CON	CA	age	income	education
1- BS		.40**	.54**	.24**	.40**	.43**	.02	-.30***	-.13	-.20*
2- HS	.53***		.47**	.26**	.40**	.19*	.04	-.27***	-.15	-.07
3- RWA	.42***	.53***		.30**	.33**	.55**	.14	-.28***	-.15	-.26**
4- SDO	-.11	.28***	.22**		.31**	.15	-.17*	-.04	.07	-.09
5- EXT	.32***	.42***	.23**	.23**		.07	.21*	-.28***	.02	-.07
6- CON	.25**	.34***	.52***	.02	.25**		.03	-.06	-.10	-.23**
7- CA	.23**	.13	-.02	-.12	.21*	.04		-.18*	-.03	.01
8- Age	-.19*	-.11	-.31***	-.06	-.14	-.13	.04		.18*	.10
9- Income	-.23**	-.33***	-.41***	-.14	-.06	-.28***	.04	-.09		.18*
10- Education	-.09	-.23**	-.21*	-.01	-.08	-.23**	-.14	-.03	.32***	

*Note.* BS = Benevolent Sexism; HS = Hostile Sexism; SDO = Social Dominance Orientation; RWA = Right Wing Authoritarianism; EXT = Parent's Extrinsic versus Intrinsic Value promotion in daughter; CON = Parent's Conservation versus Openness Value promotion in daughter; CA = Parent's Career aspirations for daughter.

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ .

A second set of effects that was meaningful and significant were between parents' demographic and attitude variables. For both parents education was negatively associated with their RWA and CON value promotion scores. Education was also negatively associated with mothers' BS and fathers' HS but not with their SDO and EXT value promotion. These findings were consistent with previous findings (Altemeyer, 1988) showing that higher education tends to be associated with lower authoritarianism but not associated with attitudes about social dominance and extrinsic values. There was also a similar systematic pattern of negative associations between fathers' attitudes and their income. Fathers with higher income had lower RWA, BS and HS and promoted lower CON values in daughters. This association of low income with conservative attitudes was not found for mothers (although there was a trend for more negative associations) probably because mothers' economic status did not solely depend on their personal income but also on their husbands' income.

Mothers' age was negatively associated with their BS, HS, RWA and conservation value promotion but not their SDO scores. Fathers' age was also negatively associated with their RWA and BS. The negative association of these attitudes with age was unexpected since prior research has reported a positive association between age and traditional/conservative attitudes (Altemeyer, 1996; Truett, 1993).

Overall the correlations showed that parents' RWA, HS, BS, and CON and EXT value promotion tended to decrease with higher education, income and older age. In order to explore the counter-intuitive association the latter correlation was recomputed combining the data of mothers and daughters, and the result showed a change in the direction of the association between age and RWA ( $r = .21, p < .01$ ). This shows that there may be a curvilinear relationship between age and RWA so that younger people have lower levels of RWA as compared to their parents but within the group of parents older mothers (and fathers) tend to have lower levels of RWA.

The correlations between BS, HS, and age were also recomputed combining the data of mothers and daughters. The direction of association between age and HS did not change by combining mothers' and daughters' cases, indicating a linear negative correlation of age with HS. The direction of association between mothers' age and BS ( $r = -.30^{***}$ ,  $p < .00$ ) reduced to nonsignificance after combining mothers' and daughters' cases ( $r = -.04$ ,  $p = .63$ ) again suggesting a curvilinear relationship. These associations between age and traditional attitudes will be discussed later in the discussion section.

Both parents' aspirations for their daughter's career were positively associated with their EXT value promotion indicating that these career aspirations were more related to extrinsic values of financial success and social recognition than to intrinsic values such as self-development. Fathers' career aspirations for their daughters were positively associated with their BS whereas mothers' career aspirations for their daughters were negatively associated with their SDO.

**4.2.2 Correlations between father and mother variables.** As shown in Table 4.4 the correlations between mother and father variables were also calculated. As expected each of the psychological variables for each parent were significantly and positively correlated with the same variable for the other parent, with these correlations stronger than those for any other variable. The general pattern of correlations for each variable for each parent with the variables for the other parent also closely followed the general pattern of the within parent correlations noted in Table 4.3.

Table 4.4

*Bivariate Correlations between Father and Mother Variables*

variables	M.BS	M.HS	M.RWA	M.SDO	M.EXT	M.CON	M.CA
1-F.BS	<b>.38***</b>	.23**	.28***	-.05	.27***	.25**	.05
2-F. HS	.36***	<b>.40***</b>	.34***	.13	.29***	.09	-.03
3-F.RWA	.44***	.33***	<b>.55***</b>	.10	.19*	.40***	-.01
4-F. SDO	.16	.25**	.16	<b>.35***</b>	.19*	.03	-.13
5-F. EXT	.31***	.18*	.17	.20*	<b>.43**</b>	-.05	.02
6-F. CON	.32***	.20*	.32***	.16	.06	<b>.34***</b>	-.02
7-F.CA	-.05	-.01	.08	-.08	.07	.01	<b>.45***</b>

*Note.* F.BS = Father's Benevolent Sexism; F.HS = Father's Hostile Sexism; F.RWA = Father's Right Wing Authoritarianism; F.SDO = Father's Social Dominance Orientation; F.EXT = Father's Extrinsic versus Intrinsic Value promotion in daughter; F.CON = Father's Conservation versus Openness Value promotion in daughter; F.CA = Father's Career aspirations for daughter; M.BS = Mother's Benevolent Sexism; M.HS = Mother's Hostile Sexism; M.SDO = Mother's Social Dominance Orientation; M.RWA = Mothers Right Wing Authoritarianism; M.EXT = Mother's Extrinsic versus Intrinsic Value promotion in daughter; M.CON = Mothers' Conservation versus Openness Value promotion in daughter; M.CA = Mothers' Career aspirations for daughter.

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ .

These results are consistent with previous findings as many studies have shown that spouses have a high degree of concordance in their social attitudes (e.g., Gervai, Turner, & Hinde, 1995; Moen, Erickson, & Dempster-McClain, 1997). As expected there were also positive correlations between mothers' and fathers' age ( $r = .69, p < .00$ ), education ( $r = .41, p < .00$ ), and income ( $r = .20, p < .05$ ).

In sum the correlational analyses showed that most of the associations between variables were consistent with the hypotheses. The correlations obtained supported the hypotheses that parents' RWA had a positive significant association with their BS and their SDO had a positive significant association with their HS. The correlations also supported the hypotheses that parents' HS and BS were positively related to parents' extrinsic versus intrinsic and conservation versus openness value promotions in daughters. Finally parents' CON value promotion was positively associated with their RWA whereas parents' EXT value promotion was positively associated with both their SDO as well as their RWA. The correlations did not

show any significant negative associations between parents' career aspirations for their daughters and parents' HS. However, fathers' BS had a positive association with their career aspirations for their daughters.

### 4.3 Hierarchical Regression Analyses

Hierarchical multiple linear regression was next employed for the prediction of:

1. Parents' sexism (BS and HS) from RWA, SDO and demographic variables.
2. Parents' extrinsic versus intrinsic (EXT) and conservation versus openness value promotion (CON) from parents' sexism, RWA, SDO and demographic variables.
3. Parents' career aspirations for daughters from parents' sexism, RWA, SDO and demographic variables.

Hierarchical linear regression was used because it enables the construction of multivariate predictive models that both improve the prediction of outcomes and indicate the unique effects of simultaneously acting predictors controlling for each other. The regression models were constructed in hierarchical fashion beginning with the most basic model and then adding new variables in successive models. This helped to show how adding new variables improved (or did not improve) prediction and how the unique effects of each variable was changed by the addition of new variables to models, and so helped to indicate possible suppression or mediation effects.

**4.3.1 Rationale for the order of predictors added to the hierarchical analyses.** The order in which sets of predictors were added to the successive models at each step in the hierarchical analyses followed the same pattern used in the path model in Figure 4.1 reflecting their likely causal and developmental ordering. The following order of entry of the predictor



variables was therefore used in hierarchical regressions (1) background variables (parents' education, income and age) (2) parents' RWA and SDO, (3) parents' BS, and (4) parents' HS.

**4.3.2 The problem of multicollinearity.** Including highly correlated variables (i.e., with correlations exceeding approximately .50) as predictors in multiple regression poses the problem of multicollinearity. Lynam, Hoyle, and Newman (2006) proposed that multicollinearity is of two kinds: one statistical and the other interpretive. Statistical multicollinearity is usually tested by *Tolerance* statistics and *Variance-inflation factor (VIF)*.

The inter-correlation between predictor variables in the present data set ranged from .01 to .55. Possible multicollinearity problems were therefore checked with *Tolerance* statistics and the *Variance-inflation factor (VIF)* for all the analyses. Garson (2012) suggested that multicollinearity is indicated if Tolerance statistics are less than .2 or VIF is over 10. In the following models Tolerance statistics ranged from .52 to .94 remaining above the problematic minimum of .20. The VIF were in the range of 1.1 to 2.4, that is, well below 10. Therefore, statistical multicollinearity did not pose a serious problem.

However, the second kind of multicollinearity called the *partialling out* effect (see e.g., Lynam et al., 2006) may still be problematic even when statistical multicollinearity is not an issue and tolerance values are acceptable. For example, this will be the case when two or more correlated predictor variables individually predict a criterion significantly in separate analyses but are both nonsignificant when included in a multiple regression because the multiple regression betas control for the overlapping variance, which might be generating the significant prediction for both. As a result none of the betas might be significant, or the betas might be markedly deflated. Varying patterns of shared predictive variation between predictors also typically mean that obtained betas may be highly unstable and vary substantially depending on what other correlated variables included in the model might predict. This issue will be noted where relevant.

**4.3.3 Hierarchical regression analyses for predicting parents' sexism.** The first two sets of hierarchical multiple regression models were conducted to see if SDO and RWA predicted BS in mothers and fathers. The results for mothers are shown on the left and for fathers are shown on the right of Table 4.5. Of the three background variables entered in the first step, older age was significantly associated with lower BS for mothers and fathers and higher income significantly for fathers' BS. Parents' RWA and SDO were entered in the second step which meant that the significant associations of fathers' demographic variables in the first step were reduced to non-significance suggesting that the effects of fathers' income and age on fathers' BS were likely mediated via one or both of RWA and SDO. RWA was significant in predicting mothers' and fathers' BS as predicted. The results were consistent with the findings of Sibley, Wilson, et al. (2007). SDO in fathers had a weak but significant negative association with BS which was somewhat unexpected and has not been reported in research before.

Table 4.5

*Hierarchical Models Predicting Parents' Benevolent Sexism*

Parent Variables	$\beta$ coefficients predicting parents' BS			
	$\beta$ predicting mothers' BS		$\beta$ predicting fathers' BS	
	Step 1	Step 2	Step 1	Step 2
Education	-.15	-.05	-.05	.01
Income	-.13	-.08	-.25**	-.12
Age	-.29***	-.17*	-.19*	-.07
SDO		.12		-.18*
RWA		.43***		.40***
$R^2$ change		.20***		.12***
$R^2$	.11	.30	.08	.20
$F$	7.04***	13.31***	5.10**	7.71***
$df$	3,138	5,136	3,134	5,132

Note. SDO = Social Dominance Orientation; RWA = Right Wing Authoritarianism; BS = Benevolent Sexism.

\*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ .

Table 4.6

*Hierarchical Models Predicting Parents' Hostile Sexism*

Parent Variables	$\beta$ coefficients predicting parents' HS					
	$\beta$ predicting mothers' HS			$\beta$ predicting fathers' HS		
	Step 1	Step 2	Step 3	Step 1	Step 2	Step 3
Education	-.02	.08	.09	-.15	-.12	-.12
Income	-.18*	-.14	-.12	-.31***	-.11	-.06
Age	-.29**	-.19*	-.16*	-.13	.03	.06
SDO		.15*	.13		.22**	.31***
RWA		.37***	.30***		.42***	.24**
BS			.17†			.43***
$R^2$ change		.17***	.02†		.20***	.15***
$R^2$	.09	.25	.26	.14	.33	.48
$F$	5.53***	10.25***	9.28***	8.29***	14.50***	21.84***
$Df$	3,138	5,136	6,135	3,134	5,132	6,131

Note. SDO = Social Dominance Orientation; RWA = Right Wing Authoritarianism; BS = Benevolent Sexism; HS = Hostile Sexism.

\*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ , †  $p < .10$

The two sets of stepwise hierarchical multiple regression models conducted to predict mothers' and fathers' HS are shown in Table 4.6. The three background variables entered in the first step showed that higher income was significantly associated with lower HS for mothers and fathers and older age significantly so only for mothers. Mothers' age remained significantly associated with HS in all the models. However, the significant associations of father and mothers' income with HS were reduced to nonsignificance after entering RWA and SDO in the second step suggesting that the effects of fathers' and mothers' income on HS were likely mediated via either or both RWA and SDO. SDO in fathers and mothers was significant in predicting their HS in the second step. RWA in mothers and fathers was also significant in predicting their HS as expected. BS entered in the third step was significant in predicting fathers' HS and marginally significant in predicting mothers' HS. The decrease in the beta

values for parents' RWA after adding BS in the model suggested that the effects of RWA on parents' HS were partially mediated by their BS. Adding BS to the model also meant that the beta values for mothers' SDO became nonsignificant ( $p = .09$ ). On the other hand adding BS to fathers' data meant that the beta values for fathers' SDO became stronger. The results were consistent with the findings of Sibley, Wilson, et al. (2007).

**4.3.4 Hierarchical regression analyses for predicting parents' value promotion in daughters.** The two sets of stepwise hierarchical multiple regressions conducted to predict mothers' and fathers' conservation versus openness value promotion in daughters are shown in Table 4.7. In the first step demographic variables were entered indicating that fathers' income and mothers' education were significantly negatively associated with CON value promotion. In the second step entering RWA and SDO to the model showed that the significant associations of the demographic variables in the first step were reduced to nonsignificance suggesting that the effects of demographic variables on CON value promotion were likely mediated via RWA. RWA had a significant positive association with both parents' CON value promotion. In the third step BS was entered in the model and added 3% significant increase in the explained variance of CON value promotion in the case of mothers but it remained nonsignificant in the case of fathers. HS entered in the fourth model also remained nonsignificant for both parents. The results indicated that RWA was the main predictor of CON value promotion in both parents explaining 31% and 27% of the variance in mothers and fathers respectively. The results were consistent with Duriez et al. (2008) but the hypothesis that BS would predict CON value promotion was only supported for mothers. The results suggested that BS might partially mediate the relationship between RWA and CON value promotion in mothers, but no mediation was suggested in fathers' data.

Table 4.7

*Hierarchical Models Predicting Parents' Conservation (CON) Value Promotion in Their Daughters*

Parent Variables	$\beta$ coefficients predicting parents' CON value promotion							
	$\beta$ predicting mothers' CON value promotion				$\beta$ predicting fathers' CON value promotion			
	Step 1	Step 2	Step 3	Step 4	Step 1	Step 2	Step 3	Step 4
Education	-.22*	-.10	-.09	-.08	-.16	-.12	-.12	-.11
Income	-.07	-.01	.03	.02	-.24**	-.04	-.05	-.04
Age	-.05	.11	.14†	.13	-.14	.02	.02	.02
SDO		-.04	-.07	-.06		-.08	-.09	-.11
RWA		.58***	.49***	.51***		.50***	.51***	.49***
BS			.21*	.22**			-.01	-.04
HS				-.08				.07
$R^2$ change		.28***	.03*	.01		.17***	.00	.00
$R^2$	.04	.31	.34	.34	.10	.27	.26	.26
$F$	2.92	13.67***	12.88***	11.20***	6.09***	11.03***	9.12***	7.86***
$df$	3,138	5,136	6,135	7,134	3,134	5,132	6,131	7,130

Note. SDO = Social Dominance Orientation; RWA = Right Wing Authoritarianism; BS = Benevolent Sexism; HS = Hostile Sexism; CON = Conservation Value promotion.

\*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ , †  $p < .10$ .

The two sets of stepwise hierarchical multiple regression models predicting mothers' and fathers' extrinsic versus intrinsic value promotion in daughters are shown in Table 4.8. The three demographic variables entered in the first step showed that older age in parents was significantly associated with lower EXT value promotion. The marginally significant associations of fathers' age with EXT value promotion reduced to nonsignificance after entering RWA and SDO in the second step suggesting that the effect of fathers' age was likely mediated via either or both RWA and SDO. However, mothers' age remained significantly associated with EXT value promotion in the second and third models but the value of the coefficient gradually decreased and eventually became nonsignificant in the fourth model. In the case of mothers, SDO and RWA entered at the second step had a significant association with EXT value promotion.

Table 4.8

*Hierarchical Models Predicting Parents' EXT Value Promotion in Their Daughters*

Parent Variables	$\beta$ coefficients predicting parents' EXT value promotion							
	$\beta$ predicting mothers' EXT value promotion				$\beta$ predicting fathers' EXT value promotion			
	Step 1	Step 2	Step 3	Step 4	Step 1	Step 2	Step 3	Step 4
education	-.04	.03	.04	.03	-.04	-.04	-.03	-.00
income	.00	.00	.02	.05	-.16	-.08	-.05	-.03
age	-.28***	-.21**	-.17*	-.14	-.17†	-.12	-.10	-.11
SDO		.25**	.22**	.19*		.19*	.25**	.16
RWA		.22*	.11	.05		.11	-.01	-.08
BS			.25**	.21*			.31**	.17
HS				.20*				.29**
$R^2$ change		.13***	.04**	.03*		.05*	.07**	.04**
$R^2$	.06	.18	.22	.25	.03	.07	.14	.17
$F$	3.99**	7.13***	7.42***	7.31***	2.49	3.02*	4.56***	5.09***
$df$	3,138	5,136	6,135	7,134	3,134	5,132	6,131	7,130

Note. SDO = Social Dominance Orientation; RWA = Right Wing Authoritarianism; BS = Benevolent Sexism; HS = Hostile Sexism; EXT = Extrinsic Value promotion.

\*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ , †  $p < .10$ .

Mothers' BS was entered in step three which added another 4% significant increase in the explained variance. At the same time the effect of RWA became nonsignificant suggesting that the effect of mothers' RWA on EXT value promotion was possibly mediated via mothers' BS thus supporting the hypothesis. Mothers' HS was also significant in predicting EXT value promotion adding 3% significant increase in the explained variance.

Fathers' SDO was significant in predicting their EXT value promotion whereas RWA remained nonsignificant at the second step. BS was entered in the third step and both BS and SDO were significantly associated with fathers' EXT value promotion. Adding HS to the model in the fourth step showed that it had a significant association with EXT value promotion but SDO and BS were no longer significant. The results supported the assumption that SDO in parents would predict their EXT value promotion. Fathers' data suggested that the association

between SDO and EXT value promotion was mediated by HS thus supporting the hypothesis. In mothers the three variables (SDO, HS, and BS) added unique variance to the prediction of EXT value promotion. The hypothesis that the association of RWA and EXT value promotion would be mediated by BS and HS was supported for mothers but not for fathers.

**4.3.5 Hierarchical regression analyses for predicting parents' aspirations for daughter's career.** The stepwise hierarchical multiple regression models predicting mothers' and fathers' career aspirations for daughters are shown in Tables 4.9. For predicting mothers' career aspirations for daughters' background variables entered in the first step were nonsignificant. Mothers' SDO and RWA were entered in the second step and SDO had a significant negative association whereas RWA had a significant positive association with mothers' career aspirations for daughters.

Table 4.9

*Hierarchical Models Predicting Parents' Career Aspirations for Their Daughter*

Parent Variables	$\beta$ coefficients predicting parents' CA for daughters							
	$\beta$ predicting mothers' CA for daughters				$\beta$ predicting fathers' CA for daughters			
	Step 1	Step 2	Step 3	Step 4	Step 1	Step 2	Step 3	Step 4
education	-.00	.02	.03	.03	-.19*	-.18†	-.18*	-.16†
income	.03	.08	.08	.09	.11	.11	.14	.15
age	.01	.04	.04	.05	.04	.04	.06	.06
SDO		-.25**	-.25**	-.25*		-.11	-.06	-.09
RWA		.24*	.25*	.24*		.03	-.09	-.11
BS			-.02	-.02			.28**	.24*
HS				.02				.11
$R^2$ change		.08**	.00	.00		.01	.06**	.01
$R^2$	-.02	.05	.04	.03	.01	.01	.07	.07
$F$	.06	2.35*	1.95	1.66	1.60	1.25	2.62*	2.37*
$df$	3,138	5,136	6,135	7,134	3,134	5,132	6,131	7,130

Note. SDO = Social Dominance Orientation; RWA = Right Wing Authoritarianism; BS = Benevolent Sexism; HS = Hostile Sexism; CA = Career aspirations for daughter.

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ , † $p < .01$ .

Mothers' BS and HS were entered in step three and four which remained nonsignificant. The results indicated that mothers who were higher in SDO reported lower career aspirations for their daughters whereas mothers who had higher RWA reported higher career aspirations for their daughters. For predicting fathers' aspirations in regard to their daughters' career, background variables entered in the first step showed that education had a significant negative association with fathers' career aspirations for daughters. Fathers' SDO and RWA were entered in the second step but were nonsignificant. In the third step BS was added to the model which had a significant positive association with fathers' career aspirations for their daughters. HS was entered in the fourth step but it was nonsignificant. The results showed that fathers who were higher in BS reported higher career aspirations for their daughters.

#### **4.4 Path Analyses**

The results of the regression analyses supported most of the hypotheses and the overall putative model but also showed instances where the data did not support the model. Path analysis was next used and it had important advantages. It integrated a complex set of predictor and criterion variables within a single hypothesized model that could be tested in a single analysis for predicting parents' sexism, value promotion, and career aspirations for their daughters. The analysis was then able to show how well the model as a whole fitted the empirical data. Given that the causal ordering of the variables assumed by the model were reasonable, the analysis would also then provide better estimates of effect sizes and of statistical significance of these effects than separate multiple regressions. Moreover, the path analysis was also able to provide quantitative estimates of indirect (mediated) effects as well as of direct effects.



**4.4.1 Construction of the models.** The models were constructed to include all the initial direct effects shown by the multiple regressions as well as the likely mediational paths suggested from these analyses. These initial models were then subjected to repeated testing in which nonsignificant paths were deleted one by one, starting with the weakest. The model was retested after deleting every path. Paths indicated as likely to be significant by modification indices were added until two final best fitting models were obtained. These two models are shown in Figure 4.2 (Fathers) and 4.3 (Mothers).

Parents' career aspirations and EXT and CON value promotion variables were modelled as correlated variables. Similarly SDO and RWA were also modelled as correlated variables. All the correlations among these variables were nonsignificant for fathers and were therefore deleted. The correlations between mothers' EXT and CON value promotion, between RWA and SDO and between EXT value promotion and career aspirations were all significant as shown in Figure 4.3.

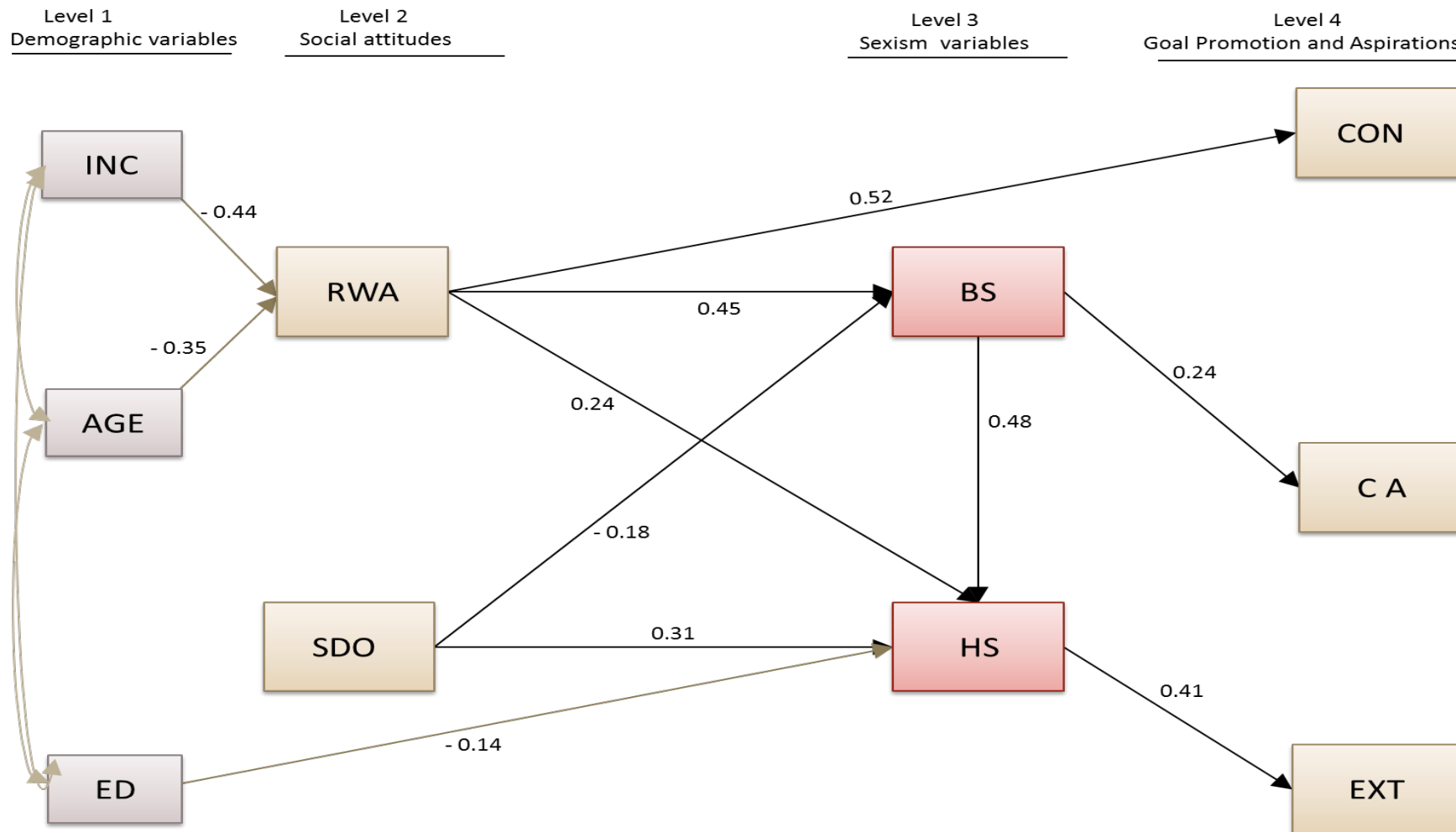


Figure 4.2: Path analysis model for fathers showing significant standardized path coefficients for the prediction of sexism, parental value promotion and parental career aspirations for daughters

Note. ED = Education; INC = Income; SDO = Social Dominance Orientation; RWA = Right Wing Authoritarianism; BS = Benevolent Sexism; CON = Conservation versus Openness Value Promotion; EXT = Extrinsic versus Intrinsic Value Promotion; CA = Career Aspirations for Daughter.

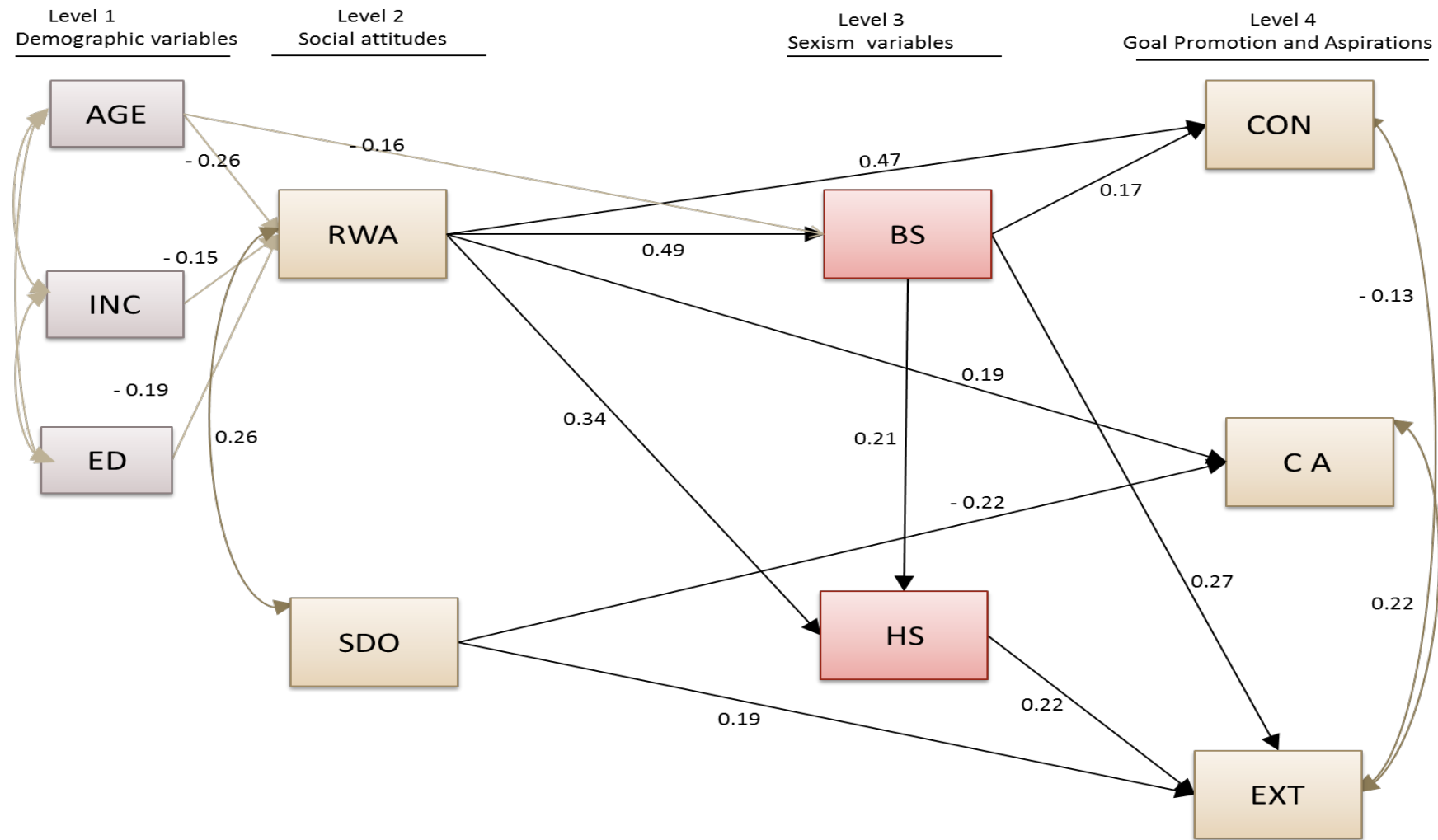


Figure 4.3: Path analysis model for mothers showing significant standardized path coefficients for the prediction of sexism, parental value promotion and parental career aspirations for daughters

Note. ED = Education; INC = Income; SDO = Social Dominance Orientation; RWA = Right Wing Authoritarianism; BS = Benevolent Sexism; CON = Conservation versus Openness Value promotion; EXT = Extrinsic versus Intrinsic Value Promotion; CA = Career Aspirations for Daughter.

The hypothesized models approximated good fit for the data. The fit indices were as follows: Chi-square = 41.12,  $df = 31$ , chi-square/ $df$  ratio = 1.32, GFI = .94, NNFI = .95, CFI = .96, SRMR = .075, RMSEA = .049 for fathers' data and Chi-square = 27.48,  $df = 25$ , chi-square/ $df$  ratio = 1.1, GFI = .96, NNFI = .98, CFI = .99, SRMR = .054, RMSEA = .027 for mothers' data. All of the paths leading from demographic variables to SDO were nonsignificant and had to be removed. The paths from mothers' education, income and age to RWA and father's income and age to RWA were negative and significant. There were no significant direct paths from demographic variables to BS, HS, EXT and CON value promotion, and career aspirations except a path from mothers' age to BS and a path from fathers' education to HS (both significant in the negative direction).

In fathers' data, the path from RWA to BS was stronger than the path from RWA to HS whereas the path from SDO to HS was stronger than the path from SDO to BS. The results supported the differential motivation hypotheses (Sibley, Wilson, et al., 2007) for the prediction of HS and BS in fathers' data. However, in mothers the path from SDO to HS was not significant and only RWA had significant paths to HS and BS. This was also consistent with previous findings in women (Sibley, Wilson, et al., 2007).

The paths from RWA to CON value promotion were also significant in both parents consistent with Duriez, Soenens, et al. (2007) and Duriez et al.'s (2008) findings. Mothers' BS also had a significant path to CON value promotion suggesting partial mediation between RWA and CON value promotion. Mothers' SDO and HS had significant positive paths to EXT value promotion. Fathers' HS but not their SDO had a significant positive path to EXT value promotion indicating that in case of fathers the effect of SDO on EXT value promotion was fully mediated by HS. Mothers' SDO and HS had significant positive paths to EXT value promotion. Fathers' HS but not their SDO had a significant positive path to EXT value

promotion indicating that in the case of fathers the effect of SDO on EXT value promotion was fully mediated by HS.

Finally, in predicting career aspirations, BS in fathers had significant positive effects on career aspirations. In mothers RWA had positive effects on career aspirations whereas SDO had negative effects. Mothers' BS did not have any significant association with their career aspirations. Therefore for the prediction of career aspirations the assumed path *i* was supported only for fathers. HS was not related significantly to either parent's career aspirations; therefore the assumed path *j* was not supported.

The standardized indirect and total effects are presented in Tables 4.10 and 4.11 for mothers and fathers respectively. Fathers' SDO had opposing direct and indirect effects on HS. It had a direct positive association with HS as well as a negative indirect effect on HS through BS, with the total effect ( $\beta = .22$ ) therefore less than the direct effect ( $\beta = .31$ ). The rest of the indirect effects were in the same direction as direct effects thus adding to the total effects. Older age and higher income in fathers and older age and higher education in mothers had significant indirect effects on BS, HS, EXT and CON value promotion. RWA in both parents had significant indirect effects on HS and extrinsic value promotion. Older age and higher income in fathers had significant indirect negative associations with career aspirations for daughters.

Table 4.10

*The Standardized Indirect and Total Effects of Independent Variables on Dependent Variables in the Path Analysis (Mothers' Data)*

IVs	Outcome variables									
	BS		HS		EXT		CON		CA	
	indirect	total	Indirect	total	Indirect	total	Indirect	total	Indirect	total
AGE	-.13**	-.29**	-.15**	-.15**	-.11**	-.11**	-.17**	-.17**	-.05	-.05
EDU	-.09*	-.09*	-.08*	-.08*	-.04*	-.04*	-.10*	-.10*	-.03	-.03
IN	-.08	-.08	-.07	-.07	-.04	-.04	-.09	-.09	-.03	-.03
RWA	---	.49***	.10*	.45***	.23***	.23***	.08†	.56***	---	.19*
SDO	---	---	---	---	---	.20*	---	---	---	-.17*
BS	---	---	---	.21*	.05	.32***	---	.17*	---	---
HS	---	---	---	---	---	.22**	---	---	---	---

*Note.* IN = Income; EDU = Education; RWA = Right Wing Authoritarianism; SDO = Social Dominance Orientation; BS = Benevolent Sexism; HS = Hostile Sexism; EXT = Extrinsic versus Intrinsic Value promotion; CON = Conservation versus Openness Value promotion; CA = Career aspirations for Daughters.

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ , † $p < .10$ .

Table 4.11

*The Standardized Indirect and Total Effects of Independent Variables on Dependent Variables in the Path Analysis (Fathers' Data)*

IVs	Outcome variables									
	BS		HS		EXT		CON		CA	
	indirect	total	indirect	total	indirect	total	indirect	total	indirect	total
AGE	-.16***	-.16***	-.16**	-.16**	-.06**	-.06**	-.18***	-.18***	-.04*	-.04*
EDU	---	---	---	-.14***	-.06	-.06	---	---	---	---
IN	-.20***	-.20***	-.20***	-.20***	-.08**	-.08**	-.23***	-.23***	-.05**	-.05**
RWA	---	.45***	.21***	.45***	.18**	.18**	---	.52***	.11*	.11*
SDO	---	-.18*	-.08*	.22**	.09*	.09*	---	---	-.04	-.04
BS	---	---	---	.48***	.19***	.19***	---	---	---	.24*
HS	---	---	---	---	---	.41***	---	---	---	---

*Note.* IN = Income; EDU = Education; RWA = Right Wing Authoritarianism; SDO = Social Dominance Orientation; BS = Benevolent Sexism; HS = Hostile Sexism; EXT = Extrinsic versus Intrinsic Value promotion; CON = Conservation versus Openness Value promotion; CA = Career aspirations for Daughters.

\* $P < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

## 4.5 Summary of the Results

The results from path analyses confirmed those from regressions. The most important findings are as follows:

### 4.5.1 Prediction of BS and HS

- As expected, for fathers the strongest total effects on BS were the direct positive effects of RWA and the strongest direct effects on HS were the direct positive effects of SDO. Thus the differential motivational model was supported for the fathers' data.
- For mothers, the strongest direct effects on BS and HS were the direct positive effects of RWA. Mothers' SDO was not related to HS, therefore the differential motivational model was not supported for the mothers' data.
- For both parents, BS had direct positive effects on HS which were stronger for fathers than mothers.

### 4.5.2 Prediction of parents' value promotion

- For CON value promotion, the strongest total effect was the direct positive effect of RWA for both parents. BS also predicted CON value promotion for mothers but not significantly for fathers.
- For fathers, the strongest effect on EXT value promotion was the direct positive effect of HS whereas BS, RWA and SDO had indirect positive effects on EXT mediated through HS.
- For mothers, BS and HS both had direct positive effects on EXT value promotion. In addition, SDO also had a direct positive effect on mothers' EXT value promotion.

### 4.5.3 Prediction of parents' career aspirations for daughters

- For the prediction of fathers' career aspirations, the strongest total effects were the direct effects of BS followed by the indirect effects of RWA (both positive). Contrary to the hypothesis, fathers' HS and SDO were not negatively related to career aspirations.
- For the prediction of mothers' career aspirations, the strongest total effects were the direct effects of RWA (positive) followed by the weaker direct effects of SDO (negative). Mothers' BS and HS did not have significant paths to career aspirations.

## 5. Discussion

The results of the regression and path analyses showed significant associations between the predictor and outcome variables supporting most of the hypotheses and the path model provided good fit for the data. The results are discussed below for each level of variables from the path model.

### 5.1 Prediction of RWA and SDO

Higher education in mothers and higher income in both parents predicted RWA negatively which was consistent with prior research (Altemeyer, 1996; Glenn, 1974). The negative association, however, between age and RWA in the present research is not consistent with most previous research (Altemeyer, 1996; Glenn, 1974; Tilley, 2005; Truett, 1993) and was unexpected. Combining the data of mothers and daughters showed a change in the direction of the association between age and RWA ( $r = .21^{***}$ ,  $p < .00$ ) indicating that older women were higher in RWA than younger women as expected in light of previous research. This was also confirmed by the t-test showing that mothers as a group were significantly higher in RWA ( $M$



=3.05,  $SD = 1.12$ ) than daughters ( $M = 2.38$ ,  $SD = 1.05$ ;  $t(142) = 7.22$ ,  $p < .00$ ). However, when only parents' data was used older mothers as well as older fathers expressed lower RWA than younger ones.

These results suggest that the association between RWA and age may not be uniformly positive across different age groups. Tilly (2005) maintained that for most research that reports the effect of age on authoritarianism, a proper differentiation is not made between factors indicating generational differences and generational change. With his panel data he showed that ageing does not affect authoritarianism and people do not get more authoritarian as they grow older; instead the age differences in authoritarianism and changes over time are generational in nature. Although there has been a general decline in authoritarianism over time there may have been historical periods when people became more or less conservative than people older than them, hence the age and authoritarianism association could not be linear over all times. Altemeyer (1988), for instance, reported that in his studies in Canada successive cohorts of students became more authoritarian between 1973 and 1985. This could have happened in New Zealand as well, therefore people who were adolescents during the more radical sixties and seventies could be more liberal than people who were adolescents in the more conservative eighties. There does seem to be an overall trend, however, that younger people have lower levels of RWA as compared to their parents but within different groups of parents the direction of association between age and authoritarianism can be negative.

## **5.2 Prediction of HS and BS**

The first objective of the analyses was to investigate which parent variables predicted parental sexism. For the prediction of sexism, hypotheses were based on ambivalent sexism theory (Glick & Fiske, 1996) and Sibley, Wilson, et al.'s research (2007). The difference from the Sibley, Wilson, et al. (2007) research was that the sample here consisted of parents. The

results of the path analyses with fathers' data showed that RWA and SDO differentially predicted BS and HS. RWA was moderately positively associated with BS and only weakly associated with HS. SDO on the contrary was moderately positively associated with HS and weakly and *negatively* associated with BS. The associations in fathers' data were consistent with the previous findings (Christopher & Mull, 2006; Sibley, Wilson, et al., 2007) and supported the differential motivational model that people who endorse the motivational values of social cohesion and collective security (indexed by RWA) are more likely to endorse BS. Because BS reflects a prescriptive belief system of traditional gender roles it may help to meet their need of social cohesion and structure within male-female interactions. It may also help them to maintain a conservative social order. Similarly people who endorse the motivational values of group-based dominance and superiority as opposed to egalitarianism and altruistic concerns (indexed by SDO) are more likely to endorse HS which encompasses the idea of sexism as antipathy and overtly aims to uphold men's dominance in society.

For women sexism is not merely a form of out-group prejudice but represents in-group attitudes. Therefore for women endorsement of HS may not be motivated by SDO as strongly as for men (Sibley, Wilson, et al., 2007). Consistent with this proposition, it was found in mothers' data that only RWA was (moderately positively) associated with both HS and BS whereas mothers' SDO was not significantly related to either HS or BS once RWA was controlled. The finding of RWA predicting HS in women was also consistent with previous longitudinal research (Sibley, Overall, et al., 2007; Sibley et al., 2009). The results suggested that mothers who had more conservative attitudes and were motivated by values of social cohesion and collective security (indexed by RWA) were more hostilely sexist. On the other hand, mothers who endorsed motivational values of group-based dominance and superiority were not necessarily hostilely sexist (after controlling for their RWA). It can be concluded that the

present data replicated findings about the differential effects of RWA and SDO on BS and HS in parents but the pattern of differential effects was different in mothers and fathers.

There was a weak but significant negative association between fathers' SDO and BS which has not been reported previously. This weak effect was not hugely discrepant from prior findings. Contrary to RWA, which is associated with righteousness, SDO is usually associated with a negative cynical attitude to others and with amorality, ruthlessness and (negatively) with ethical idealism (Duckitt, 2001; Wilson, 2003). So it seems logical that SDO might lower BS for men.

### 5.3 Prediction of Value Promotion

The results showed that parents with higher SDO and RWA promoted more extrinsic values in daughters (relative to intrinsic values). Parents high in RWA but not SDO also promoted more conservation values (relative to openness values) in daughters. The results were consistent with previous research (Duriez et al., 2008; Duriez, Vansteenkiste, et al., 2007). In addition to these effects, the findings showed that sexism played an important role in determining the types of values parents promoted in their daughters. The results indicated that HS and BS fully mediated the relationship between parents' RWA and extrinsic versus intrinsic value promotion as was hypothesized. Fathers' HS fully mediated the relationship between fathers' SDO and extrinsic versus intrinsic value promotion in daughters. In the case of mothers, however, SDO did not predict HS significantly so there was no mediation and both SDO and HS directly and independently predicted greater extrinsic versus intrinsic value promotion.

Sexist attitudes of parents should be especially relevant in the upbringing of daughters. These attitudes may determine parents' expectations of their daughters and what they view as desirable behaviour to learn. Parents who are hostilely sexist would believe that women have an inherently inferior status in society and that conforming to the traditional subservient female role

is the only practical option for any woman. At the same time, as parents they would want their daughters to be successful in life. Encouraging daughters to look attractive may be a way for sexist parents to achieve success indirectly through marriage. It follows logically that they would promote extrinsic values of physical appearance and probably also social popularity in daughters as a means for them to obtain a high resource partner. The extrinsic goal of financial success may also be achieved indirectly in this manner. These findings were consistent with previous findings showing that people high in HS give more emphasis to women's physical appearance in general and for mate selection (Forbes et al., 2007; Sibley & Overall, 2011; Travaglia et al., 2009).

BS in parents was also related to extrinsic value promotion. Parents with high BS are more likely to believe that men should be protectors and providers for women and are more likely to believe that the most desirable role for women should be that of a housewife. To achieve this role the extrinsic values of physical appearance and social recognition may be more important in their view. These findings were consistent with previous findings showing a positive association of BS with more emphasis on physical appearance (Calogero & Jost, 2011; Forbes et al., 2004) and women's increased preference for a partner of high financial status (Eastwick et al., 2006; Sibley & Overall, 2011; Travaglia et al., 2009).

The results for parents' conservation value promotion were consistent with the hypothesis for mothers, but not for fathers. Mothers' BS partially mediated the association between RWA and conservation value promotion. This was consistent with the view that BS is a traditional ideology which helps to maintain traditional and conservative values.

#### **5.4 Prediction of Career Aspirations**

A main objective of the analysis was to see how parental sexism and other social attitudes predicted parental career aspirations for daughters. The results showed that fathers' BS

was positively associated with their career aspirations while HS did not negatively predict career aspirations for daughters for either of the parents. Mothers' higher RWA was also positively associated with higher career aspirations for daughters whereas mothers' higher HS and BS were not associated with lower career aspirations for daughters. These results were inconsistent with those obtained by Christopher and Wojda (2008) but this inconsistency was expected for a parent sample.

HS is directed against women who aspire for higher careers because such women are seen as threatening social norms and challenging male dominance (Glick & Fiske, 1996; Masser & Abrams, 2004; Sakalli-Ugurlu & Beydogan, 2002). HS is associated with the belief that women are not capable employees and has been found to directly increase opposition to gender equality in employment opportunities (Christopher & Wojda, 2008; Sibley & Perry, 2010).

Previous research as well as the content of the HS scale would suggest that parents' higher HS would be associated with lower career aspirations. However, the hypothesis was not supported. It is likely that parents' attachment to their daughters and their common interests might have attenuated their usual bias against career women. Men, for example, are not likely to feel threatened by their own daughters if they were successful and ambitious in their careers.

The results for BS in fathers were as hypothesized in the model. The result was similar to Sibley and Perry (2010) in that BS predicted support for career related attitudes but it was also different in certain ways. Sibley and Perry (2010) found that this effect only occurred for women and not for men in their sample. In the present sample, in contrast, this in-group effect occurred for men as fathers. Additionally the association between fathers' BS and career aspirations was significant even without controlling for their HS. The present results were inconsistent with different from the opposing process model of BS because fathers' HS did not have negative effects on career aspirations for daughters and there were no opposing dual effects.

Due to daughters being part of family in-group, fathers share interests with daughters and are likely to be motivated to support their daughters' progress and achievement. Fathers with high BS may endorse traditional roles for women in general but for their own daughters also simultaneously endorse high career aspirations as a means of protection and financial support. Fathers may also see themselves as protectors and aiming for their daughters to progress in careers may be a way for them to help and protect their daughters' future.

Surprisingly, BS in mothers was not associated with higher career aspirations. This may be because mothers high in BS may not see themselves as protectors as fathers do but as the ones needing protection. For women, BS ideology may result in a glass-slipper effect reported by Rudman and Heppen (2003). According to Rudman and Heppen women who view their romantic partners as a saviour or hero as opposed to an equal mate are less likely to personally aspire for high-status and high-income occupations, higher educational goals, and group leadership. Other research also suggests that women who endorse BS are more likely to relinquish their personal achievement goals and tend to become dependent on their partners (Eastwick et al., 2006; Lee et al., 2010; Sibley & Overall, 2011; Travaglia et al., 2009). Mothers endorsing BS may believe that their daughters need to be protected and cared for by their future partners and do not need to have a career of their own.

There was, however, a positive association between mothers' RWA and career aspirations and a negative association for their SDO and career aspirations. The results for mothers' RWA were somewhat unexpected. RWA and SDO are both related to a preference for traditional roles for women (Altemeyer, 2004; Christopher & Wojda, 2008), but there can be many plausible explanations for the effect of RWA. First, NZ is a relatively egalitarian society and women's pursuit of careers in many people's view may be becoming more of a norm and a desirable quality for women. Second, higher career aspirations are also consistent with the

extrinsic value of financial success which is positively predicted by RWA. This may be the reason why RWA in mothers predicted career aspirations positively.

The result for SDO was straightforward and consistent with previous findings in that mothers with higher SDO and less egalitarian attitudes had lower career aspirations for their daughters. It appears that in-group favouritism for daughters was not present in mothers with high SDO. If there was in-group favouritism, it would be expected that SDO (like RWA) might have had a direct positive effect on career aspirations for their daughters since that would mean higher status and resources for the in-group member. On the contrary, the association here was negative. High SDO leads people to devalue others of lower status, such as women, even those who are close to them. It seems that mothers with high SDO are more likely to devalue their daughters and see them as less competent and less worthy hence will have lower career aspirations for their daughters.

### **5.5 Overall Conclusion**

The results indicated that parental status may influence how BS and HS were linked to other daughter-related attitudes and behaviours. Although BS and HS have been known to predict negative attitudes toward career-women, they did not predict negative attitudes when parents reported about their own daughters' career aspirations. In contrast, the effect of fathers' BS reversed and became positive. The results suggested that parents' attachment with their daughters and their likely in-group bias possibly attenuated the negative effects of sexism attitudes on career aspirations. Possibly for the same reason, mothers' RWA positively predicted career aspirations for daughters. This finding was contrary to that of previous research (e.g., Christopher & Wojda, 2008).

In addition, the results revealed that parents who were more sexist promoted more extrinsic relative to intrinsic values in daughters which was expected but has not been reported

before. Finally, RWA and SDO differentially predicted BS and HS in fathers, supporting the differential motivational model in fathers (Sibley, Wilson, et al., 2007) but not in mothers.



## CHAPTER 5: ANALYSES WITH DAUGHTERS' DATA

**1. Predicting Daughters' Sexism, Self-Esteem, and Career Aspirations****(Main Study - Part 2)****2. Introduction and Objectives**

This chapter reports the analyses conducted on and the findings derived from the data from the daughters' survey. The objectives were to investigate what daughter variables predicted daughters' BS and HS, as well as the degree to which those daughter variables and BS and HS predicted their self-esteem and career aspirations.

Before reporting these analyses and findings, however, the chapter provides a brief review of research and theory directly relevant to these objectives. This is followed by a description of the main hypotheses. The literature review focuses on defining the nature and types of self-esteem and how they were related to prejudice in general and sexism in particular. The association of women's BS, HS, and other social attitudes with their career aspirations is also briefly reviewed.

**3. Literature Review****3.1 Self-Esteem**

Self-esteem has been defined in the APA dictionary of Psychology as, "The degree to which the qualities and characteristics contained in one's self-concept are perceived to be positive" (VandenBos, 2007, p. 697). It represents self-evaluation in a variety of areas such as a person's physical self-image and self-evaluations about achievements and competencies. According to the APA dictionary, self-esteem also reflects a person's values and feeling of

being successful in living up to them. Finally, a person's self-esteem reflects the ways in which "others view and respond to that person" (VandenBos, 2007, p. 697). According to Leary and Baumeister (2000) self-esteem is one of the most extensively investigated constructs in Psychology due to its important role in a variety of behavioural, cognitive, and affective reactions. A reasonably high level of self-esteem is considered an important component of mental health and most researchers believe that an unfulfilled need for self-esteem will lead to psychological, social and behavioural problems (Leary & Baumeister, 2000).

**3.1.1 Global and domain specific self-esteem.** The term self-esteem can be used to refer to either global self-esteem or domain specific self-esteem. Global self-esteem or trait self-esteem reflects a global appraisal of one's worth (Leary & Baumeister, 2000). It refers to an enduring personality variable which is relatively stable across times and situations and represents the way people generally feel about themselves (Brown & Marshall, 2006).

Domain specific self-esteem refers to the way people evaluate their qualities or abilities in a specific area. For example, a person who thinks that they are not good at school may be viewed as having low academic self-esteem. The same person may see her or himself as good at athletics and be viewed as having high self-esteem in the domain of athletic ability. Brown and Marshall (2006) have also referred to domain specific self-esteem as self-appraisals or self-evaluations because they refer to the way people evaluate their physical attributes, abilities, and personality characteristics.

Global self-esteem and domain specific self-esteem are highly correlated. According to Brown and Marshall (2006) there are two models to explain their relationship. The cognitive (bottom-up) model of self-esteem assumes that self-evaluations in specific areas give rise to global self-esteem. Alternatively, the affective (top-down) model assumes that global self-esteem develops early in life and influences self-evaluations in specific areas. Many scales that assess self-esteem include subscales that measure self-evaluations in multiple domains of self-

esteem (Brown & Marshall, 2006). The Fleming and Courtney (1984) self-esteem scale used in the present research similarly includes subscales measuring self-evaluations in five domains.

**3.1.2 Personal and collective self-esteem.** Some authors also distinguish between personal and collective self-esteem (Brown & Marshall, 2006). Crocker and Luhtanen (1990) proposed that personal self-esteem referred to feelings of self-worth and self-respect related to one's self-concept *as an individual*, whereas collective self-esteem referred to feelings of self-worth and self-respect related to one's self-concept as a member of a social group.

### 3.2 Self-Esteem and Prejudice

The association between prejudice and self-esteem has long been discussed by theorists. For example, Adorno et al. (1950) proposed that feelings of insecurity and negative feelings about the self were characteristic of an authoritarian (and hence prejudiced) personality. Other theories such as social identity theory (Tajfel & Turner, 2004) and terror-management theory (Greenberg, Pyszczynski, & Solomon, 1986) have proposed similar reasons for an association of self-esteem with prejudice.

A great deal of research has investigated the association between self-esteem and right-wing ideologies (Onraet, Van Hiel, & Dhont, 2013). Onraet et al. (2013) conducted a meta-analysis of 97 studies to investigate whether right-wing attitudes were negatively associated with indicators of psychological well-being. The right-wing attitudes they used in the studies included authoritarianism, conservatism, and SDO, while the indicators of well-being included positive and negative affect, life satisfaction, self-esteem, and intrinsic goal pursuits. The overall results of their analyses indicated only very weak or nonsignificant effect sizes between right-wing attitudes and well-being measures. They did find a moderate negative association between SDO and intrinsic goal pursuit but not with other measures of well-being. Right-wing attitudes

were nonsignificantly related to positive affect, negative affect, and self-esteem while a weak and *positive* relationship with life satisfaction was found.

Onraet et al. (2013) also found that age moderated the effect of right-wing attitudes on self-esteem such that there was a positive association with self-esteem for older participants but a weak negative association with self-esteem for younger adults and the overall effect size was nonsignificant. Onraet et al. (2013) suggested that the positive association for older participants could be due to their increased level of religiosity, and a stronger sense of culture and tradition. Overall, after analysing the 97 studies they concluded that psychological well-being was *not* significantly related to right-wing attitudes.

