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The Justification of Prejudice Toward Childfree Women

A dissertation submitted in partial fulfillment of the requirements for the degree of Doctor of Philosophy at Virginia Commonwealth University.

by

Annalucia Bays,
Master of Science
Virginia Commonwealth University, December 2014

Director: Kathleen M. Ingram, J.D., Ph.D.,
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Virginia Commonwealth University
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Abstract

THE JUSTIFICATION OF PREJUDICE TOWARD CHILDFREE WOMEN

By Annalucia Bay, M.S.

A dissertation submitted in partial fulfillment of the requirements for the degree of Doctor of Philosophy at Virginia Commonwealth University.

Virginia Commonwealth University, 2018

Major Director: Kathleen M. Ingram, J.D., Ph.D.,
Associate Professor of Psychology, Department of Psychology

Previous research suggests that women without children are perceived negatively by others and experience adverse outcomes in social, occupational, and medical settings. This study investigated psychosocial justifications of prejudice toward childfree women using the Justification-Suppression Model of Prejudice (Crandall & Eshleman, 2003). All participants from an online Amazon Mechanical Turk sample of adults living in the United States (*N* = 891; mean age 44 years, 59.1% women, 79.5% White) completed measures of right-wing authoritarianism (RWA), the internal (IMS-S) and external (EMS-S) motivations to respond without sexism, and prejudice toward childfree women (i.e., perceived disadvantages of being childfree, evaluations of childfree women, and perceptions of childfree women's warmth). Depending on their randomized condition, most participants also completed one or more

justification measures of hostile sexism (HS), benevolent sexism (BS), gender-specific system justification (GSSJ), and femininity ideology. Results of hierarchical multiple regression analyses indicated that greater RWA was directly associated with greater perceived disadvantages of being childfree and coldness in childfree women. Additionally, greater IMS-S was directly associated with fewer perceived disadvantages of being childfree, favorable evaluations of childfree women, and greater perceived warmth in childfree women; and greater EMS-S was directly associated with more negative evaluations of and perceived coldness in childfree women. Greater BS and GSSJ were also associated with greater childfree disadvantages. Furthermore, endorsement of femininity ideology was directly associated with greater disadvantages, unfavorable evaluations, and perceived coldness. In mediational analyses, femininity ideology and (sometimes) BS justified (i.e., mediated/explained) relations between IMS-S/EMS-S and expressed prejudice toward childfree women. Specifically, IMS-S and EMS-S were associated with greater disadvantages, unfavorable evaluations, and perceived coldness indirectly through femininity ideology. EMS-S was also associated with greater disadvantages and unfavorable evaluations indirectly through BS. The current study makes a unique contribution to the literature on attitudes toward childfree women by not only replicating that childfree prejudice persists, but also documenting why it potentially exists. Additionally, by identifying several psychosocial constructs that may justify prejudice toward childfree women, this study provides direction for future research and possible interventions to reduce childfree prejudice and accompanying negative outcomes for women without children.

The Justification of Prejudice Toward Childfree Women

Throughout this document, several terms are used to describe women of various parental statuses. The term *childless* describes a group of women who are not mothers, but for whom the reasons are either mixed or unidentified (Houseknecht, 1987). *Childfree* women, on the other hand, have made a deliberate decision not to be a mother and are specifically defined as "…those who expect to have no children in their lifetimes, and are either fecund (physically able to have a birth) or are surgically sterile for *contraceptive* reasons" (italics appear in the original quote; Martinez, Daniels, & Chandra, 2012, p. 4). Finally, *involuntarily childless* women may wish to be mothers but are not due to unavoidable obstacles (e.g., difficulty conceiving, lack of a partner, financial limitations; Jeffries & Konnert, 2002).

Although the reasons for childlessness were not reported, recent estimates suggest that approximately 17.1% of women aged 45 to 50 in the United States (U.S.) do not have children (U.S. Census Bureau, 2017). Other research suggests that approximately 6% of U.S. women identify as childfree (Martinez et al., 2012), with increases in the numbers of childfree women paralleling improvements in women's economic, political, and educational circumstances (e.g., Lundquist, Budig, & Curtis, 2009). According to research, childfree women are more likely to be unmarried, hold advanced educational degrees, pursue professionally-oriented careers, have high socioeconomic status, and be unaffiliated with a religion (e.g., Abma & Martinez, 2006; Lundquist et al., 2009; Majumdar, 2004; Martinez et al., 2012). Childfree women report many reasons for forgoing motherhood, including the desire to fully commit to their career, not having

an interest in raising children, and/or wanting more free time to pursue leisure activities (e.g., Gillespie, 2003; Park, 2005).

Although some contemporary research suggests that negative attitudes toward women without children are improving in Western cultures (Gubernskaya, 2010; Merz & Liefbroer, 2012; Noordhuizen, de Graaf, & Sieben, 2010), other studies confirm that prejudice toward childfree women persists in the U.S. (Ashburn-Nardo, 2016; Bays, 2017; Koropeckyj-Cox & Pendell, 2007; Koropeckyj-Cox, Çopur, Romano, & Cody-Rydzewski, 2015; Koropeckyj-Cox, Romano, & Moras, 2007; Vinson, Mollen, & Smith, 2010). Across several decades of research, a host of negative attributes have been ascribed to childfree women, including maladjustment (Polit, 1978), selfishness (Callan, 1985), dissatisfaction with their lives (Mueller & Yoder, 1997), and lack of warmth (Bays, 2017). Childfree women have also elicited social reactions of disgust (Bays, 2017), moral outrage (Ashburn-Nardo, 2016), and harmful behaviors (Bays, 2017). Additionally, childfree women are routinely viewed less favorably than mothers and involuntarily childless women (e.g., Bays, 2017; Kopper & Smith, 2001). In recent qualitative work, childfree women describe experiencing stereotyping, stigmatization, and prejudice (e.g., Doyle, Pooley, & Breen, 2012; Rich, Taket, Graham, & Shelley, 2011; Shaw, 2011). Furthermore, a small body of research documents discriminatory outcomes for women without children in occupational (e.g., Doyle et al., 2012; Eby, Allen, Noble, & Lockwood, 2004; Mollen, 2006) and medical (e.g., Mollen, 2006; Wiseman, 2006, 2007, 2010) settings. Finally, several demographic characteristics may be associated with holding negative attitudes toward childlessness in Western cultures, including being a man, a racial/ethnic minority, older, of lower socioeconomic status, and highly religious (e.g., Gubernskaya, 2010; Koropeckyj-Cox & Pendell, 2007a, 2007b; Merz & Liefbroer, 2012).

The current study examined prejudice toward childfree women using the theoretical framework of the Justification-Suppression Model (JSM; Crandall & Eshleman, 2003, 2005). Broadly speaking, the JSM defines *prejudice* as "…a negative evaluation of a social group or…individual that is significantly based on the individual's group membership" (Crandall & Eshleman, 2003, p. 414). More specifically, a *genuine prejudice* is "…an authentically negative reaction that is not usually directly accessible but that is primary and powerful" (Crandall & Eshleman, 2003, p. 416-417), and represents a prejudice in its purest form. The JSM suggests that *genuine prejudices* are filtered through suppression and justification processes before ultimately being expressed. *Suppression*, then, is defined as "…an externally or internally motivated attempt to reduce the expression or awareness of prejudice" (Crandall & Eshleman, 2003, p. 420), and requires purposeful effort/energy and cognitive control. Factors influencing the suppression of genuine prejudice are few, can apply to many prejudices, and may include social norms, personal values, interpersonal dynamics, and situational context. Suppression processes are essential because they allow an individual to present a non-prejudiced image to themselves and others. The JSM adheres to Plant and Devine's (1998) conceptualization of prejudice suppression as both internally and externally motivated, and that these constructs operate independently of each other. The internal motivation to suppress prejudice is driven by upholding personal standards that discourage the inner experience and external expression of prejudice. On the other hand, the external motivation to suppress prejudice is typically driven by wanting to appear non-prejudiced to others (but not necessarily oneself) and complying with social norms that discourage prejudice expression. Indeed, research suggests that the internal motivation to suppress prejudice is often associated with lower expressed prejudice, whereas the external motivation to suppress prejudice is associated with greater levels of expressed prejudice,

particularly when the social context permits prejudice expression or reporting is anonymous (Plant & Devine, 1998).

According to the JSM, the experience of each prejudice is characterized by a tension between suppressing and expressing that prejudice (Crandall & Eshleman, 2003, 2005). Thus, the JSM suggests that many expressed prejudices are first "released" from suppression processes by factors known as *justifications*. The JSM defines a justification as "…any psychological or social process that can serve as an opportunity to express genuine prejudice without suffering external or internal sanction" (Crandall & Eshleman, 2003, p. 425). Whereas suppression factors are broad, justifications are many and specific to the prejudice being expressed. The JSM is clear in its conceptualization of justifications as "releasing" rather than causing prejudice. In other words, the prejudice *precedes* the justification which, in turn, explains the ultimate expression of prejudice. Thus, when prejudice is reported or observed, it has likely first been filtered through suppression and justification processes. Indeed, findings from empirical studies document that both the suppression (e.g., Courtois et al., 2014; Choi, Crandall, & La, 2014; Webster, Burns, Pickering, & Saucier, 2014) and justification (e.g., Bahns, 2017; Costarelli & Gerłowska, 2015; Ebneter, Latner, & O'Brien, 2011) of prejudice influence its expression.

Of relevance to the present study, research also suggests that individuals are both internally and externally motivated to respond without sexism toward women (Klonis, Plant, & Devine, 2005). High internal motivation to suppress prejudice toward women has been associated with positive attitudes toward women (Gervais & Hoffman, 2013; Latu et al., 2011), whereas high external motivation to suppress prejudice toward women has been associated with negative attitudes toward women (Latu et al., 2011; Young & Nauta, 2013). Crandall, Eshleman, and O'Brien (2002) also found that it is more acceptable to express prejudice toward some

subtypes of women (e.g., a pregnant woman who consumes alcohol) over others (e.g., stay-at-home mothers).

Feminist and queer theories provide a broader social, political, and historical context in which to situate prejudice toward childfree women. These theories challenge conceptualizations of women's identity as stable and innate, preferring instead to highlight the socially constructed and "performative" nature of gender (Butler, 1999; Chodorow, 1999; de Beauvoir, 2010). Several feminist theorists also describe a conflation between biological sex, gender, and sexuality that reinforces conformity to prescribed gender roles and heteronormativity (Butler, 1999; Chodorow, 1999). Additionally, women's identities are fundamentally juxtaposed against men's, relegating women to passive and dependent pursuits versus men's active independence (de Beauvoir, 2010). Women's corporeal tie to offspring also justifies an unequal and gendered division of labor, oppression of women, and the "naturalization" of caregiving roles for women within a private, domestic sphere (de Beauvoir, 2010; Chodorow, 1999; Hartsock, 1983). Social constructions of gender thus create inextricable links between womanhood and motherhood (Chodorow, 1999; DiQuinzio, 1999; Ruddick, 1989). Furthermore, queer theorists discuss how the social and political function of children is to regulate women's sexuality within a heteropatriarchical system (Luibhéid, 2002), and perpetuate a social order that mandates heteronormativity and procreation (Downing, 2011; Edelman, 2004). Research also suggests that conceptualizations of femininity and motherhood are bound to race/ethnicity and social class such that White, middle-class ideals are promoted (e.g., Collins, 1994, 1998, 2005; Roberts, 1993). Within this framework, producing children may be viewed as the ultimate evidence of conformity to the sex-gender-sexuality chain previously described and hegemonic norms of White, middle-class femininity. Therefore, feminist and queer theories provide a rich context to explain prejudice toward childfree women.

Specific psychosocial constructs may justify the expression of prejudice toward childfree women. One such construct is *ambivalent sexism*, which is comprised of two discrete and contrasting yet related attitudes toward women (Glick & Fiske, 1996). *Hostile sexism* (HS) represents classic antipathy and negativity toward women. *Benevolent sexism* (BS), on the other hand, represents subjectively positive (by the expresser) views of women as naturally passive, suited to stereotypically domestic roles, prosocial, and in need of protection from men. Because HS and BS are complementary attitudes that work in tandem to justify unequal gender relations, individuals may hold both of these attitudes simultaneously. Previous research suggests that HS is related to unfavorable responses toward women, whereas BS is related to subjectively favorable responses toward women (Clow & Ricciardelli, 2011; Glick et al., 2000; Glick & Fiske, 1996). Additionally, research suggests that ambivalent sexism is associated with less support for gender equality and women's participation in the workforce (e.g., Becker & Wright, 2011; Brandt, 2011; Christopher & Wojda, 2008; Latu et al., 2011; Young & Nauta, 2013). Previous findings also demonstrate that HS is associated with negative attitudes toward women who fail to comply with conventional gender roles; conversely, BS is associated with positive attitudes toward women who conform to conventional gender roles (e.g., Becker, 2010; Clow & Ricciardelli, 2011; Fowers & Fowers, 2010; Gaunt, 2013; Glick, Wilkerson, & Cuffe, 2015).

Another potential justification of prejudice toward childfree women could be *system justification*, an ideology in which stereotypes legitimize perceived differences between groups, rationalize unfavorable beliefs about and behaviors toward out-groups, and perpetuate unequal and exploitative social arrangements (Jost & Banaji, 1994; van der Toorn & Jost, 2014). *Gender-specific system justification* (GSSJ) characterizes beliefs that existing gender relations, inequality, and the division of labor are just and natural (Jost & Kay, 2005). GSSJ encompasses views that men and women assume the social roles to which they are best suited and that these

roles balance one another by compensating for the alleged deficiencies of the "opposing" gender (Jost & Kay, 2005). The "complementary" nature of this system serves a palliative function for the exploited group (i.e., women) and inadvertently makes them complicit in their own oppression. Previous studies demonstrate that endorsement of GSSJ is related to greater ambivalent sexism (de Lemus, Navarro, Velásquez, Ryan, & Megías, 2014; Sibley & Becker, 2012), disapproval of non-sexist language (Douglas & Sutton, 2014), support for stereotypic gender roles (Chiaburu, Harris, & Smith, 2014), and rape myth acceptance (Chapleau & Oswald, 2014). Endorsing GSSJ also influences women's attitudes about themselves, including reduced intentions of engaging in gender-related activism (Becker & Wright, 2011; Calogero, 2013), rating their academic performance unfavorably (Bonnot & Jost, 2014), and accepting stranger harassment as benign (Saunders, Scaturro, Guarino, & Kelly, 2017).

A final construct that may justify prejudice toward childfree women is *femininity ideology*, which is defined as the endorsement of traditional feminine norms and beliefs regarding the expected behavior of women (Levant, Richmond, Cook, House, & Aupont, 2007). This includes views that women should adhere to conventional standards of feminine appearance and behavior, be pure/chaste, demonstrate reliance on and deference toward men, be emotionally sensitive and expressive, provide care to others, and favor domestic labor/activities. Previous findings suggest that endorsement of femininity ideology is associated with negative views of women (Hawkes, Senn, & Thorn, 2004), aggression toward women (Reidy, Shirk, Sloan, & Zeichner, 2009), an unequal division of domestic labor favoring men (Lothaller, Mikula, & Schoebi, 2009), greater blame toward women who experience sexual assault and abuse (Angelone, Mitchell, & Grossi, 2014; Capezza & Arriaga, 2008; Emmers-Sommer, 2014), acceptance of violence and sexual force toward women (Emmers-Sommer, 2014), and unfavorable attitudes toward women holding gender-incongruent roles (Garcia-Retamero &

López-Zafra, 2006; Leskinen, Rabelo, & Cortina, 2015; Perrone, 2009; Rudman & Phelan, 2008). Women who endorse femininity ideology also report greater anxiety (Richmond, Levant, Smalley, & Cook, 2015), more negative evaluations of their own bodies (Swami & Abbasnejad, 2010; Tolman & Porche, 2000), lower self-esteem (Tolman & Porche, 2000), and less assertiveness in declining unwanted sexual activity (Wigderson & Katz, 2015).

Finally, right-wing authoritarianism (RWA) has been defined as a constellation of strong endorsement of conventional social norms, obedience/submission to authority, and aggression toward individuals/groups who violate or oppose dominant ideologies (Altemeyer, 1981; Altemeyer, 1998). RWA is particularly likely to produce aggression and hostility toward individuals/groups who deviate from or threaten the established social order (e.g., Asbrock, Sibley, & Duckitt, 2010; Duckitt & Sibley, 2007). RWA has been strongly linked to the tendency to express prejudice toward many different social groups (e.g., Cohrs, Kämpfe-Hargrave, & Riemann, 2012; Duckitt & Sibley, 2007; McFarland, 2010) and endorse specific types of prejudice, including racism and xenophobia (e.g., Sibley & Duckitt, 2008; Sibley, Robertson, & Wilson, 2006). Previous research has also demonstrated that RWA is associated with a variety of negative responses toward women, including ambivalent sexism (e.g., Feather & McKee, 2012; Lee, 2013; Sibley et al., 2006), prejudice toward women who do not conform to traditional standards of femininity (e.g., Duckitt & Sibley, 2007), sexual aggression (e.g., Walker, Rowe, & Quinsey, 1993), and non-supportive attitudes toward gender equality (e.g., Duncan, Peterson, & Winter, 1997; Peterson & Zurbriggen, 2010). Thus, RWA may also be associated with prejudice toward childfree women.

Despite the rich literatures on each of these subjects, no study to-date has examined prejudice toward childfree women using a JSM framework, or how RWA, ambivalent sexism, GSSJ, and femininity ideology relate to prejudice toward childfree women. Thus, using data

collected from an online sample of adults living in the U.S., this study had several aims. The overarching aim of the current study was to identify some of the psychosocial constructs that underlie prejudice toward childfree women. More specifically, the first aim of the present study was to investigate whether RWA is related to prejudice toward childfree women. It was hypothesized that greater levels of RWA are associated with greater expressed prejudice toward childfree women. Second, this study assessed how the motivation to respond without sexism is related to prejudice toward childfree women. It was hypothesized that the internal motivation to respond without sexism is associated with lower levels of prejudice toward childfree women and the external motivation is associated with greater levels of prejudice. Third, the current study examined how ambivalent sexism, GSSJ, and femininity ideology relate to prejudice toward childfree women. It was hypothesized that these constructs are positively associated with expressed prejudice toward childfree women. Finally, this study assessed whether ambivalent sexism, GSSJ, and femininity ideology justify expressed prejudice toward childfree women. It was expected that these constructs would mediate the relation between suppression of prejudice toward women and expressed prejudice toward childfree women. Therefore, the current study makes a unique contribution to the literature on attitudes toward childlessness by not only examining the "what" of prejudicial attitudes toward childfree women, but also the "why" of these attitudes. In doing so, the current study highlights potential opportunities for interventions that may reduce prejudice toward childfree women.

Literature Review

As the number of women without children increases in Western cultures, attitudes toward childfree women will remain an important research area. This chapter reviews recent estimates of how many women are childfree, traits/characteristics that are related to being a childfree woman, and why women choose to be childfree. This chapter also presents the literature regarding attitudes toward childlessness in women and prospective theoretical justifications for these attitudes. Additional theoretical explanations for negative attitudes toward childfree women are also presented. Unless otherwise specified, the studies reviewed focus on attitudes toward and experiences of women who are not mothers in Western cultures (e.g., North America, Europe).

As previously discussed, the current study uses a number of terms to describe women who are not parents, including *involuntarily childless* and *childfree*. However, it is important to note that a woman's identity as a nonparent may be more appropriately conceptualized on a continuum (Letherby, 2002). Indeed, identifying as childfree or involuntarily childless may change over a woman's lifespan as her self-identity shifts and her circumstances change. For example, a woman who wants to have children but cannot due to difficulty conceiving may first identify as involuntarily childless but later identify as childfree after she decides not to pursue fertility treatments or other pathways to parenting (e.g., adoption). Thus, a woman's position on this continuum may be fluid and related to her self-identification rather than a fixed and mutually exclusive social classification as *either* involuntarily childless *or* childfree. Nonetheless, social

perceptions are often based on the human tendency to automatically and unconsciously categorize others based on little information and in a manner that frequently activates negative responses, such as stereotyping and prejudice (Greenwald & Banaji, 1995; Jones et al., 1984). It is the activation of the negative responses evoked by social classifications that will be the subject of the current study.

It is equally important to note that assessing prejudice toward childfree "women" in this study is not intended to reproduce the gender binary, defined by the American Psychological Association (APA; 2015) as "the classification of gender into two discrete categories of boy/man and girl/woman" (p. 861). Additionally, the current study does not intend to conflate gender with biological/assigned sex and sexuality. Yet, social perceptions often influence attitudes toward an individual (Greenwald & Banaji, 1995; Jones et al., 1984). Therefore, this study broadly defines a "woman" as any individual perceived as such and who is likely subjected to the cultural and normative expectations for the roles, behaviors, and proclivities of women. Paradoxically, however, prejudice toward childfree "women" cannot be addressed without acknowledging the pervasive and powerful cultural perception of the sex-gender binary as a "real" construct among many laypersons. Furthermore, although the sex-gender binary is socially constructed (as will be discussed at length), it nonetheless produces actual, material outcomes for all genders. Thus, much of the literature reviewed in the present study inadvertently reproduces the binary to ultimately discuss its power to shape the lives of individuals perceived as women who have children, who cannot have children, and who reject motherhood. Nonetheless, when being asked to evaluate "childfree women" in this study, participants will not be provided with a definition of "woman." Subsequently, in the absence of a guiding definition, it might be assumed that many participants will imagine cisgender (i.e., "…a person whose gender identity and gender expression align with the sex assigned at birth;"

APA, 2015, p. 861), heterosexual women when asked to report their attitudes toward "childfree women." Indeed (as will also be discussed at length), pervasive social ideologies privilege heterosexuality and routinely assume alignment between biological/assigned sex (i.e., the appearance of one's external reproductive anatomy; APA, 2015), gender (i.e., one's internal sense of themselves as a woman, man, both, or an alternative gender; APA, 2015), and sexual identity (i.e., the type of physical, emotional, sexual, or romantic attraction one feels for others, typically defined by the gender of the individual(s) to whom one is attracted; APA, 2015). Additionally, although separate literatures exist regarding attitudes toward lesbian, bisexual, transgender, and queer women who pursue parenting (or nonparenting) trajectories, a discussion of these bodies of work is beyond the scope of the present study.

Describing Childfree Populations

Although specific statistics vary, nearly all recent sources suggest that numbers of childfree women in the U.S. have increased in the last several decades. For example, Abma, Chandra, Mosher, Peterson, and Piccinino (1997) reported that 4.9% of U.S. women were childfree in 1982 and 6.2% were childfree in 1995. Similarly, Abma and Martinez (2006) demonstrated an increase in the number of childfree women aged 35 to 44 from 5% in 1982 to 7% in 2002. More recently, results from the National Survey of Family Growth (NSFG) suggest that approximately 6% of women in the U.S. between the ages of 15 and 44 were childfree from 2006 to 2010, a percentage that has been consistent since 2002 (Martinez et al., 2012). Studies also reveal that childfree women are demographically unique from involuntarily childless women.

Several factors appear to contribute to increasing numbers of women without children in Western cultures, including the social, political, and financial gains associated with women's liberation (Jacobson, Heaton, & Taylor, 1988; Lundquist et al., 2009). More specific factors

include greater access to effective birth control, the choice to postpone marriage or remain unmarried, increased divorce rates, and postponing first childbirth (Kohli & Albertini, 2009; Lundquist et al., 2009). Additionally, advanced education (Abma & Martinez, 2006; Bachu, 1999; Jacobson et al., 1988; Jacobson & Heaton, 1991; Lundquist et al., 2009) and more opportunity to participate in the labor force (Gubernskaya, 2010) are positively associated with women being childfree. Indeed, childfree women are likely to achieve advanced education (e.g., Lundquist et al., 2009; Majumdar, 2004; Martinez et al., 2012), obtain full-time employment in professional/managerial occupations (e.g., Abma & Martinez, 2006; Bachu, 1999; Jacobson & Heaton, 1991), be committed to their career (Abma & Martinez, 2006; Jacobson & Heaton, 1991), and attain high socioeconomic status (e.g., Abma & Martinez, 2006; Lundquist et al., 2009; Majumdar, 2004). Childfree women also tend to be unmarried (e.g., Abma & Martinez, 2006; Martinez et al., 2012), unaffiliated with a religion (e.g., Abma & Martinez, 2006), disagree with traditional Christian biblical ideology (Heaton, Jacobson, & Fu, 1992), and infrequently attend religious services (e.g., Abma & Martinez, 2006). Furthermore, childfree women appear to place less significance on intergenerational support systems and conventional family norms (Jacobson & Heaton, 1991).

Childfree women in Western cultures describe a variety of motivations for being childfree. According to several authors (DeLyser, 2012; Letherby, 2002), women make the choice to be childfree in a reflective, thoughtful manner. Many women report that they enjoy the freedoms of being childfree, which include being able to pursue hobbies, travel, volunteer work, and rewarding careers (Gillespie, 2003; Houseknecht, 1987; Mollen, 2006; Movius, 1976; Park, 2005). Some women state that being childfree permits them to devote more time to their intimate relationships (Gillespie, 2003; Houseknecht, 1987; Mollen, 2006). Yet, other childfree women describe being unwilling or unable to invest in the financial costs of raising children

(Mollen, 2006; Movius, 1976, Park, 2005). Some childfree women claim that their personalities are unsuited for motherhood, such as being anxious, introverted, or impatient (Park, 2005), whereas others state that they lack a maternal instinct, or are simply uninterested in or uncomfortable with children (Houseknecht, 1987; Park, 2005). Environmental concerns (e.g., reducing overpopulation; Houseknecht, 1987; Mollen, 2006; Movius, 1976; Park, 2005), preventing the perpetuation of hereditary diseases (Mollen, 2006), and dangerous world conditions (Houseknecht, 1987; Mollen, 2006) are also reported as motivations for women being childfree. Other women describe learning about aversive parenting experiences from others (Park, 2005) and having poor parenting models as children (Houseknecht, 1987; Mollen, 2006; Park, 2005) as reasons for being childfree. Finally, some childfree women describe a more radical rejection of motherhood and its associated roles, responsibilities, and sacrifices as the primary incentive for not having children (Gillespie, 2003; Mollen, 2006; Park, 2005).

Attitudes Toward Childlessness

As delayed parenthood becomes more common, research suggests that being childless is being viewed more positively in Western countries (Gubernskaya, 2010; Koropeckyj-Cox et al., 2007; Merz & Liefbroer, 2012; Noordhuizen et al., 2010). For instance, findings from a study (participants' socioeconomic status [SES], race/ethnicity, and gender were unspecified) in the Netherlands, a comparatively progressive country, demonstrate that acceptance of being childfree has increased from 20% to 90% over approximately three decades (Noordhuizen et al., 2010). This change occurred because successive cohorts are becoming more accepting of childlessness and attitude shifts are occurring within cohorts along individual-level variables. Additionally, a study of evolving attitudes in six Western countries (Austria, Germany, Great Britain, Ireland, the Netherlands, and the U.S.; sample characteristics were 52-57% women, aged 18-65+, educated 10-13 years, 44-62% employed, race/ethnicity unspecified) found that negative

attitudes toward childlessness consistently declined between 1988 and 2002, particularly in the U.S. (Gubernskaya, 2010). However, attitudes in the U.S. (along with Austria) were the most traditional compared to attitudes in other countries during this time period. Additionally, attitudes toward childlessness may not be changing as rapidly in the U.S., nor be as positive as in other Western countries. Koropeckyj-Cox and Pendell (2007a) reported that as few as 20% of the participants in a large, racially/ethnically-diverse, nation-wide U.S. sample endorsed favorable attitudes toward childlessness (depending on the outcome being measured).

Much of the research documenting negative attitudes toward childless and childfree populations was conducted in the mid-to-late 20th century. These studies confirmed that childfree individuals are generally perceived less favorably than parents in Western cultures (e.g., Callan, 1983; Ganong, Coleman, & Mapes, 1990; Jamison, Franzini, & Kaplan, 1980; Lampman & Dowling-Guyer, 1995). For instance, single and married Australian college men and women (race/ethnicity and SES unspecified) in Callan's (1985) study perceived childfree individuals as less devoted, caring, emotionally mature, natural, likable, and fond of children than individuals with children. In this study, childfree individuals were also viewed as more materialistic, individualistic, self-centered, career-focused, and financially stable. Additionally, in Polit's (1978) community sample of adult men and women (race/ethnicity unspecified) from economically-diverse U.S. neighborhoods (e.g., working-class, middle-class, upper-middle class), participants viewed childfree women as less nurturing, conforming, wholesome, socially desirable, cheerful, and well-adjusted than women of all other parental statuses. These participants also thought that childfree individuals were more socially distant, rebellious, in need of social support, selfish, and immature than people with children. Findings from another study suggest that predominantly White undergraduate men and women in the U.S. (SES unspecified) believe that childfree women dislike children and have inferior parenting skills, and will be less

happy and fulfilled in later years than mothers (Mueller & Yoder, 1997). Using a qualitative design with a content analysis, Peterson (1983) reported that U.S. undergraduate men and women (race/ethnicity and SES unspecified) writing stories explaining a target's childlessness responded negatively toward men and women who had decided to never have children. Stories included themes of self-centeredness, emotional incapability, harmful childhood experiences, social rejection, and poor mental health; childless individuals were also viewed as misguided, likely to change their mind in the future, or elated with motherhood after an unintended pregnancy (Peterson, 1983). Last, findings from Ganong et al.'s (1990) meta-analysis of six studies conducted with U.S. undergraduate and community-based samples (race/ethnicity and SES unspecified) suggest that childfree individuals are viewed less favorably than individuals with children. These authors concluded that disparate treatment based on parental status "…is potentially among the most subtle forms of discrimination that a person may experience" (Ganong et al., 1990, p. 288).

More contemporary quantitative literature published in the 21st century confirms that attitudes toward childless and childfree populations remain negative in the U.S. (Ashburn-Nardo, 2016; Bays, 2017; Kopper & Smith, 2001; Koropeckyj-Cox & Pendell, 2007a, 2007b; Koropeckyj-Cox et al., 2007; LaMastro, 2001; Vinson et al., 2010) and other countries (Çopur & Koropeckyj-Cox, 2010; Dolińska, 2014; Kemkes, 2008; Rowlands & Lee, 2006). The quantitative studies described below include findings from U.S. samples, which are most relevant to the current study. For instance, predominantly White U.S. undergraduate men and women (SES unspecified) in Ashburn-Nardo's (2016) study endorsed feelings of disgust, anger, and disapproval toward childfree individuals described in a vignette, whom they also perceived as less psychologically fulfilled than individuals with children. Additionally, Koropeckyj-Cox et al. (2007) reported that racially/ethnically-diverse (37% students of color, 62% White) U.S.

college students (SES unspecified) perceived a childless couple described in a vignette more favorably when they anticipated that the couple would parent in the future rather than remaining permanently childless. In another study of Black (34.2%) and White (65.8%) undergraduate U.S. women (SES unspecified), childfree women described in a vignette were viewed more negatively than mothers, particularly if they were Black (Vinson et al., 2010). Additionally, Koropeckyj-Cox et al. (2015) found that a sample of racially/ethnically-diverse (59% White, 17% Black, 10% Hispanic/Latinx, 6% Asian) U.S. college men and women (SES unspecified) rated childfree women as having less interpersonal warmth (a variable including traits of caring, warmth, likeability, kindness, sensitivity, nurturance, sincerity, traditionalism, and femininity) than mothers. Finally, in a racially/ethnically-diverse sample (45% White, 18% Asian, 17% Black, 9% Hispanic/Latinx, 8% Multiracial) of U.S. undergraduate men and women (SES unmeasured), childfree women elicited more envy, disgust, and harm behaviors than mothers and involuntarily childless women (Bays, 2017). These participants also rated childfree women as competent, but cold.