Others have discussed how individual differences in self-esteem might be associated with out-group prejudice and discrimination (e.g., Crocker, Blaine, & Luhtanen, 1993). Crocker et al. (1993) discussed prior relevant research on self-esteem and prejudice and noted conflicting findings. Some research following Adorno et al. (1950) was based on the assumption that low self-esteem *caused* out-group prejudice and suggested that people who were low in self-esteem evaluated out-groups more negatively (see, e.g., Wills, 1981, as cited in Crocker et al., 1993), whereas other research indicated that people who were *high in self-esteem* evaluated out-groups more negatively (Crocker & Luhtanen, 1990). Still other research has found either no relationship between prejudice and self-esteem or that the effect varied under different circumstances (Brown et al, 1988; Wagner, Lampen & Syllwasschy, 1986, as cited in Crocker et al, 1993). They interpreted the inconsistencies in the findings as possibly being due to there being differential effects for personal versus social and collective personal identity in the relationship between self-esteem and prejudice against out-groups.

Some research findings suggest that group membership in a low versus high status group may also be an important factor moderating the association between self-esteem and prejudiced ideologies. Prejudice against disadvantaged groups was found to be related to high self-esteem

in people but only when they belonged to the high status group. Thus, Jost and Thompson (2000) reported results where one component of the SDO scale (opposition to equality) was related positively with self-esteem for European Americans and negatively for African Americans. These findings suggested that for high status groups the association between anti-egalitarian attitudes and self-esteem may be positive and for low status groups it may be negative.

In summary, most of the research findings in the area have suggested that the relationship between prejudice and self-esteem may be complex and that there may be various intervening or moderating variables influencing the relationship. These variables may be age, religiosity (as suggested by Onraet et al. 2013), personal versus collective/group identity (as suggested by Crocker et al., 1993), or high versus low group status (as suggested by Jost and Thompson, 2000).

### 3.3 Self-Esteem and Sexism in Women

Membership in social groups can provide an important source of self-esteem for many people who derive a sense of value, self-respect, and self-worth from their memberships in high status or successful social groups (Crocker et al., 1993). Many women across cultures, however, still endorse traditional sexist attitudes about male superiority. How do sexist beliefs about women's inferiority affect women's own self-esteem? It may be expected that women who endorse sexist ideology against their own group will have lower self-esteem. According to Leary and Baumeister "the term *self-esteem* refers to a person's appraisal of his or her value" (2000, p. 2). If women believe that women as a group are less worthy, it would be likely that they evaluate themselves as less valued and have lower self-esteem.

The association between women's self-esteem and their holding traditional sexist attitudes has been investigated in very few studies and with inconsistent findings. Simmons and

Rosenberg (1975) found that young adolescent girls who had more stereotypic attitudes about women's roles had lower self-esteem. Galambos, Petersen, Richards, and Gitelson (1985) used the Attitude toward Women Scale (Spence & Helmreich, 1972) to study the association between girls' self-esteem and traditional attitudes toward women's roles. Consistent with theories of prejudice (Adorno et al., 1950; Tajfel & Turner, 2004), they hypothesized that low self-esteem in girls would *cause* anti-egalitarian attitudes towards women. The hypothesis was supported for younger girls (11 to 14 years) but not for older adolescents. Other studies have not found a significant association between sexist attitudes and self-esteem. For example, Pryor (1994) studied self-esteem as a mediator between gender and gender role attitudes (measured by AWS) but did not find a significant association between traditional gender role attitudes and self-esteem in female high school students. Similarly, Pyant and Yanico (1991) did not find a significant association between traditional gender-role attitudes and self-esteem in Black women.

There are surprisingly few published studies that investigated the direct association between women's traditional sexist attitudes and their self-esteem as the main hypothesis. One of the studies noted above (Pryor, 1994) did not study this association as the central hypothesis but as a mediating association and found no significant effects. Considering publication bias, it is likely that research finding no significant association between sexist attitudes and self-esteem would be less likely to be published. It is then possible that there may be little direct association between women's traditional sexist attitudes and their self-esteem.

An important limitation of this earlier research, however, is that researchers did not distinguish between HS and BS and mostly measured sexism through the Attitude toward Women Scale (Spence & Helmreich, 1972). The Attitude toward Women Scale (AWS) is a measure of attitudes towards women's gender roles and responsibilities or the traditionality of gender-role attitudes in contrast to the ambivalent sexism inventory which measures attitudes

towards women per se. It is therefore possible that HS and BS may have a different relationship with self-esteem than do traditional attitudes toward women's gender roles.

Since Glick and Fiske (1996) presented their ambivalent sexism theory there has been no research directly investigating the association of BS and HS with women's self-esteem. Some researchers used self-esteem as a control variable but not as the primary focus of their research, and the intercorrelations among variables in these studies have not indicated significant associations. For example, Phelan, Sanchez, and Brocoli (2010) explored the relationship between fear of crime, BS, and well-being. They found that greater fear of crime in women was associated with more BS and lower self-esteem (measured by the Rosenberg Self-esteem Inventory) but there was no significant correlation between women's self-esteem and BS or HS. Unexpectedly there was a weak significant negative correlation between men's BS and self-esteem. The association was unexpected because some research has found a positive association between men's BS and life satisfaction (Hammond & Sibley, 2011; Napier et al., 2010).

In another study Calogero and Jost (2011) used self-esteem as a control variable while investigating whether exposure to BS or HS influenced women's self-objectification. They found support for their hypothesis that exposure to BS alone or in combination with HS resulted in women experiencing more self-objectification. However, no significant relationship was found between global self-esteem (measured using the Rosenberg Self-esteem Scale) and exposure to BS or HS. Similarly, Forbes et al. (2004) studied body satisfaction in relation to BS and HS in USA and Poland. They found that body dissatisfaction in women from Poland and USA was associated with BS and internalization of thin body ideal respectively, but there was no direct significant correlation between global self-esteem and sexism measures.

These nonsignificant associations between the two types of sexism and self-esteem seem to suggest that sexism may not be directly related to global self-esteem. This may partially explain the absence of research investigating direct associations between women's sexist

attitudes and their self-esteem as the main hypothesis. Considering publication bias again, researchers might have been less interested in studying an apparently nonsignificant association at the correlational level. Nevertheless, there is some evidence that BS and HS may be significantly associated with self-esteem in certain domains. It is also possible that BS and HS may have significant effects on global or domain specific self-esteem, which may only emerge in multiple regression analyses after controlling for their common effects. The findings for the domain of physical appearance self-esteem are described below.

**3.3.1 Domain specific self-esteem and sexism in women.** As noted previously (in Chapter 2), some researchers have studied the association of women's BS and HS specifically for self-esteem in the domain of physical appearance (variously referred to as body esteem, body shame, body-satisfaction, and self-objectification). These researchers have obtained inconsistent results with some studies showing negative associations (e.g., Calogero & Jost, 2011; Forbes et al., 2004; Forbes et al., 2007; Shephard et al., 2011) and others positive associations (e.g., Franzoi, 2001; Oswald et al., 2012) between BS and appearance related self-esteem. The reasons for the inconsistent findings have not been clear (Oswald et al., 2012) and more research is needed to explore these inconsistent effects.

Calogero and Jost (2011) revealed that women's cognitive need for openness (a construct similar to CON values) was a moderator of the effect of exposure to BS on body esteem. Thus, women who expressed more cognitive conservatism suffered more body-shame and self-surveillance after being exposed to BS (but not after HS). Similarly, Dardenne et al. (2007) reported that women's gender group identification moderated the effect of exposure to HS on their performance and (presumably) performance self-esteem. Thus, women who had higher gender group identification performed better than women who were less identified with their gender group after being exposed to HS. It should be noted, however, that in both of these studies women were reminded of BS through exposure to sexist content and did not report if



they endorsed BS themselves. However, these results suggest that there might be various similar intervening or moderating variables influencing the relationship between women's own sexism and self-esteem. Another possibility is that endorsement of BS and HS may only be associated with self-esteem in some domains and not with other domains, or they may have opposite effects in different domains.

**3.3.2 Sexism and life satisfaction.** Several studies have found that BS tends to be positively associated with life satisfaction (Connelly & Heesacker, 2012; Hammond & Sibley, 2011; Napier et al., 2010). It should be noted that although life satisfaction is a similar construct to self-esteem, it does differ from it in important respects (Diener & Diener, 2009). Napier et al. (2010) studied the association of hostile and benevolent justifications for gender inequality with the well-being of men and women in 32 countries. They argued that with regard to gender inequality, system justifying rationalizations served a palliative function for members of both advantaged and disadvantaged groups (men and women). Their findings indicated that benevolent justification was positively related to life satisfaction across countries for men and women. Hostile justification was negatively related to life satisfaction but only for men and not for women. The effect of BS on life satisfaction was more pronounced in more egalitarian countries. Napier et al. suggested that rationalizing gender inequality provided a "system-justifying buffer" (2010, p. 416) against the negative effects of perceived discrimination and injustice.

Hammond and Sibley (2011) extended Napier et al.'s (2010) research by investigating BS ideology in relation to system justification theory by using a nationally representative sample from the New Zealand Attitudes and Values study (NZAVS-2009). The results revealed that men's BS predicted greater life satisfaction both directly and indirectly through gender-specific system justification. However, for women the effects of BS on life satisfaction were only indirect through gender-specific system justification. In addition, they found that HS

moderated the effect of BS on life satisfaction so that people who endorsed both BS and HS had more life satisfaction than those who endorsed BS exclusively. HS alone, in contrast, predicted lower life satisfaction for both men and women. In summary, the results showed interesting and complicated effect for sexist ideology, where BS indirectly predicted greater life satisfaction and HS directly predicted lower life satisfaction for women. However, when HS and BS were combined in women it led to their having greater life satisfaction than those who exclusively endorsed BS.

Similar to Hammond and Sibley's (2011) research, Connelly and Heesacker (2012) investigated the role of diffuse system justification in the positive linkage between BS and life satisfaction. They studied a sample of college students and carried out their analyses for the combined sample of both men and women. Consistent with system justification theory, BS was indirectly associated with life satisfaction mediated through diffuse system justification in both men and women. HS was not found to be associated with diffuse system justification or life satisfaction. Connelly and Heesacker (2012) argued that one of the reasons for the prevalence of BS might be its positive effects on life satisfaction.

These results for the palliative effects of BS seem to imply that BS may be beneficial for men as well as women. However, Connelly and Heesacker (2012) as well as Hammond and Sibley (2011) argued that although BS offered some benefits for women at the personal level, it maintained and propagated discrimination at the structural level and that it was therefore important for women to challenge this insidious form of prejudice rather ignore it and feel satisfied.

**3.3.3 Self-esteem, life satisfaction, and sexism: Conclusions.** In summary, therefore, the research findings on the association of self-esteem and life satisfaction with sexist attitudes suggest a complex picture. There is little research investigating the direct associations between BS, HS and either global or domain specific self-esteem. There is some research suggesting no

direct association between these variables at a correlational level, whereas some research suggests a positive association between BS and life satisfaction. The relatively little research studying self-esteem in the area of physical appearance or body esteem also does not show consistent findings. New research using more precise multidimensional measures of constructs such as self-esteem may help to clarify this complex picture.

### **3.4 Sexism and Career Aspirations in Women**

Negative attitudes about women working outside the home constitute an important aspect of sexism. The traditional Attitude toward Women Scale (AWS) by Spence and Helmreich (1972) includes items such as, "There are many jobs in which men should be given preference over women in being hired or promoted". HS in the ambivalent sexism inventory is overtly directed against women in nontraditional roles such as career women. The association of HS with overt negative attitudes towards women who work outside the home has been reported in a number of studies. For example, HS has been found to predict negative attitudes towards women managers in undergraduate students (Sakalli-Ugurlu & Beydogan, 2002), employment scepticism against working women (Christopher & Wojda; 2008), opposition to gender equality in income and employment opportunities (Sibley & Perry, 2010), and less favorable evaluations and lower recommendations for hiring female as opposed to male candidates for a managerial job (Masser & Abrams, 2004).

BS seems more subtle in nature and to operate more insidiously. Some of the experimental research carried out in this area deals with the negative effects of "exposure" to BS on women's performance and aspirations rather than the effect of women's own BS (see, e.g., Barretto et al., 2010; Dardenne et al., 2007; Dumont et al., 2010). Nevertheless, research has demonstrated that women who endorse BS themselves have more traditional goals and lower intentions of obtaining an academic degree and perform less well academically (Montanes

et al., 2012). Rudman and Heppen (2003) found that women who idealized their romantic partners as benevolent protectors did not aspire to high status and high income occupations, had lower educational goals, and were less interested in group leadership. These findings suggested the hypothesis for the current research that women who are high in BS and HS will have lower career aspirations than women with more gender egalitarian attitudes.

There is, however, one study of New Zealand women which found that BS predicted support for gender-equality policies in employment opportunity and income after HS was controlled (Sibley & Perry, 2010). The association also remained significant in longitudinal analyses. According to Sibley and Perry (2010) this was possibly due to women's positive in-group bias which became significant once HS was controlled. These findings (which they termed the "opposing process model of BS") therefore suggested the hypothesis for the current research that women's BS may be positively associated with their career aspirations after controlling for their HS.

#### **4. The Present Analyses: Objectives and Hypotheses**

To recapitulate, the overall objective of the analyses to be reported in this chapter was to investigate how daughters' social attitude and background variables predicted their BS and HS and how all these variables (including their sexism) predicted their self-esteem and career aspirations. The analyses were conducted in three steps.

The first step consisted of analyses predicting BS and HS. On the basis of Duckitt's (2001) dual process model and Sibley, Wilson, et al.'s (2007) differential motivational model, it was hypothesized that RWA would predict BS controlling for SDO, and SDO would predict HS controlling for RWA. Since prior research has demonstrated that for women RWA plays an important role in the prediction of HS (Sibley, Overall, et al., 2007; Sibley et al., 2009), it was therefore expected that RWA would also predict HS for women.

In addition, it was expected that young women's conservation versus openness to change (CON) values would predict BS whereas extrinsic versus intrinsic (EXT) values would predict HS. This was because prior research has shown that RWA was closely associated with CON values and SDO with EXT values (Duriez et al., 2008; Feather & McKee, 2008; Heaven & Connors, 2001). These prior findings were also partially supported by longitudinal research indicating that SDO and EXT values had significant cross-lagged effects on each other. (Duriez, Vansteenkiste, et al., 2007).

The second step consisted of analyses examining the connections between sexism and self-esteem. It was hypothesised that HS would predict lower self-esteem in young women, whereas BS would predict higher self-esteem after controlling their HS. The hypothesis about BS was based on the prior research already noted suggesting a positive association between life satisfaction and BS (e.g., Napier et al., 2010).

The rationale for the negative association between HS and self-esteem was based on the concept of collective self-esteem (Crocker & Luhtanen, 1990) and on social identity theory (Tajfel & Turner, 2004), which proposes that a person's self-concept consists both of one's personal identity (view of oneself as an individual), as well as one's social identity (view of oneself as a group member). It seems logical to assume that if women had disparaging attitudes toward their own group it would negatively influence their personal self-esteem. Personal and collective self-esteem have also been found to be positively associated (Fischer & Holz, 2007; Crocker & Luhtanen, 1990) and some findings suggest that experiences with negative effects on women's collective self-esteem also had negative effects on their personal self-esteem (Fischer & Holz, 2007).

Finally, the third step in the analyses investigated the association between HS and BS and women's career aspirations. On the basis of the opposing process model of sexism (Sibley & Perry, 2010), it was hypothesized that HS would have a negative association with women's

career aspirations whereas BS would have a positive association with women's career aspirations after controlling for their HS.

These analyses were conducted and the hypotheses tested using correlational, multiple regression, and path analyses. The findings from these analyses are described in the next section of this chapter.

## 5. Results

This section first reports the descriptive statistics for the variables used followed by the findings from the correlational, regression, and path analyses of the daughters' data.

### 5.1 Descriptive Statistics and Internal Consistency

Table 5.1

*Descriptive Scale Statistics for Daughters' Questionnaire (N = 157)*

Scale	No. of items	$\alpha$	Mean inter-item correlation	<i>M</i>	<i>SD</i>	Skewness	Kurtosis
<b>Social attitudes</b>							
BS	11	.82	.30	2.66	1.01	-.19	-.53
HS	11	.88	.41	2.66	1.09	-.34	-.42
RWA	8	.71	.23	2.44	1.03	-.14	-.68
SDO	6	.65	.24	1.81	1.00	.07	-.59
<b>Goals/Values</b>							
D.EXT (E-I)	12	.80/.68*	.41/.28*	-1.46	1.02	-.47	-.02
D.CON (C-O)	8	.82/.76*	.53/.45*	-1.34	1.42	-.50	.26
<b>Career aspirations</b>	10	.77	.26	4.16	.81	-.29	.51
<b>Self-esteem</b>							
Self-regard	4	.85	.59	4.07	1.19	-.57	-.41
Social confidence	4	.81	.51	3.12	1.23	-.17	-.50
School abilities	4	.84	.57	3.49	1.36	-.40	-.38
Physical appearance	4	.86	.60	3.65	1.58	.14	-.52
Physical abilities	4	.77	.46	2.81	1.37	.03	-.42
Self-esteem total	20	.89	.28	3.43	.95	-.14	-.26

*Note.* BS = Benevolent Sexism; HS = Hostile Sexism; SDO = Social Dominance Orientation; RWA = Right Wing Authoritarianism; E = Extrinsic Goals; I = Intrinsic Goals; EXT = Extrinsic relative to Intrinsic goals in daughters (calculated as E minus I); C = Conservation goals; O = Openness to Change goals; CON = Conservation relative to openness to change goals in daughters (calculated as C minus O).

\* Alphas and mean inter-item correlations were calculated separately for I, E, O and C scales before centring the scales.

The descriptive statistics and internal consistencies for the scales measuring the daughter variables are shown in Table 5.1. The mean age of the participants was 19.87 (SD = 2.76). The table indicates that the scales were satisfactorily internally consistent with most alphas above .70. The alphas for SDO, and intrinsic goals were a little lower than .70 but still acceptable given the shortness of these scales with only six items in each (see Gregory, 2004).

According to West et al. (1995) skewness values greater than 2.00 and kurtosis values greater than 7.00 showed significant departures from normality. The kurtosis and skewness values in the present data fall below these values suggesting that non-normality was not a problem.

## **5.2 Intercorrelations between Daughter Variables**

The zero-order correlations among all the daughter variables are presented in Table 5.2. The correlation matrix of daughter variables showed meaningful and consistent clusters of significant associations. There was one cluster of significant relationships among social attitudes and values. The second cluster was among self-esteem variables and career aspirations. There were also smaller clusters of significant correlations among self-esteem domains and social attitude variables.

As expected all the domains of self-esteem were significantly positively correlated with each other (ranging from .23 to .58). The intercorrelations of the self-esteem domains were similar to the correlations reported by Fleming and Courtney for the 36 item scale (ranging from .21 to .54) in their female sample. The total self-esteem score (which denotes global self-esteem) as well as the domain specific self-esteem measures, showed significant positive correlations with the career aspirations scale (except for the physical abilities self-esteem domain).



Table 5.2

*Bivariate Correlations between Daughter Variables (N = 157)*

	BS	HS	RWA	SDO	EXT	CON	S.R	Social	School	Appear	Physic	S.E	CA	P.edu	P.in
1- BS															
2- HS	.51***														
3- RWA	.54***	.36***													
4- SDO	.20*	.35***	.16*												
5- EXT	.25**	.25**	.11	.29***											
6- CON	.45***	.26***	.64***	.04	.04										
7-S.R	-.08	-.19*	-.09	-.09	-.16*	-.05									
8-Social	-.14	-.08	-.13	-.01	-.15	-.11	.32***								
9-School	-.29***	-.31***	-.24**	-.27***	-.17*	-.18*	.51***	.35***							
10-Appear	-.19*	-.19*	-.23**	-.08	-.08	-.23**	.58***	.32***	.55***						
11-Physic	.00	.00	.07	.14	.11	-.06	.34***	.25**	.23**	.32***					
12-S.E	-.19*	-.21**	-.16*	-.09	-.12	-.17*	.77***	.62***	.73***	.79***	.63***				
13-CA	-.05	-.29***	-.04	-.16*	-.12	-.11	.30***	.21**	.29***	.21**	.05	.29***			
14-P.edu	-.09	-.11	-.04	-.04	-.02	-.08	.10	.07	.13	.25***	.10	.19*	-.05		
15-P.inc	-.09	-.04	-.13	-.10	-.01	.01	.07	.15	.08	.02	.07	.10	.07	.32***	
16- Age	-.10	-.08	-.08	.03	.09	-.01	-.13	-.05	.00	.04	-.16*	-.08	-.03	-.14	.01

*Note.* BS = Benevolent Sexism; HS = Hostile Sexism; SDO = Social Dominance Orientation; RWA = Right Wing Authoritarianism; EXT = Extrinsic relative to Intrinsic Values; CON = Conservation relative to openness to change Values; S.R = Self-Regard; Social = Social Confidence; School = School Abilities; Appear = Physical Appearance; Physic = Physical Abilities; SE = Self-Esteem total score in all five domains; CA = Career Aspirations; P.edu = Parents' average education; P.in = Parents' average income; Age = Daughters' age.

\* $p < .05$ , \*\*  $p < .01$ , \*\*\* $p < .001$

The daughter's social attitude and values variables also showed significant correlations. Consistent with previous findings, women's RWA showed a strong positive correlation with their CON values, but not with EXT values, whereas, women's SDO had a positive correlation with EXT values but not with CON values (Cohrs, Moschner, Maes, & Kielmann, 2005; Duckitt, 2001; Duriez, Soenens, et al., 2007; Feather & McKee, 2008). As expected, the correlations indicated that BS and HS were positively correlated with RWA and SDO as well as with EXT and CON values.

An important cluster of significant associations in the correlation matrix was between some of the self-esteem domains and social attitudes. One of the main questions of the study was whether daughters' social attitudes, especially sexist attitudes would have any association with their self-esteem. There were some significant correlations mostly in the weak to moderate range. Daughters' HS had a significant negative association with three of the self-esteem domains, total self-esteem, and career aspirations, suggesting that daughters who had hostile attitudes had lower self-esteem in certain domains (self-regard, school abilities, and physical appearance) as well as lower global self-esteem. Daughters' BS, RWA, and CON values also had significant negative associations with two of the self-esteem domains (school abilities and physical appearance) and total self-esteem, but were not significantly associated with career aspirations. Daughters' SDO had significant negative associations with one of the self-esteem domains (school abilities) and career aspirations.

The daughters' school abilities domain showed the most consistent pattern of negative association with all the social variables (HS, BS, RWA, SDO, and EXT and CON Values). This suggested that holding prejudiced and sexist attitudes may cause young women to have less confidence in their school abilities. However, since the direction of effect could not be determined through correlational analysis, it was difficult to assess whether social variables influenced daughters' school abilities or school abilities influenced these social variables. It is

also possible that there might be a reciprocal relationship between women's self-esteem variables and sexist/prejudiced attitudes.

### 5.3 Hierarchical Regression Analyses

Hierarchical multiple regressions were next employed to test the hypotheses, and to examine the explained variance and the precise contribution of daughter variables in the prediction of daughter outcome variables. At step one background and family variables (age, parents' income and parents' education) were entered. The two values variables (EXT and CON values) and the two social attitude variables of RWA and SDO were entered in the second step. For the prediction of HS, the same order of variables was used but there was an additional step where BS was added as a predictor. Similarly for the prediction of self-esteem and career aspirations, the same order of variables was used and the sexism variables were entered in two additional steps.

**5.3.1 Hierarchical regression analyses predicting daughters' sexism.** The results for the hierarchical multiple regressions predicting BS and HS are shown in Table 5.3 with models predicting BS presented on the left and models predicting HS on the right hand side of the table. In the first models background variables were not significant in predicting BS and HS. EXT and CON values, RWA and SDO were entered in the second model indicating that EXT values and RWA were significant in the prediction of BS. There was a marginally significant association between CON values and BS ( $\beta = .17, p = .06$ ) whereas SDO did not have any significant association with BS. On the other hand, the models predicting HS showed that RWA, SDO and EXT values were significantly positively associated with HS, whereas CON values were not significant in predicting HS. Finally, BS was entered in the third step for the prediction of HS and was significant in predicting HS. Entering BS also meant that RWA and EXT values were

no longer significant suggesting that their effect on HS was likely mediated through BS or was weakened by the common variance between them and BS.

Table 5.3

*Predictors of Daughters' Benevolent and Hostile Sexism*

Daughter Variables	$\beta$ coefficients predicting daughters' BS and HS				
	$\beta$ coefficients predicting daughters' BS		$\beta$ coefficients predicting daughters' HS		
	Step 1	Step 2	Step 1	Step 2	Step 3
Age	-.09	-.08	-.11	-.11	-.08
Parents' income	-.02	.01	-.01	.03	.02
Parents' education	-.09	-.07	-.12	-.10	-.08
CON		.17†		.05	-.01
EXT		.19*		.16*	.09
RWA		.40***		.25*	.11
SDO		.11		.29***	.26**
BS					.35***
$R^2$ change		.37***		.25***	.07***
$R^2$	-.01	.36	.00	.24	.31
$F$	.74	11.92***	1.07	7.11***	8.80***
$Df$	3,134	7,130	3,134	7,130	8,129

*Note.* Extrinsic Values; CON = Conservation Values; RWA = Right Wing Authoritarianism; SDO = Social Dominance Orientation; BS = Benevolent Sexism.

\*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ , †  $p < .10$ .

The results supported the hypotheses indicating that women's BS was most strongly predicted by RWA but not SDO, whereas HS was predicted by SDO and was also predicted by RWA. In addition, both EXT and CON values explained some of the variance in the prediction of BS, whereas only EXT explained additional variance in HS. Finally, BS significantly predicted HS and seemed to mediate the effect of EXT values and RWA on HS.

**5.3.2 Hierarchical regression analyses predicting daughters' self-esteem.** The full results for the regression analyses predicting daughters' total self-esteem (while controlling for background variables) are presented in Table 5.4. An initial hierarchical multiple regression analyses predicting daughters' total self-esteem suggested that multicollinearity among the

predictor social variables might have depressed the beta coefficients for these variables. Daughters' RWA, CON values, BS, and HS had been significant zero-order correlates of total self-esteem, but when they were entered together in the hierarchical regression models there were no significant effects for any of them suggesting that multicollinearity between these variables may have resulted in deflated and nonsignificant beta coefficients. This was confirmed when each of these variables was entered alone after the demographic variables in which case each was significant. The results of the hierarchical regressions are therefore presented in steps for models 1 to 3, and with only RWA, BS, and HS after the demographic variables in models 4 to 6, and with only BS and HS after the demographic variables in step 7, in order to show the effects of these variables separately.

It must be noted that in the hierarchical models tolerance statistics ranged from .49 to .98 thus remaining above the problematic minimum of .20. The VIF was in the range of 1.1 to 2.6 which was well below 10. Therefore statistical multicollinearity was not a problem.

The left side of the table shows models where none of the social attitude and value variables (RWA, SDO, BS, HS, CON and EXT values) had a significant association with self-esteem. The right side of the table shows models where these variables were entered separately. HS had a significant negative association whereas BS had a marginally significant negative association with self-esteem (as shown in models 5 and 6) when entered independently into the model. However, both BS and HS became nonsignificant when entered together (Model 6) or entered with any other social attitude or value variables. Similarly, daughters' RWA had a weak but significant negative association with total self-esteem (model 4) but it became nonsignificant once any one or more of the sexism or value variables were entered in the model. There was also a marginally significant negative association between CON values and self-esteem (model not shown), which became nonsignificant once other social variables were entered in the model. The

results also showed that parents' education had a marginally significant positive association with daughters' self-esteem in most of the models.

Table 5.4

*Hierarchical Models Predicting Daughters' Self-Esteem*

Variables	$\beta$ coefficients predicting self-esteem total						
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Age	-.07	-.07	-.08	-.07	-.08	-.09	-.09
Parents' income	.04	.04	-.05	.04	.04	.04	.04
Parents' education	.17†	.15†	.14	.17†	.15†	.15†	.14
Daughters CON		-.11	-.11				
Daughters EXT		-.08	-.06				
Daughters RWA		-.05	-.05	-.17*			
Daughters SDO		-.08	-.01				
Daughters BS			-.01		-.15†		-.09
Daughter HS			-.11			-.17*	-.13
$R^2$ change	.04	.04*	.01	.03*	.03*	.02†	.04†
$R^2$	.02	.04	.03	.04	.04	.04	.04
$F$	1.96	1.74	1.48	2.28*	2.56*	2.31†	2.21†
$df$	3,137	7,130	9,128	4,133	4,133	4,133	5,132

Note. CON = Conservation Values; RWA = Right Wing Authoritarianism; SDO = Social Dominance Orientation; BS = Benevolent Sexism; HS = Hostile Sexism.

\* $p < .05$ , \*\* $p < .02$ , \*\*\* $p < .001$ , † $p < .10$ .

Overall, the results of the regression analyses suggested that RWA and HS did predict total self-esteem significantly negatively and BS and CON values predicted total self-esteem marginally significantly in the negative direction when entered in the regression on their own (after controlling demographics variables). The effects were weak, and were eliminated when all variables were included. This could simply be due to overlapping variance between CON, RWA, BS, and HS eliminating the significant effect of each other. It could also suggest a complex mediational pattern for these variables on self-esteem, such as with the effects of CON values and RWA being mediated via BS and HS, and the effects of BS being mediated via HS. In order to investigate the possible mediation among these variables path analyses were used.

However, before moving on to the path analyses, analyses for interaction effects between BS and HS were carried out and are presented next.

**5.3.3 Analyses for interactive effects of BS and HS.** In order to explore the combined or interactive effects of BS and HS in the prediction of self-esteem the procedure recommended by Baron and Kenny (1986) was followed. A regression model was tested in which centred HS, centred BS, and the centred HS x centred BS interaction term predicted self-esteem. The interaction term was not found significant ( $\beta = -.07, t = 0.75, p = .45$ ). The same procedure was also repeated to investigate the interaction effects of HS and BS on domains of self-esteem, but none were found to be significant.

Regression analyses were also carried out with ambivalent sexism predicting self-esteem. An ambivalent sexism score was obtained by combining the BS and HS scores. The amount of variance predicted by ambivalent sexism was not much different from the amount of variance predicted by BS and HS separately ( $\beta = -.19, t = 2.25, p < .05$ ) and ambivalent sexism did not predict significant change in explained variance in self-esteem when added in the model after BS ( $R^2$  change = .01,  $p = .19$ ) and HS ( $R^2$  change = .01,  $p = .36$ ). It was therefore decided to use HS and BS separately, since combining the two did not increase prediction.

## 5.4 Path Analyses

**5.4.1 Path analyses predicting daughters' sexism and self-esteem.** A path model with three levels of variables was investigated. At the first level, the social attitude dimensions of RWA, SDO, and CON and EXT value variables were entered. The demographic variables were also added at the first level. At the second level, the BS and HS variables were entered as possible mediating variables. Finally, self-esteem was entered as the final outcome variable. It was assumed, on the basis of regression analyses that RWA should predict self-esteem negatively mediated through HS and BS.

The models were constructed to include all the initial direct significant effects shown by the multiple regressions as well as the likely mediational paths suggested from these analyses. The variables of women's BS and HS were modelled as correlated variables. Prior longitudinal research has suggested a particular causal ordering with BS being causally prior to HS but this finding was not replicated in the follow-up longitudinal analyses (reported in Chapter 7 of this study) for daughters. Consequently, it seemed best to make no assumption about causality between daughters' BS and HS and to treat them as correlated outcome variables.

The initial model was then subjected to testing in which nonsignificant paths were deleted one by one, starting with the weakest. The model was retested after deleting every nonsignificant path. Paths indicated as likely to be significant by modification indices were added until the final best fitting model was obtained. The final path model is shown in Figure 5.1.



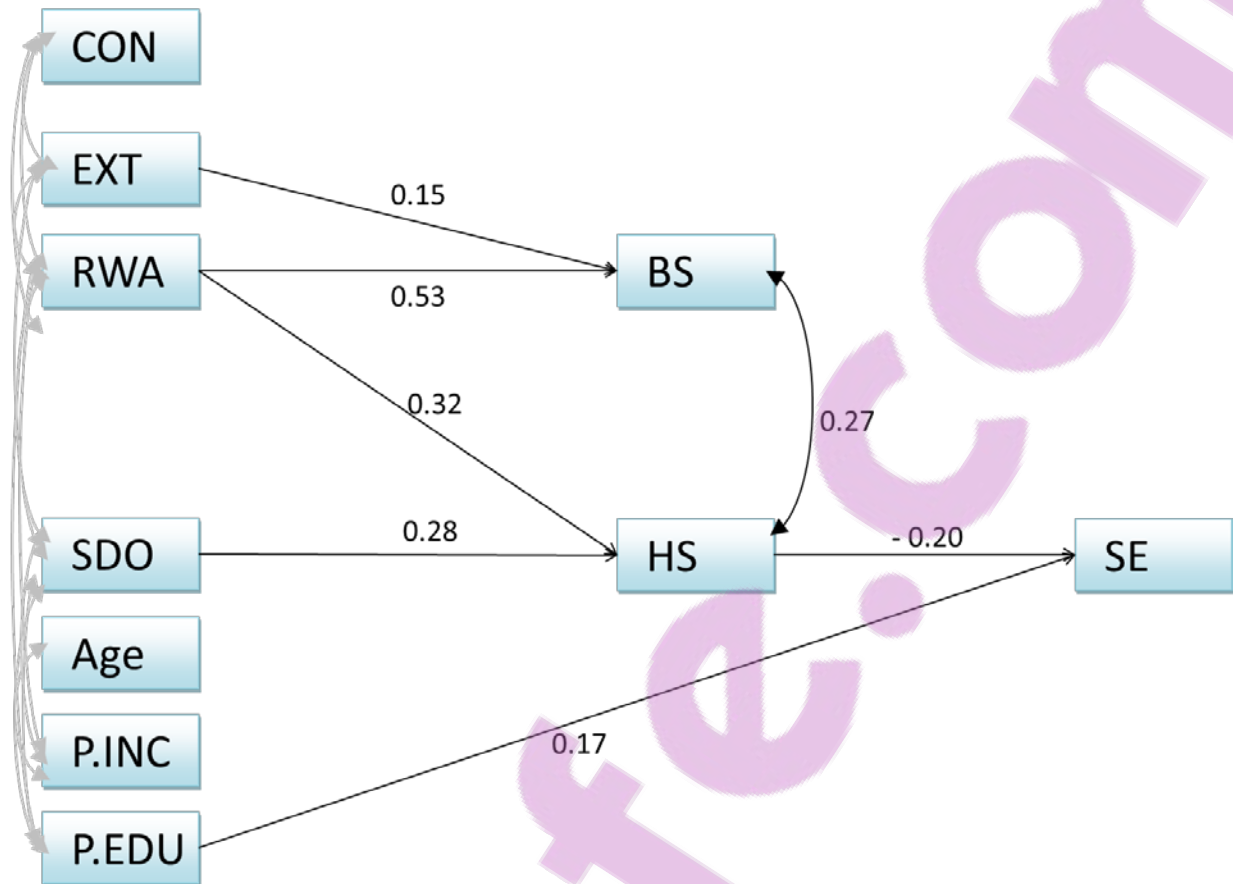


Figure 5.1: Path analysis showing significant standardized paths for the prediction of self-esteem.

Note. P.INC = Parents' Income; P.EDU = Parents' Education; EXT = Daughters' Extrinsic versus Intrinsic Values; CON = Daughters' Conservation versus Openness Values; RWA = Right Wing Authoritarianism; SDO = Social Dominance Orientation; BS = Benevolent Sexism; HS = Hostile Sexism; SE = Self-Esteem.  $\beta$  coefficient is significant at the .05 level (two-tailed)

The final model had good fit for the data: Chi-square = 18.59,  $df = 17$ , Chi-square/ $df$  ratio = 1.09,  $p = .35$ , GFI = .98, NNFI = .98, CFI = .99, SRMR = .045, RMSEA = .025. The paths leading from demographic variables to HS, BS and self-esteem were nonsignificant and had to be removed except for the path from parents' education to daughters' self-esteem which was positive and significant. RWA strongly predicted BS and also significantly predicted HS, whereas SDO only predicted HS and was not significantly related to BS. In addition, EXT values significantly predicted BS whereas CON values did not have a significant association

with BS or HS. Finally, HS significantly predicted lower self-esteem, whereas the path from BS to self-esteem was not significant.

There were significant indirect effects of RWA and SDO on lower self-esteem mediated through HS. The indirect effect sizes appeared very weak for both RWA ( $\beta = -.06, p < .05$ ) and SDO ( $\beta = -.05, p < .05$ ), considering Cohen's standards of .10 for a small effect size (Cohen, 1977). Alternatively, however, Kenny (2013) has suggested that because an indirect effect is a product of two effects, the values recommended by Cohen should be squared (.01 for small, .09 for medium and .25 for large effect sizes) to determine the strength of an effect size (Kenny, 2013). According to Kenny's criteria therefore, the effect sizes here were in the weak to moderate range. The results supported the hypothesis that HS negatively predicted self-esteem. The results also indicated that the negative effect of RWA on self-esteem was mediated through greater HS. SDO also had negative effect on self-esteem due to greater HS.

An alternative model was tested in which self-esteem was hypothesized to predict HS and BS to test the assumption that lower self-esteem caused HS. Self-esteem was placed at the same level with RWA, SDO, CON and EXT values. However, the paths from self-esteem to HS and BS were not significant in this model. Another alternative model was tested in which sexism variables as well as self-esteem were placed at the same level as correlated outcome variables. In this model the correlation between self-esteem and the sexism variables (HS and BS) was not significant. In addition, there was a significant reduction in model fit as indicated by a significant increase in chi-square value ( $X_{diff} = 6.85, df_{diff} = 2, p < .05$ ). Consequently, the model with the best model fit has been presented here.

## 5.5 Predicting Separate Self-Esteem Domains

The next analyses were conducted to see how sexism and other social attitude variables predicted daughters' self-esteem in the five separate self-esteem domains. Hierarchical regression analyses as well as path analyses were used for this purpose.

### 5.5.1 Hierarchical regression analyses predicting the separate self-esteem domains.

As had been the case in the hierarchical regression for total self-esteem, the problem of multicollinearity among the predictor variables (values, RWA, SDO, BS, and HS) meant that their effects tended to be markedly deflated. Therefore, as before, the predictor variables were independently entered in the regression model while controlling for age, parents' education and parents' income. The beta coefficients for the models with the six separate predictor variables predicting self-esteem in five domains are presented in Table 5.5. The last column shows the beta coefficients for the prediction of total self-esteem.

Table 5.5

*The Beta Coefficients in the Regression Models with Predictors Separately Predicting Domains of Self-Esteem (Controlling For Background Variables)*

Predictor daughter variables	$\beta$ coefficients predicting daughters' self-esteem in separate domains					
	Outcome = Self-Regard	Outcome = Social Confidence	Outcome = School Abilities	Outcome = Physical Appearance	Outcome = Physical Abilities	Outcome = Total self- esteem
BS	-.04	-.08	-.29***	-.15†	.01	-.15†
HS	-.20*	.01	-.31***	-.16†	.04	-.17*
RWA	-.09	-.11	-.25**	-.21*	.07	-.17*
SDO	-.06	-.07	-.25**	-.04	.14	-.09
CON	-.05	-.06	-.19*	-.23**	-.05	-.17†
EXT	-.15†	-.10	-.16†	-.13	.15†	-.11

*Note.* BS = Benevolent Sexism; HS = Hostile Sexism; RWA = Right Wing Authoritarianism; SDO = Social Dominance Orientation; EXT = daughters' Extrinsic Values relative to Intrinsic Values; CON = daughters' Conservation Values relative to Openness to change Values.

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ , † $p < .10$

As had been the case for the analyses for total self-esteem the beta coefficients were mostly in the weak range. HS significantly negatively predicted self-regard and school abilities and marginally significantly predicted physical appearance. BS significantly predicted school abilities and marginally significantly predicted physical appearance. HS appeared to be a slightly stronger predictor of the self-esteem domains than BS with significant or marginally significant associations with three self-esteem domains.

Consistent with the correlation analyses the self-esteem domain that had the strongest associations with sexism and other social variables was school abilities. It showed the most consistent pattern of negative association with all the social attitude and value variables (HS, BS, RWA, SDO, EXT, and CON). The physical appearance domain was also significantly or marginally significantly associated with four of the predictor variables: RWA, CON values, BS and HS. It seemed that young women who espoused more traditional ideologies were more likely to have lower self-esteem regarding their physical appearance. Although SDO and EXT values also had associations with physical appearance in the negative direction, they were nonsignificant and the effect for SDO was close to zero.

Self-regard was associated significantly and marginally significantly with HS and EXT respectively. The domain of self-esteem which had no significant or marginally significant association with the social attitudes and value variables was social confidence. The physical abilities domain had a marginally significant association with EXT values but in the *positive* direction. This positive effect was somewhat unexpected; however, it was only marginally significant and could be a chance effect given the large number of effects being tested.

In summary, the results for the regression analyses with specific domains of self-esteem were similar to those for total self-esteem. There were no significant unexpected findings. The results showed that some of the domains had relatively stronger associations with social attitudes than others, while others had nonsignificant associations. Nevertheless, many of the

nonsignificant associations were also in the expected negative direction. Overall, the general level of the effects did seem to be reasonably well represented by the effects for the total self-esteem score which had weak significant negative associations with RWA and HS and marginally significant negative associations with BS and CON values. Daughters' school abilities showed the most consistent pattern of negative association with all social attitude and value variables suggesting that sexism and prejudice related social attitudes and values were more likely to negatively affect women's self-esteem in the school abilities domain.

**5.5.2 Path analyses predicting the separate self-esteem domains.** Path analyses were next carried out for domain specific self-esteem. The model in Figure 5.1 was repeated five times, each time with self-esteem in a specific domain as the outcome variable instead of total self-esteem. The results were similar to those for total self-esteem for some domains while for other domains the association between HS and self-esteem did not reach significance.

For the domain of self-regard the path models indicated almost the same results as for total self-esteem. HS had a negative association with self-regard ( $\beta = -.19, p < .05$ ). There were significant indirect negative effects of RWA ( $\beta = -.06, p < .05$ ) and SDO ( $\beta = -.05, p < .05$ ) on self-regard through HS, while BS was not significantly associated with self-regard. In the model predicting school abilities, BS and HS both had negative paths to school abilities ( $\beta = -.18, \beta = -.29, p < .05$ ). In this model RWA had significant indirect negative effects ( $\beta = -.16, p < .05$ ) on school abilities through BS and HS and SDO had an indirect effect on school abilities ( $\beta = -.06, p < .05$ ) through HS. However, the indirect effect of EXT values on school abilities (through BS) was not significant.

For the prediction of other three domains, both HS and BS did not have significant paths to the social confidence, physical abilities, and physical appearance self-esteem domains. RWA, SDO, CON values, and EXT values also did not have direct or indirect significant paths to these self-esteem domains in these models.

Although the effects BS had on most of the self-esteem domains was nonsignificant (except for school abilities), the effects were almost all in the negative direction. This included that for the domain of physical appearance (which was not only negative but marginally significant), for which positive associations had been reported with BS in some previous studies (e.g., Franzoi, 2001; Oswald et al., 2012). The results of this research, therefore, did not suggest that BS (or HS) might have significant positive effects on some self-esteem domains. Instead all the significant effects here were consistently negative, though there was variation across domains in terms of effect size with some nonsignificant effects close to zero.

## **5.6 Predicting Daughters' Career Aspirations**

**5.6.1 Hierarchical multiple regressions predicting career aspirations.** Next, hierarchical multiple regressions were conducted to predict career aspirations. The same order of entry of variables was used as for the prediction of self-esteem. Self-esteem was included as a predictor variable at the fifth step. The results are presented in Table 5.6. In the first model background variables were added but were nonsignificant in predicting career aspirations. EXT and CON values with RWA and SDO were entered in the second step. There was a significant negative association for SDO and a marginally significant negative association for CON values. BS and HS were entered in the third and fourth steps respectively. BS was not significant in predicting career aspirations in step three but became significant in the fourth step after controlling for HS while HS had a significant negative association with career aspirations. Adding HS to the model also reduced the beta coefficient for SDO to nonsignificance suggesting that the effect of SDO on career aspirations may be mediated through HS. Self-esteem was entered in the sixth step and had a positive significant association with career aspirations.

Table 5.6

*Regression Models Predicting Daughters' Career Aspirations*

Daughter Variables	$\beta$ coefficients predicting Career Aspirations				
	Step 1	Step 2	Step 3	Step 4	Step 5
Age	-.05	-.04	-.03	-.06	-.06
Parents' income	.09	.10	.10	.11	.11
Parents' education	-.08	-.11	-.10	-.13	-.15
CON		-.19†	-.20†	-.21†	-.19†
EXT		-.04	-.06	-.03	-.02
RWA		.12	.08	.12	.14
SDO		-.21*	-.22*	-.13	-.09
BS			.10	.24*	.26*
HS				-.38***	-.34***
Self esteem					.26**
$R^2$ change		.07†	.01	.09***	.06**
$R^2$	-.02	.03	.03	.12	.18
$F$	.50	1.54	1.46	3.03**	3.97***
$df$	3,134	7,130	8,129	9,128	10,127

*Note.* EXT = daughters' Extrinsic values relative to Intrinsic values; CON = daughters' Conservation values relative to Openness to change; RWA = Right Wing Authoritarianism; SDO = Social Dominance Orientation; BS = Benevolent Sexism; HS = Hostile Sexism.

\*  $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ , †  $p < .10$

The analyses therefore showed that daughters who endorsed higher levels of HS had lower career aspirations, while daughters with higher levels of BS had higher career aspirations when the effect for HS was controlled. Greater CON values marginally predicted low career-aspiration, while women with high self-esteem also had higher career aspirations.

Regression analyses carried out with domain specific self-esteem indicated that all the domains of self-esteem were significantly associated with career aspirations except physical abilities. Previous research had suggested that career aspirations might be specifically related to academic self-esteem (O'Brien & Fassinger, 1993). In order to see if school abilities (or any other domain specific self-esteem) added significantly to the explained variance in the prediction of career aspirations, it was entered in the next step, after total self-esteem. The

results showed that school-abilities became nonsignificant, while total self-esteem remained significant in the multiple regressions. The same process was repeated with other domains of self-esteem with similar results indicating none of the specific self-esteem domains predicted additional variance in career aspirations over and above total self-esteem.

**5.6.2 Path analyses predicting career aspirations.** Path analyses were next used to investigate the prediction of career aspirations. This would enable testing an integrative model that would incorporate plausible causal assumptions of how the demographic, values, social attitude, sexism, and self-esteem variables might predict daughters' career aspirations and so provide an indication of possible mediational pathways.

A path model with four levels of variables was investigated. The first three levels were exactly the same as shown in Figure 5.1 in the path model predicting self-esteem. At the first level, demographic variables and the social attitude dimensions of RWA and SDO and CON and EXT value variables were entered. BS and HS were entered at the second level and self-esteem at the third level as possible mediating variables. It was hypothesized that HS should predict career aspirations negatively and BS positively. The model was tested by following the same procedure as described earlier (Chapter 4) by including all the initial direct effects, shown by the multiple regressions and likely mediational paths and then subjecting the initial model to repeated testing in which nonsignificant paths were deleted one by one, starting with the weakest. The final model is shown in Figure 5.2.



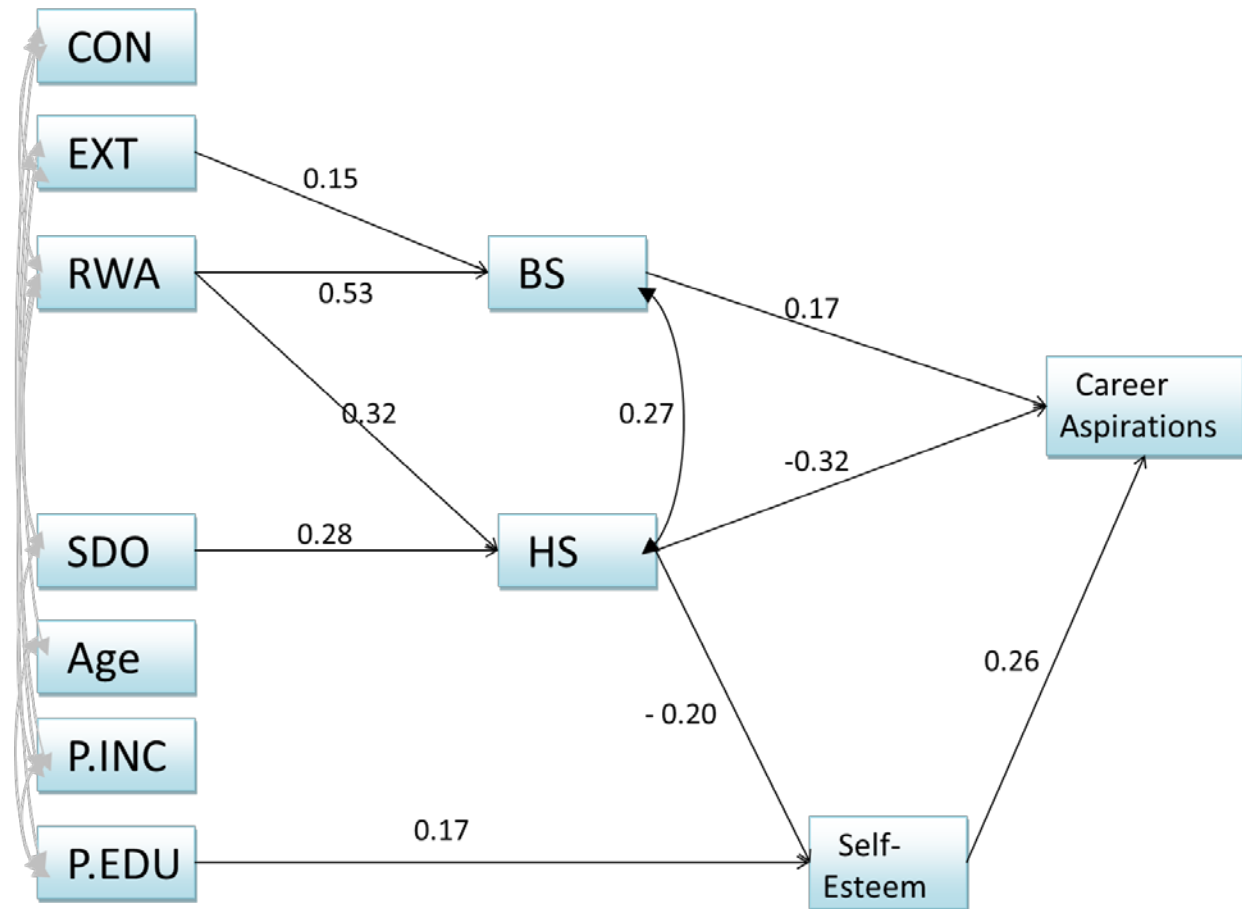


Figure 5.2: Path analysis model for daughters showing significant standardized path coefficients for the prediction of career aspirations and self-esteem.

Note. P.INC = Parents' Income; P.EDU = Parents' Education; EXT = Daughters' Extrinsic versus Intrinsic Values; CON = Daughters' Conservation versus Openness Values; RWA = Right Wing Authoritarianism; SDO = Social Dominance Orientation; BS = Benevolent Sexism; HS = Hostile Sexism.  
 $\beta$  coefficient is significant at the .05 level (two-tailed)

The final model had excellent fit for the data with Chi-square = 27.61,  $df = 24$ , Chi-square/ $df$  ratio = 1.15,  $p = .28$ , GFI = .97, NNFI = .97, CFI = 0.99, SRMR = .048, RMSEA = .032. The paths for the prediction of BS, HS and self-esteem were the same as in the previous model (Figure 5.1) and have already been discussed. The paths predicting career aspirations were consistent with the effects in the regression analyses and the hypotheses. There was a direct negative path from HS to career aspirations. There was also a weak but significant direct

positive path from BS to career aspirations. Self-esteem had a significant positive path to career aspirations. The standardized indirect and total effects from the path analysis reported in Figure 5.2 are shown in Table 5.7.

Table 5.7

*Standardized Indirect and Total Effects of Independent Variables on Outcome Variables in Path Analysis (Daughters' Data)*

IVs	Daughter outcome variables			
	Self-esteem		Career aspirations	
	indirect	Total	indirect	total
SDO	-.05*	-.05*	-.10**	-.10**
RWA	-.06*	-.06*	-.03	-.03
EXT	--	--	.03	.03
HS	--	-.20**	-.05*	-.37***
Parents' Education	---	.17*	.04	.04

*Note.* EXT = daughters' Extrinsic Values; CON = daughters' Conservation Values; RWA = Right Wing Authoritarianism; SDO = Social Dominance Orientation; BS = Benevolent Sexism; HS = Hostile Sexism.

\*  $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ .

The indirect effects paths showed that SDO significantly indirectly predicted lower career aspirations mediated by HS. The indirect effect size ( $\beta = -.10$ ,  $t = -2.92$ ,  $p < .01$ ) was in the moderate range according to Kenny's criteria (2013). RWA did not have a significant indirect effect on career aspirations. This was because RWA had simultaneous opposing negative and positive indirect effects on career aspirations through HS and BS which cancelled each other out so that the net indirect effect was not significant ( $\beta = -.03$ ,  $t = -0.54$ ). HS had both direct ( $\beta = -.32$ ) and indirect ( $\beta = -.05$ ) significant negative effects through self-esteem on career aspirations which combined to increase its total effect size ( $\beta = -.37$ ). This was similar to the regression analysis findings and indicated that the negative effect of HS on career aspirations was partially mediated through the lower self-esteem of the daughters. The indirect effects of EXT values (via BS) and parents' education (via self-esteem) on career aspirations were not significant.

In summary, as was the case for the findings from the regression analyses, the path analysis supported the hypotheses that HS predicted career aspirations negatively, while BS predicted career aspirations positively. The model suggested that higher self-esteem predicted higher career aspirations and partially mediated the path between HS and career aspirations. In addition, the path model confirmed a mediated negative path of SDO on career aspirations through HS.

An alternative model was tested in which HS, BS, and self-esteem were placed at the same level as correlated outcome variables and career aspirations was the outcome variable. There was a significant reduction in model fit as indicated by an increase in chi-square value ( $X_{diff} = 9.73$ ,  $df_{diff} = 2$ ,  $p < .01$ ). Some other alternative models were tested but with very slight change in chi-square value which was not statistically significant. Consequently, the model with the best model fit, among the rest of the models tested, has been presented here. One major limitation for the path models was that the effects were conditional on the causal assumptions made by the models and altering these assumptions could produce a different pattern of effects. The results of path models therefore should be interpreted cautiously.

## 5.7 Summary of the Results

### 5.7.1 Prediction of sexism

- RWA had a strong positive effect on BS ( $\beta = .53$ ) and a moderate positive effect on HS ( $\beta = .32$ ).
- SDO had a moderate positive effect on HS ( $\beta = .28$ ) but was not related to BS.
- EXT values had a weak positive effect on BS. EXT values also had a positive effect on HS in some regression models which became nonsignificant after controlling for BS.

- CON values did not have a significant association with HS and had only a marginally significant association with BS in the regression models which became nonsignificant in the path model.

### 5.7.2 Prediction of total self-esteem

- Regression analyses indicated multicollinearity among BS, HS and other social attitude and value variables for the prediction of self-esteem. Therefore these variables were used separately in the regression models.
- The separate regression analyses indicated that HS and RWA had weak but significant negative associations with total self-esteem.
- Path analyses suggested that the negative effect of RWA on self-esteem might be mediated through HS.
- BS and CON values had marginally significant negative associations with self-esteem in their separate regression models which became nonsignificant in the combined regression and path models.
- SDO had indirect weak negative effects on self-esteem mediated via HS.
- Parents' education also had direct positive effect on self-esteem.