In early qualitative research, childfree women in Western cultures also described a variety of negative experiences due to their nonparental status. For example, Mollen (2006) assessed primarily White childfree women (32-51 years) in the U.S. (most with advanced education and incomes ranging from $18-84K) using interviews, journal entries, and focus groups. These childfree women described responses from others that include pity, criticism, dismay, and shock, and subtle, but repetitive questions about their reproductive intentions. Some of these participants also reported that strangers and acquaintances alike have questioned their sanity (Mollen, 2006). Additionally, the predominantly White, married, employed, and college-educated U.S. childfree women aged 28 to 50 interviewed in Mueller and Yoder's (1999) study described being perceived as dissatisfied with their parental status and receiving pressure from

family and friends to have children. This pressure to have children was accompanied by unsolicited reproductive advice from healthcare professionals and inappropriate questions from others regarding their plans (or lack thereof) to have children. Furthermore, most of Mueller and Yoder's (1999) childfree participants stated that others viewed them as disliking children and being selfish, un-nurturing, materialistic, and career-oriented, reflecting the negative stereotypes that are often applied to childfree women. Likewise, childfree men and women (exclusively White, highly educated, employed, aged 21-56 years) in Park's (2002) U.S. study reported in focus groups and interviews that other people perceive them as unfriendly, self-centered, odd, and egotistical. In a review of multiple sources, including her own experiences, Letherby (2002) suggests that women without children feel misunderstood, especially when their inaccessibility to and knowledge of children are cited as explanations for their nonparental status (age, race/ethnicity, and SES of reviewed samples unspecified). Finally, British childfree women (primarily White, heterosexual, highly educated, aged 18-51 years) interviewed in Gillespie's (2000) study described reactions of disbelief (e.g., more acceptable explanations for being childfree are sought, such as infertility), disregard (e.g., the childfree choice is dismissed as irrational, temporary, and/or regrettable), and deviance (e.g., they are viewed as dangerous and/or abnormal) from others.

More contemporary qualitative research provides an especially rich picture of the ongoing lived experiences of childfree women in Western cultures. For example, Australian, heterosexual, and employed childfree women aged 32 to 53 years (SES and race/ethnicity unspecified) interviewed in Doyle et al.'s (2012) study reported that others perceive them as deviant, pressure them to have children, and/or view their decision as temporary. Nonetheless, these women did not regret their choice not to mother. During interviews by Rich et al. (2011), exclusively White, middle-class, Australian childless women aged 34 to 48 years described how

others automatically equate their womanhood (and, by extension, their female body) with motherhood; assume that motherhood is required to achieve true womanhood and maturity; pressure them to reproduce; discredit their choice and lived experiences; undervalue their opinions and contributions; and view them as unnatural, abnormal, selfish, and uncompassionate. Finally, in Shaw's (2011) study, British, White, professionally employed, childfree women aged 28 to 47 years reported in interviews that others stigmatize them, view them as less feminine, and evaluate them negatively.

The results of several studies suggest that prejudice toward childfree women may impact actual, material outcomes in Western cultures. Across five analogue studies using vignette targets, Wiseman (2006, 2007, 2010) found that U.S. undergraduate psychology students (gender, SES and race/ethnicity unspecified) were more willing to distribute medical resources (e.g., treatment for kidney disease) to parents than to individuals without children. In another study by Furnham, Thomson, and McClelland (2002), men and women in a British community-based sample (16-76 years, race/ethnicity and SES unspecified) were more likely to allocate a life-saving heart transplant to parents over nonparents. Relatedly, childfree women from Western countries (predominantly White, with college and/or advanced degrees) in several studies also report that medical professionals have denied their requests for voluntary sterilization, as these providers believe that childfree women will either regret their decision or wish to reverse their sterilization in the future (Gillespie, 2000; Mollen, 2006; Mueller & Yoder, 1999).

Regarding occupational outcomes, childfree individuals (demographic characteristics vary or are unspecified) report that they are often expected to work longer and less desirable hours, and to forfeit weekends and holidays in order to accommodate their coworkers with children (Doyle et al., 2012; Mollen, 2006; Picard, 1997). In one study, U.S. undergraduate men

and women (SES and race/ethnicity unspecified) evaluated applications for a postdoctoral fellowship after being led to believe that the applications were authentic and that the participants' feedback would be used by the university to assess the competitiveness of the applicant (Eby et al., 2004). Results revealed that participants offered single individuals without children less stable job locations and fewer merit-based stipends than single individuals with children; they also viewed childless individuals as less mature than parents.

Studies conducted across several decades provide evidence that perceptions of childfree women also differ from those of involuntarily childless women. For example, in a community sample of U.S. men and women living in working-class, middle-class, and upper-middle class neighborhoods (race/ethnicity unspecified), childfree women were viewed more negatively than involuntarily childless women (Polit, 1978). Using data collected from a U.S. undergraduate sample of mostly White men and women (SES unspecified), Lampman and Dowling-Guyer (1995) found that involuntarily childless women were viewed as more caring and driven than childfree women, and greater relationship quality was attributed to involuntarily childless couples. Kopper and Smith's (2001) sample of primarily White U.S. undergraduate men and women (SES unspecified) had the most negative affective reactions and ascribed the highest degree of blame to childfree couples. Conversely, participants reported positive responses, such as sympathy, toward couples who were unable to have children due to infertility. Additionally, racially/ethnically-diverse (59% White, 17% Black, 10% Hispanic/Latinx, 6% Asian) U.S. undergraduate men and women (SES unspecified) in Koropeckyj-Cox et al.'s (2015) study perceived childless women as warmer than childfree women. Recently, Bays (2017) found that childfree women elicited disgust and harm behaviors from racially/ethnically-diverse (45% White, 18% Asian, 17% Black, 9% Hispanic/Latinx, 8% Multiracial) U.S. undergraduate men and women (SES unmeasured), whereas involuntarily childless women elicited sympathy.

Importantly, the current study's emphasis on childfree women is not intended to ignore or invalidate the social experiences of childfree men. Studies of racially/ethnically- and socioeconomically-diverse U.S. adults suggest that women and men are just as likely to be childfree (Heaton, Jacobson, & Holland, 1999; Jacobson & Heaton, 1991). However, when attitudes toward childfree men and women are compared, the evidence is mixed. Some authors analyzing samples of predominantly White undergraduate men and women in Western cultures (SES unspecified) suggest that childfree men and women are viewed equally negatively (Callan, 1985; Kopper & Smith, 2001). Other authors assessing community-based (diverse SES, but race/ethnicity unspecified) and undergraduate (mostly White, SES unspecified) U.S. samples suggest that childfree men are viewed less negatively than childfree women (Lampman & Dowling-Guyer, 1995; Polit, 1978). Yet, in a study of attitudes in 20 European countries, women's voluntary childlessness was viewed more favorably than men's (Merz & Liefbroer, 2012). Finally, in one study of U.S. college students (SES and race/ethnicity unspecified), childfree men were viewed more negatively than childfree women (Jamison et al., 1980).

Additionally, a handful of studies of predominantly White undergraduate samples in Western cultures (although race/ethnicity and SES were typically unspecified) suggest that childfree men elicit more negative attitudes than fathers (e.g., Callan, 1985; Kemkes, 2008; LaMastro, 2001; Lampman & Dowling-Guyer, 1995) and involuntarily childless men (Callan, 1985; Kopper & Smith, 2001; Lampman & Dowling-Guyer, 1995). Yet, some additional studies of both primarily White and racially/ethnically-diverse undergraduates (SES unspecified) found no differences in attitudes toward involuntarily childless and childfree men (Calhoun & Selby, 1980; Koropeckyj-Cox et al., 2007; LaMastro, 2001). Nonetheless, predominantly White, highly educated, and employed childfree men in a community-based U.S. sample reported that they are aware of negative attitudes based on their parental status (Somers, 1993).

Demographic Correlates of Attitudes Toward Childlessness

Despite empirical evidence that attitudes toward childfree women are becoming more favorable in Western cultures, several contemporary, large-scale, cross-cultural studies suggest that specific demographic characteristics continue to predict negative attitudes toward childlessness (e.g., Gubernskaya, 2010; Merz & Liefbroer, 2012; Noordhuizen et al., 2010).

Gender. Results from several studies suggest that women are more likely than men to report positive attitudes toward childlessness. For example, in two large, racially/ethnically-diverse, nationwide U.S. samples (SES unspecified), women reported more positive attitudes toward childlessness than men (Koropeckyj-Cox & Pendell, 2007a, 2007b). In fact, women were up to 80% more accepting of childlessness than men, partially (but not completely) because women endorsed greater egalitarian gender beliefs and less traditional attitudes about marriage than men (Koropeckyj-Cox & Pendell, 2007b). Additionally, Koropeckyj-Cox et al. (2007) reported that, in a racially/ethnically-diverse (37% students of color, 62% White) U.S. undergraduate sample (SES unspecified), women were generally more likely than men to view a childless couple described in a vignette positively. In another U.S. study of exclusively White Christian 18-year-olds (SES unspecified), women were less likely than men to oppose voluntary childlessness (Pearce, 2002). Several large-scale, multi-country studies also support these findings. For instance, in responses gathered between 2005 and 2006, women (particularly those who were highly educated) endorsed more positive attitudes toward voluntary childlessness than men across 20 European countries (nationally-representative samples, average age 47 years, race/ethnicity unspecified; Merz & Liefbroer, 2012). Similarly, using data collected between 1988 and 2002 from nationally representative samples (52-57% women, aged 18-65+, educated 10-13 years, 44-62% employed, race/ethnicity unspecified) in six Western countries (Austria, Germany, Great Britain, Ireland, the Netherlands, and the U.S.), Gubernskaya (2010) reported

that women in all countries were more likely than men to hold positive attitudes toward childlessness. These authors also suggested that U.S. attitudes toward childlessness were more polarized by gender than in other countries, stating that "…the changes in attitudes toward marriage and children from 1994 to 2002 in the U.S. were primarily due to the increased nontraditionalism of American women" (p. 191).

However, several studies challenge both the nature of and association between gender and prejudice toward childless individuals. For example, findings from a study of individuals in the Netherlands (gender, SES, and race/ethnicity unspecified) suggest that attitudes toward childlessness do not vary between men and women (Noordhuizen et al., 2010). Additionally, Koropeckyj-Cox et al. (2015) found that participant gender had little overall influence on ratings of childless women in a sample of racially/ethnically-diverse (59% White, 17% Black, 10% Hispanic/Latinx, 6% Asian) U.S. undergraduates (SES unspecified); although, women perceived childless couples as having more positive marriages and childless women as having more ambition than men. Another study of German undergraduate men and women (SES and race/ethnicity unspecified) found that women endorsed *more* negative attitudes than men toward a woman without children (Kemkes, 2008).

Race/ethnicity. Some previous research suggests that the incidence of childlessness varies by race/ethnicity, with White individuals being more likely to be childless than Black (Lundquist et al., 2009) and Hispanic individuals (Abma & Martinez, 2006). Indeed, findings from the 2006-2012 National Survey of Family Growth (NSFG; a nationally representative sample of U.S. adults aged 15-44) indicated that 72% of voluntarily childless women identified as White, whereas only 11.1% identified as Black, 8.8% as Hispanic, and 3.3% as Asian (Martinez et al., 2012). Similarly, Dye (2008) reported that 21.2% of White women aged 40 to 44 in 2006 were childless (although the reasons were unspecified), compared to 18.1% of Asian,

16.4% of Black, and 14.4% of Hispanic women. Qualitative findings inform this potential difference, as younger Black women in U.S. community-based and undergraduate samples of moderately educated women aged 18-84 years reported experiencing greater pressure than White women to become mothers and fulfill caretaking roles (Settles, Pratt-Hyatt, & Buchanan, 2008).

Results from a handful of studies suggest that perceiver race/ethnicity may also influence expressed prejudice toward childless individuals. In two large, racially/ethnically-diverse, nationwide U.S. samples (SES unspecified), non-White participants generally endorsed more negative attitudes toward childlessness than White participants, and Hispanic participants reported more negative attitudes than Black and White participants (Koropeckyj-Cox & Pendell, 2007a, 2007b). Race/ethnicity also interacted with gender in these studies, as White women were significantly more likely to report positive attitudes toward childlessness than Black women, and Black and White men. However, findings from several studies suggest that perceiver race/ethnicity may not affect prejudice toward childless individuals. For instance, Koropeckyj-Cox et al. (2007) reported that participant race/ethnicity did not influence attitudes toward a childless couple in a racially/ethnically-diverse (37% students of color, 62% White) sample of U.S. undergraduate men and women (SES unspecified); however, students of color were more likely than White students to assume that the couple would eventually parent. In another study, the race/ethnicity of U.S. undergraduate women (34% Black, 65% White; SES unspecified) did not influence ratings of Black and White childfree women and mothers described in vignettes (Vinson et al., 2010).

Age. Previous studies also suggest that older individuals are more likely to hold negative attitudes toward childlessness than younger individuals in Western cultures. For example, in two large, racially/ethnically-diverse, nationwide U.S. samples (SES unspecified), younger participants endorsed more positive attitudes toward childlessness than older participants

(Koropeckyj-Cox & Pendell, 2007a, 2007b). Accepting attitudes toward childlessness were also found in younger generations in the Netherlands, which was partially explained by cohort replacement and partially by intragenerational shifts in attitudes (Noordhuizen et al., 2010). Cross-cultural findings from a study of six Western countries (Gubernskaya, 2010) and another study of 20 European countries (Merz & Liefbroer, 2012) corroborate the finding that youth is associated with more positive attitudes toward childlessness.

Additional research with a nationally representative, racially/ethnically-diverse (59% White, 16% Black, 11% Hispanic/Latix) sample of U.S. adults (aged 18-29, diverse SES) suggests that young adults may also hold distinctly unfavorable attitudes toward pregnancy and parenting (Frost, Lindberg, & Finer, 2012). Furthermore, Vasilenko, Lefkowitz, and Maggs (2012) found that predominantly heterosexual, racially/ethnically-diverse (30% Hispanic/Latinx, 30% Black, 22% Asian, 35% White) U.S. college students (SES unspecified) engaging in vaginal intercourse were most concerned about pregnancy as a consequence of sexual activity. Similarly, undergraduates in Miller's (2011) study who had experienced vaginal intercourse (87% White; SES and sexual identity unspecified) also expressed concerns about pregnancy. Other findings by Frost et al. (2012) confirm that most young, sexually active adults in the U.S. are dedicated to preventing pregnancy (race/ethnicity and sexual identity were unspecified, and "sexual activity" was not defined).

Yet, other research suggests that attitudes in younger U.S. populations are improving toward *delayed* parenting only, but not necessarily being childfree (Jacobson & Heaton, 1991; Koropeckyj-Cox et al., 2007). For instance, most of the predominantly White (72%) U.S. undergraduates in Peterson, Pirritano, Tucker, and Lampic's (2012) study intended to bear children, but planned to postpone parenthood until their late 20s (SES and sexual identity unspecified). These young adults also reported that they would rather pursue adoption or fertility

treatments when faced with infertility than be childfree (Peterson et al, 2012). Furthermore, even contemporary undergraduate samples continue to endorse prejudice toward childless individuals (e.g., Ashburn-Nardo, 2016; Bays, 2017; Koropeckyj-Cox et al., 2015; Vinson et al., 2010), implying that negative attitudes may persist in the youngest U.S. cohort and perhaps coexist with positive attitudes. This contradiction could occur because parenting attitudes in young adults and undergraduate populations may be confounded with the pursuit of tasks associated with their developmental stage, tasks that might conflict with childbearing and parenting (e.g., completing advanced education, securing stable employment). Additionally, self-identity regarding parental status is not necessarily fixed and may shift due to circumstances (Letherby, 2002). This illustrates the importance of broadening the age of samples when examining attitudes toward childlessness. Considering that undergraduate samples report relatively negative attitudes toward parenting *and still endorse* prejudice toward childfree individuals, one might expect (and previous research suggests) that attitudes toward childfree women would be *even more negative* in older U.S. populations. Although the current study is not longitudinal and therefore unable to examine attitudinal shifts over time, the current sample included participants of more diverse ages than undergraduate samples can provide.

Socioeconomic status. Various indicators of SES have also been linked with attitudes toward childless individuals in the U.S. For instance, in a large nationwide study of racially/ethnically-diverse U.S. adults, highly educated participants and those with greater income endorsed more positive attitudes toward childlessness than individuals with less educational achievement and income. However, SES and gender interacted in this study, with college-educated men being more likely to report negative attitudes toward childlessness than other groups (Koropeckyj-Cox & Pendell, 2007b). In another study using a similar sample, less educated participants reported more negative attitudes toward childlessness than highly educated

participants; however, income was unrelated to attitudes (Koropeckyj-Cox & Pendell, 2007a). In a smaller study of exclusively White Christian 18-year-olds in the U.S. (SES unspecified), participants whose fathers were minimally educated and had low household income were more likely to oppose voluntary childlessness (Pearce, 2002). The association between SES and childlessness attitudes is also consistently found in studies of other Western countries. For example, in a sample of people living in the Netherlands, participants with higher education and income levels tended to hold positive attitudes toward childlessness (Noordhuizen et al., 2010). Gubernskaya (2010) similarly reported that employed and highly educated individuals in six different Western countries (Austria, Germany, Great Britain, Ireland, the Netherlands, and the U.S) held favorable attitudes toward childless individuals. Finally, after analyzing data collected between 2005 and 2006 from 20 European countries (average age 47 years, race/ethnicity unspecified), Merz and Liefbroer (2012) found that positive attitudes toward childlessness tended to be endorsed by participants who were highly educated, currently employed, and with perceived economic stability; in this study, the effect of SES on childlessness attitudes was particularly strong for highly educated women.

Religiosity. Although it is not assessed in the current study, various facets of religiosity may also relate to prejudice toward childless individuals. Rather than negative attitudes toward childlessness being associated with specific religions, research suggests that degree of religiosity is more strongly associated with attitudes. For example, after examining nationally representative data from 20 European countries between 2005 and 2006, Merz and Liefbroer (2012) reported that negative attitudes toward childlessness were observed in highly religious individuals (measured as a combination of self-reported religiosity, frequency of prayer, and frequency of attending religious services) regardless of religious affiliation. In a sample of individuals in the Netherlands, participants who attended religious services at least one time per

month were more intolerant of childlessness than those who did not attend religious services regularly and the non-religious (Noordhuizen et al., 2010). Gubernskaya (2010) found a similar association between attendance at religious services and attitudes toward childlessness when studying nationally representative samples (52-57% women, aged 18-65+, educated 10-13 years, 44-62% employed, race/ethnicity unspecified) from six Western countries (Austria, Germany, Great Britain, Ireland, the Netherlands, and the U.S.). When assessing a U.S. sample of exclusively White Christian 18-year-olds (SES unspecified), Pearce (2002) found that several facets of religiosity influenced attitudes toward voluntary childlessness. Independent of religious affiliation, as participants' attendance at religious services and importance of religion increased, so did their opposition to childlessness and belief that having many children was best for themselves and others. In fact, 18-year-olds who attended religious services more than once per week were 84% more likely to object to voluntary childlessness than those who do not attend religious services. Similarly, in a large, racially/ethnically-diverse, nationwide U.S. sample (SES unspecified), participants who endorsed biblical conservatism and attended religious services regularly had the most negative attitudes toward childlessness, whereas non-religious participants had the most positive attitudes (Koropeckyj-Cox & Pendell, 2007a). Yet, another study with a similar sample found that espousing conservative biblical beliefs was associated with unfavorable attitudes toward childlessness, but frequency of attendance at religious services was not (Koropeckyj-Cox & Pendell, 2007b).

In summary, the childfree choice in women is likely due to a variety of social and political factors in Western cultures (e.g., Gubernskaya, 2010; Lundquist et al., 2009). Childfree women appear to share a distinct demographic profile (e.g., Abma & Martinez, 2006; Martinez et al., 2012) and report a variety of motivations for being childfree (e.g., Gillespie, 2003; Letherby, 2002; Mollen, 2006; Park, 2005). Although attitudes toward being childfree may be improving

in Western cultures (e.g., Gubernskaya, 2010; Merz & Liefbroer, 2012; Noordhuizen et al., 2010), prejudice toward childfree women persists, as supported by findings from contemporary quantitative (e.g., Ashburn-Nardo, 2016; Bays, 2017; Koropeckyj-Cox et al., 2015; Vinson et al., 2010) and qualitative (e.g., Doyle et al., 2012; Rich et al., 2011; Shaw, 2011) research. According to the literature, self-reported prejudice toward childlessness in Western cultures is commonly associated with several demographic traits of the perceiver (e.g., Gubernskaya, 2010; Merz & Liefbroer, 2012; Noordhuizen et al., 2010). Additionally, some research suggests that negative social responses toward women without children may result in a variety of unfavorable material outcomes for these women (e.g., Doyle et al., 2012; Eby et al., 2004; Wiseman, 2007, 2010). Thus, the study of attitudes toward childfree women remains an important theoretical and empirical inquiry.

The Justification-Suppression Model of Prejudice

The small literature on attitudes toward childlessness is growing, but historically has been largely atheoretical and focused on documenting prejudice toward childfree women rather than examining the mechanisms underlying it. In this regard, theoretical models from other areas of psychological inquiry may be helpful. Indeed, the Justification-Suppression Model (JSM; Crandall & Eshleman, 2003, 2005) addresses negative evaluations of certain social groups or individuals by providing a theoretical explanation for the mechanisms underlying the expression of prejudice. By integrating the vast psychological literature on empirically-supported theories of prejudice, Crandall and Eshleman (2003, 2005) created a model to broadly explain the phenomenon of prejudice. These authors avoid explaining specific kinds of prejudice, stating instead that prejudice exists cross-culturally and applies to a wide variety of targets, and that all prejudices share a “core of commonality” (p. 415). Regardless of the target or executor

(including self-directed prejudice), Crandall and Eshleman (2003, 2005) argue that the processes influencing the expression of prejudice are essentially identical.

These authors define *prejudice* as "…a negative evaluation of a social group or…individual that is significantly based on the individual's group membership" (Crandall & Eshleman, 2003, p. 414). *Genuine prejudices*, or those in their purest or most authentic form, are primary, potent, and emotion-based negative responses toward an individual or members of a group that are typically not directly accessible (because participants may not be fully aware of or willing to admit to having these prejudices). According to the JSM, prejudice is an affective state with its own motivational force for expression. Genuine prejudices develop early in the lifespan through a variety of factors, such as social norms, cultural values, cognitive processes, and developmental experiences (Crandall & Eshleman, 2003, 2005). Although their suggestions are not intended to be exhaustive, Crandall and Eshleman (2003, 2005) provide several examples of the factors that help to create genuine prejudices early in life. For instance, parents and other family members often model prejudice for children, leading to the early development of genuine prejudices, particularly if children identify strongly with these models (Crandall & Eshleman, 2003, 2005). Similarly, direct cultural learning of genuine prejudices occurs through neighborhoods, peer groups, and mass media. Additionally, genuine prejudices may develop toward a group that is perceived as dangerous or threatening toward one's goals, even without actual confirmatory evidence. Other factors that influence the development of genuine prejudices include categorizing groups as in-groups vs. out-groups, group contact, group deviation from norms, novelty of the group, and intergroup conflict. Finally, some religious ideologies and socialization processes can contribute to the development of genuine prejudices (Crandall & Eshleman, 2003, 2005).

Suppression of prejudice. A basic tenet of the JSM is that an inherent tension exists between the motivation to express prejudice and the desire to maintain one's values and views of self that contradict prejudice (Crandall & Eshleman, 2003, 2005). Thus, despite being automatic with a motivational force for expression, genuine prejudices are inhibited in order to present a non-prejudiced image to oneself and/or others. The JSM defines the process of prejudice inhibition as *suppression*, or "…an externally or internally motivated attempt to reduce the expression or awareness of prejudice" (Crandall & Eshleman, 2003, p. 420). This definition of suppression is derived from the work of Plant and Devine (1998), who distinguish between the internal and external factors that motivate one to respond without prejudice. In this research, the internal motivation to respond without prejudice is primarily driven by upholding internalized personal standards that devalue prejudice, the violation of which results in feelings of guilt and self-criticism. Research has demonstrated that a strong internal motivation to suppress prejudice is related to low self-reported prejudice (Plant & Devine, 1998). Conversely, the external motivation to respond without prejudice is driven by a desire to appear non-prejudiced to others and to align with prevailing social norms/pressures that discourage prejudice, the violation of which results in feelings of threat from others. A strong external motivation to suppress prejudice has been shown to be related to greater levels of self-reported prejudice (Plant & Devine, 1998), particularly when prejudice expression is anonymous or the social context permits prejudice expression. In other words, when one's internal standards discourage prejudice expression, self-reported prejudice is more likely to be consistently and relatively low across normative contexts. However, if only social (but not internal) standards discourage prejudice, those with the external motivation to suppress prejudice will report less prejudice when the situation or audience demands prejudice suppression, and greater prejudice otherwise (e.g., when reporting anonymously). Because these two forms of suppression appear to operate

in unique ways, Plant and Devine (1998) suggest that both internal and external motivations should be accounted for in research on prejudice expression.

According to the JSM, suppression requires purposeful effort/energy and cognitive control. Although all suppression processes work to reduce the expression of prejudice, the JSM outlines several reasons that prejudice is suppressed (Crandall & Eshleman, 2003, 2005). Contemporary social norms serve as external motivations that generally discourage being openly prejudiced and individuals often model the behavior of their peers (Plant & Devine, 1998). Underreports of prejudice are especially likely to occur in public situations or when the actor is unsure of the audience's views on prejudice. Suppression may also be activated by internal motivations to deny prejudice to the self in order to maintain personal egalitarian standards and avoid guilt (Plant & Devine, 1998). Additionally, feeling empathic toward one member of a group can reduce the expression of prejudice toward the entire group. Situational ambiguity also influences suppression processes, in which unambiguous discouragement of prejudice expression increases suppression. Genuine prejudices are also hindered by political, societal, and religious value systems (Crandall & Eshleman, 2003, 2005). For instance, some religious beliefs actively discourage prejudice, promoting instead humanitarianism, tolerance, and acceptance. Liberal political views, egalitarianism, and personal or internal standards are further examples of value systems that can suppress prejudice. Suppression can also be improved with practice, dedication to egalitarian goals, and increased cognitive skill (Crandall & Eshleman, 2003, 2005).

Similarly, numerous factors can inhibit suppression. Several lines of research summarized by Crandall and Eshleman (2003, 2005) suggest that taxing finite cognitive resources reduces suppression. Additionally, suppression may paradoxically activate or intensify inhibited thoughts, feelings, and attitudes. Moreover, because suppression can produce discomfort and tension, expressing suppressed emotions can release tension and produce positive

emotions, which may reinforce future expressions of prejudice. Private or anonymous expressions of prejudice are often markedly more negative than public reports of prejudice. Suppression may also decrease when social norms regarding prejudice expression are weak or ambiguous. Low mental, emotional, and physical energy and increased stressors also decrease suppression.

Justification of prejudice. As has been discussed, manifestations of every prejudice are characterized by a tension between expressing and suppressing that attitude. Despite an array of suppression processes that inhibit the expression of prejudice, the motivational force of prejudice seeks expression. Thus, the JSM proposes that numerous processes permit the expression of prejudice. Although previous literature has conceptualized individual variables (e.g., personality traits, attitudes, ideologies) as causes of prejudice, Crandall and Eshleman (2003, 2005) posit that these variables actually justify the expression of prejudice. According to the JSM, a *justification* is defined as, "…any psychological or social process that can serve as an opportunity to express genuine prejudice without suffering external or internal sanction" (Crandall & Eshleman, 2005, p. 248). Justifications permit the private or public expression or "release" of prejudice by hindering suppression. The stronger the genuine prejudice, the more likely that justifications will be used to release it. Justifications, therefore, increase the similarity of expressed prejudice to genuine prejudice. In contrast to emotion-based genuine prejudices, justifications are cognitive explanations for genuine prejudice. In other words, justifications serve as the "logic" supporting the existence of the genuine prejudice, but do not comprise the actual prejudice. Furthermore, the authors are clear that justifications do not excuse the executor as non-prejudiced, but rather explain the expression of prejudice.

According to the JSM, suppression processes tend to be few, generalized, and apply to a wide variety of prejudices, whereas justifications are many, narrow, and customized to specific

prejudices. Crandall and Eshleman (2003, 2005) classify justifications into six categories: (1) *Naturalistic fallacy and the preservation of the status quo* includes justifications supporting current social structures as just, right, and deserved; (2) *Celebration of social hierarchy* promotes that some groups are naturally superior to others; status is evidence of social or moral value; unequal resource distribution reflects divine favor; hard work brings success; some groups should dominate others; and tradition and stability are important; (3) *Attributions and personal responsibility* includes blaming victims and attributing personal responsibility for negative outcomes or characteristics; (4) *Covering* includes justifications that disguise prejudice by diverting attention to other more reasonable, innocuous, benign, and/or acceptable motivations; (5) *Beliefs, values, religion, and stereotypes,* including incongruence with one's beliefs, violation of one's values, and stereotypical beliefs about the group's characteristics; and (6) *Intergroup processes*, such as inadequate and/or negative intergroup contact; rationalization of group privileges; perception of danger or threat; and intergroup anxiety. Although a full discussion of each of Crandall and Eshleman's (2003, 2005) justifications is beyond the scope of this study, justifications that are relevant to prejudice toward childfree women are discussed below.

To summarize the JSM (Crandall & Eshleman, 2003, 2005), genuine prejudices develop early in life through social norms, cultural values, cognitive processes, and developmental experiences. However, the motivation to present a non-prejudiced image to oneself/others and to align with the social, political, and ideological value systems that discourage prejudice increases suppression of genuine prejudices. Yet, because emotion-based genuine prejudices have a motivation for expression, cognitive-based justifications release and explain the expression of prejudice. Importantly, justifications are contingent upon preceding suppression processes; in the absence of suppression, genuine prejudices are simply expressed, eliminating the need for justifications altogether. However, if an individual is motivated to appear non-prejudiced and

must relieve the tension associated with expressing an undesirable prejudice, genuine prejudices are first subjected to suppression and then to justification before they are expressed either publicly or privately. In other words, justifications result from or follow suppression. Therefore, justifications occur at the *intersection* of expression and suppression of a genuine prejudice. When prejudice is actually expressed or reported, it is typically a genuine prejudice that has been altered by a complex combination of suppression and justification processes.

Thus, Crandall and Eshleman (2003) propose that one conceptualization of the JSM (i.e., the "specific model;" p. 433) is as a unidirectional, sequential model in which (1) genuine prejudices develop; (2) suppression processes inhibit genuine prejudice; (3) justifications rationalize the prejudice; and (4) prejudice, filtered through suppression and justification, is expressed (see Figure 1 for a diagram depicting JSM structure in the specific model). However, it is important to note that Crandall and Eshleman (2003) highlight an alternative "general model" (p. 433), which conceptualizes the JSM as bidirectional and interactive. According to general model, JSM elements may interact with each other such that changes in one component influence changes in other components in a recursive fashion. To summarize the functionality of the general JSM model, Crandall and Eshleman (2003) state:

> We expect that there are feedback loops and interplay among the elements of the JSM; processes such as self-perception and dissonance, persuasion, values confrontation, and attitude change will change justifications and suppressions. Consistency motives and other self-persuasion processes may sometimes then change the underlying prejudice…A successful justification might entirely disarm a need for suppression. Expressions themselves (and especially their consequences) will motivate new suppression attempts or spur on the need to develop justifications (or enhance suppression). (p. 433)

This study will apply the "specific model" of the JSM in which the psychological processes of genuine prejudice, suppression, justification, and expression relate to each other in a unidirectional and temporal fashion. Because this is the first study to use the JSM to examine prejudice toward childfree women, any significant findings based on the static specific JSM

model will provide a foundation for future studies to assess the potentially nuanced, bidirectional interactions between these and similar variables.