### 5.7.3 Prediction of career aspirations

- HS had significant moderate to strong negative effects on career aspirations whereas BS had significant weak *positive* effects on career aspirations.
- Self-esteem had direct positive effects on career aspirations and in the path analysis also partially mediated the effects of HS on career aspirations.
- SDO had weaker indirect negative effects via HS on career aspirations.

#### 5.7.4 Prediction of domain specific self-esteem

- The school abilities domain was significantly negatively predicted by all social attitudes and values. There were a few significant negative associations for the physical appearance and self-regard domains. There were no significant associations for the physical abilities and social confidence domains. However, most of the nonsignificant effects for the physical appearance, self-regard, and social confidence domains were also in the expected negative direction.
- Overall, the effects for the separate domains were not much different from the effects for the total self-esteem variable, although it appeared that the school abilities domain had more consistent and relatively stronger associations with sexism and prejudice related attitudes. However, despite being stronger the effect was not different from other domains in terms of pattern and direction of effect. Therefore, overall the effects for total self-esteem seem to adequately summarize the findings for separate domains.

### 6. Discussion

The results of regression analyses and path analyses showed significant associations between the predictor and outcome variables supporting most of the hypotheses and the path models had good fit for the data. Results are discussed below for each level of variables from the path model.

#### 6.1 Differential Prediction of Sexism

The results for the prediction of HS and BS from RWA and SDO were consistent with the hypotheses and the previous findings. The differential motivational effect of RWA and SDO proposed by Sibley, Wilson, et al. (2007) was supported since SDO was only associated with

HS and not with BS. On the other hand RWA was associated more strongly with BS than HS. The findings support the view that RWA and SDO are two independent social attitude dimensions representing different motivational goals that differentially predict the two dimensions of sexism (Duckitt, 2001; Sibley, Wilson, et al., 2007).

The pattern of the differential prediction of BS and HS by RWA and SDO respectively, was expected to be different for men and women. This is because HS for women, unlike men, does not represent out-group prejudice. SDO is associated with out-group prejudice and is an index of “the extent to which one desires that one’s in-group dominate and be superior to out-groups” (Pratto et al., 1994, p.742). On the other hand, RWA is an index of motivational values of social cohesion and collective security. Therefore, Sibley, Wilson, et al. (2007) have suggested that women’s endorsement of HS (contrary to men’s endorsement of HS) cannot be motivated predominantly by SDO but is more likely motivated by RWA. Consistent with the proposition, RWA seemed to play a more important motivating role for the endorsement of both HS and BS in women.

It is interesting to note that the pattern of the differential prediction of BS and HS by RWA and SDO respectively for daughters was also different from mothers. In the present data mothers’ HS and BS were found to be associated with only mothers’ RWA and mothers’ SDO was not significantly associated with mothers’ HS (Chapter 4). According to Sibley, Wilson, et al. “women’s identification with women as a group relative to their identification with men (or male-dominated society) will effect the association of women’s SDO with HS” (2007, p. 4). Their argument and the present data suggest that mothers probably identified more with their gender group than the daughters. Therefore, SDO (conceptualized as an index of the motivations for own group dominance) did not translate into HS for mothers but did translate into HS for daughters. This suggestion is merely speculative because women’s gender group identification was not assessed in the present research. However, there was one piece of information from the

data that was consistent with this speculation. Women who identify more with their gender group should be more likely to see their group in a positive light and less likely to endorse HS. Mothers were significantly lower in HS ( $M = 2.32$ ,  $SD = 1.10$ ) than daughters ( $M = 2.66$ ,  $SD = 1.11$ ;  $t(141) = 3.13$ ,  $p < .01$ ) suggesting that they were perhaps more gender identified than daughters. The endorsement of BS by daughters ( $M = 2.63$ ,  $SD = 1.02$ ) and mothers ( $M = 2.71$ ,  $SD = 1.28$ ) did not differ significantly ( $t(141) = -.85$ ,  $p = .40$ ).

Similar to RWA and SDO, CON and EXT value variables were also hypothesized to predict sexism. The final path model, however, suggested that only EXT values were significantly associated with greater endorsement of BS. EXT values did not have any significant association with HS. The association of CON values with BS (which was marginally significant in regression models) and HS did not reach significance. The results suggested that CON values may be related to sexism but became nonsignificant in the presence of stronger predictors (such as RWA).

The association between EXT values and BS suggests that women who value materialistic goals such as wealth, popularity and outward appearance may endorse BS due to its placing women on a pedestal so that they could be cherished, adored and provided for by men. Recently, Hammond, Sibley, and Overall (2014) demonstrated that women with more “psychological entitlement” endorsed more BS concurrently and over time. Hammond et al. defined psychological entitlement as a component of narcissism, characterized by beliefs of being superior, intelligent and attractive and deserving of social status and praise. The ideas of superiority, attractiveness, social status and praise are almost identical with the extrinsic values of physical appearance, material wealth and popularity. The results were also consistent with prior research findings that women who endorsed higher BS showed greater preference than women lower in BS for high-resource partners (Sibley & Overall, 2011; Travaglia et al., 2009) who could provide better financial support to women.

## 6.2 Prediction of Self-Esteem

HS significantly predicted lower self-esteem for daughters thus supporting the hypothesis. The effect was weak but significant after controlling for demographic variables. This effect indicated that young women who reported more HS toward their own gender were also the ones with lesser self-worth. This was true for self-esteem in various domains, as well as for global self-esteem. The results were consistent with earlier research (Lennon, Rudd, Sloan, & Kim, 1999; Simmons & Rosenberg, 1975). The results also seem to be in line with Hammond and Sibley (2011) who found a negative association between HS and life satisfaction.

Collective or group identity is an important aspect of an individual's self-concept and any change in collective or group self-esteem appears to have parallel effects on personal self-esteem (Crocker & Luhtanen, 1990). Believing in the inferiority of one's group should be associated with lesser self-esteem for the members of that group. The results were also consistent with research showing that endorsement of anti-egalitarian ideologies was associated with lower self-esteem for people in the disadvantaged or minority group (Jost & Thompson, 2000). Endorsement of HS was negatively associated with women's self-esteem because across countries women are a disadvantaged group compared to men (Brandt, 2011).

The hypothesis that BS would have a positive association with self-esteem, after controlling for HS, was not supported. BS showed a marginally significant negative association with self-esteem, which became nonsignificant after controlling for HS. Due to the strong positive correlation between the HS and BS variables ( $r = .51$ ) it was difficult to determine if the association between BS and self-esteem was confounded by HS or was depressed due to multicollinearity. BS had a strong positive correlation with RWA ( $r = .54$ ) as well. Path analysis also showed that the association between BS and self-esteem was nonsignificant ( $\beta = -.12$ ,  $t = -1.32$ ). Since RWA and HS were included in the model there is a possibility that the weak



negative association between BS and self-esteem in the regression was due to their common variance with HS and RWA.

Women's RWA also predicted lower self-esteem. The effect was consistent with Onraet et al. (2013) who found that for younger adults there was a weak negative association ( $\beta = -.09$ ) between right-wing ideologies and self-esteem in a sample of both men and women. For the present data, path analyses suggested that the association was mediated through HS. In other words women who endorsed more authoritarian attitudes were more likely to have lower self-esteem because authoritarian attitudes engendered ideas of women's inferiority and therefore women with higher RWA were also more likely to have more sexist attitude about their own gender. Among the background variables, parents' education significantly and positively predicted higher self-esteem which was expected in light of previous research (e.g., Booth & Amato, 1994).

### **6.3 Prediction of Career Aspirations**

Women's HS predicted lower career aspirations which supported the hypothesis and was consistent with prior research (Masser & Abrams, 2004; Sakalli-Ugurlu & Beydogan, 2002; Sibley & Perry, 2010). The results were also consistent with earlier research showing that women who had more traditional gender role attitudes exhibited lower career salience and lower career aspirations (Moya, Exposito, & Ruiz, 2000; O'Brien & Fassinger, 1993; Steele & Barling, 1996).

The results also supported the hypothesis that BS would positively predict career aspirations once HS was controlled. The results supported the opposing process model of BS (Sibley & Perry, 2010). Sibley and Perry proposed that BS in women resulted in support for policies enhancing gender equality because it partially reflected in-group favoritism for women. Similar results have also been reported by Sakalli-Ugurlu and Beydogan (2002) although they

did not interpret these results in terms of the opposing process model of BS. They found that Turkish undergraduate students (both male and female) who scored higher on HS made fewer employment recommendations for female candidates for a managerial position and displayed less favorable attitudes towards women managers. However, unexpectedly, students who endorsed more BS had more favorable attitudes toward women managers once their HS was controlled. Analyses for the fathers' data also showed similar results with BS having a direct positive path ( $\beta = .24, p < .02$ ) to fathers' career aspirations for their daughters. Taken together, these results suggest that men as well as women endorsing BS may be motivated to support women's career aspirations. It seems that New Zealand women who endorse BS may be to a certain extent motivated by in-group bias as suggested by Sibley and Perry (2010) and express higher career aspirations. These results were inconsistent with previous findings (e.g., Barretto et al., 2010; Montanes et al., 2012; Rudman & Heppen, 2003) suggesting that endorsement of BS negatively influenced women's career and achievement goals. It is therefore possible that the present weak effect may be limited to New Zealand samples.

There was no significant association between women's RWA and career aspirations at the correlational and regression levels. Path analysis suggested that RWA had simultaneously opposing negative and positive indirect effects on career aspirations through HS and BS which cancelled each other out so that the net indirect effect was not significant ( $\beta = -.03, t = -0.54 = p < .01$ ). SDO, on the other hand, had significant direct negative effects on career aspirations which were mediated through HS. The finding for the mediational effect for SDO was consistent with previous research (Christopher & Wojda, 2008).

As expected, self-esteem showed a positive association with career aspirations. Previous research has shown that college women who expressed more independence and assertiveness, and exhibited more confidence in their abilities regarding career-related tasks, and expressed more self-efficacy regarding career-decision making competencies, were more career oriented,

had higher career aspirations and more likely to select non-traditional prestigious careers (Fassinger, 1990; O'Brien & Fassinger, 1993; O'Brien, Friedman, Tipton, & Linn, 2000; Rainey & Borders, 1997). The present results also suggested that academic self-esteem did not add significantly over and above total self-esteem to the prediction of career aspirations.

Finally, it is worth noting that the mediational effects emerging from the path analyses should be viewed extremely cautiously because they are based on particular assumptions about causality which may or may not be true. For example, the mediated effects of RWA on self-esteem through HS are just tentative assumptions. It is possible that the mediator variables and predictor variables may just be correlated variables. It is also possible that self-esteem may be a correlated variable with the predictor or the mediator variables. Those results, therefore, should be seen as tentative.

#### **6.4 Conclusions**

Women who endorsed hostilely sexist attitudes had lower self-esteem. Women who endorsed more RWA similarly had lower self-esteem and the effect of RWA was likely mediated through HS. BS was not significantly associated with self-esteem once HS was controlled.

The results for career aspirations supported the opposing process model of sexism (Sibley & Perry, 2010). HS negatively predicted career aspirations whereas BS positively predicted career aspirations. Women who endorsed more SDO also had lower career aspirations and the effect of SDO was mediated through HS. Women with higher self-esteem had higher career aspirations. Self-esteem partially mediated the effect of HS on career aspirations.

BS was mainly predicted by RWA and HS was mainly predicted by RWA as well as SDO, thus partially supporting the differential motivational hypothesis (Sibley, Wilson, et al.,

2007) in young women. BS was also predicted by higher endorsement of EXT values relative to intrinsic values.

The next chapter examines both parent and daughters' data together to investigate the association of parental attitudes on daughter attitudes. In addition, possible mediation of these effects by parental value promotion and career aspirations will be investigated. The longitudinal association between daughters' sexism and daughters' self-esteem are investigated in Chapter 7.

CHAPTER 6: ANALYSES WITH BOTH PARENT AND DAUGHTERS' DATA

**1. Parent Variables Predicting Daughters' Sexism, Self-Esteem, and Career Aspirations**

**(Main Study- Part 3)**

**2. Introduction and Objectives**

The objectives in this chapter were to comprehensively investigate how parent variables predicted daughter sexism, self-esteem, and career aspirations. This involved the investigation of combined and interactive effects between the parental sexism variables on daughter sexism, self-esteem, and career aspirations. In addition, the potential mediating role of certain parental and daughter variables as well as the potential mediating and moderating role of identification with parents in these associations were also investigated.

The chapter starts with an introductory literature review which focuses mainly on the association of parental sexist attitudes with daughters' sexist attitudes, self-esteem, and career aspirations. The chapter then presents the analyses in four different sections with the first three sections successively reporting and discussing the findings for the prediction of daughter sexism (BS, HS), self-esteem, and career aspirations, and the fourth section briefly summing up overall conclusions.

**3. Literature Review**

Parents have a central role in the socialization of their children (Maccoby, 1992; Steinberg, 2001). All major theories of psychology stress the parental role in child development, whether it is the learning of attitudes, acquisition of values, development of self-esteem or aspirations for a career (Berenson et al., 2005; Levine & Munsch, 2011; Maccoby, 1992; Steinberg, 2001; Whiston & Keller, 2004). In all of these areas there is a significant body of

research dedicated to parental influence. The following section therefore briefly reviews theory and research on the associations of parental sexist attitudes with the daughter outcome variables relevant to the present study. The literature about the possible mediating and/or moderating role of identification with parents is also reviewed.

### **3.1 Parental Role in the Development of Attitudes**

Social learning theory (Bandura, 1977) proposed that learning occurred mainly through observation and modelling and children learned to model parents' behaviours as well as ideas and attitudes. Other writers have also considered parents as the primary socialization agents and role models for children in the learning of attitudes and values (Collins et al., 2000; Levine & Munsch, 2011; Maccoby, 1992; Steinberg, 2001). Psychoanalytic theories stressed the role of the internalisation of parental attitudes and values for healthy development (Maccoby, 1992). According to O'Bryan, Fishbein, and Ritchey (2004) the belief that parents and family are the primary social influences is widely held in theory and research investigating attitude development and it is commonly believed that a child's attitudes are a reflection of his or her parents' attitudes.

### **3.2 Parental Role in the Development of Prejudiced Attitudes**

O'Bryan et al. (2004) studied the influence of parents' prejudice on children's prejudice with the aim of distinguishing any difference in the influence of mothers and fathers. They studied intergenerational transmission of sex role stereotyping, modern and old fashioned racism, prejudice against homosexuals, prejudice against people with HIV/AIDS and prejudice against fat people. In addition, they calculated a score for the overall factor of intolerance based on prejudice in all of these areas. The results indicated that both mothers and fathers' attitudes predicted adolescents' prejudiced attitudes but in different areas. Mothers' attitudes had a significant influence on adolescents' racial, HIV/AIDS and anti-fat prejudice. Fathers' attitude

had a significant influence on adolescents' male and female stereotyping and prejudice against homosexuals. In addition, both mothers and fathers about equally shaped general intolerance.

Research has also demonstrated significant consistency between parent and offspring ideological attitudes of RWA and SDO (Altemeyer, 1988, 1996; Duriez, et al., 2008), CON and EXT values (Duriez, 2011; Knafo & Schwartz, 2001; Rohan & Zanna, 1996) and racism (Duriez & Soenens, 2009). It has been hypothesized that parents influence the development of prejudiced attitudes in offspring by processes other than just modelling of parental attitudes. Duriez, Soenens, et al. (2007) studied the role of parenting styles in the development of offspring RWA and SDO, and revealed that parenting styles were less important and did not predict offspring RWA and SDO longitudinally. On the other hand parental value promotion variables were more important and significant in predicting offspring RWA and SDO over time. Duriez, Soenens, et al. (2007, 2008) studied the process through which RWA and SDO were transmitted to offspring and concluded that parents played an important role in the development of offspring RWA and SDO through actively promoting more conservation versus openness to change values and/or extrinsic versus intrinsic values.

### **3.3 The Congruence between Parent and Offspring Gender Attitudes**

Early research has reported that parents and offspring gender-role attitudes are similar to each other. In a longitudinal study, Booth and Amato (1994) studied the consequences of traditionalism in the family for offspring outcomes in young adulthood in a sample of 471 parents and their adult offspring. Family traditionalism was calculated by combining three components: time spent by mothers in paid employment, the amount of housework done by fathers, and the gender role attitudes of parents. The results revealed that after a period of about twelve years offspring of more traditional parents had more traditional gender-role attitudes.

Another longitudinal study was carried out by Moen, Erickson, and Dempster-McClain (1997) to investigate the intergenerational transmission of gender role ideology and work identity. Women ( $N = 427$ ) who were wives and mothers were interviewed in 1956. After 30 years, 246 of the original mothers were again interviewed along with their daughters. The results demonstrated that mothers' gender role ideology in the 1950s was positively related to daughters' gender role ideology in 1988. Furthermore, mothers' gender role ideology was more important than role-modelling of mothers' behaviour in the prediction of daughters' gender-role beliefs. For the longitudinal prediction of daughters' work identities, however, mothers' work identities and work experiences did not play a significant role. Instead of maternal behaviour, daughter's own work experience and professional job status were positively related with having a work role identity.

Smith and Self (1980) reported that mothers' sex-role attitudes were significantly associated with daughters' sex-role attitudes while other characteristics such as mothers' age, marital status, education, and occupational status were less important in the prediction of daughters' sex-role attitudes. Similar results have been reported by Kulik (2004) who found that daughters and mothers had similar gender role attitudes in a sample from Israel. McHale, Shanahan, Updegraph, Crouter, and Booth (2004) also studied developmental and individual differences in girls' sex typed activities in middle childhood and adolescence and found that mothers qualities were the most consistent predictors of girls' activities in middle childhood, whereas fathers qualities predicted girls activities in adolescence.

There has been a considerable amount of research in the area of developmental psychology dedicated to parents' role in the development of gender and gender related schemas. Tenenbaum and Leaper (2002) conducted a meta-analysis of 43 articles investigating the influence of parents' gender schemas on offspring's gender-related cognitions. Their analyses revealed that parents with more traditional gender schemas had children with more traditional



gender-typed cognitions. The effect size was small but meaningful ( $r = .16$ ) for the similarity of parent-offspring gender schemas. Parent's gender schemas about others were more strongly related to offspring outcome measures than were parent's gender schemas about themselves. Parent gender was important in determining the effect size. Effect sizes for samples based on mother-offspring dyads were significantly greater than those from samples based on fathers only or on combined samples. Offspring gender was also important in that correlations were stronger for girls with mothers than for girls with fathers. Tenenbaum and Leaper (2002) suggested that mother's impact was stronger but both parents' gender schemas were related to their children's gender-related self-concepts and attitudes.

There has been little research specifically investigating the intergenerational transmission of BS and HS. However, recent research investigating BS and HS has also found congruence among mother and daughter HS and BS. For example, Montanes et al. (2012) specifically investigated intergenerational transmission of BS. Within 164 mother-daughter dyads, they found that mothers who endorsed more BS had daughters with higher BS (Montanes et al., 2012). Garaigordobil and Aliri (2011) found significant correlations among mothers and daughters' HS, BS, and ambivalent sexism variables and also among parents' and sons' BS and ambivalent sexism variables. However, no significant correlations were found between father and daughters' sexism.

In summary, previous research provides some evidence that daughters' endorsement of BS and HS will be related to parents' BS and HS respectively. Although more research has been reported about mother-daughter dyads there has also been research indicating the influence of fathers' attitudes on daughters' attitudes (e.g., Tennenbaum & Leaper, 2002).

### **3.4 The Influence of Parental Sexist Attitude on Daughters' Self-Esteem**

Self-esteem reflects the positive appraisal of one's qualities and characteristics. In addition, it also involves the ways in which others view and respond to that person (VandenBos, 2007). How people view and respond to women is important for their self-esteem. Perceived gender discrimination and exposure to sexist attitudes has also been found to predict low self-esteem, anxiety, anger and depression among women (Barreto & Ellemers, 2005b; Fischer & Holz, 2007; Swim et al., 2001). While discrimination against women continues to exist at a societal level, it is believed that it actually starts at home (Atwood, 2001). For this reason, parents' differential treatment of sons and daughters has been the focus of much research (Lytton & Romney, 1991; Maccoby & Jacklin, 1974; Siegal, 1987).

Some studies addressing the associations between parental sexist attitudes and daughters' self-esteem reported nonsignificant associations between the two variables. As mentioned earlier, Booth and Amato (1994) conducted a longitudinal study investigating the influence of family traditionalism on offspring outcomes which included offspring traditional attitudes and offspring well-being in a range of areas. Parents' sexist gender role attitudes were found not to be related to adolescents' self-esteem. Parents' traditionalism was also not found to be associated with a range of other outcomes related to well-being such as psychological distress, educational achievement, support network, and relationship with romantic partner.

There are some studies, on the contrary, which support the assumption that parents with more egalitarian attitudes have daughters with better outcomes in terms of lower depression and better academic performance. Obeidallah, McHale, and Silbereisen (1996) reported that seventh and eighth grade school girls' who belonged to more gender traditional families were higher in depression than the girls from gender egalitarian families. Updegraff, McHale, and Crouter (1996) reported that girls in more traditional families declined in math and science performance during seventh grade. No such decline occurred for boys or for the girls in egalitarian families.

One of the reasons for the seemingly inconsistent findings may be that earlier research did not differentiate between hostile and benevolent forms of sexism when evaluating parents' discriminatory attitudes and behaviours. Unfortunately there has been little research specifically on parental BS and HS and its influence on daughters' self-esteem. However, there is a significant amount of research which shows that exposure to BS also has negative consequences for women's cognitive performance, performance self-esteem, academic and career aspirations, leadership aspirations and body esteem (e.g., Barretto et al., 2010; Calogero & Jost., 2011; Dardenne et al., 2007; Dumont et al., 2010; Vescio et al., 2005). From these findings it may be extrapolated that expression of BS and HS in parents' attitudes may also influence daughters' self-esteem negatively.

Surprisingly, a recent study found fathers' BS to be associated with *higher* daughter self-esteem in the domain of physical appearance. Oswald et al. (2012) examined the influence of parental sexism on young women's body self-esteem. They did not find any association between mothers' or fathers' HS on daughters' body-esteem. There was no association between mothers' BS and daughters' own BS with daughters' body-esteem. However, fathers' BS significantly predicted *higher* weight related and physical condition body-esteem in daughters. Oswald et al. also asked daughters to report about benevolent and hostile sexist experiences they had outside home. They found that young women's body esteem was positively related to their benevolently sexist experiences and negatively related to their hostile sexist experiences.

As mentioned earlier, these findings seem inconsistent with previous research which has demonstrated a negative impact of exposure to BS on body self-esteem (Calogero & Jost, 2011; Forbes et al., 2004). In light of these inconsistent findings, it may not be clear whether parents' BS would predict lower or higher self-esteem in the domain of physical appearance. However, in the case of total self-esteem it seems more likely that BS and HS may be associated with lower self-esteem in daughters.

### 3.5 Parental Role in the Development of Career Aspirations

Developing aspirations and career goals are important tasks in adolescence (Ryan & Deci, 2002). Most of the theorists in this area argue that career and vocational development are best understood from a relational perspective and emphasize the role of the parents and family in this context. The ample research in the area was first reviewed by Schulenberg, Vondracek, and Crouter (1984). They examined research from the 1970s and 60s about different aspects of the family and its influence on vocational development. They found that specific features of the family influenced vocational outcomes in predictable ways suggesting two interdependent dimensions of this influence. The first dimension involved structural features such as family configurations and demographic variables of the family. The second involved process oriented features such as family processes, specifically socialization practices and parent-child relations. Both of these dimensions influenced the career and vocation related variables in offspring (Schulenberg et al., 1984).

A relatively recent review was conducted by Whiston and Keller (2004), who reviewed 77 studies published between 1980 to 2002 and highlighted the family's important role in affecting career development across the life span. They reviewed research about a range of career related constructs such as career development and maturity, vocational exploration, vocational identity, interests and work values, occupational aspirations and expectations, career decision making, and occupational choices in association with parental variables. Their findings revealed that there was a compelling parental influence involving not just family structural variables but also family process variables on almost all of these career-related variables. Some of the research they reviewed highlighted the complicated process through which parental variables influenced offspring. They also found that the associations were not always direct and mostly involved complex processes. An example is the research conducted by Wall, Covell and MacIntyre (1999, as cited in Whiston & Keller, 2004) who found that the path from family

factors to adolescents' career plans was complicated and involved many processes. It started from support provided by the family leading to children's perception of opportunities, which in turn led to educational achievement expectations, and finally to occupational expectations.

Whiston and Keller (2004) in their extensive review concluded that higher occupational aspirations were associated with a family environment that was supportive and where parents had high expectations for the adolescents. Parental expectations and support were also found to specifically influence daughters' career orientation. The mother-daughter relationship played an especially important role in the development of adolescent girls' career orientations and in the development of self-efficacy regarding career decision-making.

### **3.6 The Influence of Parents' Sexist Attitudes on Daughter's Career Aspirations**

Parents' gender-related attitudes can influence daughter's career aspirations both directly and indirectly. Parents' with traditional gender-related attitudes are less likely to have higher career aspirations for daughters and therefore may not provide daughters with structural and social support for pursuing careers outside the home, thus directly discouraging daughters' career-aspirations. Parents' with traditional gender-related attitudes are also more likely to have daughters who have traditional gender-related attitudes themselves and therefore may not have higher career aspirations.

Fassinger (1990) found that female university students with traditional attitudes relating to work and family and less favorable attitudes about feminism were less career oriented. She also found that female university students with higher ability and agentic characteristics aspired to more prestigious, less traditional, and more science related occupations (Fassinger, 1990). O'Brien and Fassinger (1993) extended Fassinger's work by also studying mother-daughter relationship along with daughters' gender-role attitudes, instrumental characteristics, and academic ability in the prediction of career orientation and career choice. The participants were

college-bound high school students. The results replicated Fassinger's results (1993). Adolescent girls with liberal gender-role attitudes had high career aspirations and were more oriented towards careers. Liberal gender-role attitudes were also positively associated with more instrumental characteristics and more confidence regarding math performance and decision making about careers. In addition, the data revealed that adolescent girls with only a moderate degree of attachment with mothers were more oriented towards career pursuits (O'Brien & Fassinger, 1993).

Rainey and Borders (1997) found similar results while studying the mother-daughter relationship in regard to gender-role attitudes and daughters' abilities, agentic characteristics and their influence on career aspirations. In a longitudinal study, attachment with the mother during high school was found after five years to predict career aspirations.

After the inception of ambivalent sexism theory, much research has been carried out demonstrating the harmful influence of the seemingly positive BS on women's career aspirations. Researchers have found that exposure to BS increased the extent to which women self-defined in relational term as opposed to task-related terms (Barreto et al., 2009). In addition, exposure to BS held by others has been found to diminish women's performance self-esteem (Dardenne et al., 2007) and increase intrusive thoughts about incompetence (Dumont, et al., 2010). Participants who were exposed to BS attached significantly less importance to competence and academic achievement for their self-esteem but described themselves significantly more as being attentive, warm and romantic. Participants exposed to BS rated themselves significantly less ambitious, self-assured and dominant than the HS or control conditions (Barreto et al., 2009). These research findings suggest that women's career-related choices and aspirations often stem from exposure to sexist beliefs and parents' sexist attitudes are likely to influence daughters in a similar manner.

Recently, Montanes et al. (2012) conducted research to specifically investigate intergenerational transmission of BS. They found that mothers who endorsed higher BS had daughters with worse academic performance. Mothers' BS positively predicted daughters' BS which then predicted decreased motivation to gain an academic degree, lower academic performance and more traditional goals. Mothers with higher BS therefore indirectly promoted traditional role preference in daughters. The socializing influence of mothers' sexist ideology on their daughters thus ultimately led to daughters' lower academic aspirations and the maintenance of traditional roles that perpetuate gender inequalities. Overall, therefore, research findings suggest that exposure to parental BS and HS is likely to diminish women's career aspirations.

### **3.7 Identification with Parents, Prejudice Related Attitudes, and Self-Esteem**

Identification is a complex process which occurs when "an individual accepts influence from another person or from a group to attain a satisfying self-defining relationship to the other" (Hamilton, 2004, p. 66). Identification serves the function not just of maintaining a desirable relationship with the other but also of providing a "self-definition" that is rooted in this relationship (Hamilton, 2004). Children identify with parents by admiring, emulating and perceiving the self as similar to a parent. When children see themselves as similar to the parent it helps them to take that parents' perspective. In addition, admiring and valuing parents helps children to want to be like the parents thereby facilitating the socialization process (Hoffman, 1971). Identification with parents facilitates the internalization of parental attitudes, moral values and behaviour by children through observational learning and a motivation to please the parents (Bandura, 1969; Berenson et al., 2005; Hoffman, 1971).

Although the definition of identification differs to some extent in psychodynamic theory and social learning theory, both psychoanalytic and social learning theories have recognized the

significance of identification with parents for the healthy psychosocial development of children (Bandura, 1969; Maccoby, 1992). Although there has been little research in this area, some studies have shown that identification with parents is positively related to self-esteem and is characterized by positive interpersonal relationships between parents and children (Berenson et al., 2005; Hollender, 1973). Stanford and Pederson (1969) found that girls who identified highly with mothers exhibited better social adjustment than girls who expressed lower identification.

Peterson and Duncan (1999) studied the transmission of political attitudes from parents to offspring and their association with offspring social adjustment and life satisfaction. Although they did not measure identification with parent directly, they measured the congruence between offspring and parents' attitude, which is an important component of identification with parents (see Hamilton, 2004; Hoffman, 1971). They found that the degree of congruence between parent and offspring attitudes predicted better life satisfaction and social adjustment in college. The effect of congruence of attitudes with parents occurred regardless of the traditionality of the attitudes being endorsed. Longitudinal data after two years additionally demonstrated that similarity between parent and offspring attitudes predicted better social adjustment whereas a mismatch of attitudes predicted lower social adjustment. Rainey and Borders (1997) found that among other variables, teenage daughters who reported a closer relationship with their mothers had higher career aspirations and achievement levels. Similar results were reported by O'Brien and Fassinger (1993).

Identification with parents may also play an important role in the development of offspring attitudes and prejudice. For example, Adorno et al. (1950) proposed that children who idealized their parents were more likely to endorse prejudice. Thus, identification with both fathers and mothers may predict higher RWA in daughters. However, due to the consistently reported gender differences in the endorsement of SDO (Sidanius & Pratto, 1999) identification with mothers versus fathers may have opposite effects on daughters' endorsement of SDO.



Wilson and Liu (2003) revealed that gender identification for women moderated their endorsement of SDO. They found that female university students who reported “feeling closer to males” in terms of attitudes, life experiences and general gender group identification endorsed higher levels of SDO than women identifying with females. Although identification with the father is not the same as identifying with males, fathers are the primary male figures with whom daughters identify and it seems likely that daughters who identify more with their fathers might have higher SDO than daughters who identify more with their mothers.

Allport (1954) proposed that identification with parents' moderated the transmission of prejudice from parents' to children. Sinclair et al. (2005) examined Allport's proposition and found in a sample of fourth and fifth graders that children's identification with parents' indeed moderated their implicit and explicit racial prejudice against Black people. Thus, children who identified more with parents had more congruent racial attitudes with parents whereas less identified children had less congruent racial attitudes. Similarly, Steele and Barling (1996) examined parent and daughter gender role attitudes and identification with parents in relation to daughters' career aspirations. They found that mothers' own reports of their gender role ideology and daughters' reports of how they perceived mothers' gender role ideology both significantly predicted the gender-role ideology of daughters. In addition, they found that identification with the mother moderated the relationship between mother and daughters' gender-role attitudes so that daughters who expressed higher identification with mothers were more similar to their mothers in gender-role ideology.

Identification with parents also plays a moderating role on daughters' self-esteem as a function of parental acceptance. Berenson et al. (2005) examined how identification with parents influenced the self-esteem of male and female adolescent and young adults in relation to parental reports of their acceptance of their offspring. As expected, they found that both identification with parents and acceptance by parents were individually associated with higher

self-esteem in male and female offspring. However, they also found that for female participants, parental acceptance and identification with parents (both mother and father) interacted with each other such that identifying with rejecting parents lowered females self-esteem. The interaction effect was not found for male participants suggesting that males who expressed higher identification with parents had higher self-esteem regardless of parental acceptance or rejection. Berenson et al. argued that the “emotional lives of female adolescents remained more closely tied to the family climate and to the inferred perspective of their parents than do those of their counterparts” (p. 291). Extrapolating from Berenson et al. (2005) it may also be expected that identification with parents may moderate the influence of parental HS on daughters' self-esteem such that daughters who identify with more sexist parents may have lower self-esteem than daughters who identify with parents having more egalitarian attitudes.

Identification with mother and identification with father are interdependent and positively associated. Acock and Yang (1984) proposed a “halo effect” such that higher identification with one parent resulted in higher identification with the other parent. Berenson et al. (2005) also reported a positive association between adolescents' identification with father and identification with mother.

Generalizing from the above findings it can be expected that daughters' identification with parents may moderate the influence of parental attitudes on daughters' attitudes and of parental career aspirations on daughters' career aspirations. Similarly, daughters who identify with more sexist parents may have lower self-esteem than daughters who identify with parents having more egalitarians attitudes. In addition, identification with parents may mediate the association between parent and daughter variables. Therefore identification with parents is used as a potential moderating and mediating variable for the association of parental variables with daughter variables in the current research.

### **3.8 The Present Research**

The remainder of this chapter reports the findings from the main study on how parental sexist attitudes and other parental variables predict daughters' sexist attitudes, self-esteem, and career aspirations. These findings were more extensive than those reported in the previous chapters because they combined the data from both the surveys of parents and daughters. In order to present these investigations more clearly and systematically the chapter has been divided into four sections. The first section reports and discusses the findings for the prediction of daughter sexism (BS, HS), the second section reports the findings for daughter self-esteem, and the third section reports the findings for daughter career aspirations. The fourth section sums up the findings overall and formulates general conclusions. In each of the first three sections, the analyses first investigated the main or direct effects for each parent predictor on the outcome variable(s) using correlations for the effect of each predictor on its own followed by hierarchical regressions to investigate the effects of each predictor controlling for other predictors. This was followed by analyses to assess if combining parental variables might improve prediction and to test whether there might be significant interactions between parent predictors. Finally, path analysis was used to investigate whether predictor effects on daughter outcomes might be mediated via daughters' own attitudes, values, and identification with their parents.

#### **4. Section 1: Prediction of Daughters' Sexism from Parent Variables**

##### **5. Introduction and Objectives**

The objective in this section was to test whether parent variables predicted daughters' BS and HS. It was expected that parents' social attitude variables would have a positive association with the respective daughter social attitude variables in general and therefore parents with higher HS and BS will have daughters with higher HS and BS respectively. In addition, parental HS

and BS may be linked with daughters' HS and BS in other ways. Glick and Fiske (2001) proposed that women endorsed BS as a means of protection against HS. The proposition was based on research findings that in egalitarian societies women were lower than men in BS as well as HS; however, in societies where HS was generally highly endorsed, women were higher than men in BS (Glick & Fiske, 1996, 2001a, 2001b; Glick et al., 2000). They concluded that in societies where men were high in HS, women endorsed more BS due to the protection it offered them in the face of hostility. This assumption was supported by Fischer (2006) who in an experimental study demonstrated that women endorsed BS significantly more strongly when they were primed with the idea that men held negative attitudes about women (Fischer, 2006). One of the objectives here therefore was to investigate whether parents' HS and BS predicted daughters' HS and BS through simple modelling, or if it also involved a process where higher parents' HS was associated with higher daughters' BS (as a reaction) as proposed by Glick and Fiske (2001).

In addition, the roles of parents' general social attitudinal variables (RWA and SDO) and value promotion (EXT and CON value promotion) in the prediction of daughters' BS and HS were also investigated. These possible direct effects of parent sexism and other parent variables on daughter sexism were assessed using correlational and hierarchical multiple regression. A further objective of the research was to investigate if combining parental sexism variables, either into a total ambivalent sexism score (i.e., summing BS and HS for each parent) or into a BS or HS score averaged across the two parents, might result in better prediction of daughter sexism. In addition, possible interactions between the parental sexism variables on daughter sexism were also investigated. Finally, path analyses were used to investigate possible mediational pathways in which parent variables might affect daughter sexism via daughter social attitudes, values and identification with parents.

## 6. Results

The descriptive statistics and inter-correlations among parent variables and among daughter variables have already been reported in Chapters 4 and 5 respectively. Parent variables and daughter variables were the same as mentioned in Chapter 4 and Chapter 5 respectively. However, the identification with parent variables have not been previously described. Identification with parents was based on the daughters' report on a five item scale (see Chapter 3) and was measured separately for fathers and mothers. The scales were satisfactorily internally consistent with alphas above .70 ( $\alpha = .84$  for identification with mother;  $\alpha = .88$  for identification with father). The normality indices indicated that both scales were slightly negatively skewed but not significantly so. According to West et al. (1995) skewness values greater than 2.00 and kurtosis values greater than 7.00 show significant departures from normality. The kurtosis and skewness values for identification with parent variables were below these values suggesting that non-normality was not a problem. Consistent with previous research (Acock & Yang, 1984; Berenson et al., 2005) identification with mothers and fathers were significantly positively correlated with each other ( $r = .21, p < .05$ ). The correlations between daughters' identification variables and other daughter and parent variables are reported in the next section.

### 6.1 Correlational Analyses

The correlations between daughter variables and identification with mother and father are reported in Table 6.1. Identification with mother was an important variable in relation to daughters' self-esteem as it was positively correlated with all five domains as well as total self-esteem. It was also associated significantly with higher career aspirations. On the other hand, identification with father did not correlate significantly with any of the self-esteem variables but was associated significantly with the social variables of RWA and conservation values. There

were also marginally significant associations of identification with father with higher HS and lower career aspirations. Daughters' RWA was significantly correlated with identification with both parents.

Table 6.1

*Bivariate Correlations between Daughter Variables and Identification with Parent Variables (N = 157)*

	Daughter variables												
	BS	HS	RWA	SDO	EXT	CON	SR	Socl	Sch	App	Phys	SE	CA
Id.M	.01	-.06	.19*	-.03	.01	.13	.35***	.24**	.15**	.19*	.27**	.34***	.23**
Id.F	.10	.14†	.23**	.12	.04	.22**	.01	.08	-.07	-.11	.13	.00	-.15†

*Note.* BS = Benevolent Sexism; HS = Hostile Sexism; SDO = Social Dominance Orientation; RWA = Right Wing Authoritarianism; EXT = Extrinsic Values; CON = Conservation Values; SR = Self-Regard; Socl = Social Confidence; Scho = School Abilities; App = Physical Appearance; Phys = Physical Abilities; SE = daughters Self-Esteem total score in all five domains; CA = Career Aspirations; Id.M = Identification with Mother; Id.F = Identification with Father.

\* $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ , † $p < .10$

The zero-order correlations between all the parent variables (i.e., parental RWA, SDO, BS, HS, EXT and CON value promotion, career aspirations for their daughters, and parental socio-demographics) and the same daughter social variables (i.e., RWA, SDO, BS, HS, EXT and CON values) and daughters' identification with mother and father are presented in Table 6.2. Due to the large number of correlations computed the probability of chance occurrences for significant and marginally significant effects increased. Therefore, the marginally significant effects (which have been reported in earlier tables) are not reported in this table.

Table 6.2

*Bivariate Correlations between Parent Variables and Daughter Variables (N = 142 for Mothers and N = 138 for Fathers)*

Daughter variables	Mother variables									
	SDO	RWA	BS	HS	EXT	CON	CA	Age	Edu	Inc
D.SDO	.24**	.09	.13	.02	-.04	.07	-.26**	.05	-.08	-.06
D.RWA	.06	.48***	.33***	.32***	.11	.40***	.07	-.25**	-.09	-.13
D.BS	.14	.45***	.52***	.26**	.22**	.36***	-.05	-.29***	-.11	-.12
D.HS	.26**	.26**	.21*	.34***	.11	.21*	-.20*	-.25**	-.13	-.05
D.EXT	.10	.04	.15	.04	.20*	-.08	.07	-.09	-.03	.02
D.CON	.02	.29***	.11	.16	.03	.31***	-.02	-.00	-.13	-.06
<b>Identification with parents</b>										
Ident. F	-.02	.10	.10	.07	-.15	.15	-.11	-.04	.08	-.09
Ident. M	-.17*	-.15	-.07	-.04	-.02	-.25**	.04	-.12	.16	.13
Daughter variables	Father variables									
	SDO	RWA	BS	HS	EXT	CON	CA	Age	Edu	Inc
D.SDO	.22**	.15	.07	.15	-.01	.08	-.15	.02	.02	-.11
D.RWA	.07	.42***	.23**	.21*	.06	.31***	.09	-.20*	.03	-.12
D.BS	.01	.34***	.29***	.34***	.15	.24**	.01	-.22**	-.02	-.14
D.HS	.24**	.27***	.16	.29***	.01	.07	-.09	-.19*	-.04	-.14
D.EXT	.22**	.10	.18*	.21*	.14	-.00	.01	-.04	-.01	-.10
D.CON	.05	.15	.25**	.15	.08	.20*	.16	.04	-.00	.03
<b>Identification with parents</b>										
Id. F	-.10	-.10	-.01	-.10	-.14	-.05	-.07	-.03	.07	.26**
Id. M	.00	-.06	-.03	.10	.14	-.09	.12	-.07	.11	.16

*Note;* SDO = Parent's Social Dominance Orientation; RWA = Parent's Right Wing Authoritarianism; BS = Parent's Benevolent sexism; HS = Parent's Hostile Sexism; EXT = Parent's Extrinsic versus Intrinsic Value promotion in daughter; CON = parent's Conservation versus Openness Value promotion in daughter; CA = parent's Career aspirations for daughters; Edu = Parent's education; Inc = Parent's income; D.RWA = Daughter's Right Wing Authoritarianism; D.SDO = Daughter's Social Dominance Orientation; D.BS = Daughter's Benevolent Sexism; D.HS = Daughter's Hostile Sexism; D.CON = Daughter's Conservation Values; D.EXT = Daughter's Extrinsic Values.

\* $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

The correlational analyses showed that there was a significant positive association between parent and daughter equivalent social attitude variables. The results indicated that the higher the mothers and fathers were in RWA, SDO, BS and HS the higher the daughters were in RWA, SDO, BS and HS respectively. Also, the more the parents promoted CON and EXT values for their daughters the more the daughters endorsed CON and EXT values respectively. The only exception was that fathers' EXT value promotion was not significantly related to daughters' EXT values, although the effect was in the expected direction. Moreover, there was a pattern of significant effects between parent and daughter variables similar to the pattern of correlations found for the same variables within each of these individual subjects. Thus, parents' SDO was more strongly related to daughters' HS than daughters' BS, and parents' RWA was more strongly related to daughters' BS than daughters' HS. Similarly, parents' CON value promotion was most strongly related to daughters' RWA and BS.

Fathers' BS was significantly associated with daughters' CON values but mothers' BS was not associated with daughters' CON values. The correlational analysis for fathers was also consistent with the assumption that higher father HS would be associated with higher daughter BS. Mothers' HS also showed a significant association with daughters' BS, but this association was weaker than the association between mothers' own BS and daughters' BS.

Identification with the mother was significantly negatively related to mothers' SDO and CON value promotion but was not related to father variables. Identification with the father was not significantly related to any of the mother or father variables except a significant positive correlation with fathers' income.

There were no significant correlations between parent education or income variables and daughter variables. However, there was a systematic pattern of significant effects with both mothers' and fathers' age negatively associated with daughters' BS, HS, and RWA. Interestingly, these daughter variables had not been significantly related to daughters' own age



(reported in Chapter 5). The inter-correlations among the parents' own variables (reported in Chapter 4) had shown that older fathers had lower BS and RWA, and similarly older mothers had lower HS, BS and RWA. This suggested that the negative association of parents' age with daughters' social attitudes may be mediated through parent's own social attitudes.

Mother variables had stronger correlations with daughter variables than father variables had with daughter variables in almost all of the cases. The few instances where father variables had stronger correlations than mother variables included the correlation between daughters' BS and fathers' HS, and between daughters' EXT values and fathers' HS, BS and SDO.

In summary, most of the daughter variables (including HS and BS) were significantly correlated with both parents' respective variables. Daughter variables were also significantly correlated with other parents' variables in a pattern found for the same variables within each of these individual subjects. Mother variables had stronger correlations with daughter variables than father variables in most of the cases.

## 6.2 Hierarchical Multiple Linear Regression

**6.2.1 Hierarchical multiple linear regression procedure.** Hierarchical multiple linear regressions were next employed to examine the contribution of all parent variables to the prediction of daughters' sexism. The order of the entry of the predictor variables was the same as for the analysis of the parent data (in Chapter 4) with the same rationale for the order of entry. The following order of entry of the predictor variables was used in hierarchical regressions:

- (1) Background variables (parent's average education, income and age),
- (2) Parents' ideological attitudes (RWA and SDO),
- (3) Parents' sexism (BS and HS)
- (4) Parent's value promotion (EXT and CON) in daughters and parents' career aspirations for daughter.

The inter-correlation between predictor variables ranged from .01 to .52. Possible multicollinearity problems were checked beforehand with *Tolerance* statistics and *Variance-inflation factor (VIF)* in all the analyses. *Tolerance* statistics ranged from .35 to .76 remaining above the problematic minimum of .20. With highest *Variance-inflation factor (VIF)* being 2.9, statistical multicollinearity did not pose a serious problem. However, the second kind of multicollinearity called the *partialling out* effect (see e.g., Lynam, Hoyle, & Newman; 2006) may still be problematic even when statistical multicollinearity is not an issue and tolerance values are acceptable (this was discussed earlier in Chapter 4). Therefore multiple regression betas for relatively highly correlated variables may be depressed and this will be noted where relevant.

The hierarchical multiple regression models predicting daughters' BS from parent variables were first carried out separately for mother and father variables. In the next step both father and mother variables were added together in the same regression models to investigate the combined effects of father and mother variables and also to determine the amount of unique variance each parent's attitudes predicted in daughters' BS controlling for each other. Similarly, hierarchical multiple regression models predicting daughters' HS from mother and father variables were first carried out separately for mothers and fathers and then combined in regression models to predict daughters' HS.

The analyses for mothers and fathers separately did not show any noteworthy effects that had not already been shown in the combined analyses, so only the combined analyses for both parents are reported. However, the separate analyses for mothers and fathers did show that both father and mother variables had significant effects on daughters' sexism variables (see Appendix A1 and A2 for separate tables). In the combined analyses, due to the stronger effect of mother variables father variables that had initially been significant (when only father variables were entered) became nonsignificant. In reporting the combined analyses, therefore, at each step

father variables were entered prior to mother variables in order to reveal the effects they did have before mother variables were entered, and not because they were considered as causally prior to mother variables.

Parent variables were entered in the regression in the same order as reported for individual parents. In order to reduce the number of variables in the regression model, mother and fathers' income, age and education were each averaged across parents to produce single variables for parents' income, age and education. Investigating parents' income and education as combined (rather than separate) variables did not notably change any effects for either the demographics or for other variables. Combining mother and fathers' age improved prediction in multiple regressions by removing the multicollinearity due to their strong positive correlation ( $r = .69, p < .00$ ).

**6.2.2 Hierarchical regression results predicting daughters' BS.** The results of the stepwise hierarchical multiple regression models predicting daughters' BS from parent variables are presented in Table 6.3. The demographic variables entered at the first step showed that parents' age was significantly negatively associated with daughters' BS but it became nonsignificant in the fourth step suggesting that the effect of age was possibly mediated through mother and fathers' RWA and fathers' HS. The second step showed that fathers' RWA had a significant positive association with daughters' BS. Mothers' RWA which was entered in step 3 showed a significant positive association with daughters' BS whereas fathers' RWA became nonsignificant. There was also a slight decrease in mothers' beta coefficient from the value obtained in separate analyses (see Appendix A1 where mother' RWA had  $\beta = .41$ ) but the decrease was not as substantial as for fathers. The results indicated that controlling the common variance between mother and fathers' RWA eliminated the effect of fathers' RWA.

Table 6.3

*Hierarchical Models Predicting Daughters' BS from Both Parents' Variables*

Variables	$\beta$ coefficients predicting daughters' benevolent sexism						
	Step 1	Step 2	Step 3	Step 4	Step 5	Step 6	Step 7
P.education	-.06	-.02	.03	.06	.04	.06	.07
Parents' income	-.05	.03	.05	.06	.15†	.14†	.12
Parents' age	-.27**	-.18*	-.14†	-.13	-.09	-.10	-.11
F.RWA		.28**	.11	-.00	-.02	-.05	-.06
F.SDO		.03	.00	-.04	-.04	-.02	-.03
M.RWA			.37***	.36***	.24*	.24*	.21†
M.SDO			.04	.05	.00	.00	-.01
F.BS				.06	-.03	-.01	-.04
F.HS				.21*	.21*	.23*	.25*
M.BS					.40***	.40***	.37***
M.HS					-.03	-.04	-.04
F.CON						.06	.04
F.EXT						-.09	-.08
F.CA						-.02	.02
M.CON							.10
M.EXT							.04
M.CA							-.07
$R^2$ change	.09**	.06**	.10***	.04*	.09***	.01	.01
$R^2$	.06	.11	.20	.23	.32	.31	.30
$F$	4.36**	4.49***	5.92***	5.61***	6.82***	5.39***	4.49***
$df$	3,134	5,132	7,130	9,128	11,126	14,123	17,120

*Note:* F.RWA = Fathers' Right Wing Authoritarianism; F.SDO = Fathers' Social Dominance Orientation; F.BS = Fathers' Benevolent Sexism; F.HS = Fathers' Hostile Sexism; F.EXT = Fathers' Extrinsic versus Intrinsic Value promotion in daughter; F.CON = Father's Conservation versus Openness Value promotion in daughter; F.CA = Fathers' Career aspirations for Daughter; M.SDO = Mothers' Social Dominance Orientation; M.RWA = Mothers' Right Wing Authoritarianism; M.BS = Mothers' Benevolent Sexism; M.HS = Mothers' Hostile Sexism; M.EXT = Mothers' Extrinsic versus Intrinsic Value promotion in daughter; M.CON = Mothers' Conservation versus Openness Value promotion in daughter; M.CA = Mothers' Career aspirations for Daughter.

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ , † $p < .10$

Fathers' BS and HS were entered at the fourth step which showed that fathers' HS was significantly positively associated with daughters' BS. Mothers' BS entered in the fifth step was significantly associated with daughters' BS whereas mothers' HS remained nonsignificant.

Father and mothers' CON and EXT value promotion and career aspirations entered at the sixth and seventh steps respectively did not predict daughters' BS significantly. However, the addition of these variables did decrease the beta for mother's RWA slightly, but this remained marginally significant.

The results indicated that daughters' BS was predicted most strongly by mothers' BS. In addition, fathers' HS was significantly and positively associated with daughters' BS. Mothers' RWA also predicted daughters' BS positively but the beta coefficient became marginally significant in the final model when parents' value promotion variables and career aspirations were added. The results suggest that the development of BS in daughters may be related to the combination of different parent sexism factors. If one could infer a causal impact of parent sexist attitudes on daughters' attitudes as seems reasonable, the results suggest that daughters' BS seems to be reaction to fathers' HS and the direct transmission of mothers' BS. The results also suggest that the magnitude of mothers and fathers' impact on daughters' BS differ. Mothers' attitudes had more powerful effect sizes than fathers' attitudes with mothers adding 10% and 9% to explained variance (at steps 3 and 5) in daughters' BS, as opposed to fathers adding 6% and 4% (at steps 2 and 4). Moreover, mothers' RWA also had a unique effect on daughters' BS after controlling for mothers' BS, while fathers' RWA did not.

**6.2.3 Hierarchical regression results predicting daughters' HS.** The next step was to see how daughters' HS was predicted by parents' HS and other parent variables. Daughters' may simply learn to endorse HS by modelling their parents. On the other hand, given the nature of HS as a discriminatory attitude toward their own group, daughters are also likely to reject (or not endorse as strongly) their parents' sexist attitudes. Women endorse HS to a lesser extent than men (Glick & Fiske, 1996, 2001a; Glick et al., 2000). It was also possible that in contrast to their HS, parents' BS was more strongly associated with their daughters' HS since it has been argued that BS justifies HS and may be more effective in perpetuating HS (Glick & Fiske, 1996,

2001a; Glick et al., 2000; Sibley, Overall, et al., 2007). In order to examine which parent variables predicted daughters' HS, regressions were carried out with all parent variables entered in the same order as before. Similar to the combined parent models for the prediction of daughters' BS, father variables were entered prior to mother variables and demographic variables were averaged to reduce the number of variables. The results of the stepwise hierarchical multiple regression models predicting daughters' HS from parent variables are presented in Table 6.4.

The results showed that parents' age was significantly negatively associated with daughters' HS in the first model but it became marginally significant when parents' attitude variables were entered in steps 2, 3, and 4 and finally became nonsignificant in step 5. Fathers' SDO had a significant, and RWA a marginally significant positive association with daughters' HS. However, fathers' RWA and SDO became nonsignificant when mothers' SDO and RWA were entered in the third step. Mothers' SDO had a significant/marginally significant positive association with daughters' HS across models. Fathers' BS and HS entered at the fourth step remained nonsignificant. However, fathers' HS had a positive weight in the expected direction and the beta coefficient was quite substantial in the last step which only narrowly missed marginal significance ( $\beta = .19$ ,  $t = 1.66$ ,  $p = .101$ ). Mothers' HS was entered at step 5 where it significantly predicted daughters' HS and it remained so in all of the later models.

Fathers and mothers' CON and EXT value promotion and career aspirations were entered at the sixth and seventh step respectively but were all nonsignificant in predicting daughters' HS. There was a marginally significant effect at step 6 indicating that fathers who promoted more EXT values in daughters had daughters with lower HS. Considering that EXT value promotion was associated with higher HS in fathers, it should be associated with higher HS in daughters. This result was therefore somewhat unexpected. However, the coefficient was

only marginally significant and given that the probability of chance effects increases in large models with many predictors, this effect could be due to chance

Table 6.4

*Hierarchical Models Predicting Daughters' HS from Both Parents' Variables*

Variables	$\beta$ coefficients predicting daughters' hostile sexism						
	Step 1	Step 2	Step 3	Step 4	Step 5	Step 6	Step 7
P.education	-.09	-.05	-.04	-.01	-.03	-.05	-.03
Family income	-.03	-.04	.05	.06	.09	.10	.04
Parent age	-.24**	-.16†	-.16†	-.15†	-.13	-.13	-.16
F.RWA		.17†	.15	.08	.09	.12	.09
F.SDO		.19*	.13	.10	.08	.08	.06
M.RWA			.06	.06	-.01	-.01	-.03
M.SDO			.18*	.19*	.17†	.20*	.18†
F.BS				.01	.01	.04	.01
F.HS				.16	.11	.18	.19††
M.BS					-.01	.02	-.01
M.HS					.21*	.19*	.21*
F.CON						-.10	-.14
F.EXT						-.16†	-.13
F.CA						-.07	.01
M.CON							.13
M.EXT							-.04
M.CA							-.15
$R^2$ change		.07**	.04†	.02	.03	.04	.03
$R^2$	.04	.10	.13	.13	.15	.17	.19
$F$	3.19*	4.14**	3.83***	3.32**	3.18***	3.04***	2.85***
$df$	3,134	5,132	7,130	9,128	11,126	14,123	17,120

*Note;* F.RWA = Fathers' Right Wing Authoritarianism; F.SDO = Fathers' Social Dominance Orientation; F.BS = Fathers' Benevolent Sexism; F.HS = Fathers' Hostile Sexism; F.EXT = Fathers' Extrinsic versus Intrinsic Value promotion in daughter; F.CON = Father's Conservation versus Openness Value promotion in daughter; F.CA = Fathers' Career aspirations for Daughter; M.SDO = Mothers' Social Dominance Orientation; M.RWA = Mothers' Right Wing Authoritarianism; M.BS = Mothers' Benevolent Sexism; M.HS = Mothers' Hostile Sexism; M.EXT = Mothers' Extrinsic versus Intrinsic Value promotion in daughter; M.CON = Mothers' Conservation versus Openness Value promotion in daughter; M.CA = Mothers' Career aspirations for Daughter.