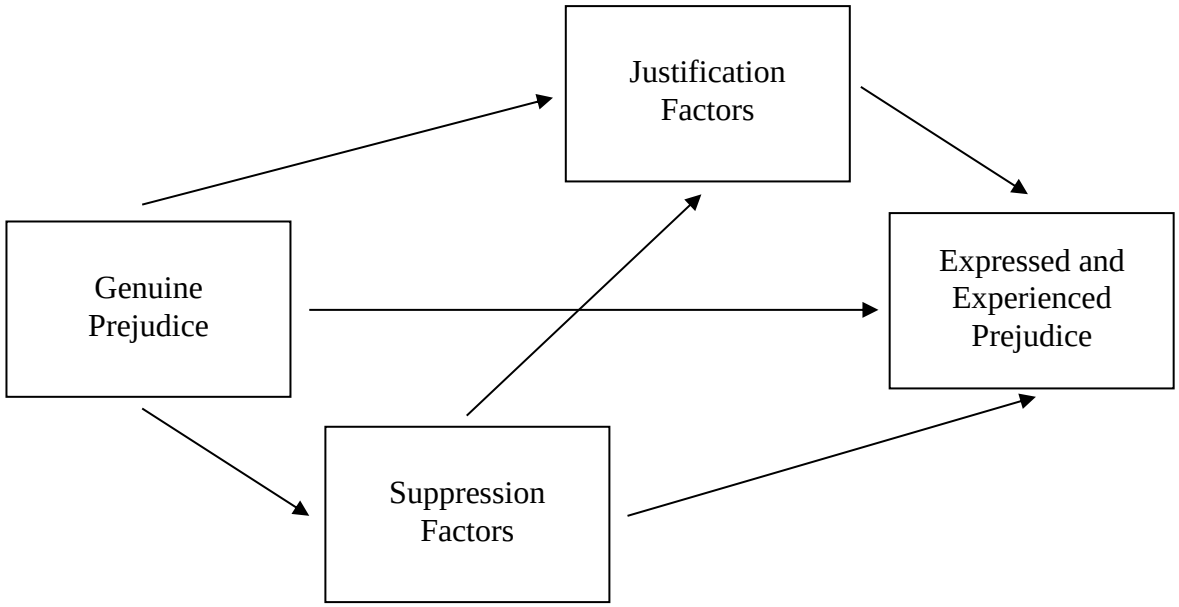

Figure 1. Hypothesized relations between genuine prejudice, suppression of prejudice, justification of prejudice, and expressed prejudice in the specific Justification-Suppression Model of Prejudice (figure reproduced from Crandall & Eshleman, 2003, p. 417).

Empirical Tests of the JSM

Justifications. Previous studies have assessed relations between justifications and the expression of prejudice, providing evidence for JSM claims across a wide variety of participant populations, targets, research designs, and types of justifications. Several studies suggest that perceived out-group threat justifies the expression of prejudice and/or discriminatory behaviors. For example, Bahns (2017) first used priming techniques to create novel genuine prejudices toward fictitious out-groups, after which this author measured perceived out-group threat (i.e., concerns that members of a different social group would jeopardize one's power, resources, values, worldview, and/or safety). Using a mediational design, Bahns (2017) found that the

priming manipulation increased prejudice toward the fictitious group which, in turn, increased perceived out-group threat. Because the prejudice appeared to precede participants' perception of out-group threat, Bahns (2017) concluded that out-group threat justified rather than caused prejudice toward novel out-groups. Similarly, using a cross-sectional design with participants from 21 European countries (race/ethnicity unspecified), Pereira, Vala, and Costa-Lopes (2010) found that out-group threat mediated the relation between prejudice and discrimination toward immigrants; participants with greater prejudice toward immigrants were more likely to view them as threatening and subsequently oppose their immigration and naturalization. Therefore, Pereira et al. (2010) concluded that perceived out-group threat justified rather than caused prejudice toward immigrants. Additionally, Pereira, Vala, and Leyens (2009) studied associations between infra-humanization (i.e., belief that in-group members are fully human and out-group members are less human), perceived out-group threat, and out-group discrimination. After experimentally manipulating the perceived humanity of an out-group, Pereira et al. (2009) reported that perceived threat mediated (i.e., justified) the relation between an out-group's humanity and discrimination toward that group. They next manipulated the social context in which justifications may or may not occur. Indeed, threat only justified discrimination toward a disliked out-group in egalitarian (i.e., values of "equality and social justice," p. 337) situations where justification was necessary to activate discrimination. When meritocracy (i.e., values of "effort, competition, merit, and hierarchy," p. 337) was the norm, out-group threat was not necessary to justify discrimination and therefore did not operate as a mediator.

Other studies suggest that attributions of control (i.e., whether an individual caused or has control over their outcomes) and related variables justify prejudice and/or discrimination. Using a cross-sectional design, Ebneter et al. (2011) reported that participants who believed that people with eating disorders were responsible for their condition were more likely to stigmatize these

populations. Attributions of control have also justified covert discrimination toward obese individuals (King, Shapiro, Hebl, Singletary, & Turner, 2006). By manipulating the weight (obese vs. average weight) and attire (casual vs. professional) of confederate shoppers, King et al. (2006) demonstrated that casually-dressed obese shoppers received the most negative responses from store attendants. The authors concluded that weight and dress presumably served as proxies for the obese confederates' attempts to control and improve their appearance, the absence of which justified covert discrimination. In addition, Hegarty and Golden (2008) first measured participants' prejudice toward a social group, then manipulated participants' attributions of control, next assessed the thoughts of participants, and finally measured prejudice toward the group once more. These authors found that highly prejudiced participants attributed more control to a disliked out-group than participants with little prejudice. Subsequently, Hegarty and Golden (2008) concluded that attributions of control justified, rather than caused, prejudice toward stigmatized social groups.

Additional studies found evidence for JSM tenets through a variety of other potential justifications. For example, Choi et al. (2014) concluded that "legitimacy credits" (i.e., prior behavior that makes one appear non-prejudiced) justified subsequent expression of prejudice toward racial minorities. More specifically, non-Black participants (80.8% White) who could favorably rate a Black target in an earlier condition (thereby accruing "legitimacy credits") were more likely to rate a second Black target unfavorably in a later condition; however, this only occurred if participants could first favorably rate the Black target. Thus, earning legitimacy credits in one condition justified the expression of prejudice toward a Black target in a subsequent condition. Another study by Costarelli and Gerłowska (2015) manipulated the socially normative context (prescribed vs. unprescribed prejudice) and ambivalence (cognitive vs. affective) of participants to assess prejudice toward Arabic-speaking immigrants. These

authors found that, in social contexts that discouraged prejudice, White participants (none of whom spoke Arabic) with a high external motivation to control their prejudice (i.e., had the desire to comply with social norms) used ambivalent beliefs about Arabic-speaking immigrants to justify the expression of prejudice toward this population. Additionally, using a cross-sectional design, Courtois et al. (2014) found evidence for a serial mediation model in which organizational multiculturalism increased egalitarian values, leading to decreases in perceived value violations, and finally to decreased in-group favoritism when assessing prejudice toward immigrant coworkers. In other words, when egalitarianism was promoted in this Belgium workplace, prejudice was presumably suppressed. As a result, coworkers were less likely to perceive that Arabic-speaking immigrant coworkers were violating their cultural values (typically, a justification of prejudice). This ultimately led to less in-group favoritism (an expression of prejudice) among coworkers.

One study by King and Ahmad (2010) manipulated female confederate job applicants' appearance (Muslim religion vs. control) and behavior (warm vs. control), and then measured managers' covert discriminatory behaviors (the female confederates were White, Asian, and Middle Eastern, but the race/ethnicity and gender of the managers were unspecified). Results revealed that perceived lack of warmth and increased salience of religious beliefs justified covert discrimination toward Muslim job applicants. Additionally, Miller, McGlashan Nicols, and Eure (2009) created vignettes that manipulated customer contact type (face-to-face vs. telephone-based) and financial compensation (shared vs. unshared commissions) when selling business insurance with a tattooed and pierced work partner. Their results suggest that mere threat of reduced compensation and negative customer interactions justified prejudice toward work partners with visible tattoos and facial piercings (as measured by acceptability of and satisfaction with the work partner). In addition, using cross-sectional data, Webster et al. (2014) reported

that multiple psychosocial justifications mediated the relation between political orientation and expressed prejudice toward multiple disliked out-groups. In another study using priming techniques, Crandall, Bahns, Warner, and Schaller (2011) created prejudices toward novel countries, and then asked participants to rate these countries for warmth and competence stereotypes. Although competence did not differ across countries, countries with positive associations were rated as warm, whereas countries with negative associations were rated as cold. Thus, these authors concluded that stereotyping can justify prejudice toward novel out-groups, even without previous knowledge of a target and/or discriminatory behaviors (Crandall et al., 2011). Finally, in assessing responses to call center employees with foreign accents, Wang, Arndt, Singh, Biernat, and Liu (2013) found that service outcome influenced participants' ultimate prejudice expression. When calls resulted in positive outcomes, participants (of unspecified race/ethnicity, nationality, and primary language/accent) suppressed their prejudice toward call center employees with foreign accents, rating them as favorably as an American-accented employee. However, when calls resulted in negative outcomes, participants rated the foreign-accented employee much less favorably than the American-accented employee. In other words, the negative outcome justified/released prejudice toward the foreign-accented employee.

As is demonstrated by the aforementioned studies, various factors may justify or release the expression of prejudice toward numerous social groups. Importantly, many of these studies have experimentally demonstrated that prejudice toward another individual or group likely preceded the subsequent justification of that prejudice. In other words, the results of these studies in aggregate suggest that many psychosocial constructs "justify" *preexisting* prejudice rather than cause or create new prejudice. Generally-speaking, it appears that the opportunity to justify one's prejudice makes it more likely that prejudice will be "released" following suppression processes. Additionally, manipulations of justifications in several studies have been

shown to influence the degree of prejudice expression. Overall, situations that encourage the justification of prejudice ultimately increase the expression of prejudice. Thus, these previously discussed studies support the JSM's claim that prejudice temporally precedes and likely causes the construct thought to be a justification, rather than the construct causing the prejudice.

Suppression. Comparatively fewer studies have directly tested JSM claims regarding suppression of prejudice. Using a JSM framework, Pereira et al. (2009) manipulated suppression by creating conditions that primed egalitarianism or meritocracy. These authors found that the activation of egalitarian social norms increased suppression of prejudice/discrimination toward a disliked out-group, whereas meritocratic social norms did not (a context in which prejudice/discrimination was presumed to be acceptable). Similarly, Courtois et al. (2014) found that workplace multiculturalism valuing egalitarianism was positively associated with suppression of prejudice toward foreign coworkers; however, it should be noted that the perception of workplace multiculturalism was only measured in this study, but not manipulated. Additionally, Webster et al. (2014) found that both the internal and external motivation to control prejudice was associated with suppressed prejudice expression toward Arab individuals in primarily White (76.3-100%) U.S. participants; again, suppression was not manipulated, only measured quantitatively, so causal relations could not be established in this study.

Another study concluded that the inability to positively evaluate a racial minority (and thus present a non-prejudiced image) in one context suppressed participants' expression of prejudice toward a racial minority in subsequent context (Choi et al., 2014). As previously discussed, Choi et al. (2014) found that denying participants the opportunity to garner "legitimacy credits" was associated with greater suppression of prejudice toward a Black target (i.e., more positive evaluations). Also previously discussed, Wang et al. (2013) reported that customer ratings of American-accented and foreign-accented call service employees did not

differ when the service outcome was positive; however, foreign-accented employees were evaluated more unfavorably than American-accented employees following a negative service outcome. In other words, positive outcomes suppressed expression of accent prejudice, whereas negative outcomes justified expression of accent prejudice. Another study created accountability conditions (thereby manipulating suppression) for exclusively White managers (85.2% men, 14.8% women) with preexisting racial bias who were evaluating either Black or White male job applicants with identical résumés (Ford, Gambino, Lee, Mayo, & Ferguson, 2004). In the low accountability condition where managers did not have to explain their hiring recommendation, managers rated the White applicant more favorably than the Black applicant. However, in the high accountability condition where managers were required to explain their hiring recommendation, managers rated the Black and White applicants equally favorably. Thus, managers with preexisting racial biases suppressed their racial prejudice when the context demanded it, and expressed their prejudice when it did not. Finally, although not an explicit test of JSM suppression processes, one study reported that individuals with HIV or AIDS reported more felt stigma in communities where social norms (rather than personal beliefs) discourage suppression of prejudice (Miller, Grover, Bunn, & Solomon, 2011).

The results of these few studies suggest that the preexisting tendency to suppress prejudice, the social context, and manipulations of suppression can influence subsequent prejudice expression. The internal motivation to suppress prejudice is often associated with less expressed prejudice. Additionally, in situations or conditions that proscribe or discourage prejudice, prejudice expression tends to be low. Conversely, in situations or conditions that prescribe or encourage prejudice, or which are anonymous, prejudice is expressed. Subsequently, suppression processes play a role in the ultimate expression of prejudice, even in the absence of justifications.

Suppression of Prejudice Toward Women

As discussed, prejudice suppression is commonly measured as the internal and external motivations to respond without prejudice (Plant & Devine, 1998). Although no research has examined the motivation to suppress prejudice toward childfree women, results from several studies could inform the assessment of prejudice toward childfree women. Most notably, Klonis et al. (2005) were among the first to measure the motivation to respond without sexism. Like Plant and Devine (1988), these authors distinguish between the internal (IMS-S) and external (EMS-S) motivations to respond in a non-prejudiced manner toward women. In the instrument development study, the internal and external motivations to suppress prejudice toward women were theoretically and statistically distinct (Klonis et al., 2005). Using data drawn from U.S. undergraduates, Klonis et al. (2005) found that men with high IMS-S reported lower levels of traditional, hostile, and modern sexism. EMS-S was unrelated to levels of traditional or benevolent sexism, but was moderately and positively related to men's modern and hostile sexism. Additionally, EMS-S was moderately and positively associated with three measures of social evaluation concerns, whereas IMS-S scores were unrelated. Klonis et al. (2005) also established that the IMS-S and EMS-S predict actual behaviors. Specifically, these authors had men rate a comedian's sexist jokes under one of two conditions that presumably created a socially normative context. In the sexist condition, a male confederate responded favorably to the jokes before the participant responded. In the nonsexist condition, a male confederate responded unfavorably to the jokes before the participant responded. After the confederate had first responded, the male participant then provided his responses to the jokes. Men with a strong internal motivation to suppress sexism consistently disapproved of the comedian's sexist jokes regardless of whether their confederate was sexist or nonsexist. However, male participants with strong external motivation to suppress sexism approved of the sexist jokes when they were

interacting with the sexist confederate and disapproved of the jokes when they were interacting with the nonsexist confederate.

Only a handful of other studies have assessed associations between IMS-S, EMS-S, and attitudes toward women. For example, Gervais and Hoffman (2013) reported that greater levels of IMS-S were positively associated with warmth toward feminists in U.S. undergraduate participants. Men, in particular, reported less IMS-S than women, but there were no differences between men and women for EMS-S. Among men, greater levels of IMS-S were associated with less hostile sexism and more warmth toward feminists; greater EMS-S was also associated with greater benevolent sexism. Among women, greater IMS-S was associated with less hostile sexism and more warmth toward feminists; greater EMS-S was also associated with greater benevolent sexism and warmth toward feminists. In a sample of U.S. college students, Latu et al. (2011) found that individuals with high IMS-S were less likely to associate successful managerial traits with men over women; however, the reverse was true for individuals high in EMS-S, who were more likely to attribute successful managerial traits to men instead of women. Additionally, Koenig and Richeson (2010) found that participants' motivation to respond without sexism influenced their endorsement of sexblind ideology (i.e., "…the view that, in order to increase equality, the use of sex categories should be eliminated and everyone should be treated as an individual…;" p. 186) versus sexaware ideology ("…one should acknowledge and appreciate sex differences;" p. 186). Using data collected from a U.S. undergraduate sample, these authors found that greater IMS-S was associated with more endorsement of sexblind over sexaware ideology in both social and occupational environments; EMS-S was unrelated to the endorsement of sexblind and sexaware ideologies. Finally, Young and Nauta (2013) found that U.S. undergraduates with high EMS-S also endorsed paternalistic, protective attitudes toward women.

Crandall et al. (2002) provided additional evidence that pressure to conform to social norms justifies the expression of prejudice toward some social groups and suppresses the expression of prejudice toward others. The results of this study might inform the study of prejudice toward childfree women, as these authors included a few subtypes of women in their assessment. On a 3-point, Likert-type scale (2 = *OK to feel negatively toward these people*, 1 = *Maybe OK to feel negatively toward these people*, 0 = *Not OK to feel negatively toward these people*), U.S. undergraduates reported that prejudice is justified toward some groups of women over others. For example, prejudice was most acceptable toward a pregnant woman who consumes alcohol (M = 1.780) and least acceptable toward stay-at-home-mothers (M = .047). Falling somewhere in between these two extremes were female prostitutes (M = 1.235), feminists (M = .733), and business women (M = .120). Notably, several of the subtypes that elicited the greatest expression of prejudice were women who violated norms of femininity (e.g., feminists, female prostitutes, a pregnant woman potentially harming her unborn child); furthermore, women who elicited the least prejudice (i.e., stay-at-home mothers), presumably exhibited the most conformity to social norms and stereotypes regarding femininity. Crandall et al. (2002) also found strong, positive relations among perceived social norms regarding expressing or suppressing prejudice, self-reports of actual prejudice expression, and the acceptability of discrimination toward a particular group. However, because these authors did not include subtypes of women based on parental status, it remains unclear how motivated people are to suppress prejudice toward childfree women.

Feminist and Queer Theory Explaining Prejudice Toward Childfree Women

Despite rising numbers of childfree women and increased access to effective birth control, previously discussed findings suggest that negative attitudes toward childfree women persist (e.g., Ashburn-Nardo, 2016; Bays, 2017; Doyle et al., 2012; Koropeckyj-Cox et al., 2015;

Koropeckyj-Cox et al., 2007; Rich et al., 2011; Shaw, 2011; Vinson et al., 2010). Prior to discussing the specific psychosocial constructs that might justify prejudice toward childfree women, it is important to situate this prejudice in its broader social context. Indeed, the study of attitudes toward childfree women cannot be considered in isolation from the systemic historical, social, and political structures and ideologies that conflate femininity and motherhood in fundamental ways. In this regard, feminist and queer theories can enhance psychology's understanding of prejudice toward childfree women, provide a context for this prejudice, and offer a theoretical framework for studying, analyzing, and explaining it. In the JSM, the following feminist and queer theories may be related to and/or influence some of the social norms, cultural values, cognitive processes, and developmental experiences that contribute to the development of genuine prejudice toward childfree women. Additionally, several of these concepts may act as justifications of expressed prejudice toward childfree women.

Feminist Theory. *Gender essentialism* views gender as traits that are innate and internal to an individual, as opposed to socially constructed and given meaning within a larger cultural context (Bohan, 1993). However, in *Gender Trouble*, Judith Butler (1999) challenges the notion that female identity results from a preexisting and stable category of "woman." Instead, Butler suggests that gender is merely the cultural and artificial meanings applied to biologically sexed bodies, and that gender and sex are confounded to assume that biological sex *causes* gender. Once this conflation is deconstructed, Butler (1999) suggests that gender can become a "free-floating artifice" (p. 10) with traits of masculinity and femininity applied to many different types of sexed bodies. Butler extends the conflation between biological sex and gender to sexuality by identifying a causal chain in which heteronormativity links biological sex and gender with sexual desires and behaviors. Conformity with this causal chain produces coherent and "intelligible genders" (p. 23), but identities and behaviors that break the chain are labeled as "unintelligible"

and a malfunction in the "natural" developmental pathway. According to Butler (1999), gender is actually *performed* to be coherent with compulsory and socially constructed identities that link sex, gender, and heterosexuality. Indeed, Butler suggests that "…gender is always a doing…" (p. 33); in other words, gender is a verb rather than an *a priori* noun. Thus, Butler situates the sex-gender binary within a hegemonic, socially constructed, compulsory, and reproductively-oriented heterosexuality rather than being aligned with innate properties of bodies and identities.

In her analysis, Butler often references Simone de Beauvoir's 1949 *The Second Sex* (the 2010 edition is cited here), which examines the biological, social, historical, and cultural contributions to woman's identification as "Other." de Beauvoir (2010) insists that gender inequality cannot be understood solely through perceived biological and psychological differences between the sexes. Instead, de Beauvoir (2010) states that gendered identities are socialized and constructed, and that "One is not born, but rather becomes, woman" (p. 283). Additionally, de Beauvoir's (2010) suggests that women's identity is fundamentally juxtaposed against men's identity and situated around relationships with heterosexual reproduction. Indeed, de Beauvoir (2010) argues that women's physical connection to offspring through pregnancy was assumed to be a biological inferiority justifying oppression of women by men. Rather than being biological destiny, however, de Beauvoir (2010) refutes that contemporary gender relations support a natural biological order, nor do they imply a fixed identity for women. de Beauvoir (2010) instead suggests that perceived gender differences are due to the cultural meaning we attach to biology, not biology itself. Thus, gender hierarchy and resultant heteropatriarchy are due to cultural values and norms rather than biological destiny.

de Beauvoir (2010) further suggests that female subordination to men results from human tendencies to define the self in opposition to others. Indeed, women's identity as the "Object" is essentially viewed as a deviation from the "Subject" identity of man. de Beauvoir (2010) denies

that women are innately feminine, but are instead socialized from birth to be passive, rely on men and other people, and accept their status as the dehumanized "Other." Because reproductivity is viewed as mutually exclusive with productivity, de Beauvoir (2010) suggests that gendered power relations create a transcendence-immanence binary. Men may pursue "transcendence," characterized by creative, independent, dynamic, industrious, and outward pursuits. Women, on the other hand, are relegated to the domain of "immanence," characterized by passive, repetitive, and inward pursuits. Creative and independent pursuits are discouraged for women, who must be satisfied with domestic work, having and raising children, and being subservient to the sexual needs of men. de Beauvoir (2010) suggests that when women can no longer fulfill these roles, they are viewed as useless and less identifiable as women. de Beauviour (2010) also challenges the image of the "Eternal Feminine" (p. 638), which emphasizes the sacredness of motherhood, sexual purity, and fertility, and creates idealized expectations of women. Women who violate these ideals and seek subjectivity/transcendence are defined as unfeminine and punished.

Related to gender essentialism is Patrice DiQuinzio's (1999) concept of *essential motherhood*. This concept highlights how motherhood is explained as a natural, unavoidable, psychological, and emotional function of womanhood. Moreover, essential motherhood produces an expected feminine identity that is selfless, care-giving, sacrificial, naturally empathic, and attends to others' needs. According to DiQuinzio (1999), essential motherhood situates female sexuality within a compulsory and natural heterosexuality in which reproduction is primary and pleasure is ancillary. Women who do not conform to these hegemonic ideals are viewed as deviant. In a related vein, Sara Ruddick (1989) discusses a connection between womanhood and motherhood that creates an expectation of "maternal thinking" in which women are expected to assume a caregiving role. Ruddick (1989) suggests that "female thinking"

essentially equates with "maternal thinking." Even women who choose not to mother are expected to participate in maternal work and thought, characterized by protecting children, fostering their growth, and training them to think and behave in socially acceptable ways (Ruddick, 1989). Although maternal work is not innately feminine, and can be undertaken by any gender, female identity has nonetheless been constructed around providing care to others.

Additionally, Nancy Hartsock (1983) discusses how relationships with reproduction create a gender hierarchy, a sexual division of labor, and the institution of motherhood linked with feminine identity. Hartsock (1983) suggests that the lives of women are structurally and experientially different from those of males, and these differences are situated around reproductive abilities. Although both men and women play essential roles in procreation, women share a temporally continuous and material relationship with reproduction through pregnancy and childbirth, making maternity undeniable. Men, on the other hand, experience abstracted discontinuity with reproduction due to their inability to become pregnant and give birth. Both men and women produce in the workforce, but production in the home and family was historically defined and devalued by men as "women's work." Thus, women's physical tie to offspring through pregnancy was the impetus for a sexual division of labor, resulting in a gender hierarchy, systematic differences between men and women's work, and disparate realities for men and women (Hartsock, 1983). Hartsock (1983) states that, "Motherhood in the large sense, i.e., motherhood as an institution rather than experience, including pregnancy and the preparation for motherhood almost all female children receive as socialization, results in the construction of female existence as centered with a complex relational nexus" (p. 294).

Nancy Chodorow (1999) integrates many of the aforementioned concepts in *The Reproduction of Mothering: Psychoanalysis and the Sociology of Gender*. Chodorow (1999) discusses how motherhood is a fundamental component of the reproduction and social

organization of gender. She suggests that this occurs through a male-dominated sex-gender system that creates socially constructed meanings between biological sex, gender, and procreation. This system places gender on a binary, privileges heterosexuality and marriage, and creates an asymmetrical sexual division of labor centered on reproductive function. Women's tie to offspring privatizes mothering and domestic work, whereas men's public pursuits (i.e., the realm of society and culture) give them the power to influence social and political institutions. A key component of men's exercise of power is creating institutions that reinforce men's access to the sexual and procreative capacities of women organized around kinship relations.

Chodorow (1999) also discusses the production of women as mothers. She rejects biological and bioevolutionary explanations that nature, hormones, instinct, and the physical connection between women and offspring naturalizes a sexual division of labor. Chodorow (1999) refutes that mothering is a natural activity of women, stating that childcare differs from childbirth, and nurturing differs from pregnancy and feeding. Chodorow (1999) further rejects a functional account of group survival hinging on men's hunting and gathering activities, and women's childbearing and childrearing activities. She argues that these tenuous connections do not adequately explain a sexual division of labor, and that nurturing another can be fulfilled by any gender. Chodorow (1999) instead discusses a role-training theory of how women are socialized to be mothers from an early age. This role-training does not occur in isolation, but alongside a social organization of gender that maintains the asymmetrical sexual division of labor, gender inequality, and men's dominance over social institutions (i.e., heteropatriarchy). A critical component of this socialization process is creating psychological identification of women as mothers, and the personality, interpersonal, and affective components linking womanhood with motherhood. Chodorow (1999) suggests that these dynamics are passed intergenerationally and developmentally, reproducing the institution of motherhood along gendered lines.

Although feminist theories provide invaluable insight into the social, political, and cultural reasons for prejudice toward childfree women, and how it develops along gendered and sexualized lines, there are some limitations to this body of work. For example, there is little attention paid to how conceptualizations of feminine identity and motherhood develop along racial/ethnic and class lines. Also, this literature does not address the social, cultural, and political functions of children themselves. Thus, queer theory fills a theoretical gap in feminist literature, and further contributes to an understanding of prejudice toward childfree women.

Queer Theory. In *Entry Denied*, Eithne Luibhéid (2002) outlines a historical perspective on U.S. federal laws and immigration policies that have regulated the sexuality, norms, and identities of immigrant women along racial/ethnic and class lines. Rather than being isolated to immigration, Luibhéid (2002) suggests that these policies reflect hegemonic heteropatriarchical systems that regulate women's sexuality. These systems are centered on maintaining a model of family as a husband, wife, and their biological children together, implying that sexuality is situated within a family unit that is inherently heterosexual and based on biological procreation. Women's sexuality in particular is demarcated as heterosexual, procreative, and "…most appropriately channeled into marriage and reproduction" (Luibhéid, 2002, p. 3). Luibhéid (2002) discusses how women who violate the mandated White, middle-class, heteropatriarchical order (e.g., prostitutes, unmarried and/or pregnant women, lesbians, hyper-reproductive non-White women) are penalized for their threat to nation and excluded from entering the country. Once in the U.S., immigrant women's living situations were also monitored to ensure appropriate sexual behavior, domesticity, dependence on others (e.g., husbands or male relatives), and compliance with feminine gender norms (e.g., in dress, occupation, relationship status). More broadly, however, the regulation of immigrant women's sexuality was a reflection of widespread domestic attempts to regulate women's sexuality within U.S. borders, reproduce "…patriarchical

heterosexuality as the nation's official sexual and gender order" (p. xix), and deny access to resources to anyone unwilling or unable to conform to this order.

Queer theory proposed by Lee Edelman (2004) may also be useful in explaining prejudice toward childfree women. In his chapter titled "The Future is Kid Stuff," Edelman (2004) discusses a U.S. political system centered on family values and the defense of children. This author introduces the term *reproductive futurity* to describe a social and political discourse that positions the symbolic "Child" as holding the ultimate value for the future. Political and social decisions are made with the symbolic Child in mind, which preserves the existing social order, fetishizes heteronormativity, and creates a compulsory heterosexuality. Those who refuse the mandate to protect the Child are viewed as threatening the established social order and the very stability of the future. Thus, the absolute focus on the symbolic Child reflects an orientation that inherently privileges and universalizes heteronormativity by assuming compulsory heterosexual procreation. The symbolic Child is then, of course, the product of meaningful and sanctioned heterosexual sex. According to Edelman (2004), this defines sexual activity without procreation as "…inherently destructive of meaning and therefore as responsible for the undoing of social organization, collective reality, and, inevitably, life itself" (Edelman, 2004, p. 13). To illustrate these points, Edelman (2004) reviews media examples of a pronatalist discourse that defines sexual pleasure without the production of the Child as pathological and hollow. Furthermore, Edelman (2004) defines "queer" as "…all [individuals] so stigmatized for failing to comply with heteronormative mandates…" (p. 17) and defines queer sexuality as a rejection of a futurism defined by its heteronormative purpose (i.e., to produce children).

While referencing Edelman (2004), Lisa Downing (2011) discusses how discourses in mass media position childlessness or the death of a child as the symbolic psychological, social, or physical death of an individual. Downing (2011) states that this investment in the child

represents a patriarchical and heteronormative political system that privileges heterosexual procreation and parent-child relationships above other forms of human activities. The author also discusses how media promotes a cultural fantasy about the universal, normative, and essentialist nature of procreative desire. In several films, Downing (2011) highlights themes of gender essentialism that naturalize the link between femininity and motherhood, tie masculinity to fatherhood (as reproducing heteropatriarchy), and institutionalize heterosexuality. In these films, despairing heterosexual couples who cannot conceive, women who are infecund, and parents whose children have died seek figurative and/or literal death for their failed hetero-reproductivity and futurity. Downing (2011) states that "…a heterosexual couple, bereft of a child, is rendered excessive, surplus to the reproductive system…" (p. 54). Furthermore, film characters who are unmarried and without children are tacitly queered as the non-heterosexual "other," and women who fail to nurture others as unnatural. In a nod to reproductive futurity, Downing (2011) concludes that:

> …pro-reproductivity would be understood as the social valuing of adults for their hetero-reproductive function, the reduction of women to their childbearing and maternal capacities, and the idealization of children for their propensity to signify valorized qualities – innocence, promise and, as Edelman has devastatingly shown, an absolutist vision of futurity. (p. 60)

Applications of Feminist and Queer Theories. Identifying the existence of prejudice toward childfree women emphasizes the "what" of outcomes for childfree women, whereas feminist and queer theories provide a rich context for the "why" of these outcomes. Indeed, these processes are situated within a broader political and social context that explains this prejudice. According to Butler (1999), childfree women may defy hegemonic conceptualizations of gender as an essential quality implying specific traits for all individuals who identify as women. Gender essentialism is extended by DiQuinzio's (1999) concept of essential motherhood, which naturalizes the mother's selflessness/self-sacrifice, desire to attend to the

needs of others, and empathy. According to Butler (1999) and Chodorow (1999), biological sex's conflation with gender creates a sex-gender system that places gender on a binary and attaches social meaning to these gendered categories. The conflation of biological sex with gender also creates expectations of women's "intelligible gender"(Butler, 1999) as nurturing, warm, and satisfied filling a caregiving role. Using Butler (1999) as a frame, childfree women may be disrupting the sex-gender-desire causal chain that creates social constructions of gender and sexuality. Indeed, childfree women may also be challenging the very notion of gender by highlighting its performative rather than essentialist nature.