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ , † $p < .10$ , †† $p = .101$

In short, the results suggest that the strongest predictor of daughters' HS was mothers' HS. There was also a marginally significant tendency for mothers who were higher in SDO to have daughters with higher HS and fathers' HS approached marginal significance in predicting daughters' HS in the last step. Older parents had daughters with lower HS but the effects of age were possibly mediated through parents' social attitude variables. Similar to the previous table these results also suggested that mother variables were stronger predictors of daughter variables than father variables and entering mother variables rendered father variables nonsignificant. Thus fathers' SDO became nonsignificant in step 3.

The results of the analyses predicting BS and HS suggested possible causal patterns in how parents might influence daughters' sexist attitudes with mothers and fathers both influencing their daughters' attitudes but in different ways. The mothers' influence seems stronger and more direct. Father attitudes on the other hand may not always result in a direct transmission of attitudes but may have an influence in other ways. Fathers' BS for instance did not predict daughters' BS but fathers' HS did. The results also indicated that parent variables predicted more variance in daughters' BS ( $R^2 = 30\%$ ) than in daughters' HS ( $R^2 = 19\%$ ) suggesting that daughters' BS may be more influenced by parents than their HS.

### **6.3 Interactive or Combined Effects of Parent Variables**

In order to further explore the combined or interactive effects of both parent variables, further analyses were carried out. One possibility was that their effects were additive. For instance the combined impact of mother and father HS on daughters' HS would roughly equal the sum of their separate effects. This has already been investigated through multiple regressions. However, in regression models mother and fathers HS and other variables entered separately will tend to control the common variance between them and may deflate the resulting



beta coefficient. It was possible that aggregating the two parent variables into one combined variable might result in better prediction.

Next analyses were carried out to test whether combining parent's HS and BS into a single ambivalent sexism variable predicted daughter sexism better than their combined separate effects. In addition, the possibility that the parental sexism variables might interact significantly in predicting daughters' BS or HS was also investigated. Finally, the assumption that the transmission of sexist attitudes from parent to daughter might be moderated by daughters' identification with parents was also investigated. A series of analyses were used to examine all these possibilities and the results are summarised below.

**6.3.1 A common factor across parent sexism variables.** In order to calculate the common factor between parent sexism variables all the items for both mothers and fathers' HS were entered into an exploratory factor analysis. The first un-rotated factor score was saved. All the father and mother items had loadings on one factor above .30 suggesting that all items for both parents could be treated as measuring a single construct. Consequently, the father and mother HS items were then combined (averaged) into a single parental HS score (P.HS) without excluding any of the items. The same procedure was carried out for mother and father BS items with a similar results (all parent items loading on a single factor) and a single parental BS score (P.BS) was obtained. Regression analyses were then carried out to predict daughters' HS (and BS) from the combined parental HS and BS scales. The results showed that the combined variables did not predict daughters' HS and BS better than separate mother and father variables entered in the regression analyses as indicated by the beta coefficients and  $R^2$ .

The combined P.BS produced a lower beta coefficient ( $\beta = .48$ ) than mothers' BS ( $\beta = .51$ ) and produced a lower  $R^2$  change ( $R^2 = .19$ ) than when parent variables were entered separately ( $R^2 = .23$ ) in the regression model (see Appendix A3) for the prediction of daughters' BS. Similarly for the prediction of HS, the combined P.HS produced a lower  $R^2$  change ( $R^2 =$

.10) than when parent variables were entered to the model separately ( $R^2 = .11$ ). For the prediction of daughters' BS from parental HS (and daughters' HS, from the parental BS) the combined parental variables also did not predict more variance (as indicated by  $R^2$  change and  $R^2$ ) than was explained by the separate parental HS and BS. These results suggested that the multicollinearity between parent variables did not markedly deflate the regression coefficients. Consequently, the mother and father variables were used separately as predictor variables rather than as combined variables. Using mother and father variables separately also had the advantage of providing in depth information of the unique effects of each parent.

**6.3.2 The ambivalent sexism score.** Glick and Fiske combined the scores for respondents' HS and BS and averaged them to get an index of their overall ambivalent sexism (AS). The same procedure was used to measure ambivalent sexism for fathers and mothers. Regression analyses were then carried out to see if AS scores predicted daughters' sexism better than parents' HS and BS did separately and whether to use the AS score as an additional index of parents' sexism for the statistical analyses in this research. However, the AS score predicted daughters' HS and BS with lower and sometimes nonsignificant beta coefficients than parents' separate HS and BS scales and did not provide any additional information for the analyses reported above (see Appendix A4). Thus, the HS and BS scales were used separately in all the analyses.

**6.3.3 Interactions between parent variables.** In order to investigate the possibility of interactions between mother and father sexism variables on daughter sexism, the procedure recommended by Baron and Kenny (1986) was followed. A regression model was tested in which centred mothers' HS (M.HS), centred fathers' HS (F.HS), and the centred M.HS x centred F.HS interaction term predicted daughters' HS. Similarly the same procedure was used to explore all possible interactions between parents' BS and HS for predicting daughter' BS and HS. The interaction terms tested for the prediction of daughters' BS are presented in Table 6.5.

Table 6.5

*The Interaction Terms Between Fathers' and Mothers' Sexism Variables (BS and HS) Predicting Daughters' BS*

Parent variables	$\beta$ coefficients	significance	$R^2$ change	$df$	F change
F.BS x M.BS	.07	.34	.01	3,134	0.90
F.HS x M.HS	.14	.09	.02	3,134	2.97†
F.HS x F.BS	.09	.29	.01	3,134	0.29
M.HS x M.BS	.03	.65	.00	3,138	0.65
<b>F.BS x M.HS*</b>	<b>.20*</b>	<b>.04</b>	<b>.04</b>	<b>3,134</b>	<b>5.99*</b>
F.HS x M.BS	.04	.56	.00	3,134	0.34

Note; F.BS = Fathers' Benevolent Sexism; F.HS = Fathers' Hostile Sexism; M.BS = Mothers' Benevolent Sexism; M.HS = Mothers' Hostile Sexism. (All variables were centred before computing the interaction terms).

\* $p < .05$ , \*\*  $p < .01$ , \*\*\* $p < .001$ , † $p < .10$ .

The same interaction terms presented in Table 6.4 were also used for the prediction of daughters' HS but none of them was significant (see Appendix A5). For the prediction of daughters' BS, the interaction term F.BS x M.HS was found to be significant. Given that twelve interaction terms were tested, one significant effect could be due to chance. However, this interaction term remained significant in all the models controlling for mothers' BS and fathers' HS and controlling for parents' RWA, SDO, value promotion and career aspiration variables (added in successive steps), and finally after controlling for daughters' own RWA, SDO and Values variables, suggesting that the effect might well be robust.

The interaction between fathers' BS and mothers' HS predicting daughter's BS was graphed and is depicted in Figure 6.1. The procedure outlined by Aiken and West (1991) was followed and unstandardized beta coefficients were used. Additional analyses of the simple slopes supported this interaction and indicated that the simple slope for the effect of fathers' BS on daughters' BS was significant when mothers were high in HS ( $\beta = .39$ ,  $t(134) = 3.79$ ,  $p < .00$ ) and not when mothers were low in HS ( $\beta = .09$ ,  $t(134) = 0.93$ ,  $p = .39$ ). As shown in Figure 6.1, the interaction suggested that when mothers were high in HS their daughters were

high in BS, but only when fathers were also high in BS. When fathers were low in BS mothers' higher HS did not predict higher BS in daughters.

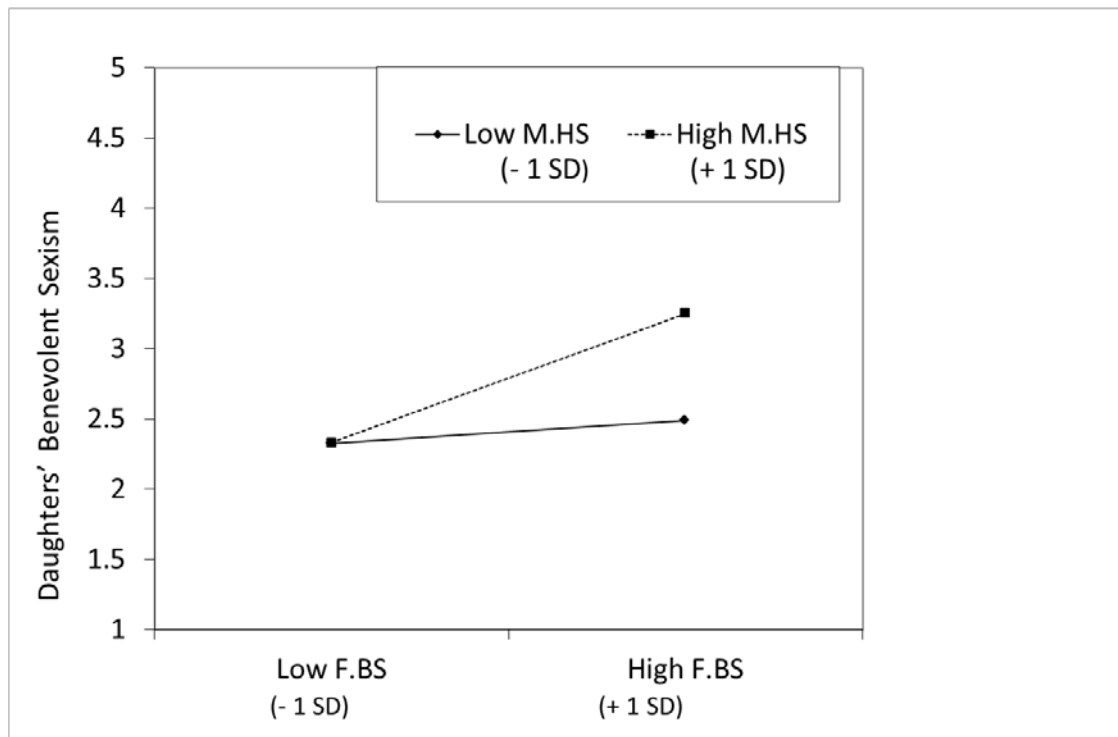


Figure 6.1: Moderating effect of mothers' HS on fathers' BS in predicting daughters' BS ( $N = 138$  families).

The interaction effect was theoretically plausible and was consistent with the reactive interpretation of daughters' BS in reaction to parents' HS suggesting that when confronted by high HS from mothers daughters will adopt high BS defensively, in this case modelling it from the father. Because 12 interaction effects were calculated in total, this could have been a chance effect, yet the effect was robust and remained significant across different regression models and

path analyses. The effect was significant across models controlling for both parents' HS, BS, RWA, SDO and value promotion variables.

**6.3.4 Interactions between parents' sexist attitudes and daughters' identification with parents.** The variable of Identification with Parents was primarily included in the present research as a potential interacting variable. There is some evidence that identification with parents moderates the intergenerational transmission of prejudice (Sinclair et al., 2005). In order to test whether identification with parents significantly moderated the effect of parents' HS and BS on daughters' BS and HS, the procedure recommended by Baron and Kenny (1986) was again followed. Interaction terms were calculated between fathers' BS (and HS) and daughters' identification with father to predict daughters' BS and HS. Similarly interaction terms were calculated between mothers' BS (and HS) and daughters' identification with mother to predict daughters' BS and HS (see Appendix A6). The results of the interaction analyses showed that the interaction terms were not significant and daughters' identification with parents did not significantly moderate the effect of parents' HS and BS attitudes on daughters' HS and BS attitudes. The only exception was the interaction between fathers' BS and identification with father in the prediction of daughters' BS. However, this interaction also became nonsignificant when other parent variables were controlled in regression models (see Appendix A7) and in the path models. These results therefore suggested that overall daughters' modelling of their parents' HS and BS was not moderated by how much they identified with their parents.

#### **6.4 Path Analyses**

Path analyses were primarily used here to investigate possible mediational paths whereby parental variables might affect daughter sexism via daughter social attitudes, values, and identification with parents. Before reporting the path analysis for these mediational effects, however, a simplified path model of the direct effects of parental variables, (without any

mediation) on the two daughter sexism variables is also reported. This direct effects path model partly replicated the analysis shown in the two hierarchical regressions for D.BS and D.HS, but had several advantages over that analysis. First, it combined those two analyses in a single model with a clear visual diagram of the effects. Second, it simplified the previous hierarchical analyses by excluding the parental value promotion and career aspiration variables which had shown no direct effects on sexism and therefore could not have mediated any effects of parental variables from prior steps on daughter sexism. And third, this simplified direct effects path analysis included the significant interaction obtained for fathers' BS and mothers' HS on daughters' BS.

**6.4.1 The direct effects path analysis.** The first direct effects model therefore had parents' RWA, SDO, sexism and demographic variables as predictor variables of daughter BS and HS, which were modelled as correlated variables. Two longitudinal studies have found significant cross-lagged effects of BS on HS (Sibley, Overall, et al., 2007; Sibley et al., 2009), suggesting a possible causal effect, but this finding was not replicated in the follow-up longitudinal analyses (reported in Chapter 7 of this study). Consequently, it seemed best to make no assumption about causality between daughter BS and HS and to treat them as correlated outcome variables. All the predictor variables were centred before entering in the model because the interaction term was also included as a predictor variable. The interaction term between fathers' BS and daughters' identification with father was also originally entered in the path model but was not found significant and therefore excluded. Fathers' HS had a marginally significant positive effect on daughters' HS ( $\beta = .16, p = .06$ ). Including the path improved model fit by decreasing chi-square value ( $X_{diff} = 3.70$ ) although the improvement was not significant at 0.05 level of significance. The model is depicted in Figure 6.2 showing the significant paths.

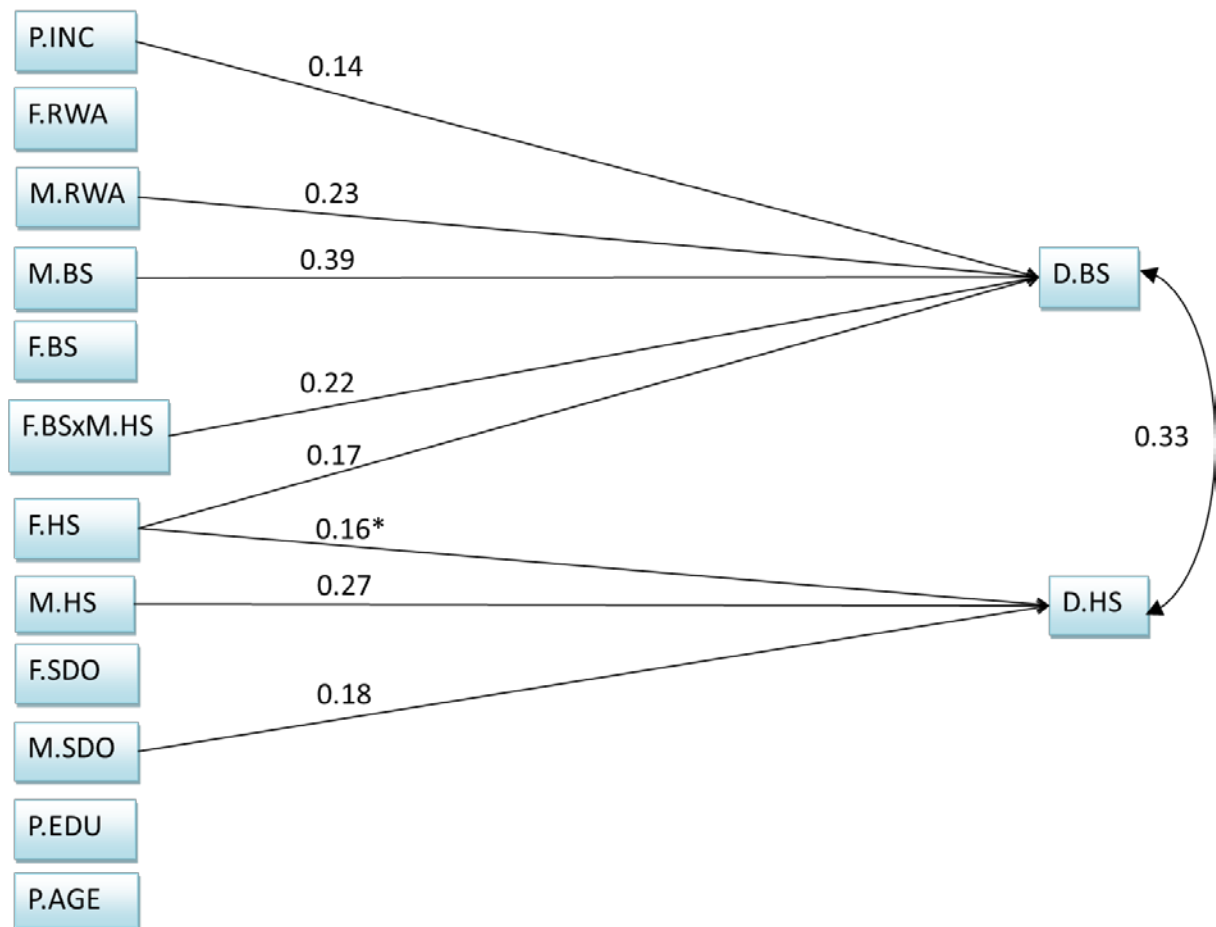


Figure 6.2: Path analysis model for daughters showing significant standardized path coefficients for the prediction of sexism.

Note; F.BS = Fathers' Benevolent Sexism; F.HS = Fathers' Hostile Sexism; M.BS = Mothers' Benevolent Sexism; M.HS = Mothers' Hostile Sexism; F.RWA = Fathers' Right Wing Authoritarianism; F.SDO = Fathers' Social Dominance Orientation; M.SDO = Mothers' Social Dominance Orientation; M.RWA = Mothers' Right Wing Authoritarianism; D.BS = Daughters' Benevolent Sexism; D.HS = Daughters' Hostile Sexism; P. EDU = Parents' Education; P.INC = Parents' Income. (All the predictor variables were centred).

$\beta$  coefficients shown are significant at the .05 level (two-tailed), \*  $\beta$  coefficient is marginally significant ( $t = 1.92$ ,  $p = .06$ ).

The model had excellent fit for the data: Chi-square = 9.09,  $df = 16$ , Chi-square/ $df$  ratio = 0.57, GFI = .99, NNFI = 1.05, CFI = 1.00, SRMR = .022, RMSEA = .000. The model showed that mothers' BS and HS significantly predicted daughters' BS and HS respectively. Fathers' BS was not significant in predicting daughters' BS. However, fathers' HS had a marginally

significant positive path to daughters' HS. In addition, fathers' HS had a significant, though weak, path to daughters' BS. The interaction between mothers' HS and fathers' BS was significant in the prediction of daughters' BS. Mothers' RWA had a significant path to daughters' BS and mothers' SDO had a significant, path to daughters' HS. Parents' combined income also had a weak positive significant path to daughters' BS. The association between daughters' BS and HS was significant.

To sum up, the results of the above path model indicated that daughters' HS and BS were predicted more strongly by mother variables. In addition to mothers' HS and BS, mothers' SDO and RWA also predicted daughters' HS and BS respectively. In contrast there was only a marginally significant weak effect for fathers' HS on daughters' HS. It seems that daughters primarily modelled their mothers' sexist attitudes. However, they also modelled fathers' BS when mothers were high in HS. This effect together with a direct path from fathers' HS to daughters' BS supported the conception of BS as a reaction to hostility. It also appeared that daughters were more likely to model parents' BS than HS. When parents endorsed more HS instead of modelling HS they seemed to react to it by endorsing more BS.

**6.4.2 The path analysis for mediated effects.** As already noted, the primary purpose of the path analysis was to investigate possible mediational paths through which parental variables might affect daughter sexism via daughter social attitudes, values, and identification with parents. This analysis would inevitably rest on the critical assumption that daughter social attitudes, values, and identification with parents would be causal precursors of daughter sexism. This is an assumption that has been widely made by theoretical models of prejudice, which have seen prejudices such as sexist attitudes being caused by particular social attitudes (e.g., RWA, SDO) (Altemeyer, 1996; McFarland, 2010; Sibley, Wilson, et al., 2007). Conservation or Extrinsic values are closely related constructs with RWA and SDO (Duriez et al., 2008; Feather & McKee, 2008; Heaven & Connors, 2001) and play an important role in the intergenerational



transmission of prejudice (Duriez & Soenens, 2009; Duriez, Soenens, et al., 2007; Duriez et al., 2008). Identification with parents has also been seen as a possible causal precursor of prejudice (e.g., Adorno et al., 1950), although not as frequently investigated as values and attitudes, so it was also included in the analysis as a possible mediator.

The mediational analyses were also carried out considering the possibility that certain parental variables, such as parents' value promotion and career aspirations, might mediate the effect of more basic causally prior parental variables, such as socio-demographic characteristics, social attitude (RWA, SDO), and sexism.

**6.4.2.1 Parental value promotion variables as mediator variables.** As a first step parental value promotion and career-aspiration variables were used as mediating variables in the prediction of daughters' HS and BS. The rest of the model was the same as in Figure 6.2. Consistent with the findings suggested by the hierarchical regressions in Tables 6.3 and 6.4 neither the parental value promotion nor parental career aspirations for daughter variable mediated the associations between parents' and daughters' attitudes.

**6.4.2.2 Daughter social attitudes and values as mediator variables.** The next model which is presented here has three levels of variables. Parent variables were all modelled at one causal level (as primary variables) to avoid the model becoming too complex and because doing so did not reduce useful information. Daughters' SDO, RWA, CON, EXT, identification with mother, and identification with father were used as mediating variables at the second level. Finally daughters' HS and BS variables were used as the outcome variables at the third level. Parents' demographic variables were originally included in the model but showed no significant effects on the outcome variables and were therefore excluded in order to reduce the number of parameters and to make the model simpler. The correlations between daughters' RWA and CON values and between SDO and EXT values were significant. The model, including all father and

mother predictor variables and daughter mediator variables, with all significant paths shown is depicted in Figure 6.3.

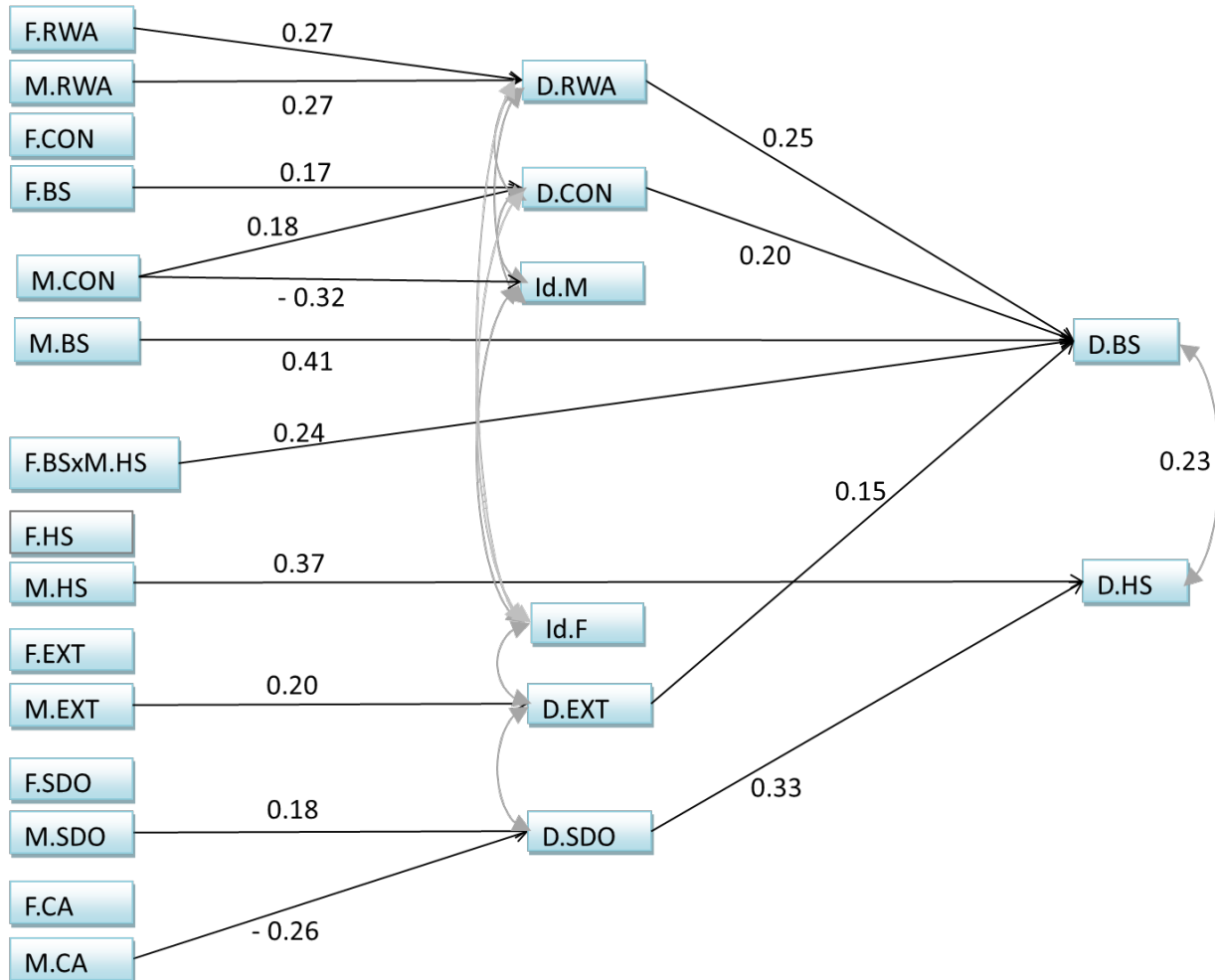


Figure 6.3: Path analysis model showing significant standardized path coefficients for the prediction of daughters' sexism with mediating variables.

Note; F.RWA = Fathers' Right Wing Authoritarianism; F.SDO = Fathers' Social Dominance Orientation; F.BS = Fathers' Benevolent Sexism; F.HS = Fathers' Hostile Sexism; F.EXT = Fathers' Extrinsic versus Intrinsic Value Promotion; F.CON = Father's Conservation versus Openness Value Promotion; F.CA = Fathers' Career Aspirations for Daughter; M.SDO = Mothers' Social Dominance Orientation; M.RWA = Mothers' Right Wing Authoritarianism; M.BS = Mothers' Benevolent Sexism; M.HS = Mothers' Hostile Sexism; M.EXT = Mothers' Extrinsic versus Intrinsic Value Promotion; M.CON = Mothers' Conservation versus Openness Value Promotion; M.CA = Mothers' Career Aspirations for Daughter; D.EXT = Daughters' Extrinsic versus Intrinsic Values; D.CON = Daughters' Conservation versus Openness Values; D.RWA = Daughters' Right Wing Authoritarianism; D.SDO = Daughters' Social Dominance Orientation; ID.M = Daughters' Identification with Mother; ID.F = Daughters' Identification with Father; D.BS = Daughters' Benevolent Sexism; D.HS = Daughters' Hostile Sexism. All  $\beta$  coefficients are significant at the .05 level (two-tailed)

The model statistics showed good fit for the data: Chi-square = 132.19,  $p = .90$ ,  $df = 125$ , Chi-square/ $df$  ratio = 1.06, GFI = .92, NNFI = .97, CFI = .98, SRMR = .047, RMSEA = .065. All the mother attitudes had positive significant paths to the respective daughter attitudes. Thus, mothers' HS, BS, RWA, SDO, EXT and CON value promotion significantly predicted daughters' HS, BS, RWA, SDO, EXT and CON values respectively. In addition, mothers' career aspirations had a negative significant path to daughters' SDO. Father variables generally did not have positive significant paths to the respective daughter variables. The only exception was fathers' RWA which had a significant path to daughters' RWA, while fathers' BS had a significant path to daughters' CON values. The path from fathers' HS to daughters' BS, which was significant in the previous model, was reduced to nonsignificance in this model and therefore deleted. Identification with mother and father did not mediate the association between parent variables and daughters' HS and BS. The standardized indirect and total effects from the path analysis reported in Figure 6.3 are presented in Table 6.6. Only the parent variables which the path analysis had indicated could possibly have significant indirect effects have been reported.

Table 6.6

*The Standardized Indirect and Total Effects of Mother Independent Variables on Daughter Outcome Variables in Path Analysis on Daughter's Sexism*

IVs	Daughter Outcome variables			
	D.BS		D.HS	
	indirect	total	indirect	Total
M.RWA	.07*	.07*	--	--
M.CON	.04	.04	--	--
M.EXT	.03	.03	--	--
M.SDO	--	--	.06*	.06*
M.CA	--	--	-.08*	-.08*
F.RWA	.07*	.07*	--	--
F.BS	.04	.04	--	--

*Note.* M.BS = Mothers' Benevolent Sexism; M.HS = Mothers' Hostile Sexism; M.SDO = Mothers' Social Dominance Orientation; M.RWA = Mothers' Right Wing Authoritarianism; M.EXT = Mothers' Extrinsic versus Intrinsic Value promotion in daughter; M.CON = Mothers' Conservation versus Openness Value promotion in daughter; M.CA = Mothers' Career aspirations for Daughter; F.BS = Fathers' Benevolent Sexism; F.RWA = Fathers' Right Wing Authoritarianism; D.BS = Daughters' Benevolent Sexism; D.HS = Daughters' Hostile Sexism. \*  $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ .

Most of the indirect effect sizes appeared extremely weak considering Cohen's standards of .10 for a small effect size (Cohen, 1977). Alternatively, however, Kenny (2013) has suggested that because an indirect effect was a product of two effects the values recommended by Cohen should be squared (.01 for small, .09 for medium and .25 for large effect sizes) to determine the strength of an effect size (Kenny, 2013). According to Kenny's (2013) criteria therefore the significant effects shown in Table 6.6 were in the weak to moderate ranges of effect size but were less than Cohen's minimum effect size for a weak effect.

Mothers and fathers' RWA had a significant indirect effect on daughters' BS mediated through daughters' own RWA. Mothers' SDO had an indirect effect (.06) on daughter' HS through daughters' SDO. Mothers' career aspirations also had a negative indirect effect (-.08) on daughter' HS through daughters' SDO. The indirect effects for fathers' BS predicting daughters' BS through daughters' CON values was not significant. Similarly the indirect effects of mothers' CON and EXT value promotion on daughters' BS were not significant.

The results indicated that daughter social attitude variables RWA and SDO mediated the association between parent social attitude variables and daughters' sexism variables. Thus daughters' RWA mediated the effects of parents' RWA on daughters' BS and daughters' SDO mediated the effects of mothers' SDO and career aspirations on daughters' HS. Therefore, parent variables especially mother variables had direct as well as indirect effects on daughters' BS and HS. The results suggested that daughters not only endorsed BS by modelling mothers' BS but also because they modelled mothers' and fathers' RWA which is associated with BS. Similarly they not only endorsed HS by modelling mothers' HS but because they modelled mothers' SDO as well and also because they endorsed lower SDO in response to mothers' higher career aspirations for them.

The results confirmed the previous model, indicating that mothers' attitudes had a stronger direct effects on daughter variables than father variables and additionally showed that this effect existed not just for daughters' HS and BS but also daughters RWA, SDO, CON and EXT values which were predicted directly by the respective mother variables but not by the respective father variables (except fathers' RWA).

## 6.5 Summary of the Results

### 6.5.1 Direct effects of parental sexism on daughter sexism

- Mothers' BS was the most important predictor of daughters' BS, and mothers' HS of daughters' HS, with both effects consistent across all analyses. In contrast, the effects of fathers' BS on daughters' BS was not significant and fathers' HS on daughters' HS was only marginally significant in one of the path models. The effect became nonsignificant in most of the analyses with potentially confounding variables controlled.
- Fathers' HS was a significant predictor (in all analyses except the more complex mediated path analysis) of higher daughters' BS. Mothers' HS was a significant

predictor of higher daughters' BS when fathers were also high in BS. These results are consistent with the hypothesis that higher daughters' BS may be to some extent a reaction to high parental HS.

### **6.5.2 Direct effects of parent social attitudes on daughter sexism**

- All the analyses, except the final more complex mediated path analysis, showed that mother's RWA was a clearly significant direct predictor of higher daughters' BS.
- All of the analyses, except the final more complex mediated path analysis, showed that mother's SDO was a significant/marginally significant direct predictor of higher daughters' HS.

**6.5.3 Mediated effects of parental variables on daughter BS/HS suggested by the path analysis.** The path analysis suggested several mediational pathways whereby the effects of parent variables might indirectly affect daughters' BS and HS via daughters' social attitudes. The indirect effects were necessarily tentative since they rested critically upon the causal assumption that daughter social attitudes and values would be causally prior to daughter sexism.

- For BS, mothers' and fathers' RWA had indirect effect mediated via daughters' RWA on higher daughters' BS ( $\beta = .07$ ).
- For HS, the stronger indirect effect was for mothers' CA mediated via lower daughters' SDO on lower daughters' HS ( $\beta = -.08$ )
- There was also an indirect effect of mothers' SDO mediated via daughters' SDO on daughters' HS ( $\beta = .06$ )

### **6.5.4 Prediction of daughters' HS and BS from parent demographic variables**

- There was no direct association between parents' demographic variables and daughters' sexist attitudes once parental social attitudes were controlled.

### **6.5.5 Differential effects on daughter BS versus HS**

- Parent variables predicted greater variance in daughters' BS than daughters' HS.

## 7. Discussion

### 7.1 Congruence between Parent and Daughter Variables

The findings were consistent with previous research reporting a high degree of consistency between parent and offspring gender related attitudes (Moen et al., 1997; Smith & Self, 1980; Tenenbaum & Leaper, 2002), broader ideological attitudes of RWA and SDO (Duriez & Soenens, 2009; Duriez, Soenens, et al., 2007; Duriez et al., 2008), and EXT and CON values (Duriez, 2011; Knafo & Schwartz, 2001; Rohan & Zanna, 1996). Although most of the father-daughter associations became nonsignificant in the combined analyses, the correlations revealed that mothers' as well as fathers' RWA, SDO, EXT and CON value promotion were significantly associated with daughters' RWA, SDO, EXT and CON values respectively. The only exception was the association between fathers' EXT value promotion and daughters' EXT value which did not reach significance but was in the expected direction approaching significance ( $r = .14, p < .10$ ).

### 7.2 Stronger Influence of Mother Variables

**7.2.1 Direct effects of mothers' HS and BS.** The results for the congruence between mother and daughter BS and HS variables were also consistent with previous research (Garaigordobil & Aliri, 2011; Montanes et al., 2012). However, Garaigordobil and Aliri did not find significant correlations between father and daughters' sexism (in a sample of 648 fathers). In contrast to the total absence of significant father-daughter associations in their study ( $r = .04$  for HS &  $.03$  for BS), the present study showed significant father-daughter associations at the correlational level ( $r = .29, p < .01$ , for both HS & BS). However, as soon as the mother variables were controlled the associations between father and daughter BS were eliminated. The association between father and daughter HS was also eliminated or became marginally significant (see Figure 6.2). In contrast, mother variables consistently had a significant role in

the prediction of daughter variables across all analyses. This pattern of association between parent and daughter sexist attitudes was consistent with Tenenbaum and Leaper (2002) who found in their meta-analysis of 43 studies that associations for girls and mothers were stronger than for girls and fathers and that although both parents' gender schemas were related to their children's gender-related attitudes, the mother's impact was stronger.

**7.2.2 Direct effects of mothers' social attitudes.** All mother variables had significant associations with the respective daughter variables. Moreover, there was a pattern of significant effects between mother and daughter variables similar to a within subject pattern of associations, with those mother variables that predicted other mother variables (Chapter 4) also predicting the same variables across subjects for daughters. For instance, mothers' RWA which predicted mothers' BS also predicted daughters' BS (over and above the association between mother and daughters' BS). Mothers' career aspirations for daughters which was negatively related to mothers' SDO was also negatively related to daughters' SDO. Mothers' SDO and RWA differentially predicted daughters' HS and BS directly (Figure 6.2) consistent with the differential motivational model of sexism (Sibley, Wilson, et al., 2007). The results thus indicated that the broader ideological attitudes (RWA, SDO) of mothers also played an important role in the development of daughters' BS and HS.

One of the factors that influence the mother-daughter associations may be that mothers usually spend more time with children, and particularly daughters, than do fathers (Bailey, 1994). Daughters who spend little time with their fathers may know little about the attitudes their fathers endorsed. This may also partly be the reason for the inconsistency between Spanish and New Zealand data. In Spain fathers may not be involved in daughters' upbringing to the extent they are in New Zealand, which, according to the United Nations Human Development Report (2011) is a relatively more gender egalitarian society.



Traditionally, psychoanalytic and the social learning theories have also presumed that girls become like their mothers, but have attempted to explain this in different ways. Psychoanalytic theorists proposed internalization of maternal values and behaviours whereas social learning theorists emphasized principles of modelling (Boyd, 1989). Girls learn to become more like their mothers and identify more with their mothers than fathers (Acock & Yang, 1984; Boyd, 1989). Boyd presented an overview of these theories and research, and emphasized that the uniqueness of the mother-daughter relationship was characterized by intradyadic intimacy, positive attachment, mutuality and identification (Boyd, 1989, p. 292).

### **7.3 Influence of Father Variables**

**7.3.1 The weak direct effects.** In the present sample, the findings indicated that most father variables did not predict the respective daughter variables once mother variables were controlled. For example, there were significant father-daughter associations at the correlational level ( $r = .29$ ,  $p < .01$ , for both HS & BS). However, as soon as the mother variables were controlled the associations between father and daughter BS were eliminated. The effects between father and daughter HS were also eliminated in most cases except in one of the path models where it was marginally significant (Figure 6.2). Mother variables consistently had a significant role in the prediction of daughter variables across all analyses. It is possible that mothers had the primary and more direct influence on daughters whereas the influence of father variables may be indirect and possibly mediated through mother variables. This suggests that significant father-daughter associations at the correlational level were probably derived from the similarity between father-mother variables and were therefore eliminated after controlling for the potentially confounding mother variables. Another possibility may be that because mother and father variables were all significantly positively correlated with effect sizes in the moderate to strong range (see Table 4.4), the common variance between their attitudes when controlled

may have reduced the unique variances they were predicting in the daughter variables. In addition, because father variables had weaker associations with daughter variables they became nonsignificant while mother variables remained significant. In other words, multicollinearity between father and mother variables may have caused some of the father-daughter associations to become nonsignificant. It is not possible to say for certain which one of these possibilities is more likely.

Daughters do also identify with their fathers (McDonald, 1980). Acock and Yang (1984) established that daughters identify first and most strongly with their mother and secondly with their father. Thus, in previous research and in the present data ( $r = .21, p < .01$ ) daughters' identification with the mother was found to be positively associated with daughters' identification with their father (Acock & Yang, 1984; Berenson et al., 2005). Consistent with this pattern the results indicated a few instances where daughters seemed to directly model their fathers although the effect was either very weak or was conditional. For instance, the coefficient for fathers' RWA predicting daughters' RWA remained significant in all models. There was also a marginally significant effect suggesting that daughters modelled fathers' HS. Daughters also seemed to model their fathers' BS when their mothers were high in HS. These observations do therefore suggest that fathers may be the secondary role models for daughters for learning attitudes.

**7.3.2 Direct effects of father variables other than modelling of attitudes.** There were also instances, however, where the findings suggested an influence of father attitudes on daughter attitudes that would not involve direct modelling. For instance, fathers' HS predicted daughters' BS, and fathers' BS predicted daughters' conservation values suggesting that fathers' may also have some role in the development of their daughters' attitudes through processes other than direct modelling. The overall findings suggest that fathers' attitudes in general may

not have as strong an influence on daughters as mothers do but they may still have an influence although to a lesser degree.

#### **7.4 Daughters' Endorsement of BS in Reaction to Parental HS**

Sexist attitudes are different from other attitudes that daughters can learn by modelling their parents. Sexist attitudes are discriminatory attitudes about women themselves. For women they are in-group attitudes which may form part of their collective self-esteem. Glick and Fiske (2001) therefore proposed that in extremely sexist societies where HS is prevalent, women may be more likely to endorse BS as a means of protection. The present results supported these assumptions at a familial level by the significant association between fathers' HS and daughters' BS and the significant association between mothers' HS and daughters' BS (contingent on fathers' high BS). Because endorsement of HS is accompanied by negative attitudes and stereotypes about women (Glick et al., 1997; Glick & Fiske, 1996) daughters may feel threatened in the presence of overt hostile sexist attitudes by parents and endorse BS because it is accompanied by positive attitudes about women.

The results were consistent with observation of ambivalent sexism theory that in societies where HS was generally highly endorsed, women were higher in BS than men (Glick & Fiske, 1996, 2001a; Glick et al., 2000). These results, in addition, supported the argument by Fischer (2006) who asserted that women endorsed BS for different reasons than men: as an adaptive strategy for defiance in a hostile environment "to protect their self- and group-esteem from negative attitudes about them" (p. 414). Defiance against hostility may be possible by completely rejecting a hostile ideology. However, it may be difficult for daughters to completely reject parents' hostile ideology. Endorsing BS attitudes may help them show defiance in a safer way.

It is important to note that the reactive effect of daughters' endorsement of BS in response to HS was only a weak effect. Daughters at the same time also showed a tendency to agree with HS. When parents were higher in HS, daughters were also likely to be higher in HS. The reason for daughters' endorsement of HS seems likely to be mainly due to socialization and the modelling of mothers' attitudes.

The results of the combined analyses also indicated that parent variables had more common variance with daughters' BS ( $R^2 = 30\%$ ) than with daughters' HS ( $R^2 = 18\%$ .) supporting the idea that women are more prone to agree with BS than HS, which is consistent with ambivalent sexism theory (Glick & Fiske, 1996, 2001a, 2001b; Glick et al., 2000).

### **7.5 Identification with Parents**

Contrary to expectations the variable of identification with parent did not mediate or moderate the association between parent and daughter attitudes. The hypothesis based on Allport (1954) and Sinclair et al.'s (2005) research that the more daughters' identified with parents the more they would have attitudes similar to their parents was not therefore supported. Although the pattern of associations in the present results was consistent with previous research on identification with parents research (e.g., Acock & Yang, 1984; Berenson et al., 2005), it was nonetheless surprising that the interaction term between the variable of identification with mother or father was not found to be significant in the prediction of daughter sexist or other attitudes. One possible reason for this could be the relatively homogeneous sample. The participant daughters were all university students belonging to generally higher socio-economic intact families, with supposedly high identification with both parents. This was evident from a relatively negatively skewed distribution for identification with both parents. A sample with more variation in terms of identification with parents might have found the hypothesised interaction effect to be significant.

## 7.6 Indirect Effects

The path analysis also indicated that parents might have indirect effects on their daughters' sexism mediated via daughters' own social attitudes and values. These findings should be viewed as tentative because this analysis rested upon the assumption that daughter social attitudes, such as RWA and SDO (and values, such as CON and EXT), would be causally prior to daughters' sexist attitudes, and not just correlated with them. This assumption has been widely made by theories of prejudice which have viewed peoples' levels of RWA, SDO, and related values such as CON and EXT values, as important determinants of sexism and other prejudiced attitudes (Adorno et al., 1950; Allport, 1954; Altemeyer, 1996; Duckitt, 2001; Sidanius & Pratto, 1999). There is also evidence supporting this causal directionality from the few longitudinal studies that have been reported (Asbrock, Sibley, & Duckitt, 2010; Duriez, Vansteenkiste, et al., 2007; Sibley, Wilson, et al., 2007).

Given this causal assumption, the analysis suggested several indirect mediated pathways for parent variables to influence daughter sexism. Thus, mothers' and fathers' RWA had indirect effects on daughters' BS mediated via daughters' own RWA. This seems to underscore the important role of parental social conservatism in daughters' BS. The indirect role of mothers' SDO on daughters' HS was also significant. Similarly, mothers' career aspirations for daughters had indirect negative effects on daughters' HS mediated via daughters' own SDO. This implied that mothers who have higher aspirations for their daughters' academic and career achievements have daughters with lower SDO and consequently lower HS. Mothers who had higher career aspirations for daughters seemed to have fostered more egalitarian attitudes in their daughters, possibly in order to enable their daughters to achieve in their career in a male dominated occupational world.

### **7.7 Parents' Demographic Variables**

The results for the parent demographic variables suggested that there was no direct link between parents' demographic variables and daughters' sexist attitudes, once parental social attitudes were controlled. The results suggested that older parents had daughters who endorsed less BS and HS but this was because older parents endorsed less, BS and HS themselves. Older parents also endorsed less RWA which indirectly predicted less BS in daughters. The unexpected finding of the negative association between parents' age and RWA has already been discussed in Chapter 4.

### **7.8 Conclusions**

In summary, the results revealed that parents' attitudes were important in the socialization of daughters in terms of attitude learning. The role of mothers appeared especially important in this respect presumably due to their daughters' greater affiliation and contact with them. The father's role was also important but to a lesser degree. Daughters seemed to model HS and BS mainly from mothers. They also seemed to model fathers' BS but only in response to their mothers' high HS. In addition to modelling parents' attitudes daughters also exhibited reactive attitudes such as endorsing more BS in response to fathers' HS. Several mediated effects were also suggested, thus parents' RWA and mothers' SDO (and career aspirations) predicted daughters' BS and HS mediated via daughters' RWA and SDO respectively.

The results from the path analysis for the mediating variables must be viewed as tentative due to the crucial limitations of path analysis. Path analyses cannot test causality but is based on causal assumptions. In the present case, it was assumed that the daughter social attitudes (RWA, SDO), values (CON and EXT), and identification with parent variables were causally prior to daughters' sexism. While these assumptions were made on the basis of previous research findings, this may not be so, and these variables may simply be correlates of

sexism. Therefore, the results from the path analysis for the mediating variables must be viewed as extremely tentative.

## **8. Section, 2: Predicting Daughters' Self-Esteem from Parent Variables**

### **9. Introduction and Objectives**

The main objective of the analyses in this section was to investigate to what extent parental sexism and other parental variables predicted daughters' self-esteem. It was expected that parent social attitudes (RWA and SDO) and values (EXT, CON) generally associated with prejudice, and parental sexism (HS and BS), would have negative associations with daughter self-esteem.

As in the previous section, the analyses first investigated the separate effects for the parent predictors on daughter self-esteem using correlations, then used hierarchical regression to investigate the effects of each predictor controlling for other predictors. This was followed by analyses to assess if combining parental variables might improve prediction, and testing whether there might be significant interactions between parental sexism predictors. Finally, path analysis was used to investigate whether parental effects on daughter outcomes might be mediated via daughter attitudes, values, and identification with parents. Identification with parents has long been reported as a predictor of self-esteem (Berenson et al., 2005; Hollender, 1973) and this was supported by the findings reported in Chapter 5. Daughters' identification with parents therefore seemed likely to be a possible mediator between parent sexism variables and daughters' self-esteem. Thus, daughters' identification with mothers and fathers was included in the hierarchical multiple regression and path analyses.

## 10. Results

### 10.1 Correlational Analyses

The correlations of the parent variables with daughter total self-esteem and the five self-esteem domains, as well as with daughters' identification with parents are presented in Table 6.7. Due to the large number of correlations computed the probability of chance occurrences for significant and marginally significant effects increased. Therefore, the marginally significant effects (which have been reported in earlier tables) were not reported in this table, unless they were found for effects that had been specifically hypothesized (i.e., in this table mothers' and fathers' BS with daughters' school abilities and physical appearance respectively).

There were relatively few significant correlations between daughters' self-esteem variables and mother social variables, those that were significant (10/36) tended to be in the weak range of effect size (i.e.,  $<.30$ ). Daughters' total self-esteem had weak significant negative associations with mothers' RWA, EXT and CON value promotion. The correlations between the specific self-esteem domains and mother variables indicated that mothers who were higher in SDO, RWA, and HS, and higher in CON and EXT value promotion, had daughters with lower self-esteem in domains such as school abilities, self-regard, and physical appearance. The only significant effects for maternal sexism were that mothers' HS had a weak negative association with the physical appearance domain of self-esteem, and mothers' BS had a marginally significant negative association with the school abilities domain of self-esteem ( $r = -.15$ ,  $p = .08$ ).



Table 6.7

*Bivariate Correlations between Parent Variables and Daughter Variables (N = 142 for Mothers and N = 138 for Fathers)*

Daughter variables	Mother variables									
	SDO	RWA	BS	HS	EXT	CON	CA	Age	Edu	Inc
SE total	-.12	-.20*	-.05	-.12	-.19*	-.19*	-.06	-.07	.24**	.07
<b><i>Self-esteem Domains</i></b>										
Self-regard	-.19*	-.07	-.02	-.04	-.11	-.17*	.04	-.14	.12	.11
Social confidence	.05	-.08	-.06	-.03	-.11	-.08	-.01	-.08	.13	.11
School abilities	-.15	-.23**	-.15†	-.09	-.15	-.14	.04	.03	.22**	.02
Physical appearance	-.12	-.23**	-.08	-.19*	-.20*	-.20*	-.09	.04	.26**	.05
Physical abilities	-.02	-.09	.12	-.06	-.10	-.06	-.16	-.14	.11	-.00
<b><i>Identification with parents</i></b>										
Ident. F	-.02	.10	.10	.07	-.15	.15	-.11	-.04	.08	-.09
Ident. M	-.17*	-.15	-.07	-.04	-.02	-.25**	.04	-.12	.16	.13
Daughter variables	Father variables									
	SDO	RWA	BS	HS	EXT	CON	CA	Age	Edu	Inc
SE total	-.13	-.06	-.12	-.00	-.00	-.09	-.08	-.10	.08	.16
<b><i>Self-esteem Domains</i></b>										
Self-regard	-.08	-.04	-.08	.06	.07	-.05	.04	-.17*	.05	.14
Social confidence	-.07	-.10	-.09	-.02	.08	-.05	.09	-.14	-.00	.14
School abilities	-.18*	-.01	-.07	-.09	-.06	-.07	-.07	.02	.02	.07
Physical appearance	-.12	-.05	-.16†	-.09	-.05	-.12	-.20*	-.03	.16	.09
Physical abilities	-.01	-.01	-.04	.13	-.03	-.03	-.10	-.07	.05	.14
<b><i>Identification with parents</i></b>										
Id. F	-.10	-.10	-.01	-.10	-.14	-.05	-.07	-.03	.07	.26**
Id. M	.00	-.06	-.03	.10	.14	-.09	.12	-.07	.11	.16

Note; SDO = Parent's Social Dominance Orientation; RWA = Parent's Right Wing Authoritarianism; BS = Parent's Benevolent sexism; HS = Parent's Hostile Sexism; EXT = Parent's Extrinsic versus Intrinsic Value promotion in daughter; CON = parent's Conservation versus Openness Value promotion in daughter; CA = parent's Career aspirations for daughters; Edu = Parent's education; Inc = Parent's income; D.SE = Daughter's Self-Esteem; Id.M = Daughters' Identification with Mother; Id.F = Daughters' Identification with Father.

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ , † $p < .10$

Only one out of the thirty six (1/36) correlations between the father social attitude, value promotion, and sexism variables and the daughter self-esteem variables was significant, that is, a weak negative relationship between fathers' SDO and daughters' school abilities. There was also a marginally significant negative relationship for fathers' BS and daughters' physical appearance ( $r = -.16, p = .06$ ). Fathers' RWA, BS and HS did not show significant negative correlations with any of the daughters' total self-esteem scores or with any individual self-esteem domain scores.

The correlations between daughters' self-esteem and parent socio-demographic variables showed that better educated mothers had daughters with higher self-esteem overall, and higher self-esteem in the domains of school abilities and physical attractiveness. Fathers' income was similarly associated with higher self-esteem in two domains and a marginally significant association with higher self-esteem overall ( $r = .16, p = .07$ ). Finally, fathers' age was negatively correlated with the self-regard domain. There were also some significant associations for the identification with parent variables. Higher mothers' SDO and CON value promotion was associated with lower daughter identification with mothers and higher father income was associated with greater daughter identification with father (The correlations between daughter variables and daughters' identification with parent variables have already been presented in Table 6.1).

The overall result of the correlation analysis provided little support for the hypotheses that parents' BS and HS would be negatively associated with daughters' self-esteem. Parents' HS and BS were not significantly associated with daughters' total self-esteem. For the separate domains of self-esteem, only one correlation was significant and two marginally significant (from a total of 20) for parental sexism.

However, despite the lack of support for an association between parental sexism and daughter self-esteem, the correlational findings did indicate associations in the expected

direction for mothers' RWA and value promotion (EXT, CON) variables with lower daughter self-esteem. In addition, while most expected effects were nonsignificant, it was apparent that the correlations were predominantly in the expected negative direction. There was also the possibility that inter-correlations between the parent variables might have suppressed effects on self-esteem that might emerge when effects are computed for each parent variable with socio-demographic and other parent variables being controlled. This will be investigated in the hierarchical regression analyses in the next section.

## 10.2 Hierarchical Multiple Linear Regression Analyses

The following order of entry of the predictor variables was used in hierarchical regressions: (1) background variables (parent's education, income and age, averaged across two parents), (2) parents' ideological attitudes (RWA and SDO), (3) parents' sexism (BS and HS) (4) parent's value promotion (EXT and CON) and (5) parents' career aspirations for their daughter. The order of the entry of the predictor variables was the same as for the analysis of the parent data (in Chapter 4) with the same rationale.

In addition to the parent variables, daughters' identification with father and mother were also entered in an additional step to investigate if these two variables might mediate the effects of the parent variables on daughter self-esteem. Regressions were carried out for the total self-esteem score and for the five self-esteem domain scores separately as outcome variables. The results from these regression analyses showed that domain scores did not give much additional information and the total self-esteem scores adequately summed up the main effects of parent variables on self-esteem domains. Therefore only the results predicting total self-esteem are presented.

The inter-correlations between predictor variables ranged from .01 to .52. Possible multicollinearity problems were checked beforehand with *Tolerance* statistics and *Variance-*

*inflation factor (VIF)* in all the analyses. The *Tolerance* statistics ranged from .35 to .99 remaining above the problematic minimum of .20. With the highest *Variance-inflation factor (VIF)* being 2.88, statistical multicollinearity did not pose a serious problem.

The regression analyses were first carried out separately for fathers and mothers. Next both father and mother variables were combined in the same regression analyses to investigate the amount of unique variance between each parent's attitudes predicted in daughters' self-esteem controlling for each other. The separate analyses did not show any noteworthy effects that were not shown in the combined analyses so only the parents' combined analyses are shown in Table 6.8.