Other feminist writers offer insight into prejudice toward childfree women. For example, de Beauvoir (2010) highlights the social construction of gender and production of woman as “Other” through heteropatriarchy. Arguably, mothering may be viewed as a critical component of de Beauvoir's (2010) supposition that one "becomes" (p. 283) a woman instead of being born one. Furthermore, woman's "Object" identity is juxtaposed against man's "Subject" identity, painting woman as biologically inferior to man due to her physical connections with childbirth and justifying heteropatriarchical social structure. Yet, the childfree woman challenges this biological inferiority turned destiny and the assumptions of heteropatriarchy by divorcing her identity from her reproductive capacities. Although a variety of motivations are reported, some childfree women describe a radical rejection of motherhood in which they renounce the traditional gender roles/identities, responsibilities, and activities conventionally associated with motherhood (Gillespie, 2003; Mollen, 2006; Park, 2005). Thus, childfree women may also be rejecting "maternal thinking" (Ruddick, 1989), marked by dictates to protect, train, and foster the growth of children and other people. Additionally, it might be argued that childfree women are actually eschewing "immanence" (i.e., passive, repetitive, inward pursuits; de Beauvoir, 2010) and challenging the role of the "Other" that is mutually exclusive with productivity. Finally,

childfree women may violate de Beauvoir's (2010) image of the “Eternal Feminine” (p. 638), which emphasizes the sacredness of maternity, sexual purity, and fecundity.

It is, in fact, telling that women without children are commonly described as materialistic and immature (Callan, 1985; Kemkes, 2008); emotionally unstable and selfish (Peterson, 1983); less likely to live happy and satisfied lives (Mueller & Yoder, 1997); maladjusted (Polit, 1978); and lacking in warmth (Bays, 2017; Koropeckyj-Cox et al., 2015; LaMastro, 2001). Some of these traits can be viewed as directly contrasting the traits associated Ruddick’s (1989) “maternal thinking,” and de Beauvoir’s (2010) “immanence” and the “Eternal Feminine.” Rather than being a coincidence, the negative traits ascribed to women without children may be a direct result of their perceived inability or refusal to fulfill the characteristics and behaviors mandated by these roles. Moreover, being a nonparent influences material outcomes, such as differences in employment and stipend decisions (Eby et al., 2004), employee scheduling (Mollen, 2006; Picard, 1997), access to voluntary sterilizations (Gillespie, 2000; Mollen, 2006; Mueller & Yoder, 1999), and the allocation of medical resources (Wiseman, 2006, 2007, 2010). These sorts of discrimination support de Beauvoir's (2010) notion that women who deviate from feminine norms and seek subjectivity are often punished.

Childfree women may also be challenging systems meant to regulate and control the sexuality of women. Butler (1999) and Chodorow (1999) highlight how sex turned gender turned sexual desire creates social constructions that privilege heterosexuality, marriage, and procreation. Luibhéid (2002) discusses how the sex-gender-desire chain is institutionalized by laws designed to relegate women’s sexuality within and maintain a nuclear model of family, encourage women’s dependence on others, and enforce compliance with conventional norms of femininity (particularly those norms associated with the White middle class). Luibhéid (2002) provides examples of how immigrant women who violate these institutions were penalized in a

variety of ways. Indeed, producing children may be the ultimate evidence of a women's "intelligible gender" (Butler, 1999) and her participation in the compulsory heterosexuality implied by the sex-gender-desire chain. Not only do childfree women fail to conform to prevailing norms of femininity, but they may also be failing to produce tangible verification of their compliance with heteronormativity, thus presenting themselves as an "unintelligible gender" and a "developmental failure" (Butler, 1999, p. 24). Additionally, the sexual division of labor that was once justified by women's relationship with offspring through reproduction (Chodorow, 1999; Hartsock, 1983) no longer seems natural for women who reject the mothering role. As has been discussed, this division benefits and empowers men's participation in social/public institutions (i.e., patriarchy) and relegates women's activities to the private sphere. As such, it is no surprise that even women's greater participation in the labor force and increased control over their reproductive capacities has not eliminated a sexual division of labor. Indeed, even women without children are expected to fulfill their role within this division and are disciplined (albeit subtly) for their deviation from the norm.

Edelman's (2004) concept of reproductive futurity also provides a useful theoretical framework for conceptualizing prejudice toward childfree women. The social and political emphasis on the future as protected for the Child privileges and universalizes heteronormativity and a compulsory heterosexuality. By not participating in procreation, Edelman (2004) might say that childfree women threaten this established social order and the perceived stability of the future. Childfree women also fail to produce both the literal and symbolic Child who is purported to be the recipient of a protected future. According to Edelman (2004), prejudice toward childfree women may be explained for their failure "…to comply with heterosexual mandates…" (p. 17). A reading of Edelman (2004) also suggests that women who deliberately reject motherhood are essentially "queer" in their refusal to contribute to the future, and for

assuming a position that is "…unthinkable, irresponsible, inhumane" (p. 4) and "chafes against 'normalization'" (p. 6). Childfree women are, in essence, rejecting a futurism that defines sexuality by its heteronormative and procreative function. Additionally, as suggested by Downing (2011), cultural tropes imply that the failed hetero-productivity of childfree women represents their symbolic death. As discussed, these sentiments are mirrored in the negative traits ascribed to childfree women, such as emotionally instability and selfishness (Peterson, 1983); immaturity (Callan, 1985; Kemkes, 2008); and maladjustment (Polit, 1978).

Critique of Feminist Theory. Nonetheless, any discussion of prejudice toward childfree women would be remiss if it did not highlight how hegemonic conceptualizations of femininity and motherhood are inextricably bound to race/ethnicity and social class. Indeed, Schippers (2007) describes a theory of gender hegemony in which hegemonic femininity aids hegemonic masculinity in maintaining men's dominance over women. Thus, according to this author, gender hegemony occurs in the dynamic, complementary, and hierarchical relationship between men and women. Schippers (2007) specifically defines hegemonic femininity as "…the characteristics defined as womanly that establish and legitimate a hierarchical and complementary relationship to hegemonic masculinity and that, by doing so, guarantee the dominant position of men and the subordination of women" (p. 94). Gender hegemony operates across and within systems of oppression along racial/ethnic, class, and sexual lines and promotes the superiority of some femininities (particularly those that support unequal gender relations) over others. Rather than being inherently inferior, "pariah femininities" are thus defined as characteristics and/or statuses of women that "contaminate" or challenge the hierarchical association between hegemonic masculinity and femininity, placing hegemonic and pariah femininities at odds with each other (Schippers, 2007, p. 95). According to Schippers (2007), hegemonic femininity occurs in every culture and at each intersection of identities, and is not

innately White and middle-class. Yet, its function remains the same (i.e., to perpetuate women's subordination to men) and it nonetheless benefits from racial/ethnic and class privilege by promoting idealized conceptualizations of White middle-class masculinity and femininity. Schippers (2007) states:

> …race and class differences in gender performance or social organization…provide the rationale for placing upper- and middle-class, white men and women higher in social status than others and rendering the gender practices of others as illegitimate…By excluding members of some groups from being 'real' or 'good' women and men, white supremacy and class privilege are legitimized at the same time that the idealized quality content of masculinity and femininity is reinforced in both socially dominant groups and socially subordinate groups. Gender hegemony benefits from race and class hegemony when the gender practices of subordinate race and class groups are defined as problematic or deviant in order to reify and legitimate the ideal quality content for femininity and masculinity. (pp. 99-100)

Myers (2004) echoes similar sentiments by describing "Ladyhood," a femininity marked by embodying the stereotypical traits of women (e.g., being domestic, nonconfrontational, passive, well-mannered, submissive, noncontroversial, pure/pious) and an affluent, highly feminine appearance. Ladyhood was historically limited to wealthy White women who used their proximity to and affinity with wealthy White men to gain status, rewards, and power. Yet, this paradoxical influence comes at the expense of perpetuating (rather than challenging) the patriarchal, heterosexist systems that oppress women, and simultaneously subordinating and excluding lower-class and non-White women who may not be able to access the same resources and/or enact these traits. In other words, "Because 'the lady' is a racially divisive and class biased concept…ladyhood is defined by the exclusion of certain categories of women. Not every woman is an insider" (Myers, 2007, p. 17).

Patricia Hill Collins (1994, 1998, 2005) also explores these concepts by examining gender hegemony within depictions of Black culture. Collins (2005) argues that normative White middle-class ideals permeate all facets of femininity, dictating expectations for women's physical appearance (i.e., light skin, Anglo facial features, smooth hair, slim figures),

achievements (i.e., status and wealth gained through at-home family work), behavior/demeanor (i.e., passive and submissive to male authority), and desires (i.e., heterosexual marriage and motherhood). Collins (2005) notes how Black women are expected to emulate traditionally White, middle-class norms of femininity and motherhood but are simultaneously penalized for doing so. This author describes popular culture depictions of working-class Black mothers who stay at home to raise their children as hypersexual, living in poverty, exploiting government welfare programs, aggressive, and "Bad Black Mothers" (Collins, 2005, p. 131) for their inability to achieve the passivity and submissiveness expected of middle-class White women. Black women in the middle class must also align with hegemonic femininity by rejecting what is typically viewed as "working-class, authentic Blackness" (p. 140) and striving to be either the respectable "Black Lady" (p. 139) or the loyal and aggressive "Black Mammy" (p. 140). Yet, Collins (2005) notes that Black women are placed in a double-bind, such that "…depictions of Black culture needed to be *different* from White norms, yet still supportive of them" (p. 147). Collins (1998) suggests that it is virtually impossible for Black women to achieve these ideals due to experiences of oppression, prejudice, and discrimination against women of color in the global political economy. Collins (2005) states:

> As a group, women are subordinated to men, yet a pecking order among women also produces hegemonic, marginalized, and subordinated femininities. This ideology proscribes behavior for *all* women based on these assumptions, and then holds all women, including African American women, to standards that only *some* women (including many White ones) may be able to achieve. All women engage an ideology that deems middle-class, heterosexual, White femininity as normative. In this context, Black femininity as a subordinated gender identity becomes constructed…These benchmarks construct a discourse of a hegemonic (White) femininity that becomes a normative yardstick for all femininities in which Black women typically are relegated to the bottom of the gender hierarchy. (p. 193)

Pulling from the personal narratives of women of color, Collins (1994) extends these arguments to the specifics of motherhood. Collins (1994) critiques feminist theory for ignoring the "alternative family structures" (p. 640) experienced by women of color and assuming that

power relations between men and women are exercised in the "…archetypal, white, middle-class nuclear family [that] divides family life into two oppositional spheres – the 'male' sphere of economic providing and the 'female' sphere of affective nurturing, mainly mothering" (p. 640). Collins (1994) highlights two problems with assuming White middle-class ideals for motherhood, including that not all mothers/families have (1) the economic security to keep the public and private spheres separated; and (2) the racial privilege to pursue personal autonomy instead of being intimately linked to an oppressed racial/ethnic group. Collins (1994) argues that, unlike middle-class White women, Black women often participate in both the economic and domestic spheres.

Additionally, Collins (1994) suggests that common motherhood themes of promoting emotional well-being and personal growth in children do not necessarily reflect the experiences of mothers of color, who are often concerned with the literal survival and safety of their children in the face of high infant mortality, harsh living environments, food insecurity, and inadequate access to medical care. Furthermore, Collins (1994) challenges conceptualizations of motherhood as supporting men and children in an autonomous family unit, and instead describes how women and mothers play important roles in communities of color by building collective identity and benefitting the larger group. Relatedly, Collins (1994) suggests that mothers of color manage several dialectics not experienced by White mothers, including socializing their children to value their individual and collective racial/ethnic identities while assimilating with dominant culture for survival; and simultaneously navigate and resist systems that are designed to denigrate and oppress them. Collins (1994) also describes how women of color have long experienced a tension between power and powerlessness in shaping their own mothering experiences, including control over reproduction (when faced with unwanted sexual contact, forced sterilization, and poor access to reproductive healthcare), keeping and caring for children

(in the face of governmental regulation and former slavery), and the freedom to shape their children's worldview rather than endure the forced assimilation characteristic of dominant systems built by and for the White middle class.

Likewise, Roberts (1993) traces how the history of patriarchy, slavery, and institutionalized racism has produced differing realties for Black and White mothers. Although motherhood has historically been compulsory for all women, White procreation has been valued and Black procreation has been dehumanized. White women were required to produce male heirs that would inherit their father's property and continue his legacy, ultimately perpetuating White supremacy. As such, White women were afforded a degree of value, reverence, and protection from White men, and there was a strong demarcation between the public/labor force and private/domestic spheres. On the other hand, Black women were dehumanized through forced participation in the labor force, regulation of their sexuality and reproduction by male slave owners to produce more property, and division of their families at the will of their owners.

According to Roberts (1993), the legacy of this history persists, although contemporary feminist theorizing on motherhood has not adequately accounted for these experiences. Until recently, feminist scholars conceptualized motherhood as occurring within a strong private-public binary and women's pursuit of elite middle-class work as freedom from this oppressive condition. This conceptualization essentially ignores how women of color have long "…been exploited as a source of cheap surplus labor [and] experienced work outside the home as an aspect of racial subordination and the family as a site of solace and resistance to white oppression" (Roberts, 1993, pp. 20-21). Currently, Black mothers are disproportionately more likely to live in poverty, head single-parent households, participate in low-wage labor outside the home, have their motherwork overseen by social workers, lose their children to child protection services, be strongly discouraged from having more children, and face harsher legal penalties for

substance use and perceived child abuse (Roberts, 1993). Additionally, White mothers do not have to raise their children in a culture that dehumanizes them. As Roberts (1993) states:

> …Black women can never attain the ideal image of motherhood, no matter how much we conform to middle-class convention, because ideal motherhood is white. The maternal standards created to confine women are not sex-based norms which Black women happen to fail. They are created out of raced, as well as gendered, components. (p. 15-16)

Results from empirical research highlight the importance of considering racial/ethnic and class contexts in discussing the experiences of women. After conducting a content analysis of U.S. women's magazines, Johnston and Swanson (2003) suggested that media constructs cultural ideologies and myths that privilege ideal motherhood as White and middle-class. Specifically, they reported that 88% of magazine content depicted stay-at-home mothers, 95% of which were White. Images of working mothers, albeit rare, were also overwhelmingly White (89%). Furthermore, most mothers were depicted in domestic settings (84%) rather than the public sphere. These authors conclude that "…the exclusion of Women of Color from representations of motherhood and family perpetuate myths and stereotypes that only Whites value family, home, and involved parenting. Moreover, the lack of diversity in mother representations privileges White middle-class hegemony" (Johnston & Swanson, 2003, p. 29).

Two additional studies examined if perceptions of women differ by race/ethnicity and social class, although neither study found an interaction between these two variables. In Lott and Saxon's (2002) study, predominantly White U.S. undergraduates, parents, and teachers (SES unspecified) rated women of varying race/ethnicity (Jewish, Hispanic/Latina, White) and class (working-class, middle-class). Although social class was a more powerful predictor, both race/ethnicity and class had independent effects on ratings. Hispanic/Latina women were rated as less attractive and suited for a job than the White and Jewish women, and White women were rated as more perfectionistic. Working-class women were viewed as more irresponsible, cruder, more unemotional, meeker, and less strident, perfectionistic, and suited for a job than middle-

class women. Landrine (1985) found similar results in a sample of primarily White, middle-class U.S. undergraduates who rated women of varying race/ethnicity (Black, White) and social class (middle-class, lower-class). Despite some perceived similarities, middle-class women were rated more favorably than lower-class women (e.g., warmer, happier, and with more confidence, ambition, competence, and intelligence), and lower-class women were rated more unfavorably than middle-class women (e.g., dirtier and more confused, hostile, impulsive, inconsiderate, irresponsible, illogical, and superstitious). Race/ethnicity also affected ratings, such that Black women were perceived as dirtier, and more hostile and superstitious than White women; and White women were perceived as warmer and more competent, dependent, vain, emotional, talkative, intelligent, suggestible, and passive than Black women. Race/ethnicity (but not class) strongly influenced perceptions of traits associated with traditional femininity (e.g., emotional, dependent, passive), with White women rated higher on these traits than Black women. Two traits also powerfully differentiated women, with hostility more often ascribed to Black women and passivity more often to White women. These authors concluded that White women were perceived as more similar than Black women to the traditional woman stereotype, and that race and social class may be implicit variables contributing to gender stereotypes.