Table 6.8

*Hierarchical Models Predicting Daughters' Total Self-Esteem from Parent Variables and Daughters' Identification with Parent Variables*

Parent Variables	$\beta$ coefficients predicting daughters' self-esteem						
	Step 1	Step 2	Step 3	Step 4	Step 5	Step 6	Step 7
Parents' education	.18†	.15†	.17†	.18†	.15	.15	.11
Family income	.01	-.00	.02	.04	.05	.04	.02
Parents' age	-.12	-.14	-.16†	-.16†	-.15	-.17†	-.14
F.RWA	-.02	.08	.08	.07	.10	.08	.06
F.SDO	-.12	-.11	-.21*	-.20*	-.22*	-.23*	-.22*
M.RWA		-.22*	-.21*	-.22†	-.22†	-.17	-.13
M.SDO		-.02	-.02	-.03	-.03	.02	.06
F.BS			-.27*	-.29**	-.29*	-.25*	-.20†
F.HS			.26*	.28*	.27*	.27*	.19
M.BS				.12	.12	.17	.15
M.HS				-.08	-.08	-.04	-.03
F.CON					-.08	-.10	-.10
F.EXT					.05	.11	.07
F.CA					-.05	-.07	-.10
M.CON						-.07	.00
M.EXT						-.24*	-.24*
M.CA						.04	.03
Daughter variables							
Id.F							-.08
Id.M							.33***
$R^2$ change	.02	.04†	.05*	.01	.01	.03	.08***
$R^2$	.03	.05	.09	.09	.07	.09	.17
$F$	1.74	2.01†	2.48*	2.19*	1.76†	1.76*	2.46**
$df$	5,132	7,130	9,128	11,126	14,123	17,120	21,116

Note; M.SDO = Mothers' Social Dominance Orientation; M.RWA = Mothers' Right Wing Authoritarianism; M.BS = Mothers' Benevolent Sexism; M.HS = Mothers' Hostile Sexism; M.EXT = Mothers' Extrinsic versus Intrinsic Value promotion in daughter; M.CON = Mothers' Conservation versus Openness Value promotion in daughter; M.CA = Mothers' Career aspirations for Daughter; F.RWA = Fathers' Right Wing Authoritarianism; F.SDO = Fathers' Social Dominance Orientation; F.BS = Fathers' Benevolent Sexism; F.HS = Fathers' Hostile Sexism; F.EXT = Fathers' Extrinsic versus Intrinsic Value promotion in daughter; F.CON = Father's Conservation versus Openness Value promotion in daughter; F.CA = Fathers' Career Aspirations for Daughter; Id.M = Daughters' Identification with Mother; Id.F = Daughters' Identification with Father.

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ , † $p < .10$

The results in Table 6.8 indicated that mothers' education had a marginally significant positive association with daughters' self-esteem in the first four models but became nonsignificant in the last three models. Fathers' RWA and SDO added in the second step were not then significant but fathers' SDO became significant after adding fathers' HS and BS in the model. Mothers' RWA in the next step had significant and marginally significant negative associations until the addition of mother's goal promotion and career aspiration variables reduced it to nonsignificance. Mothers' HS and BS were not significant in the prediction of daughters' self-esteem. Mothers' EXT value promotion variables entered in step 6 was a significant predictor, and its addition resulted in mothers' RWA becoming nonsignificant, suggesting that the effects for mothers' RWA might be mediated via mothers' EXT goal promotion. The effect of mothers' EXT value promotion on daughters' self-esteem remained significant after controlling for daughters' identification with parents in step 7. Finally, identification with mothers significantly predicted daughters' self-esteem while identification with the father was nonsignificant in step 7.

In order to rule out any deflated beta coefficients due to multicollinearity, regression models were conducted with either parental BS or HS entered separately in the models, and also by excluding the other correlated mother variables (RWA, SDO and value promotion variables) from the models. However, mothers' HS and BS remained nonsignificant in the prediction of daughters' self-esteem.

The results indicated a suppression effect for father variables. Fathers' SDO was not significant in the prediction of daughters' self-esteem in step 1 or 2. Fathers' BS and HS were also not significant in the prediction of daughters' self-esteem when entered without SDO in the model. However, all three variables (SDO, HS, and BS) became significant once they were entered in the model together, with BS and SDO having negative significant associations and HS having a positive significant association with daughters' self-esteem.

Suppressor effects are difficult to interpret as it is sometimes hard to determine which variable is the suppressor variable (Tabachnick & Fidell, 2007). Fathers' HS in this instance met this criterion as it increased the weight of not just BS but also of SDO. SDO may also be the suppressor variable as it increased the weight of BS after inclusion in the regression. Sometimes multiple independent variables produce a suppressor effect in combination with each other (Maassen & Bakker, 2001). The situation here is more complicated as three variables are involved. When there are more than two explanatory variables, the *supressed* variable may be hidden as a linear composite and is not clearly identifiable. In such cases the suppressor situation rather than the specific variable should be interpreted (Tzelgov & Henik, 1991). Moreover, the opposite effect of the suppressor should not be interpreted as such but only in connection to other variables (Maassen & Bakker, 2001).

The overall results supported the hypothesis for fathers' BS and fathers' SDO since both predicted lower daughter self-esteem, but not for fathers' HS which predicted higher daughter self-esteem. The significant association of fathers' HS with daughter's self-esteem became nonsignificant (and that for BS became marginally significant) when daughters' identification with parent variables was entered in step 5. This suggested that the effects of fathers' HS on daughters' self-esteem might be at least partially mediated through daughters' higher identification with mothers.

To sum up, the results showed that father variables did have significant roles for the prediction of daughters' self-esteem, unlike the prediction of sexist attitudes, where mother variables had been the more important variables. In addition, the hypothesis that parents' HS and BS would directly predict daughters' self-esteem was supported for father variables (though in an unexpected direction in the case of fathers' HS) but not for mother variables. Mothers' EXT goal promotion was also a clearly significant predictor of lower daughter self-esteem, and

possibly partially mediated the effect of mothers' RWA. As expected, daughters' identification with mother also significantly predicted higher daughter self-esteem.

In order to investigate whether daughters' own sexist attitudes mediated the association between parent variables and daughters' self-esteem, daughters' HS and BS were entered in the regression models after parent variables. However, daughters' sexist attitudes did not mediate the associations between parent variables and daughters' self-esteem (see Appendix A8). Parent variables had their unique effect on lower daughters' self-esteem which did not occur due to daughters' own sexist attitudes.

### **10.3 Interactive and Combined Effect of Parent Variables**

**10.3.1 Interactions between parental attitudes and daughters' identification with parents.** The variable of 'identification with parents' was included as a potential mediator for the prediction of daughters' self-esteem but it may also be a moderator of parent variables. There is some evidence that identification with parents interacts with parental acceptance/rejection to predict female-adolescents' self-esteem (Berenson et al., 2005). In the present study the variables being investigated were parents' sexist attitudes. These were not the same as measures of parental acceptance/rejection, however, they might be perceived as rejection by daughters in certain contexts, especially if parents discriminated against daughters in favour of sons. In order to test whether identification with parents significantly moderated the effect of parents' HS and BS on daughters' self-esteem, the procedure recommended by Baron and Kenny (1986) was followed. Interaction terms were calculated between parents' BS (and HS) and daughters' identification with that parent to predict daughters' self-esteem. In the interest of completeness, interaction terms were also calculated for parents' RWA, SDO, CON and EXT value promotion. None of the interaction terms were significant indicating that



identification with mother and father did not moderate the effects of mother and fathers' social attitudes and value promotion respectively on daughters' self-esteem.

**10.3.2 The ambivalent sexism score.** The overall ambivalent sexism score for mothers and fathers was calculated according to Glick and Fiske (1996) by averaging BS and HS scores for each parent. Regression analyses were then carried out to see if fathers and mothers' AS scores predicted daughters' self-esteem significantly. However, the combined scale did not significantly predict daughters' self-esteem.

**10.3.3 Interactions between parents' HS and BS variables.** In order to look for the interaction effects of both parents sexism variables, the procedure recommended by Baron and Kenny (1986) was followed. A regression model was tested in which centred mothers' HS (M.HS), centred fathers' HS (F.HS) and the centred M.HS x centred F.HS interaction term predicted daughters' self-esteem. Similarly the same procedure was used to explore interactions between parents' BS for predicting daughter' self-esteem, as well as interactions between BS and HS for each parent. Thus, exactly the same set of interaction terms were calculated as was done in the previous section for the prediction of daughters' BS and HS (see Table 6.5). The results for the interaction terms tested are presented in Table 6.9.

Table 6.9

*The interaction terms tested between fathers' and mothers' sexism variables (BS and HS) predicting daughters' SE*

Parent variables	$\beta$ coefficients	significance	$R^2$ change	$df$	F change
F.BS x M.BS	-.15	.10	.02	3,134	2.81
F.HS x M.HS	-.07	.45	.00	3,134	0.58
F.HS x F.BS	-.17†	.06	.03†	3,134	3.56†
M.HS x M.BS	-.11	.21	.01	3,138	0.01
F.BS x M.HS	-.05	.59	.00	3,134	0.03
F.HS x M.BS	-.14	.11	.02	3,134	2.53

*Note;* F.BS = Fathers' Benevolent Sexism; F.HS = Fathers' Hostile Sexism; M.BS = Mothers' Benevolent Sexism; M.HS = Mothers' Hostile Sexism. (All variables were centred before computing the interaction terms).

\* $p < .05$ , \*\*  $p < .01$ , \*\*\* $p < .001$ , † $p < .10$

One of the six analyses produced a significant interaction for fathers' HS\*BS in the prediction of daughters' self-esteem. The interaction remained significant when the analysis included SDO and other father variables, suggesting that the interaction effect was robust. Fathers' SDO also remained a significant negative predictor with the interaction term included in the regression model, suggesting that its effect on self-esteem was also robust. The results of the regression analyses including this interaction term are presented in Table 6.10.

Table 6.10

*Regression Models Showing the Interaction between Fathers' BS and HS in Predicting Daughters' Self-Esteem (The Interaction Terms are Shown in Bold)*

<i>β</i> coefficients predicting daughters' self-esteem					
Father variables	Step 1	Step 2	Father variables	Step 1	Step 2
F. Education	.06	.07	F. Education	.05	.07
F. Income	.14	.14	F. Income	.13	.11
F. Age	-.10	-.11	F. Age	-.11	-.13
F.BS	-.17	-.21*	F.RWA	.03	.00
F.HS	.14	.14	F.SDO	-.26**	-.32***
<b>FBSxFHS</b>		<b>-.18*</b>	F.BS	-.24*	-.33**
			F.HS	.26*	.29*
			F.CON	-.10	-.13
			F.EXT	.07	.07
			F.CA	-.09	-.09
			<b>FBSxFHS</b>		<b>-.26**</b>
		.03*			.06**
<i>R</i> <sup>2</sup>	.02	.04	<i>R</i> <sup>2</sup>	.04	.10
<i>F</i>	1.60	2.05	<i>F</i>	1.61	2.34*
<i>df</i>	5,131	6,130	<i>df</i>	10,126	11,125

Note; All variables including the demographic variables were centered.

F.RWA = Fathers' Right Wing Authoritarianism; F.SDO = Fathers' Social Dominance Orientation; F.BS = Fathers' Benevolent Sexism; F.HS = Fathers' Hostile Sexism; F.EXT = Fathers' Extrinsic versus Intrinsic Value promotion in daughter; F.CON = Fathers' Conservation versus Openness Value promotion in daughter; F.CA = Fathers' Career aspirations for Daughter.

\**p* < .05, \*\**p* < .02, \*\*\**p* < .001, †*p* < .01.

The interaction between fathers' BS and HS predicting daughter's self-esteem (controlling for fathers' education income and age) was graphed and is depicted in Figure 6.4.

The procedure outlined by Aiken and West (1991) was followed and unstandardized beta coefficients were used. Additional analyses of the simple slopes supported this interaction and indicated that the simple slope for the positive effect of fathers' HS on daughters' self-esteem (SE) was significant when fathers were low in BS ( $\beta = -.32, t(134) = -2.55, p < .01$ ) but not when they were high in BS ( $\beta = -.05, t(134) = -.06, p = .60$ ).

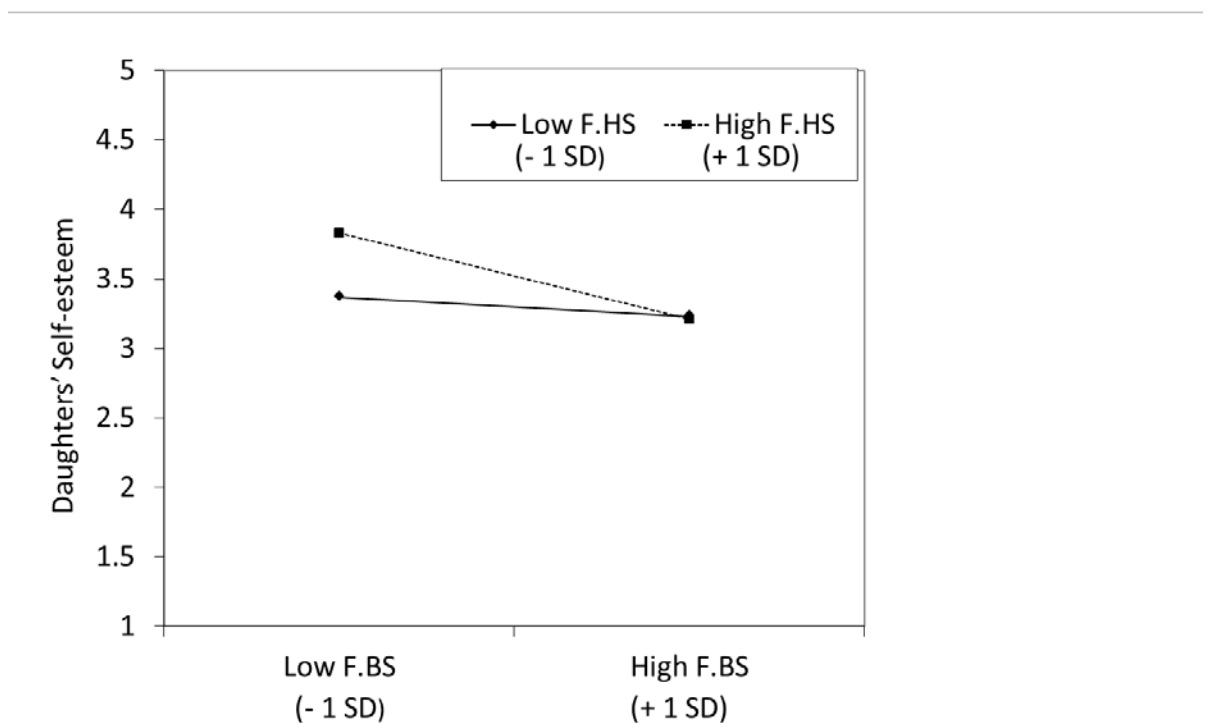


Figure 6.4: Moderating effect of fathers' HS on fathers' BS in predicting daughter's self-esteem ( $N = 138$  families) controlling for fathers' education, income and age.

The results for the interaction suggested that lower fathers' BS was associated with higher daughters' self-esteem when fathers were higher in HS but not when fathers were lower in HS. The former effect had been expected but the latter was completely contrary to expectation. The significant interaction between fathers' BS and HS in predicting daughter self-

esteem did, however, clarify the suppression effects obtained for fathers' BS and HS in the hierarchical regression analysis. Those apparently direct effects which became significant when fathers' SDO was entered into the regression could now be interpreted as not direct effects but conditional or interactive effects. To sum up, therefore, the interaction analysis suggested that the apparent direct effects of fathers' HS and BS in the hierarchical regression analysis comprised a significant interactive effect with lower fathers' BS and higher fathers' HS associated with higher daughters' self-esteem. The former effect was expected, but the latter was highly unexpected. In addition, this analysis also seemed to confirm the significant main effect for lower fathers' SDO predicting higher daughter self-esteem.

#### **10.4 Path Analyses**

Path analyses were next used to investigate the degree to which daughters' own attitude and value variables, and their identification with their father and mother, might mediate the effects of parent variables on daughters' self-esteem. As noted in the previous section, the use of path analysis to investigate mediated effects such as this would necessarily be tentative since it would rest on the assumption that daughter social attitudes (RWA, SDO) and values (CON, EXT) and identification with parents could be seen as causally prior to their levels of self-esteem. If that assumption were made, however, the path analysis could be useful in revealing possible ways in which the effects of parent variables could be mediated via daughters' attitudes, values, and identification with their parents. For example, the hierarchical regression had suggested that identification with mother might partially mediate the association between fathers' HS and daughters' self-esteem. The path analysis would enable a more direct and rigorous assessment of this possibility. The models were constructed using the same strategy as used for the previous models and explained in Chapter 4. The model presented here had three levels of variables:

- All the parent variables were primary predictor variables at the first level. These included parents' HS, BS, RWA, SDO, CON and EXT value promotion variables.
- At the second level daughter variables were used as potential mediator variables. These included daughters' social attitudes (RWA, SDO) and values (CON and EXT values). In addition, daughters' identification with mother and father were also used as mediating variables.
- Finally daughters' self-esteem was used as the outcome variable at the third level.

Parents' demographic variables were originally included in the model but as they did not directly predict any of the daughter variables significantly were later excluded to make the model simpler. All the variables were centred before entering in the model due to the interaction term between fathers' HS and BS included as the predictor variable. The model is depicted in Figure 6.5.

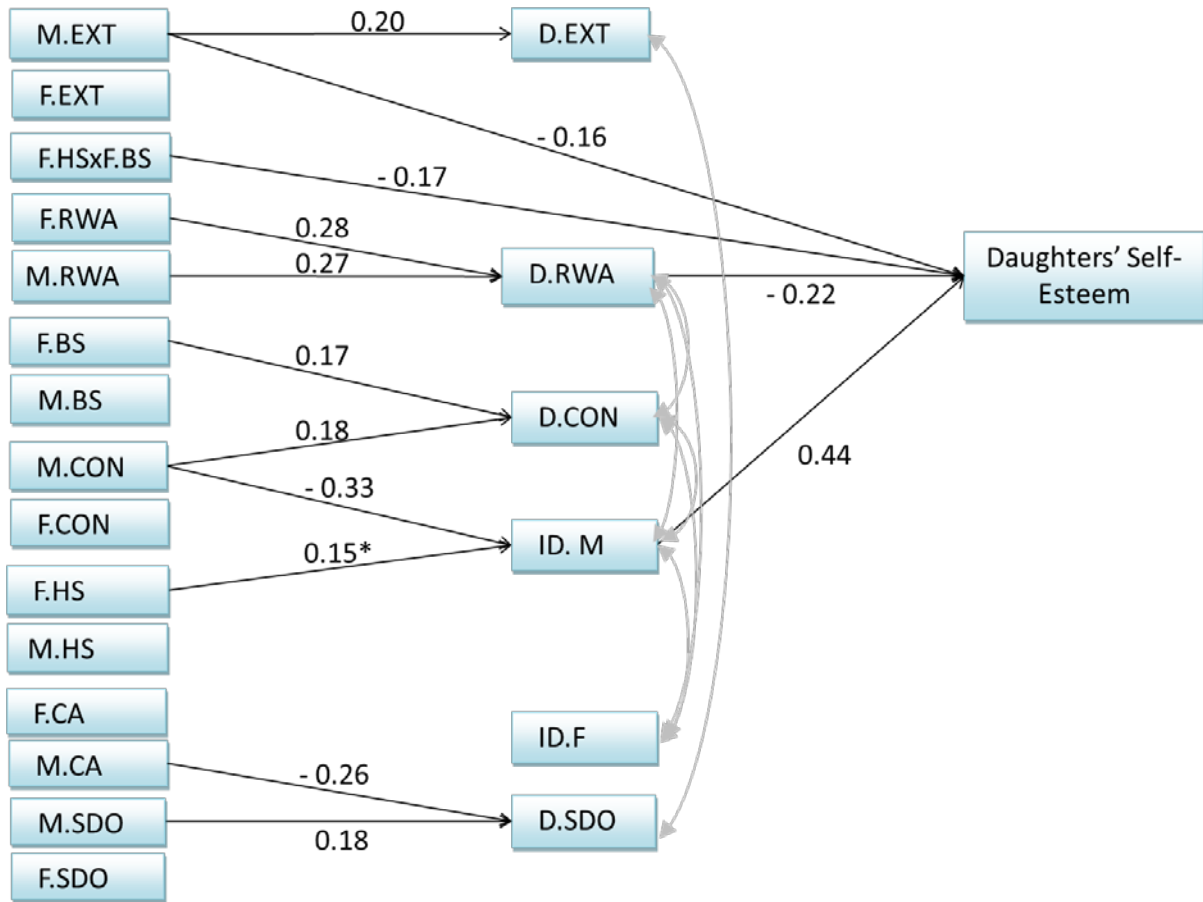


Figure 6.5: Path analysis model for parents and daughters showing significant standardized path coefficients for the prediction of daughters' self-esteem with mediating variables.

Note; F.RWA = Fathers' Right Wing Authoritarianism; F.SDO = Fathers' Social Dominance Orientation; F.BS = Fathers' Benevolent Sexism; F.HS = Fathers' Hostile Sexism; F.EXT = Fathers' Extrinsic versus Intrinsic Value Promotion; F.CON = Father's Conservation versus Openness Value Promotion; F.CA = Fathers' Career Aspirations for Daughter; M.SDO = Mothers' Social Dominance Orientation; M.RWA = Mothers' Right Wing Authoritarianism; M.BS = Mothers' Benevolent Sexism; M.HS = Mothers' Hostile Sexism; M.EXT = Mothers' Extrinsic versus Intrinsic Value Promotion; M.CON = Mothers' Conservation versus Openness Value Promotion; M.CA = Mothers' Career Aspirations for Daughter; D.EXT = Daughters' Extrinsic versus Intrinsic Values; D.CON = Daughters' Conservation versus Openness Values; D.RWA = Daughters' Right Wing Authoritarianism; D.SDO = Daughters' Social Dominance Orientation; ID.M = Daughters' Identification with Mother; ID.F = Daughters' Identification with Father.

$\beta$  coefficient is significant at the .05 level (two-tailed), \*  $\beta$  coefficient is marginally significant ( $t = 1.93, p = .06$ ).

The model had good fit for the data: Chi-square = 112.52,  $df = 106$ , Chi-square/ $df$  ratio = 1.06, GFI = .93, NNFI = 0.96, CFI = 0.98, SRMR = .055, RMSEA = .022. While the model chi-square was large and statistically significant, the chi-square/ $df$  ratio was below 2, suggesting good fit (see Kline, 2005; Tabachnick & Fidell, 2007). The indirect and total effects of parent

variables on daughters' self-esteem (for only those parent variables that did have significant effects) are shown in Table 6.11.

The path analysis replicated the prior hierarchical regression and interaction analyses by showing significant direct effects on daughters' self-esteem for the interaction between fathers' HS and BS, and for mothers' EXT (on lower daughters' self-esteem). The direct effect of fathers' SDO on lower daughters' self-esteem which had been significant in the hierarchical regressions (with and without the fathers' HSxBS interaction) did not have a significant effect in the path analysis. This is possibly because its effect was deflated due to its inter-correlations with the daughter mediator variables. Two of the proposed daughter mediating variables had significant direct effects on daughter self-esteem, and therefore could potentially mediate the effects of parent variables. Daughters' identification with mother had a positive path and daughters' RWA a negative path to daughter self-esteem. Fathers' HS had a marginally significant positive effect on daughters' identification with mother ( $\beta = .15, p = 0.06$ ). Including this path improved model fit by decreasing chi-square value ( $X_{diff} = 2.85$ ). Although the improvement was not significant at .05 level of significance, it was significant at 0.1 level of significance.

Table 6.11

*Standardized Indirect and Total Effects of Parent Variables on Daughter Self-Esteem from the Path Analysis*

IVs	Daughters' Self-Esteem	
	Indirect	Total
M.CON	-0.15***	-0.15***
M.RWA	-0.06*	-0.06*
F.RWA	-0.06*	-0.06*
F.HS	0.07*	0.07*

*Note.* M.RWA = Mothers' Right Wing Authoritarianism; M.CON = Mothers' Conservation versus Openness Value promotion in daughter; F.HS = Fathers' Hostile Sexism; F.RWA = Fathers' Right Wing Authoritarianism.

\*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ , †  $p < .10$ .

As shown in Table 6.11 four parent variables had significant indirect effects on daughters' self-esteem. The strongest indirect effect was for mothers' CON value promotion which reduced daughters' identification with their mother, so producing an overall negative indirect effect on daughter self-esteem. There were weaker indirect effects for father and mother RWA, which both increased daughter RWA, resulting in indirect negative effects on daughters' self-esteem. And finally, there was a weak marginally significant positive effect of fathers' HS on daughters' identification with mother resulting in a weak but significant indirect positive effect on daughters' self-esteem.

The path analysis thus suggested that fathers' HS had two distinct effects on daughters' self-esteem. One was the interactive effect between fathers' HS and fathers' BS affecting daughters' self-esteem directly, and the second, an indirect positive effect on daughters' self-esteem through increasing daughter identification with mother. In both cases fathers' HS was associated with higher daughters' self-esteem, which was completely contrary to initial expectation.

## **10.5 Summary of the Results**

### **10.5.1 Parents' HS and BS predicting daughters' self-esteem**

- There was a significant interaction between fathers' HS and BS on daughters' self-esteem, with fathers' HS associated with higher daughters' self-esteem when fathers' BS was lower. This effect for fathers' HS was therefore contrary to expectation, though the association of lower fathers' BS with higher daughters' self-esteem would be consistent with expectation.
- The correlational, regression, and interaction analyses did not suggest that mothers' HS and BS significantly predicted daughters' self-esteem.



**10.5.2 Parents' value promotion and social attitudes predicting daughters' self-esteem.** The regression analysis also revealed two other significant direct effects for parent variables on daughters' self-esteem:

- First, mothers' EXT value promotion was directly associated with lower daughters' self-esteem, and the effect was also replicated in the path analysis.
- Second, fathers' SDO was directly associated with lower daughters' self-esteem, though this effect was not replicated by the path analysis.

**10.5.3 Indirect effects of parent variables on daughters' self-esteem.** In addition, to the direct effects for parent variables, the path analysis suggested that parent variables might have the following indirect effects on daughter self-esteem mediated via daughters' identification with mother (which significantly enhanced daughters' self-esteem) and daughters' RWA (which significantly lowered daughters' self-esteem):

- Mothers' CON value promotion lowered daughters' identification with mother producing a significant negative indirect effect on daughters' self-esteem.
- Father and mothers' RWA both increased daughters' RWA producing significant negative indirect effects on daughters' self-esteem.
- Fathers' HS had a weak effect increasing identification with the mother resulting in a weak but significant indirect positive effect on daughters' self-esteem.

## 11. Discussion

### 11.1 Prediction of Daughters' Self-Esteem from Father Variables

The findings did not support the hypotheses of direct negative associations between parents' sexism and daughters' self-esteem but there was an interesting interaction between fathers' HS and BS. This finding was unexpected as fathers' HS was significantly related to *higher* self-esteem in daughters when fathers were *low* in BS. This effect might have been due to chance since six interactions were tested. Nevertheless, the effect did seem to be robust, being significant when tested on its own, and together with other variables using multiple regression and path analysis.

It had been expected that fathers' HS and BS would have negative effects on daughters' self-esteem. However, the effects of fathers' BS on daughters' self-esteem had not been investigated before and there was a possibility that due to its positive affective tone fathers' BS may not have direct negative effects on daughters' self-esteem or that fathers' BS might buffer the negative effects of fathers' HS on daughters' self-esteem.

BS is seen as the reason why men can maintain smooth interpersonal relationships with their daughters and wives while being simultaneously hostilely sexist (Glick & Fiske, 1996; Rudman & Glick 2008). Most fathers have genuine affection for their daughters even if they have hostile sexist attitudes toward women in general. This affection is most likely accompanied with paternalistic and benevolent sexist attitudes rather than unremittingly hostile sexist attitudes. It would be unusual for a father to endorse HS but not BS. In the case of such fathers daughters were not expected to have higher self-esteem.

There is, however, a possible explanation why the combination of lower fathers' BS and higher HS might result in daughters' with higher self-esteem. This may be explained in terms of the stereotype content model (SCM) (Fiske, Cuddy, Glick, & Xu, 2002) which defines

prejudiced stereotypes in terms of two essential dimensions: *warmth* and *competence*. Eckes (2002) showed that gender stereotypes about certain sub-groups of women could also be categorized on the basis of the stereotype content model. His research showed that housewives and other traditional female groups were characterised by paternalistic stereotypes of warmth and incompetency. On the other hand career women, feminists and other non-traditional but economically successful groups of women were characterised by envious stereotypes. Combining the results of Eckes' model with ambivalent sexism theory suggests that people who cherish and idealize traditional women also see them as incompetent. On the other hand, people who target non-traditional women with hostility may also see them as dangerous and competent.

The SCM model and Eckes's (2002) findings suggest that fathers who endorse higher HS are likely to see women as threatening competitors who could potentially undermine men. On the other hand, fathers who endorse higher BS are likely to see women as weak and dependent. Lower endorsement of BS suggests fathers who have non-traditional gender attitudes and who do not see women as weak and dependent. The combination of these two father attitudes might transmit explicitly or implicitly to daughters the impression of women as being potentially strong, resourceful, effective, and powerful and may therefore lead to a greater sense of self efficacy and higher self-esteem about themselves as women.

Regression analyses showed as expected that fathers' higher SDO was related to daughters' lower self-esteem. High SDO leads people to devalue others of lower status, such as women. It seems that fathers with high SDO are less likely to value their daughters as persons. Both sons and daughters are dependent on parents at first, but due to women's lower status in society, girls are more likely to be seen as weak and consequently worthless by parents high in SDO. This may lead to daughters feeling less worthy and having lower self-esteem.

The negative association between fathers' SDO and daughters' self-esteem was significant only in regression analyses (also significant in the interaction analysis) but became

nonsignificant in the path analyses. However, regression analyses are more robust than path analyses. Path analyses rest upon assumptions about causality between different levels of variables in the model which may or may not be true. In addition, effects in the path analysis could be depressed below significance due to multicollinearities between predictors and the hypothesized daughter mediators included in the more complex path analytic model. Therefore if the effect did not appear in the path model it did not nullify its effect in the regression models.

### **11.2 Direct Prediction of Daughters' Self-Esteem from Mother Variables**

Mothers' sexist attitudes were not related to daughters' self-esteem. However, mothers who promoted more extrinsic relative to intrinsic values had daughters with lower self-esteem which was according to the hypotheses. A substantial body of research in the area of positive psychology and self-determination theory has confirmed that focusing on intrinsic values relative to extrinsic values is associated with greater well-being within individuals (Kasser, 2002). Intrinsic values are consistent with psychological needs for autonomy, relatedness, and competence while extrinsic values do not fulfil these psychological needs. Extrinsic values such as wealth, social popularity and beauty are difficult to attain and maintain, and the competition in terms of social comparison standards is fierce and therefore leads to unstable self-esteem (Deci & Ryan, 2008; Kasser, 2002; Sheldon & Kasser, 2001). Extrinsic value promotion by mothers also implies that daughters are not valued for themselves, but that parental regard is conditional on achieving high and difficult standards. It is not surprising, therefore, that mothers' promotion of extrinsic values may have resulted in lower self-esteem in their daughters.

The results for EXT value promotion was consistent with expectation but the absence of significant effects for mothers' hostile and BS attitudes may be because mothers hold these attitudes about women in general and daughters may not experience them as relevant for

themselves. Becker (2010) demonstrated that women do not think about themselves but about a certain sub-group of women while endorsing HS. On the other hand, the values mothers promoted for their daughters would be directly relevant to daughters. This may explain why mothers' value promotion significantly negatively predicted daughters' self-esteem as hypothesized, while their sexism did not.

### **11.3 The Mediating Role of Daughters' Identification with Parents**

Consistent with prior research, daughters' identification with mother was a strong predictor of their self-esteem, and therefore an important mediator of parental effects. There has not been any prior research that investigated the mediating role of identification with parent between parental attitudes and children's self-esteem although it has long been recognized as a predictor of positive interpersonal parent-child relationships (Bandura, 1969; Hoffman 1971) and children's self-esteem (Hollender, 1973). Berenson et al, (2005) studied identification with parent as a predictor of self-esteem and a moderator of parental acceptance but not as a mediator. More importantly there has been no research investigating the effect of one parent's sexist attitudes on identification with the other parent. The present model with both parent and daughters' variables included made it possible to investigate these effects.

Mothers who promoted more conservation values (relative to openness values) had daughters who expressed lesser identification with mother. One of the reasons for this association may be that younger women tend to be lower in conservation values than their parents, possibly due to peer and broader social influences, so that mothers' continuing to promote conservation values during later childhood and adolescence may prompt discord with the parents and reduce identification with them. Since daughters' identification with their mother contributes to greater intimacy, positive attachment and closeness (Boyd, 1989), which

are important emotional aspects of the mother-daughter relationship, lower identification with mother would tend to lead to lower self-esteem in daughters.

Fathers' HS was associated with greater identification with mother which mediated the association between fathers' HS and higher daughter self-esteem. This suggests that increased identification with the mother may occur as a reaction against fathers' HS, but there may be other processes involved as well. Identification with the two parents is not mutually exclusive but positively correlated (Acock & Yang, 1984; Berenson et al., 2005). Acock and Yang (1984) presented the "halo effect" explanation where identification with mother is transferred to identification with father. It is possible that daughters identify with mothers not just out of fear of fathers but in order to please fathers. HS captures hostility against non-traditional women (such as feminists) who challenge male power but not against traditional housewives and mothers. Daughters' may identify with mothers in order to identify with this traditional role therefore pleasing both fathers and mothers and enjoying high self-esteem.

#### **11.4 The Mediating Role of Daughters' RWA**

Both mothers and fathers' RWA indirectly predicted lower self-esteem in daughters mediated through daughters' own RWA. The relationship between right-wing attitudes and different aspects of well-being within subjects has been studied for some time. For example, Adorno et al. (1950) hypothesized that the authoritarian personality was associated with a higher incidence of personality disorders and psychopathology. Subsequent research, however, has failed to support this hypothesis (e.g., Schlachter & Duckitt, 2002) and some researchers have even reported a positive association between right-wing attitudes and different aspects (such as self-esteem, happiness and life satisfaction) of well-being (e.g., Napier et al., 2010; Van Hiel & Brebels, 2011).

Onraet et al. (2013) recently conducted a meta-analysis of 97 studies investigating the association between right-wing attitudes and different aspects of well-being (including self-esteem, positive and negative affect, life satisfaction, and intrinsic goal pursuits) and found that the associations between the two types of variables were generally nonsignificant. Specifically the association with self-esteem was nonsignificant (based on 51 studies). Further analyses revealed that in the elderly samples the association was positive. These findings suggested that the association between authoritarian attitudes and self-esteem may not be a straightforward one but may be moderated by a range of other variables. Onraet et al. discussed participant' age, type of authoritarianism, socio-economic status, controlled versus autonomous motivation, and level of personal versus societal self, as potential moderators of the association between right-wing attitudes and self-esteem. Another possibility may be that right-wing attitudes and self-esteem are not associated with each other but caused by one or more independent variables.

The findings from the path analysis for the present sample, however, did suggest that parents with high RWA will have daughters with lower self-esteem possibly because daughters will also be high in RWA. Nevertheless, the crucial limitations of path analysis for assessing mediation must be kept in mind when interpreting these results. The findings from the path analysis for the mediating variables depend critically on the assumption that the daughter social attitudes (RWA, SDO), values (CON and EXT), and identification with parent variables are causally prior to self-esteem. While it has often been assumed that these variables may influence self-esteem (Adorno et al., 1950; Berenson et al., 2005; Deci & Ryan, 2008; Kasser, 2002; Onraet et al., 2013; Sheldon & Kasser, 2001) this may not be so, and these variables may simply be correlates of self-esteem. Therefore the results from the path analysis for the mediating variables should be viewed as tentative.

## **11.5 Conclusions**

In summary, it was found that contrary to expectations fathers' HS was associated with higher self-esteem in daughters although this effect was contingent on fathers' lower BS. Mothers' BS and HS were not related to daughters' self-esteem. This was in contrast to the results for predicting sexist attitudes in daughters in the previous section, where the mothers' influence was more pronounced. It appears that daughter attitudes and self-esteem may develop through different mechanisms. HS and BS as social attitudes were seemingly learned to a greater extent through modelling of mothers' attitudes whereas self-esteem being a personality variable seemed to develop through a more complicated process involving different mechanisms and was more influenced by fathers' sexist attitudes than mothers' sexist attitudes.

## **12. Section 3: Predicting Daughters' Career Aspirations from Parent Variables**

### **13. Introduction and Objectives**

The main objective of this section was to investigate the association of parental sexism and related variables with daughters' career aspirations. It was expected that parents' prejudiced social attitudes (RWA and SDO) and values (CON, EXT) in general, and parental sexism variables (HS and BS) in particular, would have negative associations with their daughters' career aspirations whereas parents' career aspirations for their daughters would have positive associations.

The analyses were the same as those for the prediction of self-esteem. The first step was to compute the correlations among parent variables and daughter career aspirations, followed by hierarchical regression analyses, and finally path analyses. The same predictor and mediator variables that were used in the previous section were also used here.



## 14. Results

### 14.1 Correlation Analyses Predicting Daughters' Career Aspirations from Parent Variables

Table 6.12

*Bivariate Correlations between Parent Variables and Daughters' Career Aspirations (N = 142 for Mothers, and N = 138 for Fathers)*

	Mother variables									
	SDO	RWA	BS	HS	EXT	CON	CA	Age	Edu	Inc
<b>Daughters' Career-Aspirations</b>	-.15†	.03	-.10	.00	.09	-.11	.25**	-.11	.06	.13
	Father variables									
	-.07	.05	-.07	.05	.08	.01	.18*	-.17†	-.13	.09

*Note;* SDO = Parent's Social Dominance Orientation; RWA = Parent's Right Wing Authoritarianism; BS = Parent's Benevolent sexism; HS = Parent's Hostile Sexism; EXT = Parent's Extrinsic versus Intrinsic Value promotion in daughter; CON = parent's Conservation versus Openness Value promotion in daughter; CA = parent's Career aspirations for daughters; Edu = Parent's education; Inc = Parent's income.

\* $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ , † $p < .10$

The results of the correlation analyses predicting daughters' career aspirations from mother and father variables are presented in Table 6.11. The results indicated that both parents' career aspirations for daughters were positively correlated with daughters' own career aspirations. Mothers' SDO and fathers' age also had marginally significant negative associations with daughters' career aspirations. Parents' BS and HS variables were not significantly related to daughters' career aspirations.

### 14.2 Hierarchical Regression Analyses

Hierarchical regression analyses were conducted next to investigate the amount of unique variance each parent variable predicted in daughters' career aspirations controlling for all others. Analyses were first carried out for fathers and mothers separately and then by combining both father and mother variables together in the same regression model. The results of the combined regression analyses included all the significant effects obtained in the separate

analyses, so only the results for this combined analysis are presented in Table 6.13. As was the case for the hierarchical analyses for self-esteem, daughters' identification with father and mother were also entered in an additional step (step 8) since this might reveal if any parent variables might have effects on career aspirations mediated via daughter identification with father or mother.

The results indicated that parents' RWA and fathers' SDO were not significant in the prediction of daughters' career aspirations. Mothers' SDO had a significant or marginally significant negative association with daughters' career aspirations across models. This association was slightly reduced and became nonsignificant in step 8 suggesting that its effects might be partially mediated via identification with one or both parents.

Fathers' BS was negatively significant in the prediction of daughters' career aspirations across all models. Fathers' BS had a nonsignificant association with daughters' career aspirations at the correlational level but controlling fathers' HS and SDO individually, or together, in the regression increased the beta coefficient for fathers' BS. The coefficients for SDO and HS also increased (indicating a suppression effect similar to the one found for the prediction of self-esteem) but did not reach significance. Controlling fathers' career aspirations for daughters also improved the beta coefficient for fathers' BS whereas CON and EXT value promotion did not have a noticeable effect. Mothers' HS and BS did not significantly predict daughters' career aspirations.

Fathers' and mothers' career aspirations for daughters were both marginally significant in predicting daughters' career aspirations in steps 6 and 7 respectively but fathers' career aspirations (for daughters) became nonsignificant when mothers' career aspirations (for daughters) was added to the model, and mothers' career aspirations (for daughters) was slightly reduced to become nonsignificant with the addition of the daughter identification with parents variables.

Table 6.13

*Multiple Regression Models Predicting Daughters' Career Aspirations from Mother and Father Variables and Daughter Identification with Parents*

Variables	$\beta$ coefficients predicting daughters' career aspirations							
	Step 1	Step 2	Step 3	Step 4	Step 5	Step 6	Step 7	Step 8
Parents' education	-.07	-.07	-.07	-.06	-.05	-.05	-.07	-.09
Family income	.07	.07	.06	.07	.05	.04	.10	.09
Parents' age	-.15†	-.15	-.14	-.16†	-.17†	-.17†	-.14	-.12
F.RWA		.03	-.01	.02	.03	.08	.11	.07
F.SDO		-.08	-.03	-.10	-.10	-.11	-.10	-.11
M.RWA			.06	.08	.11	.08	.07	.12
M.SDO			-.18†	-.19*	-.18†	-.18†	-.17†	-.15
F.BS				-.25*	-.23*	-.29*	-.27*	-.23*
F.HS				.17	.18	.12	.11	.06
M.BS					-.10	-.09	-.09	-.07
M.HS					.01	.02	-.00	.02
F.CON						-.04	.00	.00
F.EXT						.13	.09	.06
F.CA						.16†	.07	.04
M.CON							-.09	-.04
M.EXT							.10	.07
M.CA							.18†	.16
Daughter variables								
Id. Father								-.18†
Id. Mother								.22*
$R^2$ change		.01	.03	.04†	.01	.04	.04	.05*
$R^2$	.01	.00	.01	.04†	.03	.05	.08	.12
$F$	1.44	1.04	1.28	1.64	1.39	1.54	1.67†	1.99*
$df$	3,134	5,132	7,130	9,128	11,126	14,123	17,120	19,118

Note; M.SDO = Mothers' Social Dominance Orientation; M.RWA = Mothers' Right Wing Authoritarianism; M.BS = Mothers' Benevolent Sexism; M.HS = Mothers' Hostile Sexism; M.EXT = Mothers' Extrinsic versus Intrinsic Value promotion in daughter; M.CON = Mothers' Conservation versus Openness Value promotion in daughter; M.CA = Mothers' Career aspirations for Daughter; F.RWA = Fathers' Right Wing Authoritarianism; F.SDO = Fathers' Social Dominance Orientation; F.BS = Fathers' Benevolent Sexism; F.HS = Fathers' Hostile Sexism; F.EXT = Fathers' Extrinsic versus Intrinsic Value promotion in daughter; F.CON = Father's Conservation versus Openness Value promotion in daughter; F.CA = Fathers' Career aspirations for Daughter; Id.M = Daughters' Identification with Mother; Id.F = Daughters' Identification with Father.

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ , † $p < .10$

Daughters' identification with parents had opposite effects on daughters' career aspirations. Identification with father predicted lower daughter career aspirations and identification with mother higher career aspirations.

Thus, the hierarchical regression supported the correlational findings by showing effects for mothers' SDO on lower daughter career aspirations, and for higher mother career aspirations on higher daughter career aspirations, with the latter effect eliminating the significant correlation for fathers' career aspirations. The hierarchical analysis also suggested an effect of fathers' BS on lower daughter career aspiration which had been suppressed in the correlational analysis.

### **14.3 Interactive and Combined Effects of Parent Variables**

**14.3.1 Interactions between parents' career aspirations and daughters' identification with parents.** In order to test whether identification with parents significantly moderated the effect of parents' career aspirations (for daughters) on daughters' career aspirations, the procedure recommended by Baron and Kenny (1986) was again followed. However, identification with mother or father did not significantly moderate the effects of mother and fathers' career aspirations (for daughters) on daughters' career aspirations (see Appendix A9)

Since it was possible that identification with parents moderated the effects of parental sexism on daughter career aspirations, interaction terms were also calculated between parents' BS (and HS) and daughters' identification with the parents in order to predict daughters' career aspirations. None of the interaction terms were significant indicating that identification with mother and father did not moderate the effects of mother and fathers' HS and BS attitude on daughters' career aspirations (see Appendix A9).

**14.3.2 The ambivalent sexism score.** The overall ambivalent sexism (AS) score for mothers and fathers was calculated according to Glick and Fiske (1996) by averaging the BS

and HS scales. Regression analyses were then carried out to see if fathers' and mothers' AS scores predicted daughters' career aspirations significantly. However, the combined scales did not significantly predict daughters' career aspirations (see Appendix A10).

**14.3.3 Interactions between parents' HS and BS variables.** In order to investigate possible interactions between parents' sexism variables, regression models were used to explore interactions between parents' BS and HS for predicting daughters' career aspirations. The same interaction terms were calculated as was done previously for the prediction of daughters' BS and HS. However, none of these interaction terms was significant for the prediction of daughters' career aspirations (see Appendix A11).

#### 14.4 Path Analyses

Path analyses were next used to investigate whether parent variables might have effects on daughter career aspirations that were mediated via daughters' social attitudes, (RWA, SDO), daughters' values (EXT, CON), or daughters' identification with parents. As noted previously, the findings from such a mediational analysis would necessarily be tentative since it would rest on the assumption that the mediating daughter variables were causally prior to and not just correlated with daughter career aspirations. The models were constructed using the same strategy as used for the previous models and explained earlier in Chapter 4, and therefore had three levels of variables:

- All the parent variables were primary predictor variables at the first level. These included parents' HS, BS, RWA, SDO, CON and EXT value promotion variables.
- At the second level, daughter variables were used as mediator variables. These included daughters' ideological attitudes (RWA, SDO) and values (CON and EXT values), as well as daughters' identification with mother and father.
- Finally daughters' career aspirations were used as the outcome variable at the third level.

Parents' demographic variables were originally included in the model but as they did not directly predict any of the daughter variables significantly, were excluded to make the model simpler. The model is depicted in Figure 6.6.

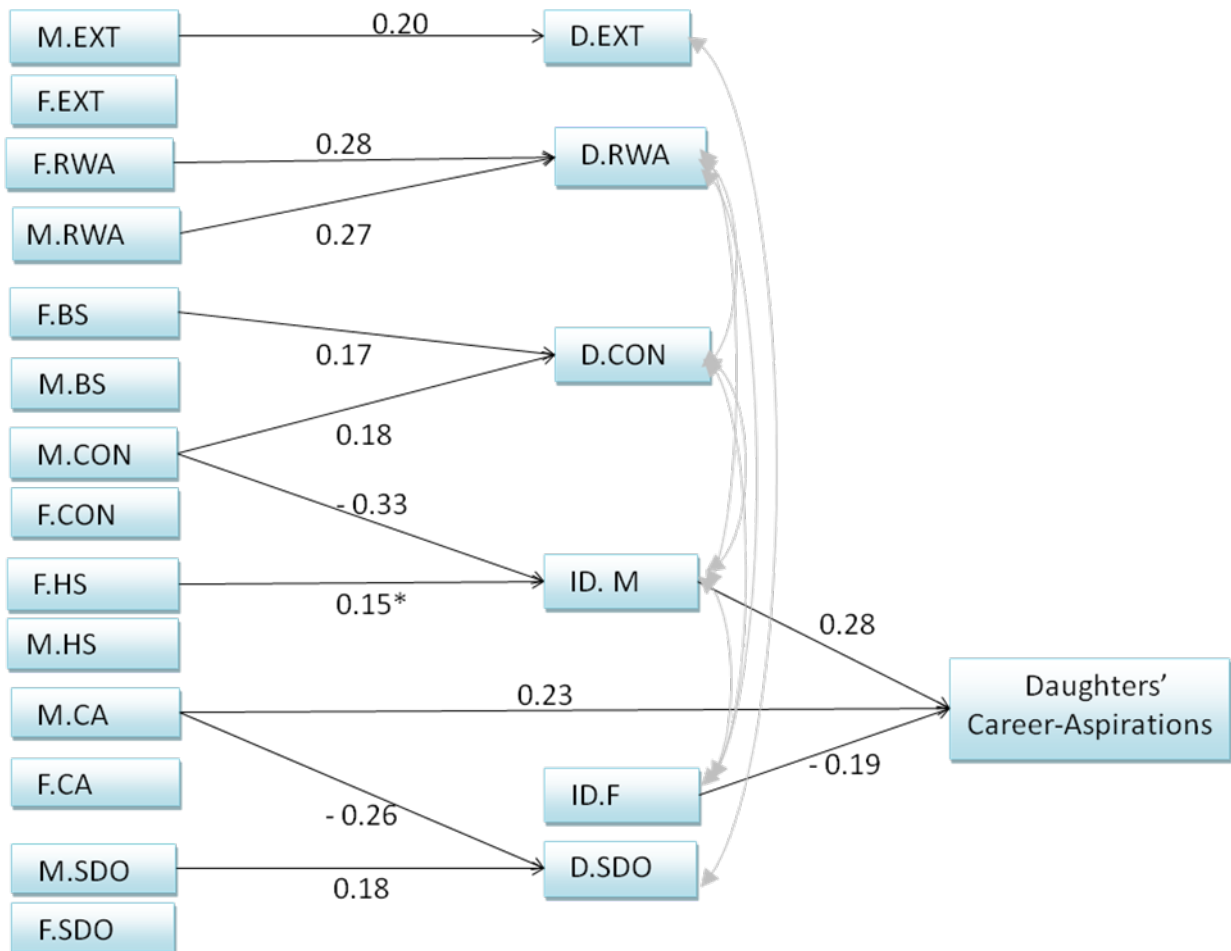


Figure 6.6: Path analysis model for parents and daughters showing significant standardized path coefficients for the prediction of daughters' career aspirations with mediating variables.

Note; F.RWA = Fathers' Right Wing Authoritarianism; F.SDO = Fathers' Social Dominance Orientation; F.BS = Fathers' Benevolent Sexism; F.HS = Fathers' Hostile Sexism; F.EXT = Fathers' Extrinsic versus Intrinsic Value Promotion; F.CON = Father's Conservation versus Openness Value Promotion; F.CA = Fathers' Career Aspirations for Daughter; M.SDO = Mothers' Social Dominance Orientation; M.RWA = Mothers' Right Wing Authoritarianism; M.BS = Mothers' Benevolent Sexism; M.HS = Mothers' Hostile Sexism; M.EXT = Mothers' Extrinsic versus Intrinsic Value Promotion; M.CON = Mothers' Conservation versus Openness Value Promotion; M.CA = Mothers' Career Aspirations for Daughter; D.EXT = Daughters' Extrinsic versus Intrinsic Values; D.CON = Daughters' Conservation versus Openness Values; D.RWA = Daughters' Right Wing Authoritarianism; D.SDO = Daughters' Social Dominance Orientation; ID.M = Daughters' Identification with Mother; ID.F = Daughters' Identification with Father.

$\beta$  coefficient is significant at the .05 level (two-tailed), \*  $\beta$  coefficient is marginally significant ( $t = 1.94, p = .06$ ).

The model had good fit for the data: Chi-square = 101.97,  $df = 100$ , Chi-square/ $df$  ratio = 1.02, GFI = .93, NNFI = .98, CFI = .99, SRMR = .056, RMSEA = .013. While the model chi-square was large and statistically significant ( $p = 0.43$ ), the chi-square/ $df$  ratio was below 2, suggesting good fit (see Kline, 2005; Tabachnick & Fidell, 2007). The model showed that fathers' HS had a marginally significant positive effect on daughters' identification with mother ( $\beta = .15$ ,  $p = .06$ ). Including the path significantly improved fit of the model as indicated by Chi square difference test ( $X_{diff} = 2.85$ ,  $df_{diff} = 1$ ) which was approaching significance ( $p < 0.1$ ). The indirect and total effects for those parent variables that did have significant effects on daughter career aspirations are shown in Table 6.14.

Table 6.14

*The Standardized Indirect and Total Effects of Mother Independent Variables on Daughter Career Aspirations in Path Analysis*

IVs	Outcome variable =Daughters' Career aspirations	
	Indirect	total
M.CON	- 0.09**	-0.09**
M.CA	--	0.23**
F.HS	0.04†	0.04†

Note. M.RWA = Mothers' Right Wing Authoritarianism; M.CON = Mothers' Conservation versus Openness Value promotion in daughter; F.HS = Fathers' Hostile Sexism; F.RWA = Fathers' Right Wing Authoritarianism.

\*  $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ , † $p < .10$ .

The significant paths shown in Figure 6.6 were consistent with the effects from the hierarchical regression in showing that mothers' career aspirations (for daughters) had a direct positive effect on daughters' career aspirations, while the originally significant correlation for fathers' career aspirations (for daughters) became nonsignificant. Also consistent with the hierarchical regression, the path analysis showed that identification with the father had a negative path to daughters' career aspirations while identification with the mother had a positive path.

In addition, the path analysis showed that mothers' CON value promotion and fathers' HS both indirectly predicted daughters' career aspirations through identification with the mother. Mothers' CON value promotion reduced identification with the mother so lowering daughters' career aspirations while fathers' HS increased identification with the mother, so producing a weak and marginally significant increase in daughters' career aspirations. This latter effect was therefore similar to the unexpected positive effects found for fathers' HS on daughter self-esteem in the previous section.

To sum up, the path model indicated that, consistent with previous analyses, mothers' career aspirations for daughters were the strongest predictor of daughters' career aspirations. The path analysis also suggested that identification with the mother did seem to mediate effects from parent variables, notably mothers' CON value promotion and fathers' HS, on daughters' career aspirations. The significant direct effects shown in the hierarchical regression or correlational analysis for mothers SDO and fathers' BS in predicting lower daughter career-aspirations did not emerge in the path analysis, but these effects could have been depressed below significance due to the multicollinearities between these variables and the hypothesized daughter mediators included in the more complex path analytic model.

Daughters' who identify more with their fathers may have more traditional attitudes about women's careers. On the other hand, daughters who identify with their mothers may tend to have higher levels of self-esteem, which may be associated with higher career aspirations. In other words the positive effect of identification with their mother may be mediated through daughters' higher self-esteem, and the negative effect of identification with their father may be mediated through daughters' own traditional attitudes such as HS, RWA or conservation values. In order to check the possible mediations the procedure recommended by Baron and Kenny (1986) was followed. However, no significant mediation was found and the association between identification with parent variables and daughter career aspirations was significant even after



controlling for the potentially mediating daughter variables (see Appendix A12 and Appendix A13).

### 14.5 Summary of the Results

The results for the prediction of daughters' career aspirations are summarised below.

- Mothers' career aspirations for daughters significantly predicted higher daughter career aspirations across all the analyses and, when controlled for, eliminated the originally marginally significant positive correlation for fathers' career aspirations for daughters.
- Mothers' SDO was a marginally significant predictor of lower daughters' career aspirations in the regression and correlational analyses. Fathers' BS, although not significant in the correlational analyses, was a clearly significant predictor of lower daughters' career aspirations in the regression analysis indicating a suppression effect. Neither mothers' SDO nor fathers' BS were significant in the path analysis but this could well have been due to the more complex path analysis including, and therefore controlling for, daughter variables and so deflating effects for these parent variables.
- Daughters' identification with their mothers and fathers had opposite effects on daughters' career aspirations. Daughters' identification with mother predicted higher career aspirations and identification with father predicted lower career aspirations.
- Finally, the path analysis suggested that daughters' identification with their mother mediated effects for two parent variables. Father' HS had a marginally significant effect predicting higher daughters' career aspirations through increasing daughters' identification with their mother, and the mothers' promotion of conservation values lowered daughter identification with their mother resulting in lower daughters' career aspirations.

## 15. Discussion

### 15.1 Parents' Career Aspirations for Daughters as Predictors of Daughters' Career Aspirations

The results indicated that mothers' career aspirations for their daughters was the most important and consistent variable in the prediction of daughters' career aspirations. This was consistent with previous findings. Research reviews in the field of employment and careers have documented mothers' influence on a range of daughters' career and work related attitudes and behavior (Schulenberg et al., 1984; Whiston & Keller, 2004). The results are also consistent with the findings for the prediction of daughters' sexist attitudes. It seems that daughters' not only model mothers' attitudes but also aspirations. Early research has also shown similar trends. Maternal employment characteristics during adolescence have been found to be a consistent predictor of daughters' career-orientation and daughters' departure from traditional roles (Huston-Stein & Higgins-Trenk, 1978, as cited in Schulenberg et al., 1984).

Although previous research has also supported the salience of the father-daughter relationship in determining daughter's vocational outcomes (e.g., Schulenberg et al., 1984), in the present analyses the effect for fathers' career aspirations (which was marginally significant at the correlational level) was eliminated in the combined regression model where mother variables were controlled. This pattern was consistent with that found for the prediction of daughter sexism from parental variables. As discussed in that section, it is not possible to decide whether this effect occurred because of confounding between or mediation of father variables through mother variables. It is possible that the association between fathers' and daughters' career aspirations was due to their common variance with mothers' career aspirations and therefore became nonsignificant after controlling for the potentially confounding mother variables. The collinearity between mother and father career aspirations ( $r = .45, p < .001$ ) and

other parent variables may also have depressed the beta coefficients for fathers' career aspirations. On the other hand, another possibility is that mothers had the primary and more direct influence on daughters whereas the influence of father variables may be indirect and possibly mediated through mother variables.

### **15.2 Mothers' SDO and Fathers' BS Negatively Predict Daughters' Career Aspirations**

Two other direct effects of parent variables on daughter career aspirations were suggested somewhat more tentatively. First, there was a marginally significant effect of mothers' SDO on lower daughter career aspirations, and second, there was a weak but significant effect for fathers' BS also on lower daughter career aspirations. There are good reasons why maternal SDO and paternal BS could result in daughters having lower career aspirations. Consistent with previous findings, mothers with lower SDO are more likely to hold egalitarian attitudes regarding women's employment (Christopher & Wojda, 2008). High SDO on the other hand leads people to devalue others of lower status and support group based hierarchical systems. It seems that mothers with high SDO are more likely to devalue their daughters and see them as less capable of pursuing a career and therefore have daughters with lower career aspirations.

Daughters had lower career aspirations when their fathers expressed higher BS. This is consistent with previous research findings about the negative effects of exposure to BS on women's performance and achievement aspirations (e.g., Barretto et al, 2010; Dardenne et al, 2007; Dumont et al, 2010; Vescio et al., 2005). People who believe in BS usually prefer traditional roles for women (Christopher & Wojda, 2008). Fathers with higher BS were therefore more likely to encourage their daughters to fulfil traditional roles. These results are consistent with previous research. Fathers' attitudes about the housewife and career roles of women have been reported to be associated with daughters having a greater career orientation

and higher academic degree aspirations (Oliver, 1975; Ridgeway 1978, as cited in Schulenberg et al., 1984). Fathers who stressed more instrumental values in daughters had daughters studying in relatively male-dominated occupations (Ridgeway 1978; Tenzer, 1977, as cited in Schulenberg et al., 1984). However, it is important to note that this effect became significant only after controlling for fathers' HS and SDO suggesting some degree of a suppression effect.

The analyses of interrelationships within parent data reported in Chapter 4 showed that fathers who were higher in BS expressed *higher* career aspirations for their daughters. This was presumably due to their family in-group bias and favouritism in regard to their daughters. It was therefore ironic that for daughters' actual career aspirations, fathers' BS predicted quite the opposite effect and was associated with *lower* career aspirations.

### **15.3 Identification with Parents as Predictor of Daughters' Career Aspirations**

Interestingly, daughters' identification with their two parents seemed to have opposite effects on their career aspirations. Identification with the mother was significantly positively related to daughters' career aspirations. This is consistent with previous research since identification with parents is characterized by positive interpersonal relationship between parents and children (Berenson et al., 2005; Hollender, 1973) which in turn is important for high career aspirations (O'Brien & Fassinger, 1993; O'Brien et al, 2000; Rainey & Borders, 1997). Identification with the mother has also been found to correlate with better social adjustment (Stanford & Pederson, 1969). O'Brien (1996) demonstrated that for high school women mother-daughter relationships that were characterised by a moderate degree of attachment, reliance on the mother for assistance in personal matters, emotional intimacy, and similar beliefs were predictive of stronger self-efficacy, stronger career aspirations and more realism regarding career-choice.

Identification with fathers was negatively associated with the career aspirations of daughters and this association was not mediated by daughters' conservative or sexist attitudes. This was somewhat unexpected because identification with both mothers and fathers is associated with better interpersonal relationships and higher self-esteem (Berenson et al., 2005; Hollender, 1973). In addition, identification with the mother is positively associated with identification with fathers (Acock & Yang, 1984; Berenson et al., 2005). The regression analyses showed that the effect of identification with father on lower career aspirations was not mediated through daughters' own HS, RWA and conservation values.

In an article about the relative roles of parental attachment and parental separation on daughters' career-development, O'Brien (1996) indicated that high school women who experienced freedom from the need for approval, and freedom from closeness and emotional support from their father, reported stronger self-efficacy, stronger career aspirations and more realism regarding career-choice. O'Brien discussed the results in terms of individuation and asserted

...young women moving toward healthy career development may begin to emotionally distance themselves from their fathers and develop conflictual feelings toward [their] mother prior to separation from their parents (O' Brien, 1996, p. 270).

O'Brien concluded that daughters' lesser attachment with their father was indicative of a healthy movement toward separation from parent, maturation and individual growth. Blos also hypothesized that adolescents undergo a process of separation in which they "loosen the ties to objects internalized in infancy to develop a stable sense of self" (1979, cited in O' Brien et al., 2000, p. 302). It is possible that the individuation from mothers and fathers occurs to different extents at a given time and thus attachment with mothers and fathers may have relatively different outcomes for the adolescent at a given time.

### **15.4 Indirect Effects of Fathers' HS Predicting Daughters' Career Aspirations**

The path analysis suggested that daughters' identification with their mother mediated two indirect effects for parent variables on daughter career aspirations. One was an unexpected indirect effect of fathers' HS on higher daughter career aspirations. This occurred through fathers' HS increasing daughter identification with their mother which in turn resulted in higher daughter career aspirations. Although this particular effect was only marginally significant, it was essentially similar to that found in the previous section where fathers' HS increased identification with the mother and so had positive effects on daughters' self-esteem. Together these findings suggest that daughters' may identify with their mothers as a defence against or reaction to the negative influence of their fathers' hostile sexist attitudes and that this may then mediate counter-intuitively positive effects on both their self-esteem and their career aspirations.

Possibly due to the difference in their explicit versus implicit nature, exposure to HS and BS seem to differ in their consequences on performance. Becker and Wright (2011) demonstrated that women who were exposed to HS were motivated to engage in collective action against gender inequality, whereas women who were exposed to BS were not motivated to engage in collective action against gender inequality and endorsed more system justification beliefs.

Dardenne et al. (2007) proposed that reactance theory (Brehm, 1966, cited in Dardenne et al., 2007) could account for the finding that confronting BS but not HS had a harmful effect on women's performance. Dardenne et al. (2007) in their experimental studies demonstrated that BS was worse than HS in negatively affecting women's cognitive performance. Women who were exposed to BS performed worse in all four experiments than the women who were exposed to HS or to no sexism. The fourth experiment showed that HS led participants to attempt to solve significantly more items than BS. However, the Dardenne et al. (2007) results did not support reactance theory since revenge or anger based reaction was not found to be associated

with women's performance. In addition, in their study perception of HS as prejudice did not fully mediate the impact on performance in response to sexism. Dardenne et al. suggested that facing hostility may increase motivation to perform on a task even if a revenge reaction was not involved.

Interestingly, Dardenne et al. (2007) in their fourth experiment found that after being exposed to sexism women who had higher gender group identification performed better than women who were less identified with their gender group. Further analyses revealed that higher gender group identification by women only led to better performance in reaction to HS but not to BS. This seems to be consistent with the present results except that identification with mother is not exactly the same as identification with women as a group. However, identification with mother may be considered an important part of the process of gender identity development (Boyd, 1989; McHale et al., 2004; Steele & Barling, 1996) suggesting that daughters' who identify more with mothers are also likely to be more identified with women as a group. Both types of identification may act in similar ways to shield against the effects of blatant discrimination.

Identification with mother, similar to gender identification, may therefore protect daughters by diminishing the negative impact of fathers' HS. Identification has often been shown to influence the impact of blatant discrimination by attributing negative feedback to discrimination (Crocker, Voelkl, Testa, & Major, 1991; Operario & Fiske, 2001) or by protecting self-esteem (Major, Quinton, & Schmader, 2003; McCoy & Major, 2003). The overall findings seem to suggest that fathers' blatant hostile attitudes towards women are not as harmful for their daughter's career aspirations as their covertly sexist benevolent attitudes.

### **15.5 Indirect Effects of Mothers' CON Value Promotion Predicting Daughters' Career Aspirations**

The second mediated effect suggested by the path analysis was an effect for mothers' CON value promotion decreasing daughters' identification with mother and so lowering daughters' career aspirations. This indirect effect was essentially similar to that found in the previous section where an effect of mothers' conservation value promotion on lower identification with the mother had an indirect negative effect on daughters' self-esteem. As discussed earlier, mothers who promoted more conservation values had daughters who identified less with them. One of the reasons for this association may be that younger women tend to be lower in conservation values than their parents, so that if mothers continued promotion of conservation values during adolescence, that promotion may become a source of disagreement with the parents and thus reduce identification with them. Since daughters' identification with mother contributes to higher career aspirations (O'Brien & Fassinger, 1993; O'Brien et al, 2000; Rainey & Borders, 1997) mothers promoting more CON values in daughters had daughters with lower career aspirations.

### **15.6 Conclusions**

In summary, there were some relatively weak effects of parent variables on daughter career aspirations. Mothers' career aspirations significantly predicted daughters' career aspirations. Mothers' SDO and fathers' BS had weak significant negative associations in some of the regression models, which became nonsignificant in the more complex path model. It was found that contrary to expectation fathers' HS was indirectly associated with higher daughter career aspirations via higher identification with mother although this effect was only marginally significant. Mothers' BS and HS were not related to their daughters' career aspirations. However, mothers' CON value promotion had a significant indirect effect on lower daughter



career aspirations. Finally identification with mother and father seemed to have opposite (positive and negative respectively) effects on daughters' career aspirations.

#### **16. Section 4: General Conclusions**

The analyses in the three sections revealed some expected as well as some unexpected and interesting significant associations with the three daughter outcome variables. The salient findings are presented in the Table 6.15.

As expected, mothers' HS and BS were the strongest predictors of daughters' HS and BS. In addition, mothers' social attitudes, value promotion and career aspirations for their daughters were significantly associated with the daughters' social attitudes, values and career aspirations whereas fathers' value promotion and career aspirations for their daughters were not significant. It appears that mothers were the primary role models for daughters learning of attitudes, values, and career aspirations. The effect of mothers' BS on daughters' BS was moderate to strong. Other effects were in the weak to moderate range.

Mothers' HS and BS did not directly predict daughters' self-esteem. However, mothers' extrinsic value promotion was a direct predictor of low self-esteem and mothers' conservation value promotion was an indirect predictor through lower identification with mother. The overall results support the view that the mother-daughter relationship was specially intimate and involved more positive attachment, mutuality, and identification than any other familial relationships (Boyd, 1989). The influence of mothers was also manifested by the consistent positive association between self-esteem and identification with the mother.

Table 6.15

Table Showing the Salient Findings from Analyses between Parent and Daughters Data  
(The Red Arrows Show the Negative Associations)

<i>Prediction of daughters' HS and BS</i>	
Direct effects	Indirect effects
Mother HS → Daughter Father HS → HS	Mother SDO → Daughter → Daughter Mother CA → SDO → HS
Mother BS → Daughter Father HS → Daughter Mother HS x Father BS → BS	Mother RWA → Daughter → Daughter Father RWA → RWA → BS
<i>Prediction of daughters' Self-esteem</i>	
Direct effects	Indirect effects
Mother EXT → Father SDO → Daughter Father HS x Father BS → Self-esteem Identification with Mother →	Mother RWA → Daughter → Daughter Father RWA → RWA → Self-esteem Father HS → Identification → Mother CON → with mother →
<i>Prediction of daughters' Career-aspiration</i>	
Direct effects	Indirect effects
Mother Career aspirations → Daughter Father BS → Career Identification with Mother → aspirations Identification with Father →	Father HS → Identification → Daughter Mother CON → with mother → CA

Fathers appeared to have more direct effects (in contrast to mothers) on self-esteem. On the other hand, the fathers' role did not appear to be as influential as mothers for the prediction of social attitudes, sexism, and values. There were only a few significant associations with father variables for the prediction of social attitudes. Fathers' HS and RWA were associated with daughters' HS (marginally significantly) and fathers' RWA and fathers' BS was associated with daughters' BS but the association for fathers' BS was contingent on mothers' HS.

Interestingly, for the prediction of daughter's self-esteem mothers' sexism variables did not have a significant effect whereas fathers' HS and BS interacted to have a significant direct effect. Fathers' HS had a positive effect on daughters' self-esteem (unexpectedly) which was contingent on fathers' lower BS. A suppression effect also revealed the positive effect of fathers' HS on daughter self-esteem with fathers' SDO and BS having negative effects. All the effects of father variables were in the weak range.

Particularly interesting findings were some of the *reactive* effects. Daughters were not just the passive imitators of parents' attitudes but also responded defiantly when parental attitudes contained hostility against their group. Daughters' endorsed more BS in response to fathers' HS. Contingent on fathers' higher BS, daughters also endorsed more BS in response to mothers' HS. It appeared that daughters did not want to model parental HS (presumably due to its negativity against their own group). It was probably easier for daughters not to model fathers' HS but to endorse more BS in reaction. However, it was probably not easy for daughters not to model mothers' HS since mothers would be their primary role models. When mothers were high in HS, daughters seemed to model their fathers BS, since fathers would be their secondary role models, in reaction to mothers' high HS, but only when fathers' were high in BS.

Daughters' reactive response was also evident in daughters' identifying less with mothers when mothers' promoted more conservation values in daughters. Daughters also seemed to identify more with mothers presumably as a reaction to their fathers' HS. Although

this effect was only marginally significant, it resulted in the counterintuitive indirect *significant positive* effect of high fathers' HS on higher self-esteem and higher career aspirations (marginally significant) due to more identification with mothers.

Two complicated but similar suppression effects were also revealed. The first was for the prediction of self-esteem and the other for the prediction of career aspirations. Both involved a composite suppression effect with three variables being fathers' BS, HS, and SDO. Controlling fathers' HS and SDO indicated that fathers' BS significantly negatively predicted daughters' self-esteem and career aspirations. Fathers' SDO also predicted self-esteem negatively but HS was positively related to daughters' self-esteem. Fathers' SDO and HS were not significant in the prediction of career aspirations but had significant (negative and positive respectively) associations with daughters' self-esteem. It was not possible in these cases to decide which variable was the suppressor variable or to interpret why the suppression occurred.

Identification with mother and father variables turned out to be important and plausible mediator variables between parental attitudes and value promotion and daughter outcomes. However, they did not significantly moderate the associations between daughter and parent variables.

A major limitation of the research conducted in this study was that it was cross-sectional and therefore could not directly support causal inferences. It did seem plausible that parental variables might have causal impacts on daughter outcomes, but the nature of possible causal relations between the three daughter outcome variables of sexism, self-esteem, and career aspirations were entirely unclear. The following study therefore used a longitudinal follow up of the sample of daughters from the present study. This would enable the use of cross-lagged analyses to investigate possible causal effects between these three daughter outcome variables. It would also enable the longitudinal effects of parent variables on change in these daughter outcomes to be investigated.

## CHAPTER 7: FOLLOW-UP STUDY

**1. Follow-Up Study: Predicting Change in Daughter Outcome Variables One Year Later**

The aim of the follow-up study was to test the results of the main study with longitudinal data. The analysis of longitudinal data provides important advantages for assessing causal relations that are not subject to the same criticisms as analyses of cross-sectional data. The cross-sectional data only allows inferences about associations among variables at a given point in time. By contrast, longitudinal data allows investigating time-ordered antecedents and consequents and therefore strengthens the likelihood that there may be genuine causal effects among variables under investigation.

**1.1 Specific Objectives for Follow-Up Study**

The longitudinal analyses were used to identify two types of causal associations: The causal associations between daughters' own variables and the causal associations between parents and daughter variables.

**1.1.1 Longitudinal associations within daughter variables.** The analyses were carried out to examine the same associations within daughter variables that were examined in the cross-sectional data. These included (1) associations of daughters' RWA and SDO with daughters' HS and BS (2) associations of daughters' HS and BS and other social attitudes with their self-esteem, and (3) associations of daughters' HS and BS and other social attitudes with their career aspirations.

All the daughter outcome variables that were measured in the first study were also measured in the follow-up study. These included daughters' RWA, SDO, BS, HS, self-esteem, career aspirations, and identification with parent variables. However, daughters' extrinsic and conservation values were not measured in the follow-up study for two reasons: First, they did

not significantly predict daughters' self-esteem and career aspirations in the first study, and second, they also did not significantly mediate the associations between parent predictor variables and daughter outcome variables in that research.

Regression and path analyses were conducted to find cross-lagged effects of all the daughter variables that were investigated in the main study. The cross-lagged analyses allowed the simultaneous assessment of longitudinal associations in the hypothesized direction (such as daughters' HS predicting change in daughters' self-esteem) as well as in the reverse direction (daughters' self-esteem predicting change in daughters' HS).

**1.1.2 Longitudinal associations between parent and daughter variables.** Regression and path analyses were also conducted to investigate longitudinal associations between parents and daughter variables. Parents did not participate in the follow-up study and only daughter variables were measured. For this reason the data did not allow cross-lagged effects for simultaneously assessing the longitudinal associations between parents' variables on daughters and daughters' influence on parents' variables. However, based on major socialization theories and research (Bandura, 1969, 1977; Berenson et al., 2005; Collins et al., 2000; Levine & Munsch, 2011; Maccoby, 1992; Steinberg, 2001), it seems reasonable to assume that parents' play a crucial role in the development of daughters' attitudes and self-esteem. With this assumption the longitudinal data made it possible to investigate the degree to which parent variables predicted, and presumably caused, change in daughters' outcome variables.

The primary aim of the present research was to investigate the effects of parents' HS and BS on longitudinal changes in daughters' sexism, self-esteem, and career aspirations. The longitudinal analyses therefore focused on three central questions. These included examining the longitudinal associations between (1) parents' sexism and daughters' sexism, (2) parents' sexism and daughters' self-esteem, and (3) parents' sexism and daughters' career aspirations.

## 2. Method

### 2.1 Participants, Procedure, and Measures

The participants were the same female university students who participated in the first study. The 116 daughters who responded in the follow-up study had a mean age of 19.94 ( $SD = 2.78$ ). All of the participants who responded in the follow-up study were contacted through email after a period of about one year. The participants completed a shorter version of the original survey online which took about 10 minutes to complete. Each of the participating daughters received a \$15 grocery voucher as compensation for participating.

The group of daughters who did not respond in the follow-up study ( $N = 41$ ) was not significantly different from the group of daughters who did respond, in terms of their BS, HS, SDO, CON values, EXT values, career aspirations and self-esteem. However, the attrition group was significantly higher than those who responded in the follow-up study in the endorsement of RWA ( $t = -2.56, p < .05$ ), and significantly lower in the endorsement of self-esteem in the domain of school abilities ( $t = 1.97, p < .05$ ). There was no significant difference between the two groups in terms of parental attitudes (RWA, SDO, HS and BS), parental value-promotion (EXT and CON value-promotion), career aspirations, and demographic variables (parents' average age, income, and education).

To test whether daughters' and parents' sexism (measured in the first study) was associated with daughters' sexism, self-esteem and career aspirations over time, the follow-up survey questionnaire included the Ambivalent Sexism Inventory (Glick & Fiske, 1996) and the scales used to measure self-esteem, RWA, SDO, and identification with parents in the first study. The full version of the Ambivalent Sexism Inventory was used due to its integral part in both studies in the research. However, in order to increase the response rate from the participants and keep the questionnaire short in the follow-up study, an attempt was made to

shorten the rest of the scales. The career aspirations scale was shortened from 10 to 8 items by excluding items based on their lower inter-item correlations. Only two items (3 & 5) could be excluded because exclusion of any more items would decrease the reliability coefficient of the scale. Similarly the other above mentioned scales (which had already been shortened in the first study) could also not be shortened any further because doing so would decrease the reliability coefficients of the scales. The results of the study are presented in the next section.

### 3. Results

#### 3.1 Descriptive Statistics

Table 7.1 presents the descriptive statistics for the measures in the first study (time 1) and the follow-up study (time 2) for the sample of daughters' that completed both time points. All of the scales were satisfactorily internally consistent with alpha levels above .70. As expected, all the variables were strongly correlated between times 1 and 2. However, *t* tests of mean differences across time revealed that BS, HS, RWA and SDO all declined across time, which is consistent with previous research showing that increases in education were associated with decreased prejudice (Chickering & McCormick, 1973; Plant, 1965). There was also a significant increase in daughters' career aspirations, a development which might be expected in a student sample that has progressed in education across the year. Similarly, participants also showed a significant increase in self-esteem in the domains of school abilities, as well as the other specific domains, with the exception of physical appearance which showed a significant decrease. This latter effect is presumably why the overall self-esteem score showed no change despite the majority of self-esteem domains increasing. Finally, identification with father, but not with mother, increased over the year.



Table 7.1

*Descriptive Scale Statistics for Daughter Questionnaire for the Follow-Up Study (N = 116)*

Scale	No. of items at T2	$\alpha$	Time 1		Time 2		Across time change in Mean ( <i>t</i> )	Correlation between T1 and T2
			<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
<b>Social attitudes</b>								
BS	11	.79	2.58	1.03	2.43	.99	2.17*	.71***
HS	11	.91	2.67	1.16	2.39	1.29	3.17**	.70***
RWA	8	.84	2.33	1.07	2.21	1.20	2.29*	.87***
SDO	6	.79	1.78	1.02	1.56	1.29	2.38*	.64***
<b>Career aspirations</b>								
	8	.84	4.13	0.84	4.73	0.97	-7.71***	.58***
<b>Self-esteem</b>								
Self-regard	4	.83	4.07	1.18	4.26	1.06	-2.15*	.65***
Social confidence	4	.86	3.07	1.18	3.30	1.38	-2.02*	.57***
School abilities	4	.75	3.61	1.32	3.94	1.07	-3.58***	.67***
Physical appearance	4	.86	3.78	1.52	3.12	1.34	5.52***	.60***
Physical abilities	4	.81	2.72	1.38	3.08	1.41	-3.12**	.62***
Self-esteem total	20	.88	3.45	0.94	3.54	0.86	-1.28	.67***
<b>Identification with</b>								
Father	5	.92	4.40	1.22	4.14	1.45	3.19**	.80***
Mother	5	.89	4.76	0.98	4.62	1.15	1.61	.62***

*Note.* BS = Benevolent Sexism; HS = Hostile Sexism; SDO = Social Dominance Orientation; RWA = Right Wing Authoritarianism;

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

### 3.2 Correlational Analysis

Table 7.2 presents the bivariate correlations among all the time 2 daughter variables. As expected, the pattern of inter-correlations among daughter variables was almost the same as at time 1. BS and HS were positively correlated (moderately to strongly) with each other and with RWA. BS and RWA had weak significant correlations with SDO. All the domains of self-

esteem were significantly positively correlated with each other, and identification with father was positively correlated with identification with mother.

The pattern of associations with self-esteem was also similar to the first study. Daughters who held more hostile attitudes toward women had lower self-esteem in several self-esteem domains as well as lower self-esteem overall. Daughters' BS, RWA, and SDO also had significant negative associations with school abilities, and SDO had a marginally significant negative association with career aspirations. A series of regression analyses examining the associations between daughter variables also replicated the findings in the first study such that daughters' SDO predicted their HS and RWA predicted both their BS and HS. However, one set of differences from time 1 emerged: career aspirations which previously had significant associations with four self-esteem domains now had no significant associations with any self-esteem scores.

Bivariate correlations were also conducted between time 1 daughter variables and time 2 daughter variables, and between time 1 parent variables (separately for mothers and fathers) and time 2 daughter variables. Overall the results of these correlational analyses were very similar to the correlations which have been reported and already discussed in the main study (see Appendix B1 and B2). The correlations are therefore not reported here because most of the information was redundant and the objective here was not to explore just the associations but the longitudinal changes presumably caused by a predictor variable at time 1 in the outcome daughter variables at time 2. This required regressing each time 2 outcome variable on a time 1 predictor variable while controlling for that outcome variable at time 1. Regression and path analyses were carried out for this purpose and are presented next.

Table 7.2

*Bivariate Correlations between Daughter Variables at Time 2 (N = 116)*

	BS	HS	RWA	SDO	Self-Regard	Social Confidence	School Abilities	Physical Appearance	Physical Abilities	Self-esteem Total	Career-Aspirations	Id.M
BS												
HS	.40***											
RWA	.47***	.41***										
SDO	.20*	.38***	.25**									
Self-Regard	-.04	-.36***	-.12	-.02								
Social Confidence	-.11	-.19*	-.08	.03	.51**							
School Abilities	-.27**	-.36***	-.27**	-.23*	.25**	.27**						
Physical Appearance	.02	-.29**	-.02	.00	.55***	.36***	.22*					
Physical Abilities	.08	-.02	.13	.09	.33***	.34**	.17†	.36***				
Self-esteem Total	-.08	-.34***	-.08	-.02	.75***	.74***	.52***	.73***	.68***			
Career Aspirations	-.00	-.15	-.13	-.15†	.07	-.02	.15	.11	.02	.09		
Identification with mother	.14	.01	.23*	.19*	.06	.12	.01	.10	.19*	.15	.13	
Identification with father	.12	.16†	.18†	.10	.09	.21*	.00	.10	.13	.17†	.00	.37***

*Note.* BS = Benevolent Sexism; HS = Hostile Sexism; SDO = Social Dominance Orientation; RWA = Right Wing Authoritarianism; Id.M = Identification with Mother; Id.F = Identification with Father.

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ , † $p < .10$

### 3.3 Regression and Path Analyses

Regression analyses were used to test whether the parent predictor variables and daughters' own predictor variables measured in the main study predicted any change in the daughter outcome variables measured in the follow-up study (while controlling for those outcome variables in the main study). Regression analyses were used because they provide a more rigorous test of such associations while controlling for a number of other related variables. Regression analyses were conducted for both within daughter analyses and parent-daughter analyses.

Cross-lagged analyses were next conducted for the investigation of within daughter associations. As mentioned before, cross-lagged analyses allow the simultaneous assessment of the longitudinal association in the hypothesized direction (such as daughters' HS predicting change in daughters' self-esteem) as well as the reverse direction (such as daughters' self-esteem predicting change in daughters' HS) and therefore provide further information about the possible causality between variables. Cross-lagged analyses were not conducted with parent predictor variables because parent variables were not measured in the follow-up study.

The results of the longitudinal regression and path analyses are presented in two sections as follows:

1. Section 1 examines the associations between daughters' own predictor and outcome variables over one year.
2. Section 2 examines the associations between parents' predictor variables and daughters' outcome variables over one year.

#### **4. Section 1: The Longitudinal Associations between Daughters' Predictor and Outcome Variables**

##### **4.1 Regression Analyses predicting Daughters' HS and BS**

The results of the first study had indicated that daughters' HS was cross-sectionally associated with their RWA and SDO. Daughters' HS was also cross-sectionally associated with their BS, self-esteem, and career aspirations. However, the likely causal direction of these associations could not be determined through cross-sectional analyses. The longitudinal data was used to test whether RWA and SDO and other daughter variables at time 1 predicted daughters' HS at time 2, controlling for daughters' HS at time 1. The results of the regression analyses for the prediction of HS are reported in Table 7.3.

The results indicated that daughters' RWA at time 1 predicted an increase in their HS at time 2 controlling for their HS at time 1 across all models. However, SDO and other variables were not significant in predicting an increase in HS overtime. Unexpectedly, daughters' BS was also not significant in the prediction of HS. Ambivalent sexism theory assumes that BS predicts HS over time within individuals and this has been supported by longitudinal research (Sibley, Overall, et al., 2007; Sibley et al., 2009). However, in the present study, the coefficient was close to zero and in the negative direction.

Table 7.3

*Prediction of Change in Daughters' Hostile Sexism from RWA and Other Variables Over One Year*

Daughters' Time 1 Variables	$\beta$ coefficients predicting daughters' HS at time 2					
	Step 1	Step 2	Step 3	Step 4	Step 5	Step 6
D.HS	.69***	.62***	.60***	.61***	.60***	.58***
P.Age	-.02	.01	.02	.01	.00	-.00
P.Income	-.08	-.07	-.06	-.06	-.06	-.07
P.Education	.03	.01	.07	.01	.01	.01
D.RWA		.18*	.23*	.23*	.23*	.23*
D.SDO		.03	.01	.01	.01	.00
D.EXT			.09	.09	.08	.09
D.CON			-.05	-.04	-.06	-.07
D.BS				-.03	-.05	-.04
D.SE global					-.09	-.09
Id.F						.10
Id.M						-.04
$R^2$ change		.03*	.01	.00	.01	.01
$R^2$	.48	.50	.51	.50	.51	.50
$F$	27.39***	20.07***	15.32***	13.52***	12.42***	9.59***
$df$	4,108	6,106	8,104	9,103	10,102	12,100

*Note.* D.RWA = Daughter's Right Wing Authoritarianism; D.SDO = Daughter's Social Dominance Orientation; D.BS = Daughter's Benevolent Sexism; D.HS = Daughter's Hostile Sexism; D.CON = Daughter's Conservation Values; D.EXT = Daughter's Extrinsic Values; D.SE = Self-esteem; Id.F = Identification with father; Id.M = Identification with mother.

\*  $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ .

Similar analyses were then carried out to identify longitudinal predictors of change in daughters' BS. However, none of the predictor variables were significant in predicting the longitudinal change in daughters' BS (see Appendix B3).

#### 4.2 Regression Analyses predicting Daughters' Self-Esteem and Career Aspirations

Daughters' HS was found to be associated with lower self-esteem in the cross-sectional data. Regression analyses were therefore conducted to see whether daughters' HS at time 1 predicted a decrease in daughters' self-esteem at time 2. However, the regression

analyses indicated that daughters' HS had no significant longitudinal effect on their self-esteem (see Appendix B4), although the beta coefficients were in the expected direction ( $\beta = -.11$  and  $-.13$  in different models). Daughters' BS and RWA, which were negatively associated with self-esteem in the cross-sectional analyses, were also not significant. However, SDO unexpectedly predicted an increase in daughters' self-esteem over time (see Appendix B4), an effect that had not been found in the cross-sectional analyses.

The results of the first study had indicated that daughters' HS was negatively associated with their career aspirations whereas BS was positively associated with career aspirations once HS was controlled. Regression analyses were conducted to investigate whether daughters' HS and BS had the same associations with daughters' career aspirations in the longitudinal analyses. However, HS and BS (and other social variables) did not significantly predict any change in daughters' career aspirations over time (see Appendix B5).

### 4.3 Cross-Lagged Analyses

A series of cross-lagged analyses were next conducted. Cross-lagged analyses are informative since they allow simultaneous modelling of the possible reverse longitudinal associations between time 1 and time 2 variables. For example, the cross-lagged models tested the associations shown in Table 7.3, while simultaneously modelling the possible reverse associations between HS at time 1 and RWA at time 2. Cross-lagged analyses therefore allow comparing associations in both directions in one analysis and also allow displaying the results of these associations (especially the reciprocal associations) more economically.

The cross-lagged analyses revealed that in addition to time 1 RWA predicting an increase in time 2 HS, time 1 HS simultaneously predicted an increase in time 2 RWA. Therefore, the analyses indicated a reciprocal association between daughters' HS and RWA. The path model with these cross-lagged effects is shown in Figure 7.1.

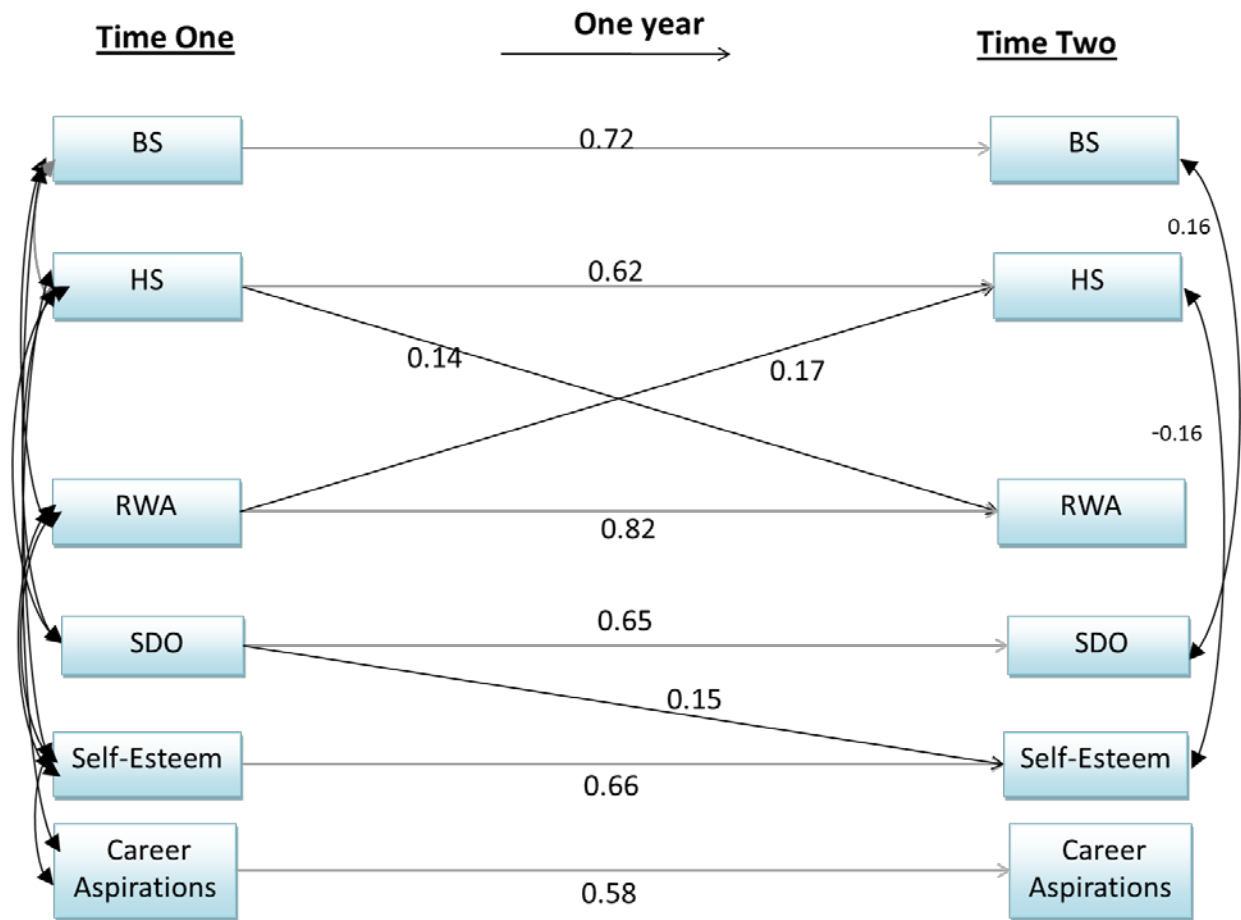


Figure 7.1: Path analysis model for daughters showing significant standardized path coefficients for cross-lagged effects of hostile sexism, RWA, and other daughter variables.

(The auto regressive paths are shown in lighter arrow)

All  $\beta$  coefficients were significant at the .05 level (two-tailed).

Chi-square = 44.55,  $df = 40$ ,  $p = .29$ , Chi-square/ $df$  ratio = 1.11, GFI = .99, NNFI = .99, CFI = .94, SRMR = .051, RMSEA = .032.

Cross-lagged analyses were also conducted for the associations between daughters' BS, SDO, self-esteem, and career aspirations. However, no other cross-lagged longitudinal associations between daughter time 1 and time 2 variables were found significant and these were therefore deleted from the model. The path from time 1 BS to time 2 HS was also nonsignificant



( $\beta = .09$ ) but the beta coefficient was in the expected direction in this model. The path from time 1 SDO to time 2 HS was nonsignificant ( $\beta = .07$ ). The paths from time 1 RWA and SDO to time 2 BS were also nonsignificant ( $\beta = .03$ , and  $-.03$  respectively). The path from time 1 BS and time 1 HS to career aspirations were nonsignificant ( $\beta = .05$ , and  $-.03$  respectively). The path from time 1 self-esteem to time 2 career aspirations was also nonsignificant ( $\beta = -.16$ ). The reciprocal paths for all of these associations were also nonsignificant. The paths between time 1 RWA and SDO with career aspirations and self-esteem were also nonsignificant except for the path between SDO and self-esteem. Daughters' time 1 SDO significantly predicted an increase in time 2 self-esteem as shown in Figure 7.1. This effect was consistent with regression analyses (see Appendix B4).

#### 4.4 Longitudinal Predictors of Domain-Specific Self-Esteem

An important aim of the study was to investigate whether women's endorsement of HS and BS lowered their self-esteem. The longitudinal regression and cross-lagged analyses revealed that there were no longitudinal associations between time 1 sexism and time 2 global self-esteem (with time 1 sexism controlled). However, analyses examining the effects of separate domains of self-esteem were also carried out, consistent with study 1. These analyses revealed that (1) HS at time 1 predicted a significant decrease in self-esteem in the domains of social confidence and school abilities over a period of one year, whereas at the same time (2) self-esteem in the areas of self-regard and physical appearance predicted a significant decrease in daughters' HS over a period of one year.

Daughters' BS and RWA did not predict any change in any of the self-esteem domains. Daughter' SDO, however, predicted an *increase* in two self-esteem domains (social confidence and school abilities) over a period of one year. These specific results are described in more detail below.

#### 4.5 Multiple Linear Regressions Predicting Domain-Specific Self-Esteem from HS and Other Variables

Multiple regression analyses were carried out first to investigate whether HS and other daughter variables at time 1 predicted a change in daughters' domain-specific self-esteem. Multiple regression analyses predicting school abilities and social confidence (the only significant results that emerged) are presented in Table 7.4 and 7.5.

Table 7.4

*Prediction of Change in Daughters' School Abilities from HS and Other Variables Over One Year*

Daughters' Time 1 Variables	$\beta$ coefficients predicting daughters' School Abilities			
	Step 1	Step 2	Step 3	Step 4
School Abilities	.64***	.67***	.66***	.69***
P.Age	-.02	-.02	-.04	-.04
P.Income	-.08	-.08	-.08	-.07
P.Education	-.09	-.09	-.08	-.08
D.HS	-.12	-.20*	-.16†	-.18*
D.SDO		.22**	.22**	.21**
D.RWA			-.09	-.04
D.BS			-.02	-.02
D.EXT				.03
D.CON				-.03
Id.F				-.12
Id.M				.02
$R^2$ change	.01	.04**	.01	.01
$R^2$	.45	.49	.49	.48
$F$	19.54***	18.81***	14.35***	9.64***
$df$	5,107	6,106	8,104	12,100

*Note.* D.RWA = Daughter's Right Wing Authoritarianism; D.SDO = Daughter's Social Dominance Orientation; D.BS = Daughter's Benevolent Sexism; D.HS = Daughter's Hostile Sexism; D.CON = Daughter's Conservation Values; D.EXT = Daughter's Extrinsic Values; Id.F = Identification with father; Id.M = Identification with mother.  
\*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ , †  $p < .10$ .

Table 7.5

*Prediction of Change in Daughters' Social Confidence from HS and Other Variables Over One Year*

Daughters' Time 1 Variables	$\beta$ coefficients predicting daughters' Social Confidence			
	Step 1	Step 2	Step 3	Step 4
Social Confidence	.55***	.56***	.57***	.51***
P.Age	.07	.05	.04	.05
P.Income	.05	.06	.05	.03
P.Education	-.06	-.07	-.07	-.09
D.HS	-.10	-.17†	-.19†	-.15
D.SDO		.16†	.16†	.16†
D.RWA			-.00	-.01
D.BS			-.02	-.02
D.EXT				.03
D.CON				.03
Id.F				.06
Id.M				.15
$R^2$ change	.01	.02†	.00	.02
$R^2$	.30	.32	.29	.30
$F$	10.56***	9.63***	5.65***	5.05***
$df$	5,107	6,106	10,102	12,100

Note. D.RWA = Daughter's Right Wing Authoritarianism; D.SDO = Daughter's Social Dominance Orientation; D.BS = Daughter's Benevolent Sexism; D.HS = Daughter's Hostile Sexism; D.CON = Daughter's Conservation Values; D.EXT = Daughter's Extrinsic Values; Id.F = Identification with father; Id.M = Identification with mother. \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ , †  $p < .10$ .

The results in Tables 7.4 and 7.5 indicated that HS at time 1 significantly predicted lower evaluations of school abilities at time 2 and marginally significantly predicted lower social confidence at time 2, after controlling for the time 1 school abilities and social confidence respectively. However, these associations became significant only when time 1 SDO was also controlled. SDO had a significant/marginally significant positive association with both of these variables but only when HS was controlled. These results suggest that SDO and HS each had a suppression effect on the other. Suppressor effects are hard to interpret as it is sometimes difficult to determine which variable is the suppressor variable (Tabachnick & Fidell, 2007). The marginally significant association between HS and social confidence was reduced to

nonsignificance in step 4 (Table 7.5) after adding CON and EXT values, and identification with parent variables. This reduction is not uncommon in larger regression models due to partialling of variables (see Lynam et al., 2006). The association remained significant (or marginally significant) in regression and path models with fewer variables (e.g., Figure 7.3).

Daughters' HS and SDO did not significantly predict change in self-esteem domains of self-regard, physical appearance, and physical abilities (see Appendices B6 to B8). Daughters' RWA, BS, EXT values, and CON values were also not significant in predicting any change in any domain of self-esteem (see Appendices B6 to B8).

#### **4.6 Cross-Lagged Effects of HS and Other Variables on Domain-Specific Self-Esteem**

As before, a series of cross-lagged analyses were next carried out. These cross-lagged models tested the associations between time 1 HS and time 2 self-esteem domain while simultaneously modelling the possible reverse associations between self-esteem domains at time 1 and time 2 HS. Self-esteem domains were entered separately in models to avoid multicollinearity due to their (mostly) strong positive correlations with each other. Initially all daughter social attitude variables, and career aspirations were entered in the models for cross-lagged analyses with domain-specific self-esteem variables. However, analyses revealed that daughter demographic variables, RWA, BS, and career aspirations did not have significant associations with any of the domain-specific self-esteem. These variables were therefore excluded from the models, except SDO which was included because of the significant positive associations with the school abilities and social confidence domains. SDO appeared to have a suppression effect on HS in the prediction of these self-esteem domains (see also Tables 7.4 and 7.5).

Cross-lagged effects also emerged between RWA and HS. Since these reciprocal cross-lagged effects have already been described and shown in Figure 7.1, they were not shown again

and RWA, like other variables, was excluded from the model because it had no significant association with domain-specific self-esteem. Excluding these variables had little effect on the results of the models. The results of the cross-lagged analyses for the prediction of school abilities and social confidence are shown in Figures 7.2 and 7.3. The auto regressive paths are shown in lighter arrows.

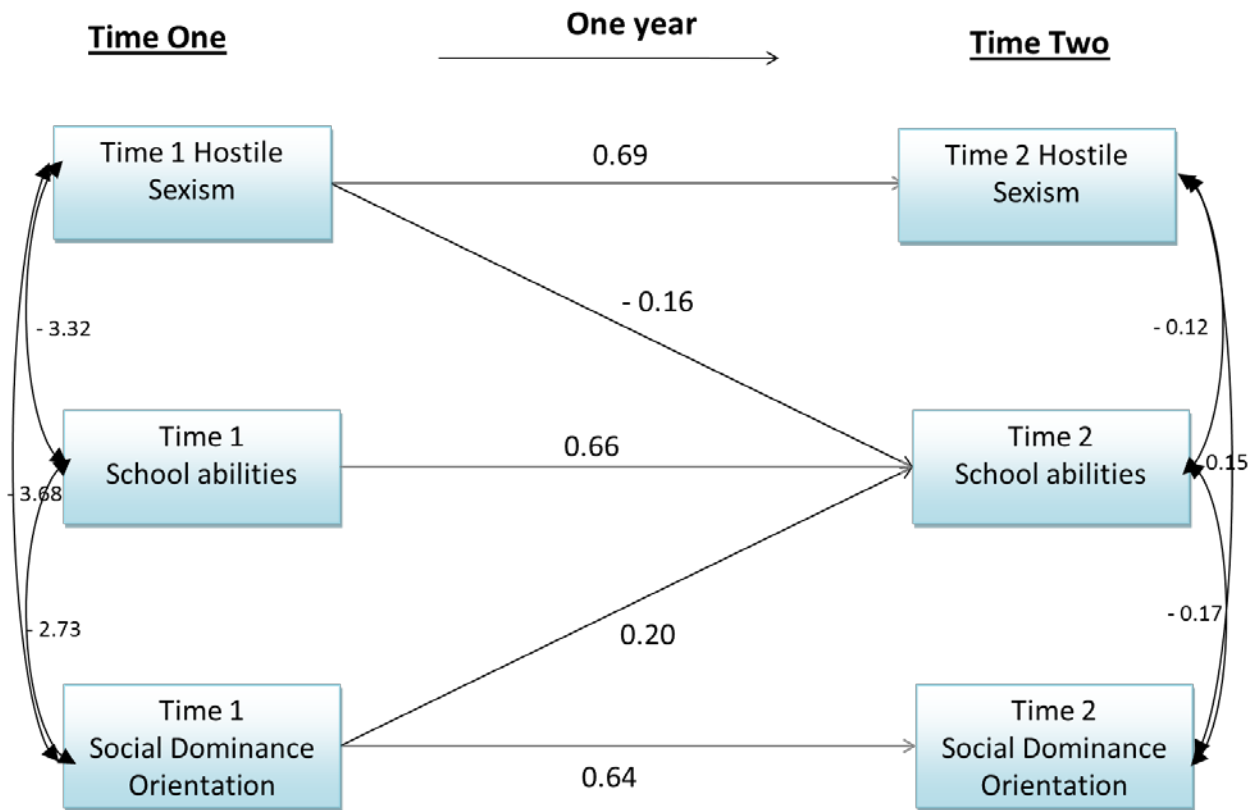
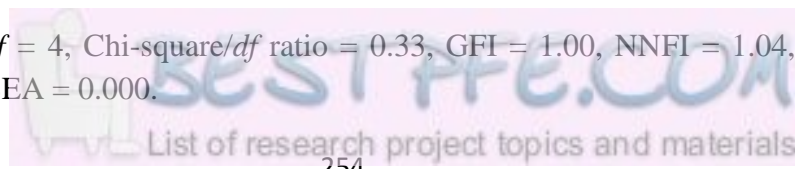


Figure 7.2: Path analysis model showing significant standardized path coefficients for the prediction of time 2 school abilities.

All  $\beta$  coefficients were significant at the .05 level (two-tailed).

Chi-square = 1.30,  $df = 4$ , Chi-square/ $df$  ratio = 0.33, GFI = 1.00, NNFI = 1.04, CFI = 1.00, SRMR = 0.028, RMSEA = 0.000.



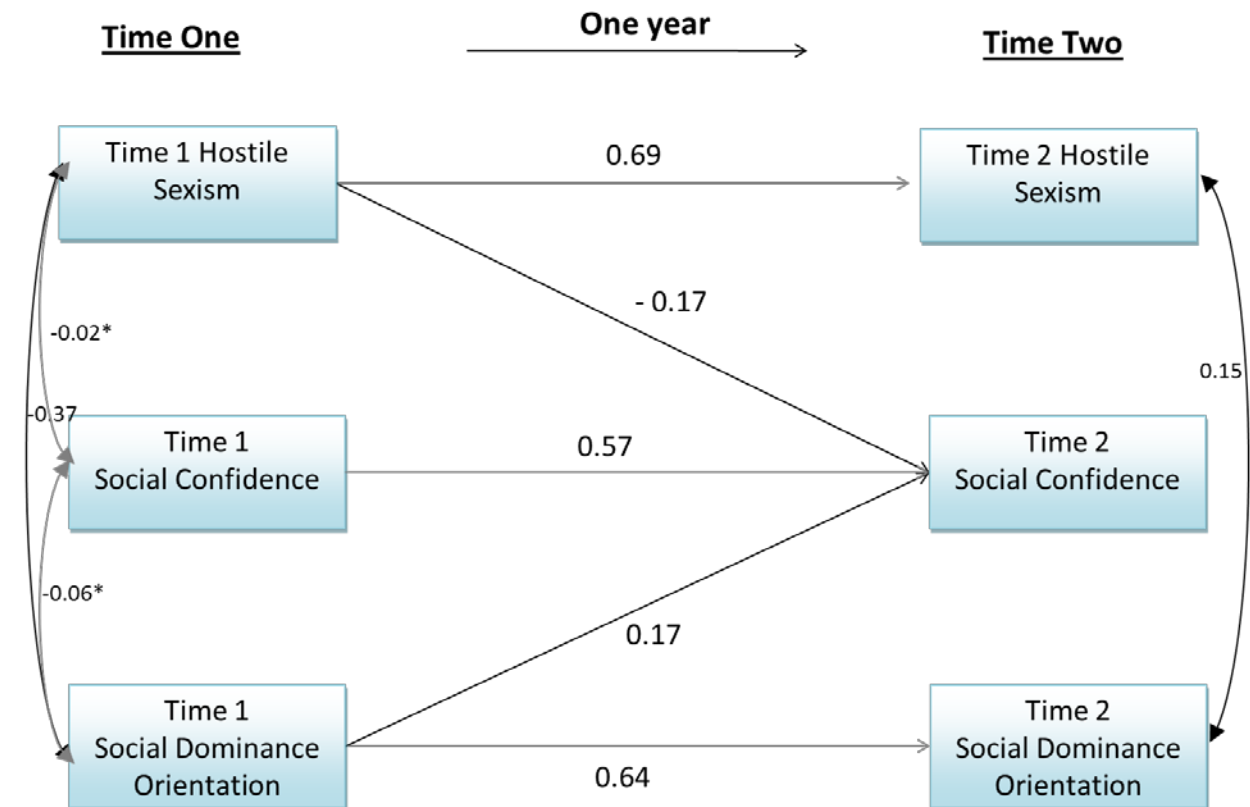


Figure 7.3: Path analysis model showing significant standardized path coefficients for the prediction of time 2 social confidence.

All  $\beta$  coefficients were significant at the .05 level (two-tailed).

\* Correlation coefficient was not significant at the .05 level.

Chi-square = 4.71,  $df = 6$ , Chi-square/ $df$  ratio = 0.79, GFI = 0.99, NNFI = 1.02, CFI = 1.00, SRMR = 0.032, RMSEA = 0.000.

Both models demonstrated good fit for the data. The reciprocal paths from time 1 school abilities to time 2 HS ( $\beta = -0.04$ ,  $t = -0.62$ ) and SDO ( $\beta = -0.03$ ,  $t = -0.41$ ) were not significant and were therefore deleted. Similarly, the reciprocal paths from time 1 social confidence to time 2 HS ( $\beta = -0.01$ ,  $t = -0.21$ ) and SDO ( $\beta = 0.01$ ,  $t = 0.08$ ) were not significant and were deleted. These models demonstrate that daughters' HS predicted a decrease in their self-esteem in the

domains of school abilities and social confidence over one year. At the same time, daughters' SDO predicted an increase in these self-esteem domains over one year.

#### 4.7 Multiple Regression Analyses Predicting HS from Domain-Specific Self-Esteem

Table 7.6

*Prediction of Change in Daughters' Hostile Sexism from Self-Regard and Other Variables Over One Year*

Daughters' Time 1 Variables	$\beta$ coefficients predicting daughters' HS at time 2				
	Step 1	Step 2	Step 3	Step 4	Step 5
D.HS	.69***	.65***	.59***	.58***	.58***
P.Age	-.02	-.06	-.03	-.02	-.02
P.Income	-.08	-.08	-.06	-.05	-.06
P.Education	.03	.04	.02	.01	.01
Self-regard		-.16*	-.16*	-.14*	-.14*
D.SDO			.03	.01	.01
D.RWA			.19*	.22*	.23*
D.BS			-.03	-.03	-.03
D.EXT				.07	.07
D.CON				-.03	-.05
Id.F					.09
Id.M					-.04
$R^2$ change		.02*	.03	.01	.01
$R^2$	.48	.50	.52	.52	.51
$F$	27.39***	23.82***	16.15***	12.97***	10.82***
$df$	4,108	5,107	8,104	10,102	12,100

*Note.* D.RWA = Daughter's Right Wing Authoritarianism; D.SDO = Daughter's Social Dominance Orientation; D.BS = Daughter's Benevolent Sexism; D.HS = Daughter's Hostile Sexism; D.CON = Daughter's Conservation Values; D.EXT = Daughter's Extrinsic Values; Id.F = Identification with father; Id.M = Identification with mother. \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ .

The multiple regression models predicting daughters' HS at time 2 from the self-regard domain of self-esteem and other variables at study 1 are shown in Table 7.6. Greater self-regard predicted significantly lower HS over the year, and this effect remained significant after controlling for daughters' RWA, SDO, BS, CON values, EXT values, and identification with parents (measured at time 1).

The multiple regression models predicting daughters' HS from daughters' physical appearance and other variables in study 1 are shown in Table 7.7. Similar to the results with self-regard, the more daughters' evaluated themselves positively in the physical appearance domain, the lower their HS one year later, although this effect was reduced to marginal significance when controlling for SDO, RWA, BS, CON values, EXT values, and identification with parents (measured at time 1). As mentioned earlier, this reduction is not uncommon in larger regression models due to partialling of variables (see Lynam et al., 2006). The association remained significant in regression and path models with fewer variables (see for example, Figure 7.5).

Table 7.7

*Prediction of Change in Daughters' Hostile Sexism from Physical Appearance and Other Variables Over One Year*

Daughters' Time 1 Variables	$\beta$ coefficients predicting daughters HS at study 2				
	Step 1	Step 2	Step 3	Step 4	Step 5
D.HS	.69***	.66***	.60***	.59***	.58***
P.Age	-.02	-.03	-.01	.01	.01
P.Income	-.08	-.09	-.08	-.06	-.07
P.Education	.03	.06	.04	.03	.02
Physical appearance		-.15*	-.13†	-.14†	-.13†
D.SDO			.03	.01	.00
D.RWA			.18*	.23*	.23*
D.BS			-.04	-.04	-.03
D.EXT				.07	.07
D.CON				-.08	-.09
Id.F					.09
Id.M					-.04
$R^2$ change		.02*	.02	.01	.01
$R^2$	.48	.50	.51	.51	.51
$F$	27.39***	23.63***	15.76***	12.84***	10.79***
$df$	4,108	5,107	8,104	10,102	12,100

*Note.* D.RWA = Daughter's Right Wing Authoritarianism; D.SDO = Daughter's Social Dominance Orientation; D.BS = Daughter's Benevolent Sexism; D.HS = Daughter's Hostile Sexism; D.CON = Daughter's Conservation Values; D.EXT = Daughter's Extrinsic Values; Id.F = Identification with father; Id.M = Identification with mother.  
\*  $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ , † $p < .10$ .



There were no other significant effects such as for the domains of social confidence, school abilities, and physical abilities, predicting a change in HS (The results of these models are shown in Appendices B9 to B11). Consistent with previous results, RWA also had a significant positive effect on HS at time 2, across all models.

#### **4.8 Cross-Lagged Effects of Domain-Specific Self-Esteem on HS and Other Variables**

A series of cross-lagged analyses were next conducted to investigate the simultaneous cross-lagged associations between daughters' sexism and other social attitude variables with domain-specific self-esteem. Initially, demographic variables, BS, RWA, SDO, and career aspirations were also included in the analyses but were not significant in the prediction of the self-esteem domains. Similarly the reciprocal paths from self-esteem domains to these variables were nonsignificant. Therefore these other variables with nonsignificant associations with domain-specific self-esteem were excluded from the model. The only significant effects of domain-specific self-esteem on social attitude variables that emerged were the negative effects of self-regard and physical appearance on HS over the year. These analyses, consistent with regression analyses, indicated that time 1 self-regard and physical appearance predicted a decrease in HS overtime controlling for time 1 HS. The final models showing the longitudinal effects of the self-esteem domains on HS are depicted in Figures 7.4 and 7.5 (with the autoregressive paths shown in lighter arrows).

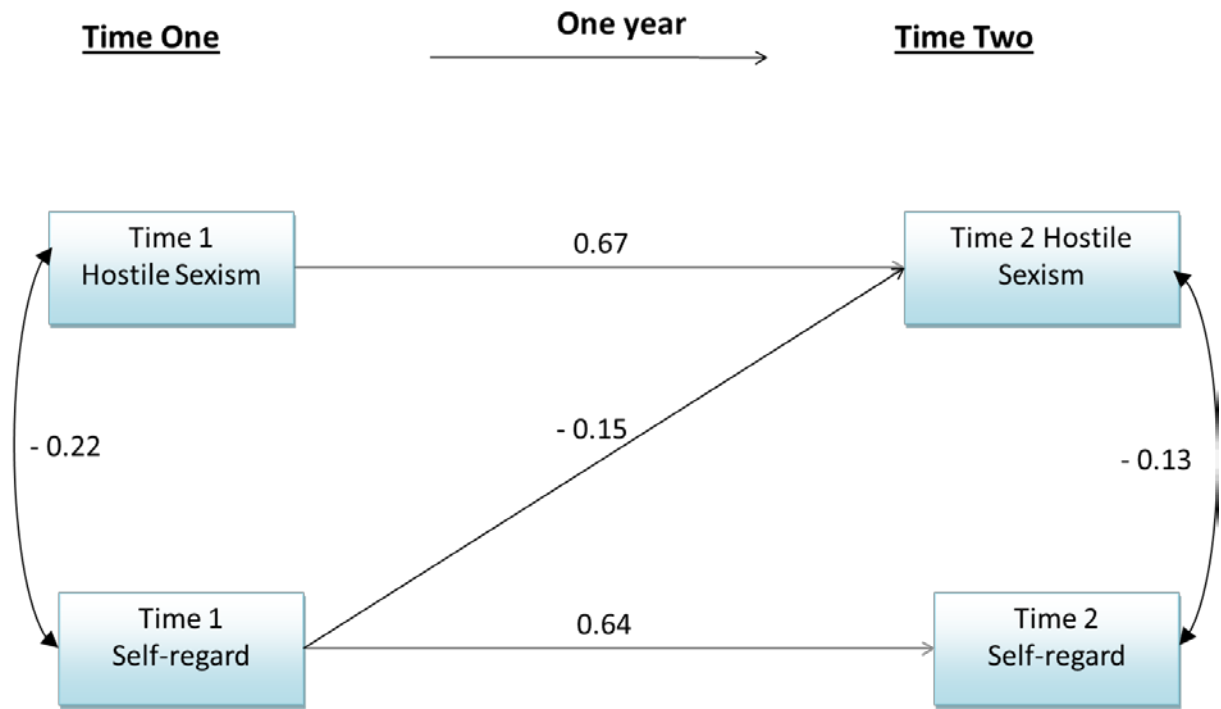


Figure 7.4: Path analysis model for daughters showing significant standardized path coefficients for the prediction of hostile sexism at time 2 from self-regard at time 1.

$\beta$  coefficient is significant at the .05 level (two-tailed).

Chi-square = 0.76,  $df$  = 1, Chi-square/ $df$  ratio = 0.76, GFI = 1.00, NNFI = 1.01, CFI = 1.00, SRMR = .024, RMSEA = .000.

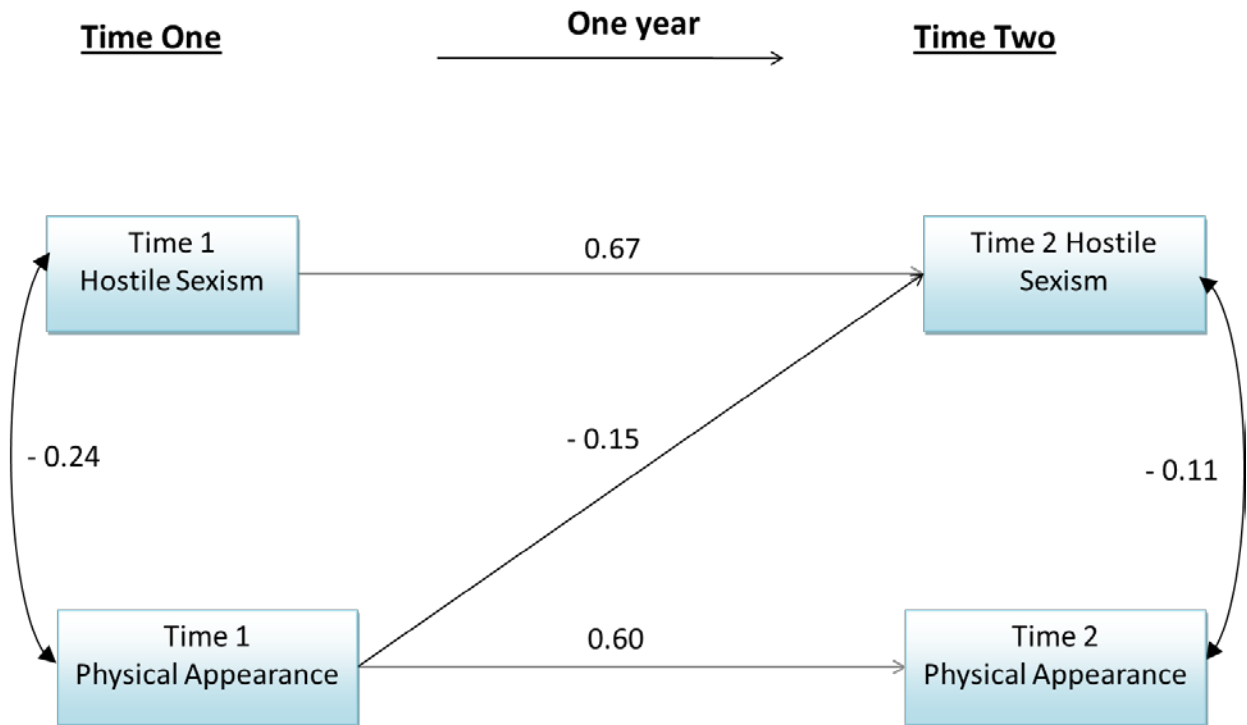


Figure 7.5: Path analysis model for daughters showing significant standardized path coefficients for the prediction of hostile sexism at time 2 from physical appearance at time 1.

All  $\beta$  coefficients were significant at the .05 level (two-tailed).

Chi-square = 0.04,  $df = 1$ , Chi-square/ $df$  ratio = 0.04, GFI = 1.00, NNFI = 1.05, CFI = 1.00, SRMR = .006, RMSEA = .000.

Both models had excellent fit for the data. The reciprocal path from time 1 HS to time 2 self-regard was not significant ( $\beta = -0.06$ ,  $t = -0.87$ ) and was therefore deleted. Similarly, the reciprocal path from time 1 HS to time 2 physical appearance was not significant ( $\beta = 0.02$ ,  $t = 0.20$ ) and was therefore deleted. The models show that daughters' who had high self-esteem in the domains of self-regard and physical appearance at time 1 had a decrease in their HS during the course of one year. Their HS did not predict a decrease in self-esteem in these domains over this period.

#### **4.9 Summary of the Results**

The results suggest a reciprocal relationship between RWA and HS. HS and self-esteem also showed a complex reciprocal association. Daughters who had higher self-esteem in the domains of self-regard and physical appearance expressed a decrease in HS after a period of one year, whereas daughters who had higher HS expressed a decrease in self-esteem in the domains of social confidence and school abilities after a period of one year. The decrease became significant after controlling for time 1 SDO suggesting that SDO and HS each had a suppression effect on the other. Daughters' SDO predicted an increase in the domains of social confidence, school abilities, and global self-esteem over a period of one year. Daughters' BS did not predict any change in total or domain specific self-esteem over a period of one year. Similarly, RWA, EXT values and CON values did not predict any change in total or domain specific self-esteem over one year.

#### **4.10 Discussion and Conclusion**

The results suggested that daughters who had higher RWA expressed an increase in HS after a period of one year. At the same time daughters who had higher HS expressed an increase in RWA after a period of one year. These results were consistent with previous theory and longitudinal research suggesting that social cohesion and collective security motivations (indexed by RWA) were closely associated with women's endorsement of HS (Sibley, Overall, et al., 2007; Sibley et al., 2009).

A central aim of the follow-up study was to explore the cross-lagged associations between women's endorsement of sexist attitudes and their self-esteem. The results of the longitudinal study supported the hypothesis that young women's high self-esteem would lead to lower HS but this effect was weak and only occurred for self-esteem in the domains of self-regard and physical appearance. Similarly, the longitudinal study supported the hypothesis that

women's endorsement of HS would lead to lower self-esteem, but this effect was again relatively weak and only occurred for self-esteem in the domains of social confidence and school abilities. Moreover, these latter associations were only significant when SDO was controlled, which simultaneously predicted an increase in these self-esteem domains.

That HS and SDO emerged as significant, but opposite, predictors of changes in social confidence and school abilities when both were controlled, suggests that each had a suppression effect on the other. Suppressor effects are hard to interpret as it is sometimes difficult to determine which variable is the suppressor variable (Tabachnick & Fidell, 2007). Nevertheless, the finding indicated that the two different forms of prejudice, which are positively correlated, had different effects on self-esteem. Researchers have reported and attempted to explain the inconsistent pattern of associations between prejudice and self-esteem before, as some research has shown a negative and others a positive association between prejudice and self-esteem (see, for example, Crocker et al., 1993). Therefore the finding that SDO and HS have an association with self-esteem in opposite directions is not necessarily inconsistent with previous literature.

SDO and HS are both forms of prejudice which are positively correlated yet they are distinct ideologies. The difference in the nature of these prejudices may be the reason why they have opposing influences on self-esteem. HS measured hostile attitudes about the participants' own group. Women who have hostile attitudes toward their own group may have lower self-esteem in certain domains because they may internalise the inferiority status associated with their group and thus experience a drop in social confidence and belief in their school abilities. On the other hand, social dominance orientation is "the extent to which one desires that one's in-group dominate and be superior to out-groups" (Pratto et al., 1994, p.742). Endorsing SDO may enhance a person's self-esteem by providing her with a (perceived) inferior group that makes her feel superior. For some theorists the purpose of prejudice is to maintain and protect self-esteem (Crocker et al., 1993). Social identity theory has suggested that expressions of prejudice

against out-groups and derogation of out-groups have a “self-restorative function, leading to higher levels of self-esteem” (Fein & Spencer, 1997, as cited in Onraet et. al., 2013, p. 510). Jost and Thompson (2000) found that one component of the SDO scale (opposition to equality) was positively related with self-esteem for European Americans and negatively for African Americans suggesting that for high status groups the association between anti-egalitarian attitudes and self-esteem may be positive and for low status groups it may be negative. The present suppression effect is similar to these findings so that HS predicted a decrease in women’s self-esteem domains because women themselves belong to the weaker group when they endorsed HS. However, they may at the same time belong to a strong or privileged group other than gender. Women may identify with privileged groups in terms of ethnicity, race, religion, or socioeconomic class. Women’s SDO may therefore be likely to predict higher self-esteem if they identify themselves with strong or privileged groups for group categorizations other than gender.

### **5. Section 2: The Associations between Parent and Daughter Variables**

Longitudinal analyses were used to examine the longitudinal associations between parent attitudes and especially parent sexist attitudes at time 1 and daughter variables at time 2 (controlling for parent variables at time 1). The analyses focused on investigating the longitudinal associations between (1) parents’ sexism and daughters’ sexism, (2) parents’ sexism and daughters’ self-esteem, and (3) parents’ sexism and daughters’ career aspirations. As mentioned earlier, parent variables were not measured in the follow-up study, therefore cross-lagged analyses could not be conducted for parent daughter associations. Multiple linear regression analyses were carried out to investigate longitudinal associations between parent and daughter variables.

### 5.1 The Longitudinal Associations between Parent Variables and Daughters' BS and HS

The cross-sectional analyses in the first study suggested that mothers' HS and BS significantly predicted daughters' HS and BS respectively, and that these associations were stronger than the role of fathers' BS and HS, although fathers' HS was weakly associated with daughters' BS. In addition, the cross-sectional analyses also indicated an interaction between mothers' HS and fathers' BS suggesting that mothers' HS was a significant predictor of higher daughters' BS but only when fathers were high in BS. These results were consistent with the idea that women sometimes endorse BS in reaction to HS. In the analyses that follow, the longitudinal data was used to test whether the same or similar effects would also be found for when parent BS and HS attitudes predicted changes in daughters' BS and HS over a period of one year.

Providing combined models including all parent variables was not feasible for the regression analyses given the smaller sample of daughters' with both time 1 and time 2 data ( $n = 113$ ) relative to what would have been a total of nineteen predictor variables (i.e., including daughters' BS at time 1 and parents' average age, income, education and both parents' HS, RWA, SDO, EXT and CON value promotion and career aspirations for daughters). Therefore, only parents' demographics and sexist attitudes were used to predict daughters' BS and, then in separate analyses, daughters' HS.

The results for parent variables at time 1 predicting daughters' BS at time 2 (controlling for daughters' BS at time 1) are presented in Table 7.8. Consistent with the analyses in study 1, father variables were entered first followed by mother variables. Overall, these results revealed that fathers' HS was a significant predictor of daughters' BS over time suggesting that the more fathers' had endorsed HS the more daughters' endorsed BS over time. Mothers' BS was not significant in predicting increased daughters' BS overtime, however, the effect was in the expected direction and did approach significance ( $\beta = .12, p = .13$ , two tailed test).

Table 7.8

*Prediction of Daughters' BS at Time 2 from Parent Variables at Time 1*

Time 1 Variables	$\beta$ coefficients predicting daughters' Benevolent Sexism				
	Step 1	Step 2	Step 3	Step 4	Step 5
D.BS	.68***	.67***	.64***	.60***	.58***
P.education	-.06	-.05	-.02	-.02	-.02
Family income	.00	-.00	.02	.06	.07
Parent age	-.13†	-.11	-.10	-.09	-.08
F.BS		.07	-.03	-.05	-.04
F.HS			.20*	.19*	.18*
M.BS				.13	.12
M.HS					.05
$R^2$ change		.00	.02*	.01	.00
$R^2$	.51	.51	.53	.54	.54
$F$	30.45***	24.55***	22.25***	19.73**	17.23***
$df$	4,108	5,107	6,106	7,105	8,104

Note; F.BS = Fathers' Benevolent Sexism; F.HS = Fathers' Hostile Sexism; M.BS = Mothers' Benevolent Sexism; M.HS = Mothers' Hostile Sexism.

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ , † $p < .10$

The results for parent variables at time 1 predicting daughters' HS at time 2 (controlling for daughters' HS at time 1) are presented in Table 7.9. When predicting daughters' HS, there were no significant longitudinal associations between parents' demographic and sexist attitudes, although there was a marginally significant positive association between mothers' HS and daughter's greater endorsement of HS at time 2 ( $\beta = 0.14$ ,  $p = .102$ , two tailed test).

Finally, a series of analyses were conducted examining whether the other parent variables (RWA, SDO, EXT and CON value promotion and career aspirations for daughters) predicted change in daughters' BS or HS at time 2. No significant associations emerged other than mothers' career-aspirations for their daughter was unexpectedly associated with an increase in daughters' HS over time ( $\beta = 0.18$ ,  $t = 2.77$ ) but given the number of analyses conducted this might well have been a chance effect.



Table 7.9

*Prediction of Daughters' HS at Time 2 from Parent Variables at Time 1*

Time 1 Variables	$\beta$ coefficients predicting daughters' Hostile Sexism				
	Step 1	Step 2	Step 3	Step 4	Step 5
D.HS	.70***	.69***	.68***	.68***	.64***
P.education	.03	.04	.05	.05	.04
Family income	-.08	-.08	-.07	-.07	-.05
Parent age	-.02	-.01	-.01	-.01	.01
F.BS		.04	.00	-.00	.02
F.HS			.08	.08	.04
M.BS				.00	-.04
M.HS					.14††
$R^2$ change		.00	.00	.00	.01
$R^2$	.49	.48	.48	.48	.48
$F$	27.39***	21.83***	18.29***	15.53***	14.15***
$df$	4,108	5,107	6,106	7,105	8,104

Note; F.BS = Fathers' Benevolent Sexism; F.HS = Fathers' Hostile Sexism; M.BS = Mothers' Benevolent Sexism; M.HS = Mothers' Hostile Sexism.

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ , †† $p = .102$

## 5.2 Path Analyses

The regression analyses indicated that fathers' HS predicted changes in daughters' BS whereas mothers' HS was marginally significantly associated with changes in daughters' HS. In order to integrate the results predicting both daughters' HS and BS at time 2 in one model with a clear visual diagram of both of these effects, path analyses models were conducted. The analyses of path models including parents' RWA, SDO, CON, and EXT value-promotion variables revealed that none of these variables were significant in longitudinally predicting daughters' sexist attitudes predictors and so these variables were excluded. The final model and results are depicted in Figure 7.6.

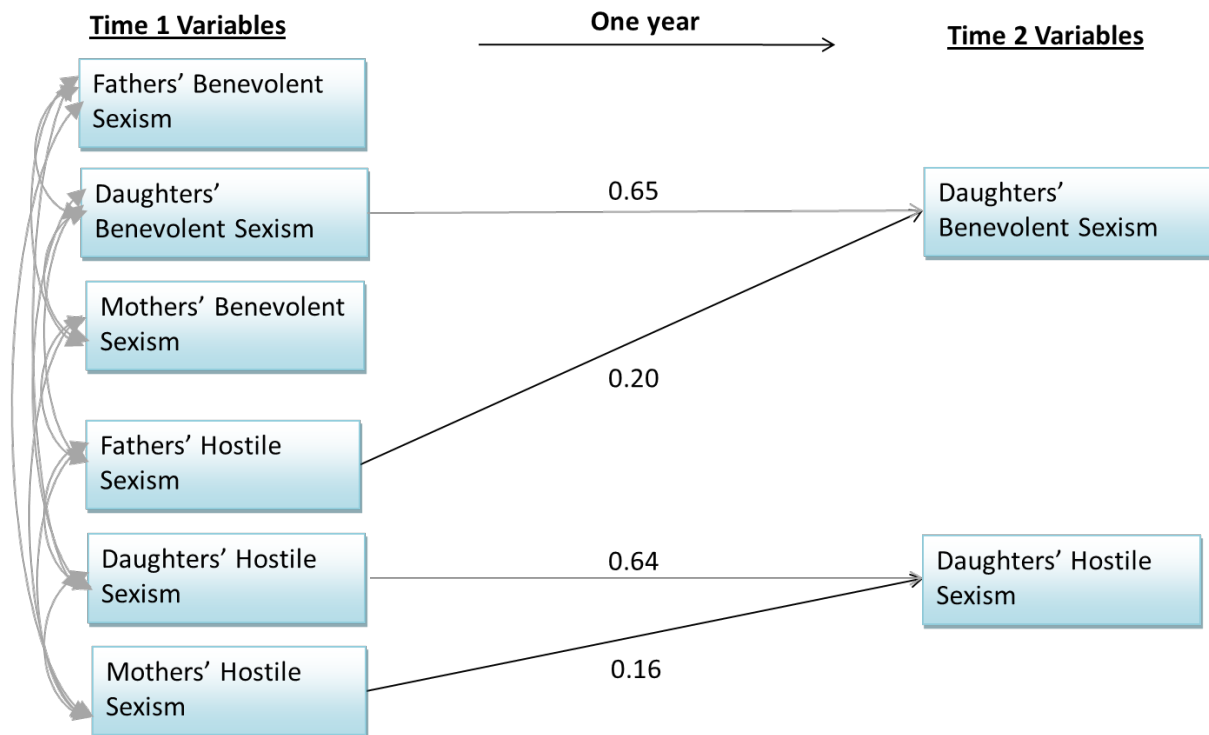


Figure 7.6: Path analysis model showing significant standardized path coefficients for the prediction of daughters' hostile and benevolent sexism at time 2 from parents' hostile and benevolent sexism at time 1.

All  $\beta$  coefficients were significant at the .05 level (two-tailed).

Chi-square = 5.97,  $df = 9$ , Chi-square/ $df$  ratio = 0.66, GFI = 0.99, CFI = 1.00, SRMR = .024, NNFI = 1.01, RMSEA = 0.00.

$\beta$  coefficient is significant at the .05 level.

The model showed good fit. After controlling for the within-measure longitudinal associations of daughters' time 1 BS and HS with time 2 BS and HS respectively, fathers' time 1 HS showed a weak but significant positive path to daughters' time 2 BS, and mothers' time 1 HS showed a weak but significant positive path to daughters' time 2 HS. These results suggest that the more fathers endorsed HS, the more daughters' endorsed BS over time, and the more

mothers endorsed HS, the more daughters' endorsed HS over time. The path from daughters' own time 1 BS to time 2 HS was also tested but was not found to be significant.

### 5.3 The Longitudinal Associations between Parent Variables and Daughters' Self-Esteem and Career Aspirations

The analyses examining the longitudinal associations between parents' sexism and daughters' self-esteem and career aspirations are presented next. As mentioned earlier, due to the smaller sample size and the large number of parent predictor variables, it was not feasible to use all parent variables in one model, and so separate regression models were used as described above. The results of parents' sexism variables at time 1 predicting daughters' self-esteem at time 2 (controlling for the within-measure longitudinal association of self-esteem) are presented in Table 7.10.

Table 7.10

#### *Prediction of Daughters' Self-Esteem after One Year from Parent Variables at Time 1*

Time 1 Variables	$\beta$ coefficients predicting daughters' Total Self-Esteem at Time 2				
	Step 1	Step 2	Step 3	Step 4	Step 5
Daughters' Self-Esteem	.67***	.68***	.68***	.68***	.68***
P.education	-.02	.00	-.01	-.00	-.01
Family income	-.01	-.01	-.01	-.03	-.03
Parent age	-.01	-.02	.02	.01	.00
F.BS		.11	.13	.14	.13
F.HS			-.04	-.04	-.03
M.BS				-.05	-.04
M.HS					-.03
$R^2$ change		.01	.00	.00	.00
$R^2$	.42	.43	.42	.42	.41
$F$	21.38***	17.67***	14.64***	12.51***	10.87***
$df$	4,108	5,107	6,106	7,105	8,104

Note; F.BS = Fathers' Benevolent Sexism; F.HS = Fathers' Hostile Sexism; M.BS = Mothers' Benevolent Sexism; M.HS = Mothers' Hostile Sexism.

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ , † $p < .10$

The results for parents' sexism variables at time 1 predicting daughters' career aspirations at time 2, (controlling for the within-measure longitudinal association of career aspirations) are presented in Table 7.11. The effects of parents' career aspirations for daughter are also shown in the last two steps.

Table 7.11

*Prediction of Daughters' Career Aspirations after One Year from Parent Variables at Time 1*

Variables	$\beta$ coefficients predicting daughters' total Career Aspirations					
	Step 1	Step 2	Step 3	Step 4	Step 5	Step 5
Daughters' Career aspirations	.57***	.55***	.54***	.53***	.53***	.52***
P.education	-.06	-.08	-.07	-.06	-.07	-.07
Family income	.01	.01	.02	-.02	-.01	.01
Parent age	-.09	-.12	-.11	-.14	-.13	-.13
F.BS		-.08	-.13	-.10	-.10	-.08
F.HS			.08	.10	.09	.09
M.BS				-.13	-.14	-.14
M.HS					.04	.04
M.CA						.11
F.CA						-.06
$R^2$ change		.01	.00	.01	.00	.01
$R^2$	.33	.33	.33	.33	.33	.33
$F$	14.79***	12.05***	10.10***	9.03***	7.87***	6.42***
$df$	4,108	5,107	6,106	7,105	8,104	10,102

Note; F.BS = Fathers' Benevolent Sexism; F.HS = Fathers' Hostile Sexism; M.BS = Mothers' Benevolent Sexism; M.HS = Mothers' Hostile Sexism; M.CA = Mothers' Career aspirations for daughter; F.CA = Fathers' Career aspirations for daughter.

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ , † $p < .10$

The results in Table 7.10 and 7.11 showed that parents' demographic and sexist attitude variables were not significant in the prediction of daughters' time 2 self-esteem and career aspirations. These results suggested that parents' sexist attitudes did not produce a change in daughters' self-esteem over time. The results of additional analyses revealed that parents' RWA,

SDO, EXT and CON values were also not significant in predicting any change in daughters' self-esteem over time.

#### **5.4 Additional Analyses for Interactive Effects of Parents' Sexism Variables**

The cross-sectional results in study 1 revealed that an interaction between mothers' HS and fathers' BS predicted daughters' BS. Whether this interaction emerged longitudinally was therefore tested using the procedure recommended by Aiken and West (1991). Daughters' time 2 BS was regressed on time 1 BS (thus controlling for the within-measure longitudinal association of time 1 BS with time 2 BS), mothers' HS and fathers' BS (centred), and the interaction term between mothers' HS and fathers' BS. The interaction was not significant. Other interactions between mother and fathers' HS and BS investigated in study 1 (see Table 6.4) were also tested but none were significant.

The cross-sectional analyses in study 1 also revealed that fathers' HS and BS interacted to predict daughters' self-esteem. Thus, analyses were conducted examining whether mother and fathers' HS and BS at time 1 interacted to predict a change in daughters' self-esteem at time 2 using the same analytic strategy described in Section 2. Out of the 24 possible interactions, two significant interactions emerged, (1) between fathers' BS and mothers' BS predicting change in daughters' self-esteem, and (2) between fathers' BS and mothers' HS in predicting a change in daughters' career aspirations. The large number of tests conducted increased the probability of chance occurrences and analyses of the simple slopes revealed that none of the simple effects were significant so these have not been reported in detail.

In summary, parent variables in general and parent sexism variables in particular were not found to predict change in daughters' self-esteem and career aspirations over time. Neither did parents' HS and BS appear to interact with each other at higher than chance levels to predict change in these variables.

## 5.5 Discussion

The objective of this section was to test whether parents' sexism and other variables predicted change in daughters' BS and HS over time. Consistent with cross-sectional associations obtained in study 1, and the proposition by Glick and Fiske (1996, 2001) that women endorse BS as a means of protection against HS, it was found that the more fathers' endorsed HS, the more daughters endorsed BS over time.

The longitudinal results also suggested that both parents' sexist attitudes might influence daughters' attitudes over a period of time, but mothers' and fathers' influence differed in nature. These results were consistent with study 1 which revealed that mothers were the primary role models for daughters in learning sexist (and other social) attitudes. On the other hand, fathers' influence mainly involved reactive defiance by daughters to HS. The longitudinal data revealed the same pattern again. Mothers' endorsement of HS was associated with increased endorsement of HS across time suggesting that daughters learned HS attitudes from their mothers, a process which continued to occur over time. On the other hand, fathers' influence appeared to be of a reactive nature. However, similar to mothers' influence, fathers' influence also continued to have an effect over a period of time. It is possible that fathers' greater power in the family might make their HS particularly threatening to daughters so that this would have continued over the course of the year to produce more BS in daughters in reaction to their fathers' HS. These results were consistent with previous experimental research suggesting that when encountering sexist attitudes, women noticed and recalled prejudiced statements more when they thought that the sexist person was more powerful, and felt and experienced more negative emotions when they were dependent on that person (Barreto, Ellemers, & Fiske, 2010). Overall, the longitudinal data revealed that the influence of parental HS on daughters' HS was different for mothers and fathers. Mothers' HS produced greater

acquisition of HS in daughters overtime whereas fathers' HS produced a defensive reaction in the form of higher BS over time.

The question could be posed why mothers' BS produced little change in daughters' BS with the effect in the expected direction ( $\beta = 0.12$ ,  $p = .13$ ) but only approaching significance and not attaining it. One reason for this may be that the time 1 mothers' and daughters' BS shared much more variance ( $r = .52$ ) than their HS ( $r = .34$ ). Because daughters' time 1 BS was already controlled, it also controlled for most of the effect mothers' time 1 BS may have had on daughters' BS. Therefore effects of mothers' BS on daughters' BS may have been attenuated.

**5.5.1 Nonsignificant longitudinal effects.** In addition to the longitudinal association of mothers' BS with daughters' BS, which approached but did not reach significance, there were a number of other nonsignificant associations in the longitudinal analyses which had been significant in the cross-sectional analyses and had therefore been expected to be significant in longitudinal analyses as well. These included associations such as fathers' HS and BS (and their interaction) predicting daughters' self-esteem and associations between daughters' own RWA with BS, daughters' SDO with HS, daughters' BS with HS and daughters' BS and HS with career aspirations. There are, however, several reasons why nonsignificant longitudinal effects would not necessarily rule out causal associations for those significant cross-sectional effects. First, it is not always possible, due to a lack of power, to detect effects in the longitudinal research. Because of low power the magnitude of cross-lagged and longitudinal associations are usually small and this has been noted by other researchers. Onraet, Dhont and Van Hiel (2014), for example, have pointed out that this may occur because a substantial part of the shared variance between predictor and outcome variables is eliminated by controlling the outcome variables at a prior time (i.e., by the inclusion of auto-regressive paths). This may be one of the reasons for the above-mentioned nonsignificant effects in the regression and cross-lagged analyses within daughter variables. Onraet et al. (2014) also suggested that the weak effects

typically obtained in longitudinal analyses may also be due to relatively short follow-up periods (such as the one year period in the current research and that using longer time lags may result in larger effects).

A further consideration is that some variables may have causal effects on other variables which are limited to certain temporal or developmental periods and may weaken or disappear at other temporal or developmental periods. This seems particularly relevant for parent-daughter associations because it seems plausible that causal influences that may have been operative in childhood or at younger ages may no longer be operative in late adolescence or early adulthood when daughters mature and become more independent of their parents. Thus, one can argue that significant longitudinal effects obtained for the daughters over a one year period in late adolescence or early adulthood would strengthen the argument for causality but the absence of such effects would not necessarily rule out causality.

## **6.2 Overall Conclusion**

The longitudinal analyses revealed a reciprocal association between daughters HS and RWA and also revealed complex, reciprocal relationships between HS and self-esteem domains. Thus supporting and strengthening the causal association between these variables. Daughters who had higher self-esteem in the domains of self-regard and physical appearance experienced decreased HS over the one year follow-up period whereas daughters who were higher in HS experienced decreased self-esteem in the domains of social confidence and school abilities. This effect of HS on self-esteem domains became significant only after controlling for time 1 SDO which predicted an increase in these self-esteem domains and also in global self-esteem. The longitudinal data analyses also supported the likelihood of a causal association between parent and daughters' sexist attitudes. Fathers' HS predicted an increase in daughters' BS, whereas



mothers' HS predicted an increase in daughters' HS over time. However, the parent variables did not predict any change in daughters' self-esteem or career aspirations over time.

## CHAPTER 8: GENERAL DISCUSSION AND CONCLUSION

**1. General Discussion**

The findings reported in this thesis focus on four main issues. The first of these was how daughters' and parents' own social attitude and background variables predicted their sexist attitudes and relevant related variables. The variables that were studied in relation to sexist attitudes were parental value promotion and parental career aspirations for their daughters in the case of parents. In the case of daughters, the variables that were studied in relation to sexist attitudes were their self-esteem and actual career aspirations. The second and most important issue was how parental variables and in particular parents' sexist attitudes, predicted daughter sexist attitudes, self-esteem, and career-aspirations. The third issue was how daughter variables might mediate associations between parent predictors and daughter outcomes. And finally, the fourth issue was whether longitudinal follow up of the daughters would support possible causal effects among the daughter outcome variables (sexism, self-esteem, career aspirations) and for parent variables on these daughter outcomes. This chapter will sum up the major conclusions suggested by the findings for each of these four issues, and where this has not been done previously, briefly discuss their implications. This will be followed by a short discussion of the major limitations of this research and possible directions for future research.

**1.1 Daughter and Parent Variables Predicting their own Sexism and Related Variables**

**1.1.1 Prediction of sexism from RWA and SDO.** The differential motivational model (Sibley, Wilson, et al., 2007) was supported for fathers, and was also partially supported for daughters but not for mothers. In fathers, RWA was the primary predictor of BS, and SDO the primary predictor of HS. In daughters, RWA was the primary predictor of both BS and HS.

Daughters' SDO also predicted HS, but the association was weaker than the association between daughters' RWA and HS. In mothers, on the other hand, both BS and HS were only predicted by RWA. The results for mothers and daughters supported the argument that in women the reason for endorsing HS was mainly a desire for collective security and social cohesion (indexed by RWA) rather than a desire for group dominance (indexed by SDO) (Sibley, Overall, et al., 2007; Sibley, Wilson, et al., 2007). The results of the longitudinal study supported this hypothesis again, indicating a likely causal and reciprocal association between HS and RWA. It appeared that for women, higher RWA predicted increased HS, or hostile attitudes to their own group, over the one year follow up period. At the same time, it seemed that women's greater HS or hostility against other women also resulted in increased RWA over that period.

RWA also predicted higher BS in women in the cross-sectional data but the association was not replicated in the longitudinal analyses. There are, however, several reasons why this might not invalidate the cross-sectional findings which have been discussed in the previous chapter. In short, it was noted that absence of significant longitudinal effects did not necessarily rule out causality. These longitudinal effects may become significant with larger samples, a longer time period, or may have been evident at earlier developmental periods but no longer be operative in late adolescence or early adulthood.

Together these results imply that in order to combat sexist attitudes in women it may be necessary to try and combat related motives or ideological attitudes, such as RWA, as well as directly combating benevolent and hostilely sexist attitudes. It may be that efforts to decrease RWA and increase gender egalitarian attitudes need to go hand in hand.

### **1.1.2 Daughter predictors of their own self-esteem and career aspirations.**

Daughters' higher HS was associated with lower self-esteem. The results of the longitudinal study supported the hypothesis and strengthened the likelihood that there may be genuine causal effects of HS on certain domains of self-esteem (especially school abilities and social

confidence). At the same time, certain self-esteem domains (physical appearance self-esteem and self-regard) had likely causal effects on lower HS over a period of time. These results were consistent with the concept of collective self-esteem (Crocker & Luhtanen, 1990) and social identity theory (Tajfel & Turner, 2004) and supported the assumption that a negative view of one's social group is likely to be associated with lower personal self-esteem. In addition, women's lower personal self-esteem (in certain domains) may result in their having lower collective self-esteem and a more negative view of all women. These results have important implications for women in suggesting that acceptance of ideologies supporting male dominance such as HS or BS will not benefit women psychologically. Women endorsing sexist ideology may endorse more system justifying beliefs and may therefore also be able to enjoy some life satisfaction as research has suggested (e.g., Connelly & Heesacker, 2012; Napier et al., 2010). However, the present research suggests that endorsement of hostile sexist attitude does ultimately seem to harm their self-worth.

Daughters' HS predicted lower career aspirations and BS (after controlling for HS) predicted higher career aspirations in the cross-sectional data, which was consistent with the opposing process model of BS (Sibley & Perry, 2010). The findings for HS were in agreement with previous research (Moya et al., 2000; O'Brien & Fassinger, 1993; Steele & Barling, 1996) whereas the findings for BS were inconsistent with some earlier research (Barreto, Ellemers, Piebinga, et al., 2010; Rudman & Heppen, 2003). It is possible that the weak positive effect of BS on career aspirations (after controlling for HS) may be limited to New Zealand. Although the associations were not replicated in the current longitudinal analyses, they have previously been supported in the longitudinal analyses conducted by Sibley and Perry (2010) in their New Zealand research. It does seem therefore that further research is required with different research designs and samples to assess the robustness of the associations, the likely causalities, and the generalizability of the findings.

**1.1.3 Parent variables predicting parental value promotion and parental career aspirations for daughters.** The cross-sectional results suggested that more hostilely sexist mothers and fathers and benevolently sexist mothers promoted more extrinsic relative to intrinsic values for daughters. This was consistent with expectations, although no previous research has investigated the issue. Fathers' BS was positively associated with higher career-aspirations for daughters. This was a new finding which was inconsistent with previous research indicating a negative association between people's BS and support for women's career aspirations (e.g., Christopher & Wojda, 2008). However, given the familial in-group bias in the parents' sample, this association had been expected to operate in a different way than it would for people in general. Thus, the positive association between fathers' BS and career aspirations for daughters was as hypothesized and possibly reflected fathers' desire to protect their daughters' welfare.

## **1.2 Parental Predictors of Daughter Sexism, Self-esteem, and Career Aspirations**

**1.2.1 Parental predictors of daughters' sexism.** The results suggested that mothers were the primary role models for daughters' acquisition of sexist and other social attitudes, as well as daughters' values and career-aspirations. Most of the effect sizes between mother and daughter variables were in the weak or moderate range with the strongest association being between mother and daughters' BS. Mothers' HS was also found to predict daughters' HS in longitudinal analyses, thus supporting a causal effect of mother attitudes on daughter attitudes.

Father variables, in comparison to those of the mothers, had weaker or nonsignificant effects. Fathers' HS, however, predicted higher BS in daughters and although the effect was weak it was obtained in both cross-sectional as well as longitudinal analyses, thus supporting a causal association. This was consistent with theoretical proposals that BS might be a defensive reaction to societal and in this case fathers' HS (Fischer, 2006; Glick et al., 2000). According to

Fischer, women being in a weaker position may be “working with what they have got” to change a pervasively hostile environment (Fischer, 2006, p 415). These results support Fischer’s argument and suggest that the motivational nature of BS for women may be complex. In addition to being a system justifying ideology motivated by RWA, BS may also be, for some women, a safer way of coping with certain situations.

**1.2.2 Parental predictors of daughters’ self-esteem.** The cross-sectional results for fathers’ hostilely sexist attitudes on daughters’ higher self-esteem were unexpected. Parents’ sexist attitudes can harm daughters’ self-esteem at many levels. Parents’ expression of sexist attitudes may be perceived as a form of rejection by the daughter (especially in extremely sexist societies) therefore directly harming daughters’ self-esteem. Parents’ sexist attitudes are also likely to affect their socialization of daughters in way which may indirectly harm daughters’ self-esteem. The present cross-sectional results showed that mothers’ HS and BS did not predict daughters’ self-esteem directly but did predict mothers’ promotion of more extrinsic values thereby resulting in lower self-esteem indirectly. However, fathers’ HS was unexpectedly associated with higher self-esteem in daughters. Since the unexpected effect was weak it may have been significant due to chance. Consequently, replication of these findings is needed to establish their validity. On the other hand, the results were generally consistent over a variety of analyses and there were three seemingly different ways in which this effect manifested itself. First, it was shown in an interaction effect such that fathers who expressed higher HS but lower BS had daughters with higher self-esteem. Second, it was manifest through a suppression effect so that fathers’ higher HS predicted higher daughters’ self-esteem when fathers’ BS and SDO were controlled. And finally, it also emerged as an entirely different pathway in which fathers’ higher HS indirectly predicted higher daughters’ self-esteem by increasing daughters’ identification with mothers. These different mechanisms with the same unexpected finding suggest that the effect may be robust.

This positive effect was explained in terms of the stereotype content model (Fiske et al., 2002) and Eckes (2002) research proposing that career-woman, feminists, and other non-traditional but economically successful groups of women were characterised by envious stereotypes. To recapitulate, people who express HS toward such women are also more likely to see them as highly competent as well as a threat to men's dominance. Moreover, people who see traditional women from a benevolently sexist perspective are likely to see them as incompetent. Thus, fathers who endorse BS may be protective and caring of their daughters but implicitly convey to them that they are weak and incompetent. In contrast, fathers who endorse only HS may implicitly convey to their daughters that they could be competent and capable of threatening men's power. From this perspective, it appears plausible that fathers' HS was associated with higher self-esteem in daughters. The plausibility of this is strengthened because the effect occurred only when fathers had lower BS. This perspective also partially explained the suppression effect so that fathers' higher HS predicted higher daughters' self-esteem only when the negative effects of fathers' BS (and SDO) on daughters' self-esteem were controlled.

These effects were not replicated in the longitudinal analyses. These results have a number of implications which are discussed in the next section.

**1.2.3 Parental predictors of daughters' career aspirations.** Parent variables predicted relatively little variance in daughters' career aspirations. Mothers' career aspirations consistently predicted daughters' higher career aspirations. The unexpected finding for career aspirations was that fathers' HS indirectly predicted higher daughters' career aspirations through greater identification with the mother. The effect was only marginally significant but consistent with the unexpected effect for HS in the prediction of self-esteem. Father's BS had a weak significant effect on lower career aspirations, after controlling for SDO and HS. These effects, however, were not replicated in the longitudinal analyses.

One reason for the opposite effects of BS and HS on daughter outcome variables lies in the implicit nature of BS. Previous research has shown that women did not seem able to perceive implicit sexist attitudes as discriminatory (Barreto & Ellemers, 2005a, 2005b). Barreto and Ellemers (2005b) showed that when women were exposed to explicit sexist views they reacted with anger but when they were exposed to implicit sexist views they reported anxiety instead of anger. Consistent with this finding, Barreto, Ellemers, Scholten and Smith (2010) carried out experimental research to study the psychological consequences of inappropriate identity categorization. They demonstrated through experimental research that women who faced explicit gender based categorical treatment instead of treatment based on their personal identity showed more anger and resistance to the treatment. In contrast, women who faced implicit gender based categorical treatment reported negative self-evaluations and lowered self-esteem.

These findings for the prediction of daughters' self-esteem and career aspirations have a number of implications. They seem to imply that fathers' higher in HS might have in certain respects actually had some more positive effects for their daughters than fathers' with gender egalitarian attitudes. However, these results should be interpreted with regard to context. BS and HS attitudes do not usually occur in isolation but are positively correlated ( $r = .53$ , for fathers in the present sample). Fathers' higher HS was also correlated with mothers' HS and daughters' higher HS which were ultimately associated with lower self-esteem and career aspirations. In addition, these results may be limited to the present sample with all fathers likely to have relatively gender egalitarian attitudes. The environments in which these attitudes are expressed also need to be taken into account. In relatively egalitarian societies and households, daughters may be able to reject their father's overtly hostile sexist attitudes relatively easily.

The results also imply that fathers' BS might have been more damaging than HS for daughters' self-esteem. Although a certain amount of protective paternalism was expected of



fathers, their BS did not have any positive effects on daughters' self-esteem, not even, as reported by Oswald et al. (2012), in the physical appearance domain. Although the "paternalism" inherent in fathers' genuine affection may sometimes be indistinguishable from one based on a belief in women's weaker and inferior status, it seems that the overall effects of the two on daughters are in opposite directions and quite distinguishable.

### **1.3 Mediators between Parent Predictor and Daughter Outcome Variables**

One of the aims of the research was to explore the variables that might mediate associations between parent predictors and daughter outcome variables. The findings suggested that daughters' social attitudes (RWA and SDO) were significant mediators. Thus, parents with higher RWA had daughters with higher BS and lower self-esteem because these daughters were also higher in RWA. Similarly, mothers with higher SDO and lower career aspirations for their daughters had daughters with higher HS because these daughters were also higher in SDO. Identification with mother also emerged as a significant mediator between fathers' HS and daughters' self-esteem and between mothers' conservation values and daughters' self-esteem. The implications of identification with their mother for daughter self-esteem have already been discussed in Chapter 6.

### **1.4 The Longitudinal Data and Possible Causal Effects**

The longitudinal effects provided support for the possible causal effects of some of the predictors on daughter outcome variables. The cross-lagged effects within the daughter variables and some of the possible causal effects of parental sexism on daughters' sexism have already been mentioned and discussed. As mentioned previously, the absence of significant longitudinal effects of parental variables on daughters' self-esteem and career aspirations did not necessarily invalidate the cross-sectional findings. The power of the longitudinal study to detect these effects would be limited so nonsignificant findings there would not necessarily refute causal

effects. An important reason, for example, for the absence of significant longitudinal effects of parent variables in this research could be that parent variables may have had causal effects on daughters' self-esteem and career aspirations in earlier life (during childhood or early adolescence) but not necessarily be exerting causal affects for the daughters as young adults when this research was done.

### **1.5 Conclusions**

Overall, the findings of this research replicated prior findings on the role of RWA in the prediction of women's sexist (both BS and HS) attitudes. In addition, this research also indicated links between women's HS and lower self-esteem which was supported by longitudinal findings suggesting that there might be reciprocal causal associations between HS and domain specific aspects of self-esteem. In addition, the findings also suggested effects of mothers and fathers' sexism on daughters' sexism, self-esteem, and career aspirations.

The findings also suggested important differences in the effects of parental HS and BS on daughters as well as differences in the nature of the influence that mothers and fathers' seemed to exert on daughters. Mothers appeared to be the primary role models for the direct acquisition of sexist attitudes as well as other social attitudes, values, and career aspirations. Fathers' attitudes did not appear as important in this respect and seemed to be of a different nature. For example, fathers' HS seemed to result in more endorsement of BS as a defensive strategy by the daughters. Additionally, fathers' sexist attitudes significantly predicted daughters' self-esteem, while mothers' sexist attitudes were nonsignificant. The findings also indicated damaging effects of fathers' BS on daughters' self-esteem and career aspirations, and suggested that fathers' BS was more harmful than HS, with the latter seemingly having unexpectedly positive though weak effects on daughters self-esteem and indirectly also on their career aspirations.

## 2. Limitations of the Research

There are a number of limitations on the current research findings, with several suggesting avenues for future research. One relates to the generalizability of the results. These findings may be representative of university students only and may not be generalizable to the general population. It is possible, for example, that women's BS predicts higher career aspirations (controlling for HS) only in university students and not for less educated women. The participants also belonged to a relatively high socio-economic class and the results may be different for participants from lower socio-economic backgrounds.

The results may also be limited to specific types of families. One of the strengths of this research lay in its triadic data with three participants from each family. This made it possible to investigate the attitudes of both parents simultaneously and to investigate interactions between mother and father variables. However, the requirement for triadic data also limits the generalizability of the findings. All the participating families were intact families with parents having been in the relationship for a relatively long time suggesting better adjustment, and had relatively successful daughters studying at university. Effects obtained in this research might therefore not generalize to single parent families or families with separated parents.

These results may also be limited to relatively egalitarian societies and to individualistic cultures and may not be generalizable to societies with traditional gender roles or societies with a collectivist culture. For example, fathers' endorsement of HS may have different implications for daughters' self-esteem and career aspirations in societies where discrimination against women is rampant and where hostility against women is seen in practices such as female foeticide and infanticide.

This research was also limited in its capacity to make firm causal interpretations due to its heavy reliance on path analysis and correlational data. The causal assumptions underlying the

models and analyses were largely based on reasonably well established theory and previous research (Adorno et al., 1950; Altemeyer, 1996; Duckitt, 2001; Duriez et al., 2008; Feather & McKee, 2008; Heaven & Connors, 2001; McFarland, 2010; Sibley, Wilson, et al., 2007). Nevertheless, as noted previously, these were still just assumptions that might in future not be validated. Thus, it may emerge that widely accepted causal relations such as RWA and SDO causing prejudice or sexism might not be validated and that such variables might simply be correlated variables. Thus, many of the causal assumptions underlying models and analyses in this research, although they are theoretically plausible, do still need to be validated by longitudinal and experimental research.

The assumption that parental attitudes influenced daughters' attitudes was based on theories such as psychoanalysis, behavioral and social learning theories, and subsequent research (Bandura, 1977; Maccoby, 1992; Steinberg, 2001) but it may also not be true and some recent research has stressed the dyadic nature of the family relationships and the role of other socializing agents (McHale, et al., 2003). Nonetheless, Maccoby (1992) emphasised that the "enormous asymmetry in power and competence between adults and children" does make it likely that parents will have a more influential role than any other socialisation agent (p. 1006).

The research was also limited in the degree to which it could deal comprehensively with sexism in parents. Thus, there were many interesting and important questions that were simply beyond the scope of this research. These included issues such how and why parents endorse sexism, how raising daughters may affect parents' own BS and HS (do they become more egalitarian or more benevolently sexist?), and how parents' sexism effects parents' actual behaviour. Issues such as these require further research.

### 3. Opportunities for Future Research

Research on how parents' sexism might influence daughter's social attitudes is still in its infancy with relatively little research done thus far. Moreover, as noted earlier, these studies have been limited by the restricted variable sets they have examined, by their inability to clarify how parental effects might be mediated, and by their inability to make strong causal inferences because they relied on quantitative, self-report measurement methodologies. The most important priorities for future research would seem to be to address these limitations.

Future research needs to explore the mediating variables through which parent sexist attitudes influence daughter outcomes. For example, two such possible mediating (or moderating) variables that were not investigated in present research could be parental attachment to daughter and daughters' gender identification. The present research findings did seem to suggest the possibility that these two factors might be important but they were not directly measured in this research. It does seem likely that parents who are more attached to their daughters will exhibit attitudes and decisions favouring their daughters' interests regardless of their hostile attitudes to women in general. Similarly, women's gender identification may be important because it has been found to moderate women's endorsement of SDO and their performance self-esteem in response to HS (Dardenne et al., 2007; Wilson & Liu, 2003). Whether women's gender identification moderates their endorsement of HS or BS, or moderates the association between parent's sexism and daughters' self-esteem should also be investigated.

Future research should go beyond pure correlational research designs and conduct experimental studies to draw strong inferences. Finally, future research should also test the findings in different cultures and samples. It will be intriguing for example to learn whether fathers' HS predicted daughters' self-esteem positively in different cultures and samples.

#### **4. Concluding statement**

This research programme was designed to investigate the phenomena of BS and HS in parent-daughter relationships. As such, its main foci were to investigate factors predicting BS and HS in parents and daughters, and what parental factors predicted (both cross-sectionally and longitudinally) their daughters' sexism, self-esteem, and career aspirations.

Gender equality is good not only for women but for society as a whole. Those countries in the world with the strongest economic indicators also have the greatest female empowerment. Thus, Rudman and Glick (2008) asserted that "if democratic societies foster global harmony and peace, then women's issues should be everyone's concern" (p. 309). Unfortunately sexist ideology is still prevalent at a societal as well as familial level and benevolent sexism plays an important role in perpetuating gender inequality. The deceptive nature of BS seems to be an important factor making well-meaning and affectionate parents less able to recognize it as prejudice with potentially harmful effects on their daughters. It is important, therefore, to identify and further investigate the nature and dynamics of both BS and HS in parent-daughter relationship in order to eradicate sexism and achieve gender equality at a familial level and ultimately at a societal level.

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## APPENDICES

### 1. Appendix A

This appendix contains the tables for analyses whose results are mentioned but not reported, in their entirety in Chapter 6.

#### Appendix A1

Table A1

*Hierarchical Models Predicting Daughters' BS from Mother and Father Variables*

Parent Variables	$\beta$ coefficients predicting daughters BS							
	$\beta$ coefficients predicting daughter BS from mother variables				$\beta$ coefficients predicting daughter BS from father variables			
	Step 1	Step 2	Step 3	Step 4	Step 1	Step 2	Step 3	Step 4
Education	-.08	.01	.03	.04	.03	.05	.08	.09
Income	-.03	.02	.05	.06	-.17†	-.06	-.02	-.02
Age	-.29***	-.18*	-.12	-.13	-.23**	-.13	-.13	-.14
RWA		.41***	.25**	.22*		.28**	.16	.10
SDO		.02	-.02	-.04		.02	-.01	.01
BS			.37***	.34***			.09	.10
HS			-.02	-.01			.22†	.22†
CON				.11				.11
EXT				.01				-.05
CA				-.10				-.01
$R^2$ change		.14***	.09***	.02		.06*	.05*	.01
$R^2$	.07	.21	.29	.30	.05	.10	.14	.13
$F$	4.65**	8.36**	9.30***	6.85***	2.81*	3.56**	3.99***	3.00***
$df$	3,137	5,135	7,133	10,130	3,133	5,131	7,129	10,126

*Note.* SDO = Parent's Social Dominance Orientation; RWA = Parent's Right Wing Authoritarianism; BS = Parent's Benevolent Sexism; HS = Parent's Hostile Sexism; EXT = Parent's Extrinsic versus Intrinsic Value Promotion; CON = Parent's Conservation versus Openness Value Promotion; CA = Parent's Career Aspirations for Daughter.  
\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ , † $p < .10$

## Hierarchical regressions predicting daughters' HS from parent variables

### Appendix A2

Table A2

*Hierarchical Models Predicting Daughters' HS from Mother and Father Variables*

Parent Variables	$\beta$ coefficients predicting daughters HS							
	$\beta$ coefficients predicting daughter HS from Mother variables				$\beta$ coefficients predicting daughter HS from Father variables			
	Step 1	Step 2	Step 3	Step 4	Step 1	Step 2	Step 3	Step 4
Education	-.09	-.05	-.06	-.05	-.01	-.00	.02	.00
Income	-.06	-.06	-.03	-.01	-.15	-.05	-.04	-.04
Age	-.24**	-.20*	-.16†	-.18*	-.20*	-.13	-.13	-.14
RWA		.12	.04	.02		.17†	.11	.12
SDO		.21*	.18*	.16†		.20*	.16†	.18†
BS			-.01	-.03			.01	.05
HS			.23*	.26**			.15	.20†
CON				.13				-.06
EXT				-.06				-.16†
CA				-.17*				-.06
$R^2$ change		.07**	.04*	.05*		.07**	.02	.03
$R^2$	.05	.11	.14	.17	.04	.09	.10	.11
$F$	3.66*	4.55***	4.25***	3.94***	2.75*	3.82**	3.05**	3.00**
$df$	3,137	5,135	7,133	10,130	3,133	5,131	7,129	10,126

Note. SDO = Parent's Social Dominance Orientation; RWA = Parent's Right Wing Authoritarianism; BS = Parent's Benevolent Sexism; HS = Parent's Hostile Sexism; EXT = Parent's Extrinsic versus Intrinsic Value Promotion; CON = Parent's Conservation versus Openness Value Promotion; CA = Parent's Career Aspirations for Daughter.

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ , † $p < .10$

## Appendix A3

Table A3

*Hierarchical Models Predicting Daughters' Sexism from Parents' HS and BS Variables Separately Entered Versus the Combined Parental HS (P.HS) Scores and BS Scores (P.BS).*

Parent Variables	$\beta$ coefficients predicting daughters BS			$\beta$ coefficients predicting daughters HS		
	$\beta$ coefficients predicting daughter BS from both parents' BS			$\beta$ coefficients predicting daughter HS from both parents' BS		
	Step 1	Step 2	Step 3	Step 4	Step 1	Step 2
Education	-.06	-.02	-.01	-.06	-.07	-.07
Income	-.04	.13	.07	-.04	.02	.01
Age	-.27***	-.12	-.13	-.27***	-.18*	-.19*
M.BS		.51***			.14	
F.BS		.08			.06	
P.BS (M.BS+F.BS)			.48***			.16†
$R^2$ change	.08	.23***	.19***	.07	.02	.02
$R^2$	.06	.29	.25	.06	.06	.06
$F$	4.04**	12.11***	12.33***	4.04**	2.61*	3.23*
$df$	3,134	5,132	4,133	3,134	5,132	4,133
Parent Variables	$\beta$ coefficients predicting daughter BS from both parents' HS			$\beta$ coefficients predicting daughter HS from both parents' HS		
	Step 1	Step 2	Step 3	Step 4	Step 1	Step 2
	Step 1	Step 2	Step 3	Step 4	Step 1	Step 2
Education	-.09	-.00	-.02	-.09	-.05	-.04
Income	-.03	.04	.04	-.03	.07	.06
Age	-.24**	-.20*	-.19*	-.24**	-.14†	-.14†
M.HS		.13			.26**	
F.HS		.27**			.17†	
P.HS (M.HS+F.HS)			.33***			.36***
$R^2$ change	.07*	.10***	.09***	.07*	.11***	.10***
$R^2$	.05	.15	.15	.05	.14	.14
$F$	3.19*	5.73***	6.98***	3.19*	5.57**	3.84***
$df$	3,134	5,132	4,133	3,134	5,132	4,133

Note. BS = Parent's Benevolent Sexism; HS = Parent's Hostile Sexism; P.HS = Parent' combined Hostile Sexism score; P.BS = Parent' combined Benevolent Sexism score.

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ , † $p < .10$

## Appendix A4

Table A4

*Hierarchical Models Predicting Daughters' Sexism From Parents' HS and BS Variables Separately Entered Versus the Combined Parental Ambivalent Sexism (AS).*

$\beta$ coefficients predicting daughters BS						
Parent Variables	$\beta$ coefficients predicting daughter BS from Mother variables			$\beta$ coefficients predicting daughter BS from Father variables		
	Step 1	Step 2	Step 3	Step 4	Step 1	Step 2
Education	-.06	-.03	-.04	-.06	.01	.00
Income	-.04	.15	.14	-.04	.00	-.01
Age	-.27***	-.11	-.11	-.27***	-.21*	-.21*
BS		.51***			.11	
HS		.07			.25*	
AS			.49***			.31***
$R^2$ change	.08	.23***	.19***	.08	.09***	.09***
$R^2$	.06	.29	.25	.06	.14	.14
$F$	4.04**	12.11***	12.15***	4.04**	5.27***	6.76***
$df$	3,134	5,132	4,133	3,134	5,132	4,133

### $\beta$ coefficients predicting daughters HS

Parent Variables	$\beta$ coefficients predicting daughter HS from Mother variables			$\beta$ coefficients predicting daughter HS from Father variables		
	Step 1	Step 2	Step 3	Step 4	Step 1	Step 2
Education	-.09	-.08	-.07	-.09	-.03	-.04
Income	-.03	.07	.08	-.03	.01	-.01
Age	-.24**	-.14	-.14	-.24**	-.20*	-.19*
BS		.07			-.03	
HS		.30***			.27**	
AS			.31***			.20*
$R^2$ change	.07*	.07***	.07***	.07*	.06*	.04*
$R^2$	.05	.12	.11	.05	.09	.08
$F$	3.19*	4.89***	5.31***	3.19*	3.64**	3.82**
$df$	3,134	5,132	4,133	3,134	5,132	4,133

Note. BS = Parent's Benevolent Sexism; HS = Parent's Hostile Sexism; AS = Ambivalent Sexism averaging the HS and BS scores.

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ , † $p < .10$

## Appendix A5

Table A5

*The Interaction Terms Tested Between Fathers' and Mothers' Sexism Variables (BS and HS) Predicting Daughters' HS*

The interaction terms between fathers' and mothers' sexism variables predicting daughters' HS

Parent variables	$\beta$ coefficients	significance	$R^2$ change	$df$	F change
F.BS x M.BS	-.06	.50	.00	3,134	0.45
F.HS x M.HS	.02	.80	.00	3,134	0.07
F.HS x F.BS	.00	.97	.00	3,134	0.00
M.HS x M.BS	-.07	.37	.01	3,134	0.82
F.BS x M.HS	.00	.97	.00	3,134	0.00
F.HS x M.BS	-.01	.94	.00	3,134	0.01

*Note;* F.BS = Fathers' Benevolent Sexism; F.HS = Fathers' Hostile Sexism; M.BS = Mothers' Benevolent Sexism; M.HS = Mothers' Hostile Sexism.

All variables were centred.

\* $p < .05$ , \*\*  $p < .01$ , \*\*\* $p < .001$ , † $p < .10$

## Appendix A6

Table A6.1

*The Interaction Terms Tested Between Parents' Sexism Variables (HS and BS) and Daughters' Identification with Parent Predicting Daughters' BS*

Parent variables	$\beta$ coefficients	significance	$R^2$ change	$df$	F change
F.BS x Id.F*	.22	.01	.05	3,134	7.22
M.BS x Id.M	.08	.26	.01	3,138	1.26
F.HS x Id.F	.06	.47	.00	3,134	0.52
M.HS x Id.M	.03	.70	.00	3,134	0.15

*Note;* F.BS = Fathers' Benevolent Sexism; F.HS = Fathers' Hostile Sexism; M.BS = Mothers' Benevolent Sexism; M.HS = Mothers' Hostile Sexism; Id.M = Daughters' Identification with Mother; Id.F = Daughters' Identification with Father.

All variables were centred.

\* $p < .05$ , \*\*  $p < .01$ , \*\*\* $p < .001$ , † $p < .10$

Table A6.2

*The Interaction Terms Tested Between Parents' Sexism Variables (HS and BS) and Daughters' Identification with Parent Predicting Daughters' HS*

Parent variables	$\beta$ coefficients	significance	$R^2$ change	$df$	F change
F.HS x Id.F	.12	.15	.01	3,134	2.11
M.HS x Id.M	.09	.26	.01	3,134	1.26
F.BS x Id.F	.07	.44	.00	3,134	0.59
M.BS x Id.M	.02	.81	.00	3,134	0.06

*Note;* F.BS = Fathers' Benevolent Sexism; F.HS = Fathers' Hostile Sexism; M.BS = Mothers' Benevolent Sexism; M.HS = Mothers' Hostile Sexism; Id.M = Daughters' Identification with Mother; Id.F = Daughters' Identification with Father.

All variables were centred

\* $p < .05$ , \*\*  $p < .01$ , \*\*\* $p < .001$ , † $p < .10$

## Appendix A7

Table A7

*Regression Models Showing the Interaction between Fathers' BS and Daughters' Identification with Father in Predicting Daughters' Benevolent Sexism (The Interaction Terms Are Shown In Bold).*

$\beta$ coefficients predicting daughters benevolent sexism						
Parent variables	Step 1	Step 2	Parent variables	Step 1	Step 2	Step 3
P. Education	-.04	-.04	P. Education	-.03	-.00	.01
P. Age	-.22**	-.17†	P. Age	-.08	-.16†	-.08
P. Income	-.05	-.06	P. Income	-.11	-.02	.14
F.BS	.23**	.20*	F.BS	.06	.08	-.03
Id.F	.13	.13	Id.F	.05	.14†	.07
<b>F.BSxId.F</b>		<b>.17*</b>	M.BS	.48***		.45***
			F.HS		.25*	.20*
			Id.M			-.04
			<b>F.BSxId.F</b>	.12	.15†	.11
$R^2$ Change		.03*	$R^2$ Change	.01	.02†	.01
$R^2$	.12	.14	$R^2$	.33	.17	.31
$F$	4.60**	4.59***	$F$	9.16***	5.01***	7.79***
$df$	5,132	6,131	$df$	7,130	7,130	9,128

*Note;* F.BS = Fathers' Benevolent Sexism; F.HS = Fathers' Hostile Sexism; M.BS = Mothers' Benevolent Sexism; M.HS = Mothers' Hostile Sexism; Id.M = Daughters' Identification with Mother; Id.F = Daughters' Identification with Father.

All variables including the demographic variables were centred.

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ , † $p < .10$



## Appendix A8

Table A8

*Hierarchical Models Predicting Daughters' Total Self-Esteem from Parent Variables and Daughters' Identification with Parent Variables*

Parent Variables	$\beta$ coefficients predicting daughters' self-esteem					
	Step 4	Step 5	Step 6	Step 7	Step8	Step9
Parents' education	.18†	.15	.15	.11	.10	.12
Family income	.04	.05	.04	.02	.02	.04
Parents' age	-.16†	-.15	-.17†	-.14	-.17†	-.15†
F.RWA	.07	.10	.08	.06	.09	.05
F.SDO	-.20*	-.22*	-.23*	-.22*	-.21*	-.23*
M.RWA	-.22†	-.22†	-.17	-.13	-.14	-.08
M.SDO	-.03	-.03	.02	.06	.09	.06
F.BS	-.29**	-.29*	-.25*	-.20†	-.19†	-.20†
F.HS	.28*	.27*	.27*	.19	.23†	.25*
M.BS	.12	.12	.17	.15	.15	.24*
M.HS	-.08	-.08	-.04	-.03	.01	-.04
F.CON		-.08	-.10	-.10	-.12	-.09
F.EXT		.05	.11	.07	.05	.05
F.CA		-.05	-.07	-.10	-.10	-.10
M.CON			-.07	.00	.02	.02
M.EXT			-.24*	-.24*	-.25*	-.23*
M.CA			.04	.03	.01	.02
Daughter variables						
Id.F				-.08	-.06	-.08
Id.M				.33***	.31***	.34***
D.HS					-.18†	
D.BS						-.23*
$R^2$ change	.01	.01	.03	.08***	.02†	.03*
$R^2$	.09	.07	.09	.17	.19	.20
$F$	2.19*	1.76†	1.76*	2.46**	2.59***	2.69***
$df$	11,126	14,123	17,120	21,116	20,117	20,117

Note; M.SDO = Mothers' Social Dominance Orientation; M.RWA = Mothers' Right Wing Authoritarianism; M.BS = Mothers' Benevolent Sexism; M.HS = Mothers' Hostile Sexism; M.EXT = Mothers' Extrinsic versus Intrinsic Value Promotion; M.CON = Mothers' Conservation versus Openness Value Promotion; M.CA = Mothers' Career Aspirations for Daughter; F.RWA = Fathers' Right Wing Authoritarianism; F.SDO = Fathers' Social Dominance Orientation; F.BS = Fathers' Benevolent Sexism; F.HS = Fathers' Hostile Sexism; F.EXT = Fathers' Extrinsic versus Intrinsic Value Promotion; F.CON = Father's Conservation versus Openness Value Promotion; F.CA = Fathers' Career Aspirations for Daughter; Id.M = Daughters' Identification with Mother; Id.F = Daughters' Identification with Father; D.HS = Daughters' Hostile Sexism; D.BS = Daughters' Benevolent Sexism.

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ , † $p < .10$

## Appendix A9

Table A9

*The Interaction Terms Tested Between Parents' Career Aspirations for Daughters' (HS and BS) and Daughters' Identification with Parent Predicting Daughters' Career Aspirations*

Parent variables	$\beta$ coefficients	significance	$R^2$ change	$df$	F change
F.CA x Id.F	-.09	.29	.01	3,134	1.11
M.CA x Id.M	.03	.76	.00	3,134	0.09
F.BS x Id.F	.05	.60	.00	3,134	0.27
M.BS x Id.M	-.09	.28	.01	3,138	1.12
F.HS x Id.F	-.10	.23	.01	3,134	0.23
M.HS x Id.M	-.12	.14	.01	3,134	2.22

*Note;* F.BS = Fathers' Benevolent Sexism; F.HS = Fathers' Hostile Sexism; M.BS = Mothers' Benevolent Sexism; M.HS = Mothers' Hostile Sexism; Id.M = Daughters' Identification with Mother; Id.F = Daughters' Identification with Father. (All variables were centred).

\* $p < .05$ , \*\*  $p < .01$ , \*\*\* $p < .001$ , † $p < .10$

## Appendix A10

Table A10

*Hierarchical Models Predicting Daughters' Career Aspirations From Parents' HS And BS Variables Separately Entered Versus The Combined Parental Ambivalent Sexism (AS).*

$\beta$ coefficients predicting daughters BS						
Parent Variables	$\beta$ coefficients predicting daughter CA from Mother variables			$\beta$ coefficients predicting daughter CA from Father variables		
	Step 1	Step 2	Step 3	Step 4	Step 1	Step 2
Education	-.07	-.07	-.07	-.07	-.06	-.08
Income	.07	.03	.04	.07	.08	.07
Age	-.15†	-.19*	-.18*	-.15†	-.17†	-.16†
BS		-.13			-.18†	
HS		.01			.11	
AS			-.10			-.06
$R^2$ change	.03	.01	.01	.03	.02	.00
$R^2$	.01	.01	.01	.01	.02	.00
$F$	1.44	1.23	1.37	1.44	1.48	1.44
$df$	3,134	5,132	4,133	3,134	5,132	4,133

*Note.* BS = Benevolent Sexism; HS = Hostile Sexism; CA = Daughters' Career Aspirations; AS = Ambivalent sexism averaging the HS and BS scores.

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ , † $p < .10$

## Appendix A11

Table A11

*The Interaction Terms Tested Between Fathers' and Mothers' Sexism Variables (BS and HS) Predicting Daughters' Career Aspirations*

The interaction terms between fathers' and mothers' sexism variables predicting daughters' HS

Parent variables	$\beta$ coefficients	significance	$R^2$ change	$df$	F change
F.BS x M.BS	-.11	.22	.01	3,134	1.51
F.HS x M.HS	.00	.99	.00	3,134	0.00
F.HS x F.BS	-.05	.59	.00	3,134	0.00
M.HS x M.BS	-.06	.48	.00	3,134	0.51
F.BS x M.HS	.02	.80	.00	3,134	0.06
F.HS x M.BS	-.10	.25	.01	3,134	1.33

*Note;* F.BS = Fathers' Benevolent Sexism; F.HS = Fathers' Hostile Sexism; M.BS = Mothers' Benevolent Sexism; M.HS = Mothers' Hostile Sexism. (All variables were centred).

\* $p < .05$ , \*\*  $p < .01$ , \*\*\* $p < .001$ , † $p < .10$

## Appendix A12

Table A12

*Multiple Regression Models Predicting Daughters' Career Aspirations from Daughter Identification with Mothers and Daughters' Self-Esteem*

Variables	$\beta$ coefficients predicting daughters' career aspirations		
	Step 1	Step 2	Step 3
Parents' education	-.07	-.09	-.12
Family income	.07	.07	.08
Parents' age	-.15†	-.13	-.11
Id. Mother		.28***	.19*
Id. Father		-.22**	-.21**
D.SE			.23**
$R^2$ change		.10	.04**
$R^2$	.01	.10	.14
$F$	1.44	4.13**	4.78***
$df$	3,134	5,132	6,131

Note; Id.M = Daughters' Identification with Mother; Id.F = Daughters' Identification with Father; D.SE = Daughters' Self-Esteem

\* $p < .05$ , \*\*  $p < .01$ , \*\*\* $p < .001$ , † $p < .10$

## Appendix A13

Table A13

*Multiple Regression Models Predicting Daughters' Career Aspirations from Daughters' Identification with Parents and Daughters' Social Attitudes*

Variables	$\beta$ coefficients predicting daughters' career aspirations			
	Step 1	Step 2	Step 3	Step 3
Parents' education	-.07	-.09	-.11	-.13
Family income	.07	.07	.07	.08
Parents' age	-.15 <sup>†</sup>	-.13	-.18*	-.14
Id. Mother		.28***	.23**	.24**
Id. Father		-.22**	-.19*	-.16*
D.HS			-.39***	-.36***
D.BS			.16 <sup>†</sup>	.21*
D.RWA				.04
D.SDO				-.08
D.CON				-.14
D.EXT				-.04
$R^2$ change		.10***	.01***	.02
$R^2$	.01	.10	.21	.20
$F$	1.44	4.13**	6.07***	4.07***
$df$	3,134	5,132	7,130	11,126

*Note;* Id.M = Daughters' Identification with Mother; Id.F = Daughters' Identification with Father; D.SDO = daughters' Social Dominance Orientation; D.RWA = Daughters' Right Wing Authoritarianism; D.BS = daughters' Benevolent Sexism; D.HS = Daughters' Hostile Sexism; D.EXT = Daughters' Extrinsic versus Intrinsic Values; D.CON = Daughters' Conservation versus Openness Values.

\* $p < .05$ , \*\*  $p < .01$ , \*\*\* $p < .001$ , <sup>†</sup> $p < .10$

## 2. Appendix B

This appendix contains the figure and tables for analyses whose results are mentioned but not reported, in their entirety in Chapter 7.

### Appendix B1

Table B1

*Bivariate Correlations between Parents Time 1 and daughter Time 2 Variables (N = 112)*

Daughter Time 2 Variables	Mother Time 1 Variables						
	BS	HS	SDO	RWA	EXT	CON	CA
BS	.46***	.37***	.11	.39***	.31***	.26**	.09
HS	.23*	.42***	.22*	.28**	.25**	.21*	.06
RWA	.31**	.40***	.06	.45***	.15	.36***	.08
SDO	-.02	.03	.22*	-.02	.01	-.05	-.17†
S.R	-.04	-.08	-.16†	-.07	-.12	-.20*	-.04
Social	-.08	-.12	-.07	-.08	-.14	-.23*	-.06
School	-.12	-.16†	-.24**	-.15	-.12	-.13	-.05
Appear	-.01	-.06	-.07	-.00	-.12	-.11	-.14
Physic	.13	.04	.04	.08	.02	.02	-.07
S.E	-.02	-.10	-.13	-.06	-.13	-.18†	-.11
D.CA	-.13	.02	-.22*	.01	-.03	.01	.19*

Daughter Time 2 variables	Father Time 1 Variables						
	BS	HS	SDO	RWA	EXT	CON	CA
BS	.31***	.41***	.13	.43***	.22*	.26**	-.04
HS	.19*	.27**	.24**	.33***	.03	.08	-.05
RWA	.20*	.18†	.10	.43***	.07	.30***	-.02
SDO	.08	.07	.29**	.09	.01	.02	-.15
S.R	-.04	-.02	-.08	-.20*	.01	-.09	.01
Social	.04	.02	-.13	-.07	.03	-.10	.04
School	-.04	-.05	-.17†	.02	-.08	-.03	-.09
Appear	-.01	.00	-.12	.02	-.01	.09	-.18†
Physic	.08	.09	.04	-.03	.06	-.02	-.05
S.E	.01	.02	-.13	-.07	.01	-.04	-.08
D.CA	-.10	.08	.01	.01	-.01	-.00	.10

*Note;* SDO = Social Dominance Orientation; RWA = Right Wing Authoritarianism; BS = Benevolent sexism; HS = Hostile Sexism; EXT = Extrinsic versus Intrinsic Values/ Value Promotion; CON = Conservation versus Openness Values/ Value Promotion; CA = Parental Career Aspirations for daughters; D.CA = Daughters' Career Aspirations; S.R = Self-Regard; Social = Social Confidence; School = School Abilities; Appear = Physical Appearance; Physic = Physical Abilities; SE = Self-Esteem total score in all five domains.

\* $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

## Appendix B2

Table B2

*Bivariate Correlations between Daughter Variables at Time 1 and Time 2 (N = 116)*

Time 2 Daughter Variables	Time 1 Daughter Variables														
	BS	HS	RWA	SDO	S.R	Social	School	Appear	Physic	S.E	CA	Id.M	Id.F	EXT	CON
BS	.71***	.41***	.45***	.12	-.09	-.11	-.26**	-.14	-.01	-.17†	-.03	.18*	.17†	.26**	.29***
HS	.41***	.70***	.42***	.30***	-.30***	-.03	-.27**	-.31***	-.01	-.26**	-.24**	-.08	.23*	.30***	.23*
RWA	.54***	.46***	.87***	.20*	-.05	-.15	-.20*	-.23*	.02	-.18†	-.08	.18†	.20*	.13	.55***
SDO	.06	.29***	.23*	.64***	-.09	-.03	-.20*	-.03	.09	-.07	-.07	.02	.08	.19*	.11
S.R	-.10	-.21*	-.13	.02	.65***	.15	.21*	.43**	.21*	.46***	.16†	.24**	.10	-.07	-.09
Social	-.14	-.13	-.08	.06	.42***	.57***	.31***	.28**	.19*	.48***	.14	.28**	.14	-.05	-.03
School	-.31***	-.32***	-.28**	-.05	.38***	.11	.67***	.38***	.20*	.49***	.24*	.03	-.07	-.12	-.29**
Appear	-.11*	-.13*	-.02	.04	.36***	.16	.12	.60***	.24*	.43***	.12	.13	.10	-.10	-.16
Physic	.05	.08	.11	.09	.29**	.19*	.23*	.21*	.62***	.44***	.03	.30***	.26**	.03	.00
S.E	-.16†	-.19*	-.11	.06	.60***	.36***	.43***	.55***	.44***	.67***	.19*	.29***	.17†	-.08	-.15
CA	-.03	-.14	-.10	-.18†	.12	.03	.12	.08	.00	.10	.58***	.09	-.11	.05	-.20*
Id.M	-.03	-.02	.22	.10	.08	.10	.11	.08	.08	.12	.17†	.62***	.17†	-.05	.02
Id.F	.07	.10	.18†	.14	.00	.19*	.03	-.06	-.00	.03	-.06	.16†	.80***	.03	.11

*Note.* BS = Benevolent Sexism; HS = Hostile Sexism; SDO = Social Dominance Orientation; RWA = Right Wing Authoritarianism; EXT = Extrinsic relative to Intrinsic Values; CON = Conservation relative to Openness Values; S.R = Self-Regard; Social = Social Confidence; School = School Abilities; Appear = Physical Appearance; Physic = Physical Abilities; SE = Self-Esteem total score in all five domains; CA = Career Aspirations; P.edu = Parents' average education; Id.M = Daughters' Identification with Mother; Id.F = Daughters' Identification with Father.

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ , † $p < .10$



## Appendix B3

Table B3

*Prediction of Change in Daughters' Benevolent Sexism from Daughter Predictor Variables Over One Year*

Daughters' Time 1 Variables	$\beta$ coefficients predicting daughters' BS at time 2					
	Step 1	Step 2	Step 3	Step 4	Step 5	Step 6
D.BS	.68***	.66***	.66***	.66***	.66***	.67***
P.Age	-.12	-.12	-.10	-.09	-.09	-.09
P.Income	.00	.00	.02	.02	.02	.00
P.Education	-.06	-.06	-.07	-.07	-.07	-.10
D.RWA		.04	.10	.10	.10	.04
D.SDO		-.02	-.06	-.06	-.06	-.07
D.EXT			.10	.09	.09	.06
D.CON			-.09	-.09	-.09	-.13
D.HS				.03	.03	.04
D. Total SE					-.01	-.08
Id.F						.07
Id.M						.20*
$R^2$ change		.00	.02	.00	.00	.01
$R^2$	.48	.50	.51	.50	.51	.50
$F$	30.45***	20.06***	15.65***	13.81***	12.31***	9.59***
$Df$	4,108	6,106	8,104	9,103	10,102	12,100

*Note.* D.RWA = Daughter's Right Wing Authoritarianism; D.SDO = Daughter's Social Dominance Orientation; D.BS = Daughter's Benevolent Sexism; D.HS = Daughter's Hostile Sexism; D.EXT = Daughters' Extrinsic versus Intrinsic Values; D.CON = Daughters' Conservation versus Openness Values; D.SE = Self-esteem; D.CA = Daughters' Career Aspirations; Id.M = Daughters' Identification with Mother; Id.F = Daughters' Identification with Father.

\*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ .

## Appendix B4

Table B4

*Prediction of Change in Daughters' Self-Esteem from HS, BS and Other Variables Over One Year*

Daughters' Time 1 Variables	$\beta$ coefficients predicting daughters' Self-esteem at time 2					
	Step 1	Step 2	Step 3	Step 4	Step 5	Step 6
D.SE	.61***	.68***	.68***	.67***	.66***	.64***
P.Age	-.00	-.02	-.02	-.03	-.05	-.05
P.Income	-.00	.00	.00	.00	-.00	-.03
P.Education	-.02	-.02	-.02	-.02	-.03	-.04
D.RWA		-.04	-.04	-.03	-.02	-.04
D.SDO		.14†	.14†	.15†	.18*	.16*
D.EXT			-.00	.00	.01	.00
D.CON			.00	.01	.02	-.02
D.BS				-.04	-.00	.01
D.HS					-.11	-.13
Id.F						.16*
Id.M						.02
$R^2$ change		.02	.00	.00	.01	.02
$R^2$	.42	.43	.42	.42	.42	.43
$F$	21.38***	15.18***	11.17***	9.86***	9.05***	8.10***
$df$	4,108	6,106	8,104	9,103	10,102	12,100

*Note.* D.RWA = Daughter's Right Wing Authoritarianism; D.SDO = Daughter's Social Dominance Orientation; D.BS = Daughter's Benevolent Sexism; D.HS = Daughter's Hostile Sexism; D.EXT = Daughters' Extrinsic versus Intrinsic Values; D.CON = Daughters' Conservation versus Openness Values; D.SE = Self-esteem; D.CA = Daughters' Career Aspirations; Id.M = Daughters' Identification with Mother; Id.F = Daughters' Identification with Father.

\*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ , †  $p < .10$ .

## Appendix B5

Table B5

*Prediction of Change in Daughters' Career Aspirations from HS, BS and Other Variables Over One Year*

Daughters' Time 1 Variables	$\beta$ coefficients predicting daughters' Career Aspirations at time 2					
	Step 1	Step 2	Step 3	Step 4	Step 5	Step 6
D.CA	.57***	.55***	.54***	.54***	.56***	.59***
P.Age	-.09	-.12	-.09	-.08	-.07	-.07
P.Income	.01	-.00	.03	.03	.03	.02
P.Education	-.06	-.05	-.07	-.06	-.06	-.05
D.RWA		-.10	-.02	-.04	-.05	-.03
D.SDO		-.04	-.08	-.09	.10	-.11
D.EXT			-.11	-.10	.10	.10
D.CON			-.13	-.15	-.16	-.16
D.BS				.07	.05	.04
D.HS					.06	.05
Id.F						.07
Id.M						-.09
$R^2$ change		.01	.02	.00	.00	.03
$R^2$	.33	.33	.34	.34	.34	.36
$F$	14.79***	10.20***	8.32***	7.40***	6.65***	5.62***
$df$	4,108	6,106	8,104	9,103	10,102	12,100

*Note.* D.RWA = Daughter's Right Wing Authoritarianism; D.SDO = Daughter's Social Dominance Orientation; D.BS = Daughter's Benevolent Sexism; D.HS = Daughter's Hostile Sexism; D.EXT = Daughters' Extrinsic versus Intrinsic Values; D.CON = Daughters' Conservation versus Openness Values; D.SE = Self-esteem; D.CA = Daughters' Career Aspirations; Id.M = Daughters' Identification with Mother; Id.F = Daughters' Identification with Father.

\*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ , †  $p < .10$

## Appendix B6

Table B6

### *Predictors of Change in Daughters' Self-Regard from Daughter Variables Over One Year*

Daughter Variables at study 1	$\beta$ coefficients predicting daughters Self-regard			
	Step 1	Step 2	Step 3	Step 5
Self-regard	.65***	.65***	.65***	.66***
P.Age	.03	.02	-.00	-.00
P.Income	-.02	-.02	-.03	-.04
P.Education	.02	.01	.03	.02
D.HS	-.06	-.10	-.11	-.13
D.SDO		.11	.11	.09
D.RWA			-.12	-.13
D.BS			.03	.05
D.EXT			.06	.06
D.CON			.05	.03
Id.F				.13
Id.M				-.03
$R^2$ change	.01	.01	.01	.01
$R^2$	.40	.41	.40	.40
$F$	16.25***	14.00***	8.40***	7.27***
$df$	5,107	6,106	10,102	12,100

*Note.* D.RWA = Daughter's Right Wing Authoritarianism; D.SDO = Daughter's Social Dominance Orientation; D.BS = Daughter's Benevolent Sexism; D.HS = Daughter's Hostile Sexism; D.EXT = Daughters' Extrinsic versus Intrinsic Values; D.CON = Daughters' Conservation versus Openness Values; D.SE = Self-esteem; D.CA = Daughters' Career Aspirations; Id.M = Daughters' Identification with Mother; Id.F = Daughters' Identification with Father.

\*  $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ , † $p < .10$ .

## Appendix B7

Table B7

*Predictors of Change in Daughters' Physical Appearance from Daughter Variables Over One Year*

Daughter Variables at study 1	$\beta$ coefficients predicting daughters Physical Appearance			
	Step 1	Step 2	Step 3	Step 5
Physical Appearance	.60***	.60***	.63***	.63***
P.Age	-.11	-.13	-.12	-.13
P.Income	-.01	.00	.00	-.01
P.Education	.02	.00	.00	-.00
D.HS	-.02	-.07	-.07	-.11
D.SDO		.12	.12	.10
D.RWA			.10	.11
D.BS			-.05	-.03
D.EXT			-.02	-.01
D.CON			-.02	.04
Id.F				.19*
Id.M				-.11
$R^2$ change	.01	.01	.00	.04*
$R^2$	.35	.36	.34	.36
$F$	13.11***	11.35***	6.70***	6.33***
$Df$	5,107	6,106	10,102	12,100

*Note.* D.RWA = Daughter's Right Wing Authoritarianism; D.SDO = Daughter's Social Dominance Orientation; D.BS = Daughter's Benevolent Sexism; D.HS = Daughter's Hostile Sexism; D.EXT = Daughters' Extrinsic versus Intrinsic Values; D.CON = Daughters' Conservation versus Openness Values; D.SE = Self-esteem; D.CA = Daughters' Career Aspirations; Id.F = Identification with Father; Id.M = Identification with Mother.

\*  $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ , † $p < .10$ .

## Appendix B8

Table B8

### *Predictors of Change in Daughters' Physical Abilities from Daughter Variables Over One Year*

Daughter Variables at study 1	$\beta$ coefficients predicting daughters Physical Abilities			
	Step 1	Step 2	Step 3	Step 5
Physical Abilities	.62***	.61***	.62***	.58***
P.Age	-.6	-.06	-.05	-.05
P.Income	.01	.02	.02	-.02
P.Education	.05	.05	.05	.02
D.HS	.08	.07	.07	.08
D.SDO		.02	.03	.03
D.RWA			-.00	-.05
D.BS			.05	.06
D.EXT			-.07	-.09
D.CON			-.02	-.05
Id.F				.14†
Id.M				.13
$R^2$ change	.01	.00	.01	.04*
$R^2$	.38	.37	.35	.38
$F$	14.56***	12.04***	7.10***	6.72***
$df$	5,107	6,106	10,102	12,100

*Note.* D.RWA = Daughter's Right Wing Authoritarianism; D.SDO = Daughter's Social Dominance Orientation; D.BS = Daughter's Benevolent Sexism; D.HS = Daughter's Hostile Sexism; D.EXT = Daughters' Extrinsic versus Intrinsic Values; D.CON = Daughters' Conservation versus Openness Values; D.SE = Self-esteem; D.CA = Daughters' Career Aspirations; Id.F = Identification with father; Id.M = Identification with mother.

\*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ , †  $p < .10$ .

## Appendix B9

Table B9

*Prediction of Change in Daughters' Hostile Sexism from School Abilities and Other Variables Over One Year*

Daughter Variables at study 1	$\beta$ coefficients predicting daughters HS at study 2				
	Step 1	Step 2	Step 3	Step 4	Step 5
D.HS	.69***	.68***	.63***	.61***	.59***
P.Age	-.02	-.02	.00	.01	.01
P.Income	-.08	-.08	-.07	-.06	-.07
P.Education	.03	.03	.01	.01	.01
School Abilities		-.03	-.01	-.01	.01
D.SDO			.03	.01	-.00
D.RWA			.20*	.23*	.24*
D.BS			-.03	-.04	-.03
D.EXT				.09	.09
D.CON				-.04	-.06
Id.F					.09
Id.M					-.08
$R^2$ change		.00	.03	.01	.01
$R^2$	.48	.48	.50	.50	.50
$F$	27.39***	21.79***	14.80***	12.05***	10.27***
$Df$	4,108	5,107	8,104	10,102	12,100

*Note.* D.RWA = Daughter's Right Wing Authoritarianism; D.SDO = Daughter's Social Dominance Orientation; D.BS = Daughter's Benevolent Sexism; D.HS = Daughter's Hostile Sexism; D.EXT = Daughters' Extrinsic versus Intrinsic Values; D.CON = Daughters' Conservation versus Openness Values; Id.F = Identification with Father; Id.M = Identification with Mother.

\*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ .

## Appendix B10

Table B10

*Prediction of Change in Daughters' Hostile Sexism from Social Confidence and Other Variables Over One Year*

Daughter Variables at study 1	$\beta$ coefficients predicting daughters HS at study 2				
	Step 1	Step 2	Step 3	Step 4	Step 5
D.HS	.69***	.70***	.63***	.61***	.58***
P.Age	-.02	-.02	.00	.01	.01
P.Income	-.08	-.08	-.07	-.06	-.07
P.Education	.03	.03	.01	.01	.01
Social Confidence		-.01	.00	.02	.03
D.SDO			.03	.01	-.00
D.RWA			.20*	.23*	.24*
D.BS			-.03	-.03	-.02
D.EXT				.10	.10
D.CON				-.04	-.06
Id.F					.09
Id.M					-.09
$R^2$ change		.00	.03	.01	.01
$R^2$	.49	.49	.50	.50	.50
$F$	27.39***	21.72***	14.80***	12.06***	10.30***
$df$	4,108	5,107	8,104	10,102	12,100

*Note.* D.RWA = Daughter's Right Wing Authoritarianism; D.SDO = Daughter's Social Dominance Orientation; D.BS = Daughter's Benevolent Sexism; D.HS = Daughter's Hostile Sexism; D.EXT = Daughters' Extrinsic versus Intrinsic Values; D.CON = Daughters' Conservation versus Openness Values; Id.F = Identification with father; Id.M = Identification with mother.

\*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ .



## Appendix B11

Table B11

*Prediction of Change in Daughters' Hostile Sexism from Physical Abilities and Other Variables Over One Year*

Daughter Variables at study 1	$\beta$ coefficients predicting daughters HS at study 2				
	Step 1	Step 2	Step 3	Step 4	Step 5
D.HS	.69***	.70***	.63***	.61***	.58***
P.Age	-.02	-.02	-.00	.01	.00
P.Income	-.08	-.08	-.07	-.06	-.07
P.Education	.03	.03	.01	.01	.01
Physical Abilities		-.01	-.04	-.05	-.05
D.SDO			.04	.01	.00
D.RWA			.21*	.24*	.25*
D.BS			-.04	-.04	-.04
D.EXT				.10	.10
D.CON				-.04	-.06
Id.F					.10
Id.M					-.07
$R^2$ change		.00	.03	.01	.01
$R^2$	.49	.49	.50	.50	.50
$F$	27.39***	21.72***	14.89***	12.17***	10.35***
$Df$	4,108	5,107	8,104	10,102	12,100

*Note.* D.RWA = Daughter's Right Wing Authoritarianism; D.SDO = Daughter's Social Dominance Orientation; D.BS = Daughter's Benevolent Sexism; D.HS = Daughter's Hostile Sexism; D.EXT = Daughters' Extrinsic versus Intrinsic Values; D.CON = Daughters' Conservation versus Openness Values; Id.F = Identification with father; Id.M = Identification with mother.

\*  $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ .

### 3. Appendix C

This appendix contains the information sheets and consent forms for the participants as well as the advertisements used on the psychology website for the recruitment of participants.

#### Appendix C1

##### Psychology Website Research Description

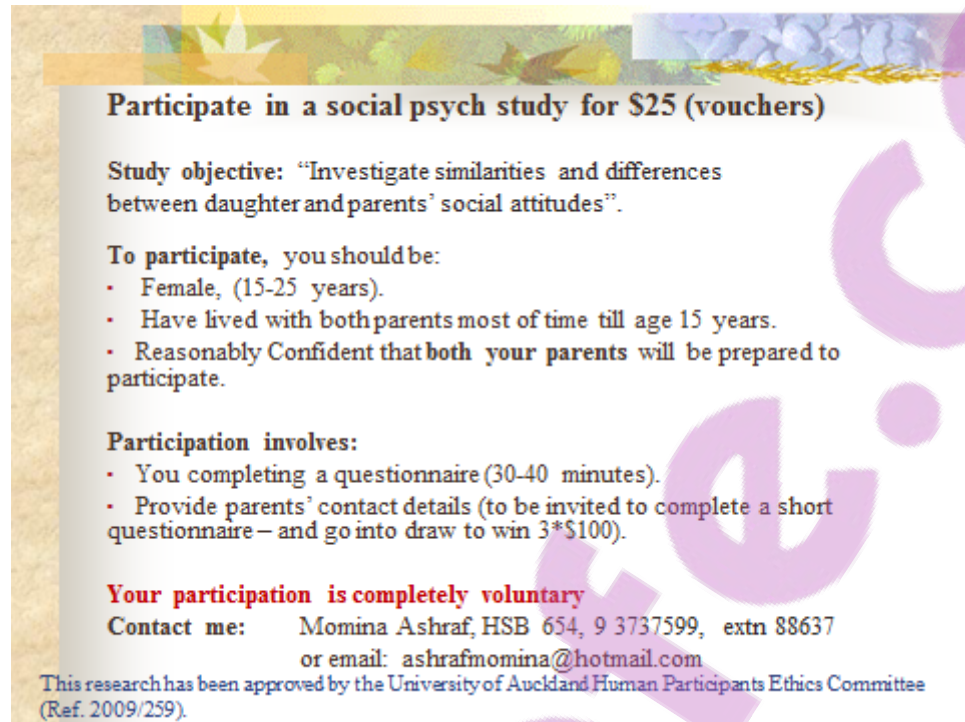
###### **Similarities and differences in parents' and daughters' social attitudes:**

We are exploring the influence of parents' attitudes about different social issues on daughters' attitudes, especially the relationship between attitudes about gender and the girls' career-aspirations and feelings toward themselves. Girls who believe that their parents would also like to participate in the research are invited to participate. Your participation involves expressing your attitudes on a simple attitude survey, which will take approximately 30-40 minutes of your time. To thank you for your participation you will be reimbursed \$10. Your parents will be posted a similar questionnaire to complete at home, which will not take more than 30-minute. Your parents will then be entered in a draw of three prizes of \$100. If you are interested, please contact Momina Ashraf (Room 654, Phone 373, 7599, ext. 88637 or 09, 8208396) E-mail: mash041@aucklanduni.ac.nz

This research has been approved by the University of Auckland Human Participants Ethics Committee (Ref. 2009 / 259).

## Appendix C2

### Advertisement for Psychology Department Notice Boards



**Participate in a social psych study for \$25 (vouchers)**

**Study objective:** "Investigate similarities and differences between daughter and parents' social attitudes".

**To participate, you should be:**

- Female, (15-25 years).
- Have lived with both parents most of time till age 15 years.
- Reasonably Confident that **both your parents** will be prepared to participate.

**Participation involves:**

- You completing a questionnaire (30-40 minutes).
- Provide parents' contact details (to be invited to complete a short questionnaire – and go into draw to win 3\*\$100).

**Your participation is completely voluntary**

**Contact me:** Momina Ashraf, HSB 654, 9 3737599, extn 88637  
or email: [ashrafmomina@hotmail.com](mailto:ashrafmomina@hotmail.com)

This research has been approved by the University of Auckland Human Participants Ethics Committee (Ref. 2009/259).

## Appendix C3

### PARTICIPANT INFORMATION SHEET (For Daughters)

**Date:** \_\_\_\_\_

**Title of Project:** Similarities and differences in parents' and daughters' social attitudes

**Principal Investigator:** Momina Ashraf, PhD student, Psychology Department, University of Auckland, HSB Building, Room 654. Phone: 09- 373 7599, extn 88637. E-mail: mash041@aucklanduni.ac.nz

**Dear participant,**

My name is Momina Ashraf, and I am a PhD student in the Department of Psychology. I would like to invite you to participate in the research I am conducting with Professor John Duckitt and Dr. Nickola Overall from the Psychology Department, The University of Auckland. I am investigating similarities and differences between parents and daughters' social attitudes, and how parents' attitudes influence their daughters.

**Your participation involves completing a short questionnaire in which you are asked to respond to questions and statements regarding your attitudes and feelings about a number of social issues, particularly regarding men and women, especially in relation to how you feel about yourself and your career aspirations. The questionnaire should take about 30-40 minutes to complete and to thank you for your effort you will be reimbursed an amount of \$25 (petrol or grocery vouchers).**

Funds for this research will be provided by The University of Auckland.

In order to assess similarities and differences within families we will be asking mothers, fathers and daughters from the same families to complete questionnaires. As part of your participation, you are requested to take home an invitation for your parents to participate in the research as well. The invitation includes a Participant information sheet and a Consent Form for each parent. Our research requires data from all three family members so your parents' participation is integral to our research program. We will also later invite you by email to complete a short on-line follow up questionnaire in about six months' time.

You will complete the questionnaire at the Social Psychology Laboratory separately from your parents who will be sent questionnaires at home. Your parents will never have access to your responses and you will not see your parents' questionnaires. Every participant's responses will be kept completely confidential.

**Your participation is completely voluntary and neither your grades nor academic relationships with the department or members of staff will be affected by either your refusal or agreement to participate. This assurance has been provided by the Head of the Psychology Department. You have the right to withdraw your participation at any time. You also have the right to withdraw your data from the research up to 4 weeks after the completion of the questionnaires.**

Please note that each participant in the research will be assigned a numerical code. This numerical code will be put on your questionnaire instead of your name and will be used to link your questionnaire with your parents' questionnaires and later on with your follow-up questionnaire. There will be **no** name or any other identifying information on your questionnaire. Your responses to the questionnaire will remain completely confidential in this way. Your contact details will be stored separately from all research data in a locked filing cabinet in a secure room in the Psychology Department, and only the investigators will have access to your data. Your questionnaire responses will be converted to numerical numbers in a secure electronic data file and your data will only be identified by a code number. The electronic data will be stored indefinitely for research purposes but at no time be identifiable as yours and your personal information and consent form and questionnaires will be destroyed (shredded) after six years. Finally, this research will be published but your identity will never be revealed or associated with the data.

At the completion of this research project a report will be made available summarising the findings of this study. Once you have completed participation you will be asked if you wish to receive this report, and, if so, to provide details where the report should be sent. As before, these details will not be associated with your questionnaire or recorded data at any time.

For any questions regarding this project, please contact Momina Ashraf, of the Psychology Department, University of Auckland, who can be contacted at 373 7599 ext. 88637; Room 654. E-mail: [mash041@aucklanduni.ac.nz](mailto:mash041@aucklanduni.ac.nz) or [ashrafmomina@hotmail.com](mailto:ashrafmomina@hotmail.com) or Momina's supervisors or the Head of the Department, whose contact details are given below :

**Supervisors:**

**Professor John Duckitt**

Department of Psychology,  
University of Auckland,  
Telephone: 373 7599, ext. 88353,  
E-mail: [j.duckitt@auckland.ac.nz](mailto:j.duckitt@auckland.ac.nz)

**Dr Nickola Overall**

Department of Psychology,  
University of Auckland,  
Telephone: 373 7599, ext. 89120,  
Email: [n.overall@auckland.ac.nz](mailto:n.overall@auckland.ac.nz)

**The Head of the Psychology Department is:**

Associate Professor Fred Seymour  
Department of Psychology,  
University of Auckland,  
Telephone. 373 7599, ext. 88414,  
E-mail: [f.seymour@auckland.ac.nz](mailto:f.seymour@auckland.ac.nz)

For any queries regarding ethical concerns you may contact the Chair, The University of Auckland Human Participants Ethics Committee, The University of Auckland, Office of the Vice Chancellor, Private Bag 92019, Auckland 1142. Telephone 09 373-7599 ext. 83711.

Approved by the UNIVERSITY OF AUCKLAND HUMAN PARTICIPANTS ETHICS COMMITTEE on 8-7-2009 for 3 years, Reference Number 2009/259

## Appendix C4

### PARTICIPANT INFORMATION SHEET (For Parents)

**Date:** \_\_\_\_\_

**Title of Project:** Similarities and differences in parents' and daughters' social attitudes

**Principal Investigator:** Momina Ashraf, PhD student, Psychology Department, University of Auckland, HSB Building, Room 654. Phone: 09 373 7599, extn 88637. E-mail: ashrafmomina@hotmail.com

**Dear parent,**

We are Professor John Duckitt, Dr Nickola Overall and PhD student Momina Ashraf from the Department of Psychology at The University of Auckland. We would like to invite you to participate in a research study investigating similarities and differences between parents and daughters' social attitudes and how parents' attitudes influence their daughters.

**Your participation involves completing a short questionnaire in which you are asked to respond to questions and statements regarding your attitudes about a number of social issues, particularly regarding men and women especially in relation to daughters' self-esteem and career aspirations. The questionnaire should take about 30 minutes to complete and to thank you for your effort you will be included in the draw to win three prizes of \$100.**

Funds for this research will be provided by The University of Auckland.

In order to assess similarities and differences within families we will be asking mothers, fathers and daughters from the same families to complete questionnaires. We would be extremely grateful if you could take the time to complete this questionnaire. Our research requires data from all three family members so your participation is integral to the success of our research program.

**Your participation is completely voluntary and neither your daughter's grades nor academic relationships with the department or members of staff will be affected by either your refusal or agreement to participate. This assurance has been provided by the Head of the Psychology Department. You have the right to withdraw from participation at any time. You also have the right to withdraw your data from the research up to 4 weeks after the completion of the questionnaires.**

If you agree to participate, simply complete the enclosed questionnaire and mail it back to us in the enclosed self-addressed pre-paid envelope.

**Please note that your questionnaire responses in this research will be kept strictly confidential.** It was necessary to record your name and contact details, to send you the questionnaire. However, these details will be stored separately from all research data, i.e. the questionnaires, in a locked filing cabinet in a secure room in the Psychology Department, and only the investigators will have access to your data. Your questionnaire will not have your name on it; instead it has a numerical code that will be used to link it to your daughter's questionnaire.

Your responses will be converted to numbers in a secure electronic data file that will only be identified by a code number. None of your family members will see your questionnaire. The electronic data will be stored indefinitely for research purposes but at no time be identifiable as yours and your questionnaire, personal information and consent form will be destroyed (shredded) after six years. Finally, this research will be published but your identity will never be revealed or associated with the data.

At the completion of this research project a report will be made available summarising the findings of this study. Once you have completed participation you will be asked if you wish to receive this report, and, if so, to provide details where the report should be sent. As before, these details will not be associated with your questionnaire or recorded data at any time.

For any questions regarding this project, please contact Momina Ashraf, of the Psychology Department, University of Auckland, who can be contacted at 373 7599 ext. 88637; Room 654. E-mail: [mash041@aucklanduni.ac.nz](mailto:mash041@aucklanduni.ac.nz) or [ashrafmomina@hotmail.com](mailto:ashrafmomina@hotmail.com) or Momina's supervisors or the Head of the Department, whose contact details are given below :

**Supervisors:**

**Professor John Duckitt**

Department of Psychology,  
University of Auckland,  
Telephone: 373 7599, ext. 88353,  
E-mail: [j.duckitt@auckland.ac.nz](mailto:j.duckitt@auckland.ac.nz)

**Dr Nickola Overall**

Department of Psychology,  
University of Auckland,  
Telephone: 373 7599, ext. 89120,  
Email: [n.overall@auckland.ac.nz](mailto:n.overall@auckland.ac.nz)

**The Head of the Psychology Department is:**

Associate Professor Fred Seymour  
Department of Psychology,  
University of Auckland,  
Telephone: 373 7599, ext. 88414,  
E-mail: [f.seymour@auckland.ac.nz](mailto:f.seymour@auckland.ac.nz)

For any queries regarding ethical concerns you may contact the Chair, The University of Auckland Human Participants Ethics Committee, The University of Auckland, Office of the Vice Chancellor, Private Bag 92019, Auckland 1142. Telephone 09 373-7599 ext. 83711.

Approved by the UNIVERSITY OF AUCKLAND HUMAN PARTICIPANTS ETHICS COMMITTEE on 8-7-2009 for 3 years, Reference Number 2009/259

## Appendix C5

### PARTICIPANT INFORMATION SHEET FOR FOLLOW UP STUDY (For Daughters)

**Date:** \_\_\_\_\_

**Title of Project:** Similarities and differences in parents' and daughters' social attitudes

**Principal Investigator:** Momina Ashraf, PhD student, Psychology Department, University of Auckland, HSB Building, Room 654. Phone: 09- 373 7599, extn 88637. E-mail: mash041@aucklanduni.ac.nz

**Dear participant,**

You are invited to participate in the follow-up study for the same research project examining the similarities and differences between parents' and daughters' attitudes.

**Your participation involves responding to an online, shorter version of the same questionnaire you completed six months ago. It will take up only about 10 minutes of your time and to thank you for your participation you we will send you \$15 grocery vouchers. Funds for this research will be provided by The University of Auckland.**

Your participation is entirely voluntary. Your grades and academic relationships with university staff will not be affected by refusal or agreement to participate. This assurance has been provided by the Head of the Psychology Department. You may withdraw from the survey at any time prior to completing it without giving a reason, however survey responses cannot be withdrawn from the study once they have been submitted.

**All data collected will remain confidential and anonymity will be ensured by assigning numerical codes to the questionnaires. Your follow up questionnaire will be linked to your initial questionnaire only through a numerical code.**

As you were informed earlier, only the investigators will examine your responses, and your identity will remain separated from your questionnaire at all times. Your questionnaires will be stored separately from your personal information in a locked filing cabinet in a secure room in the Psychology Department, and only the investigators will have access to your data. Your questionnaire and data will be stored indefinitely for research purposes but at no time be identifiable as yours and your personal information and consent form will be destroyed (shredded) after six years. Finally, this research will be published but your identity will never be revealed or associated with the data.

**If you complete this on-line survey it will be understood that you consent to the following:**

- I consent to participate in this research.
- I consent to publication of the results of the research with the understanding that anonymity and confidentiality will be preserved.



For any questions regarding this project, please contact Momina Ashraf, of the Psychology Department, University of Auckland, who can be contacted at 373 7599 ext. 88637; Room 654. E-mail: mash041@aucklanduni.ac.nz or ashrafmomina@hotmail.com or Momina's supervisors or the Head of the Department, whose contact details are given below:

**Supervisors:**

**Professor John Duckitt**

Department of Psychology,  
University of Auckland,  
Telephone: 373 7599, ext. 88353,  
E-mail: j.duckitt@auckland.ac.nz

**Dr. Nickola Overall**

Department of Psychology,  
University of Auckland,  
Telephone: 373 7599, ext. 89120,  
Email: n.overall@auckland.ac.nz

**The Head of the Psychology Department is:**

Dr. Douglas Elliffe  
Department of Psychology  
University of Auckland  
Private Bag 92019,  
Auckland.  
Tel. 373 7599 ext. 85262

For any queries regarding ethical concerns you may contact the Chair, The University of Auckland Human Participants Ethics Committee, The University of Auckland, Office of the Vice Chancellor, Private Bag 92019, Auckland 1142. Telephone 09 373-7599 ext. 83711.

APPROVED BY THE UNIVERSITY OF AUCKLAND HUMAN PARTICIPANTS ETHICS COMMITTEE ON 9<sup>th</sup> of July 2009 for (3) years, Reference Number 2009/259

## Appendix C6

### **Consent Form** (From Daughters)

**This form will be kept for a period of 6 years.**

**Title of Project:** Similarities and differences in parents' and daughters' social attitudes.

**Principal Investigator:** Momina Ashraf, PhD student, Psychology Department, University of Auckland, HSB Building, Room 654. Phone: 09 373 7599, extn 88637. E-mail: ashrafmomina@hotmail.com

I have read the Participant Information Sheet and have understood the nature of the research. I have had the opportunity to ask questions and have had any questions answered to my satisfaction. I understand that participation in this research is voluntary and I agree to take part in this research.

- I understand that this research session will take about 45-50 minutes of my time.
- I understand why my parents' participation is required for this research and I consent to provide their contact details.
- I understand that I can stop participating during this research session at anytime without giving a reason.
- I understand that after completing this research session I have the right to withdraw my information/data up to four weeks from today's date.
- I understand that my responses and personal information will be kept confidential.
- I understand that my questionnaire will be matched-up with my parents' questionnaires for statistical analysis but only through a numerical code so that it will not be identifiable either by my own or my parents' personal details.
- I understand that consent forms and questionnaires will be kept for six years, after which they will be destroyed, and the numerical data based on questionnaire responses will be stored electronically for an indefinite period of time.
- I consent to publication of the results of the research with the understanding that anonymity and confidentiality will be preserved.
- I agree to be available to complete a follow-up questionnaire in 6 months.
- I would like to receive a summary of the findings of this research. Yes/No?

Name: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: \_\_\_\_\_

Approved by the UNIVERSITY OF AUCKLAND HUMAN PARTICIPANTS ETHICS COMMITTEE on 8-7-2009 for 3 years, Reference Number 2009/259

## Appendix C7

### Consent Form

(From Parents)

**This form will be kept for a period of 6 years.**

**Title of Project:** Similarities and differences in parents' and daughters' social attitudes.

**Principal Investigator:** Momina Ashraf, PhD student, Psychology Department, University of Auckland, HSB Building, Room 654. Phone: 09 373 7599, extn 88637. E-mail: ashrafmomina@hotmail.com

I have read the Participant Information Sheet and have understood the nature of the research. I have had the opportunity to ask questions and have had any questions answered to my satisfaction. I understand that participation in this research is voluntary and I agree to take part in this research.

- I understand that completing the questionnaire will take about 30 minutes of my time.
- I understand that I am free to withdraw participation at any time, and that after completing this research questionnaire I have the right to withdraw my information/data up to four weeks from today's date.
- I understand that my questionnaire responses and personal information will be kept confidential.
- I understand that my questionnaire will be matched-up with my daughter's questionnaire for statistical analysis but only through a numerical code so that it will not be identifiable either by my own or my daughter's personal details.
- I consent to publication of the results of the research with the understanding that anonymity and confidentiality will be preserved.
- I understand that consent forms and questionnaires will be kept for six years, after which they will be destroyed, and the numerical data based on questionnaire responses will be stored electronically for an indefinite period of time.
- I would like to receive a summary of the findings of this research. Yes/No?

Name: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: \_\_\_\_\_

Approved by the UNIVERSITY OF AUCKLAND HUMAN PARTICIPANTS ETHICS COMMITTEE on 8-7-2009 for 3 years, Reference Number 2009/259