Other research that has examined the intersection of only gender and race/ethnicity also informs the current discussion. Bays, Ingram, and Phills (2015b) asked a racially/ethnically-diverse (46% White, 24% Black, 5% Hispanic/Latinx, 13% Asian, 6% Multiracial) sample of U.S. undergraduates (66% women, SES unmeasured) to rate a woman whose race/ethnicity (Black, Asian, White, Hispanic) and parental status (mother of two children, childless, childfree) varied. Race/ethnicity did not interact with parental status; childless and childfree women of all races/ethnicities were perceived more negatively than mothers, suggesting that negative attitudes toward women of nonparental status may apply across all racial groups. However, Vinson et al.

(2010) found that Black childfree women were perceived more negatively than White childfree women. In a sample of exclusively White U.S. undergraduate men and women (SES unspecified), Donovan (2011) found additional evidence of the racialization of gender. Although Black and White women were perceived as sharing some traits (e.g., emotional, family-oriented, talkative, independent), Black women were perceived as louder and tougher than White women. On the other hand, White women were perceived as more sensitive, intelligent, and educated than Black women. Black women were also stereotyped as stronger, tougher, louder, and more quick-tempered, aggressive, argumentative, and dominating than White women. These authors concluded that, not only are some feminine characteristics racialized, but White women are more commonly perceived as embodying traits associated with traditional femininity than Black women.

Similarly, in a racially/ethnically-diverse (3% Black, 43% Asian, 26% White, 17% Hispanic/Latinx, 4% Middle Eastern) sample of U.S. undergraduates (73% women, SES unspecified), Ghavami and Peplau (2013) found unique gender by race/ethnicity stereotypes that differed from what might be expected from adding the content of racial/ethnic stereotypes to the content of gender stereotypes. Within Black, Hispanic/Latinx, and Middle Eastern target groups, participant ratings of women generated more unique stereotype content than ratings of men. Also, stereotypes of Black (e.g., unfeminine, assertive, aggressive, promiscuous) and Hispanic/Latina (e.g., sexy, feisty, early mothers, maids) women contained the most unique content, whereas stereotypes for White women (e.g., ditsy, sexually liberal) contained the least. Generally, when gender was unspecified, stereotypes most closely resembled those typically associated with men in each racial/ethnic group. Similarly, when race/ethnicity was unspecified, stereotypes of men and women most closely aligned with those attributed to White individuals. In other words, unspecified gender and race/ethnicity was conflated with being a White man.

Furthermore, when race/ethnicity was unspecified among women, stereotypes resembled those for White women. These authors conclude that White men (first) and women (second) are likely the hegemonic and idealized prototypes against which all other races/ethnicities are compared.

Critiques of feminist theorizing about femininity and motherhood can clearly be extended to both the psychological literature and research on childless/childfree women. Indeed, these literatures likely suffer from the same implicit assumptions that view motherhood and femininity within a White, middle-class frame. Given the unique challenges that occur at the intersection of race/ethnicity and social class, Donovan (2011) states:

> …the typical way gender stereotype research is conducted – by asking participants to respond to questions about 'women' – does not capture the stereotypes of Black women (and likely other women of color). Thus, theories about 'women' developed from gender stereotype studies that did not take race into account should be cautiously applied to women of color. (p. 465)

Undoubtedly, the current study's exploration of prejudice toward childfree women is limited by narrow and culturally-bound conceptualizations of femininity and motherhood in the psychological literature, which will be addressed more thoroughly in the discussion section.

Psychosocial Justifications of Prejudice Toward Childfree Women

As can be seen from feminist and queer theories, broad systemic factors may justify prejudice toward childfree women. Additionally, there are likely numerous individual-level factors that are relevant to prejudice toward childfree women and justify its expression. Several of these potential individual-level psychosocial justifications will be assessed in this study. It is important to note that most of the selected psychosocial justifications presented here each relate to perceptions and expectations of women's gender, women's societal and cultural roles, and/or relations between genders. Some of the following justifications were proposed as such by Crandall and Eshleman (2003), whereas others are not proposed by the JSM but are nonetheless relevant to the study of prejudice toward childfree women. These particular justifications

include ambivalent sexism, gender-specific system justification, and femininity ideology. Right-wing authoritarianism will also be reviewed and included in the present design because of its robust link to the tendency to be prejudiced toward out-groups. Because an extensive review of each of these large and well-established literatures is beyond the scope of this project, only specific studies that inform the study of prejudice toward childfree women will be reviewed here.

Ambivalent sexism. Although not specifically mentioned by the JSM, ambivalent sexism may justify prejudice toward childfree women. Like other prejudices, sexism was originally thought to involve entirely negative attitudes toward women (Allport, 1954). However, more recent conceptualizations propose that sexism is ambivalent and consists of subjectively positive and negative evaluations of women (Glick & Fiske, 1996). First proposed by Glick and Fiske (1996), *ambivalent sexism* is comprised of two related, but distinct types of attitudes that produce opposing valences toward women. The first is *hostile sexism* (HS), which is similar to traditional conceptualizations of prejudice in that it represents hostility and antipathy toward women. Conversely, *benevolent sexism* (BS) is defined as:

> …a set of interrelated attitudes toward women that are sexist in terms of viewing women stereotypically and in restricted roles but that are subjectively positive in feeling tone (for the perceiver) and also tend to elicit behaviors typically categorized as prosocial (e.g., helping) or intimacy-seeking (e.g., self-disclosure). (Glick & Fiske, 1996, p. 491)

Glick and Fiske (1996) clearly state that, although BS is usually subjectively experienced as positive by the expresser, it nonetheless supports gender stereotypes and a gendered imbalance of power that favors men. More specifically, BS situates women as "the (sic) weaker sex" (Glicke & Fiske, 1996, p. 492) in need of protection by men and relegating them to more passive, subservient social and familial roles.

Because these authors view sexism as an ambivalent and multidimensional construct, they propose that some individuals can concurrently hold hostile and benevolent attitudes toward women without experiencing psychological tension or conflict. This might occur because of the

tendency to group women into favorable subtypes that promote benevolence (e.g., housewives, mothers) and unfavorable subtypes that promote hostility (e.g., feminists, childfree women). Favoring some women may justify disliking others, thus avoiding the psychological tension typically associated with conflicting feelings or attitudes (Glick, Diebold, Bailey-Werner, & Zhu, 1997). Additionally, Glick and Fiske (1996) note that HS and BS work in tandem to subjugate women when they state that "Hostile sexist beliefs in women's incompetence at agentic tasks characterize women as unfit to wield power over economic, legal, and political institutions, whereas benevolent sexism provides a comfortable rationalization for confining women to domestic roles" (p. 492).

Glick and Fiske (1996) highlight the social and biological processes that contribute to ambivalent sexism, such as reinforcement of patriarchy and a gendered division of labor based on differing roles in sexual reproduction (as previously discussed). These authors identify three specific components at the core of ambivalent sexism theory, with each comprising both hostile and benevolent facets. The first component is *paternalism,* or the perception that women lack the competence to care for themselves, thereby justifying men's control and dominance over women (i.e., *dominative paternalism*). Yet, heterosexual men's sexual and emotional dependence on women as romantic partners and mothers (i.e., dyadic reliance) also compels men to protect, revere, and provide for women (i.e., *protective paternalism*). In the second component, *gender differentiation,* the human tendency to create groups manifests most strongly along sex, with the physical differences between males and females forming the bases for social constructions of gender identity. These distinctions foster competition between the sexes, justifying a gendered imbalance of power that favors men (i.e., *competitive gender differentiation*). However, yet again, dyadic reliance promotes beliefs that women's traits and roles complement men's, contributing to a sexual division of labor perceived to be balanced (i.e.,

complementary gender differentiation). The final component is *heterosexuality* in which men's sexual and emotional reliance on women (i.e., *heterosexual intimacy*) fosters a vulnerability that men may dislike and view as a threat to their dominance over women (i.e., *heterosexual hostility*). Although these conceptual underpinnings highlight interpersonal dynamics that give more power to men, Glick and Fiske (1996) provide ample support that ambivalent sexism is culturally transmitted to and experienced similarly by all genders. Additional research has demonstrated that HS and BS occur across numerous Western and non-Western cultures in a variety of populations (Glick et al., 2000).

Although no previous studies have investigated how ambivalent sexism relates to prejudice toward childfree women, previous findings regarding ambivalent sexism inform this work. Indeed, research demonstrates that HS is associated with negative responses to women, whereas BS is associated with subjectively positive responses to women (Clow & Ricciardelli, 2011; Glick et al., 2000; Glick & Fiske, 1996). For men in the instrument development study, the total Ambivalent Sexism Inventory (ASI) scale generally predicted ambivalent attitudes toward women, HS predicted negative attitudes toward and stereotyping of women, and BS predicted positive attitudes toward and stereotyping of women. A similar pattern of results was found in men and women across 19 countries (Glick et al., 2000).

Moreover, HS (which *proscribes* women's behaviors) predicts negative attitudes toward women who do not conform to traditional gender roles; whereas BS (which *prescribes* women's behaviors) predicts subjectively positive attitudes toward women who conform to traditional gender roles (Clow & Ricciardelli, 2011; Glick et al., 1997; Glick et al., 2015; Sibley & Wilson, 2004). In other words, not only does ambivalent sexism predict attitudes toward women in general, but it also predicts attitudes toward women who assume roles that are congruent and incongruent with gendered expectations. For instance, in a sample of U.S. undergraduate men,

Glick et al. (1997) found that highly sexist men were more likely to categorize women into polarized subtypes (traditional vs. nontraditional), and to express HS toward a nontraditional woman (e.g., career woman) and BS toward a traditional women (e.g., homemaker). In a similar study by Sibley and Wilson (2004), undergraduate men (country unspecified) expressed the most HS toward a negative female sexual stereotype (i.e., a promiscuous woman) and the most BS toward a positive female sexual stereotype (i.e., a chaste/pure woman). Fowers and Fowers (2010) also found that U.S. undergraduate women expressed HS toward a promiscuous woman and BS toward a chaste woman. However, men in this study expressed HS toward *both* the promiscuous and chaste women, and did not express greater BS than HS toward the chaste woman. Likewise, in a U.S. adult online sample (Glick et al., 2015), men who endorsed HS reported unfavorable responses toward gender-nonconforming women (e.g., masculine women, feminists, ambitious career women), whereas men who endorsed BS reported favorable responses toward gender-conforming women (e.g., feminine women, stay-at-home mothers). Taken together, results from these studies confirm that HS and BS work in tandem to both reward women for conforming to gender expectations (with benevolence) and punish them for nonconformity (with hostility).

Continuing this line of inquiry, adult Israeli participants in Gaunt's (2013) study responded with more HS toward a "breadwinner" woman, who they perceived as cold, incompetent, and experiencing few positive and more negative emotions. In contrast, BS was directed toward a caregiving woman, who they perceived as warm, competent, and experiencing few negative emotions. However, some participants also responded with HS toward the caregiving woman, which the authors surmised was due to her being a mother who was employed part-time. Using data collected with German, community-based samples of women, Becker (2010) found that endorsement of sexism depended on the gender role congruence of the

target. Specifically, BS increased when women considered a traditional woman (e.g., housewives) and decreased when they considered a nontraditional woman (e.g., career women, feminists, temptresses); in contrast, HS decreased when considering a traditional woman and increased when considering a nontraditional woman.

Taking a different approach, Murphy, Sutton, Douglas, and McClellan (2011) found that both HS and BS were positively associated with British undergraduates' support for proscriptions regarding the behavior of a pregnant woman (e.g., no strenuous exercise); moreover, HS predicted participants' willingness to punish a pregnant woman who had violated these proscriptions. Conversely, Sutton, Douglas, and McClellan (2011) reported that English undergraduates who endorsed BS (but not HS) were more willing to prevent a woman from violating pregnancy proscriptions, especially if her behavior was perceived as unsafe (which the authors suggest is a demonstration of paternalistic, protective behavior from participants). Although childfree women do not necessarily equate with career women, sexually promiscuous women, and/or "breadwinners," these findings nonetheless inform the study of childfree women, who are also thought to violate gender stereotypes and expectations for women.

Previous research also connects ambivalent sexism to a variety of attitudes toward and outcomes for women. For example, Glick and Fiske (1996) reported that ambivalent sexism, HS, and BS were all positively associated with unsupportive attitudes toward women's equal rights and gender-related policies, acceptance of rape myths (i.e., beliefs that women are to blame for rape, and that perpetrators are not or only partially responsible and/or justified for their behavior), and overt hostility toward women. Likewise, college men in one U.S. study who endorsed HS were more likely to blame a woman who experienced a sexual assault, view her as less credible and more culpable, and believe she experienced pleasure and little trauma from the sexual assault (Angelone et al., 2014); BS was unrelated to these variables in this study.

Additionally, Capezza and Arriaga (2008) reported that U.S. college students who endorsed HS were more likely to view a woman who was verbally abused by her husband in a negative light. In a related vein, Saunders et al. (2017) found that U.S. undergraduate men who endorsed greater HS were less likely to believe that women should actively cope with (i.e., directly confront) stranger harassment; in contrast, men who endorsed greater BS supported active coping. Moreover, men who endorsed HS also believed that women should passively cope with (i.e., ignore) the harassment, view the harassment as flattering or benign, and/or assume blame for the harassment; BS was unrelated to men's beliefs about these coping strategies.

Research also demonstrates that ambivalent sexism influences others' views about gender equality, social structures reflecting actual gender equality, and women's participation in the workforce. In a sample of German women, Becker and Wright (2011) found that exposure to BS increased women's support for inequitable gender relations, whereas exposure to HS reduced their support. Christopher and Wojda (2008) found that U.S. adults who endorsed HS were skeptical about women's ability to perform competently in the workplace, whereas those who endorsed BS preferred a working mother to assume a more traditional role (e.g., a stay-at-home mother). Similarly, Latu et al. (2011) reported that U.S. college students high in HS were more likely to associate men over women with successful managerial traits. Additionally, Young and Nauta (2013) found that U.S. undergraduates high in HS and BS were also unsupportive of women serving in the military and in combat roles. In a review, Cikara, Lee, Fiske, and Glick (2009) highlight how ambivalent sexism in heterosexual romantic relationships limits women's ability to fully participate in the workplace by justifying a gender-specific system that values a gendered division of labor in the home. Finally, several authors have reported that gender inequality increases as sexism increases across numerous countries and cultures (Brandt, 2011; Glick et al., 2000).

System justification. Another potential justification identified by the JSM is system justification. First proposed by Jost and Banaji (1994), *system justification* is defined as "…the psychological process by which existing social arrangements are legitimized, even at the expense of personal and group interest" (p. 2). Group differences form the rationale for stereotyping which, in turn, validates perceived distinctions between social groups, justifies negative attitudes and behaviors toward out-groups, and reinforces and reproduces existing but inequitable social arrangements. In particular, stereotyping (both positive and negative) serves an ideological function by reinforcing social hierarchies that exploit specific groups and rationalizing the status quo as just, valid, natural, and reasonable (Jost & Banaji, 1994; van der Toorn & Jost, 2014). According to this theory, individuals will actively defend the status quo at all costs by ignoring, denying, or justifying social inequalities (Jost & Banaji, 1994; van der Toorn & Jost, 2014). In addition to being supported by dominant groups, an unequal status quo and stereotyping are also often internalized and supported by disadvantaged social groups, even to their own detriment (Jost & Banaji, 1994; van der Toorn & Jost, 2014). Jost and Banaji (1994) note that "…the powerful are stereotyped, even by the powerless, in such a way that their success is explained or justified; meanwhile, the powerless are stereotyped (and self-stereotyped) in such a way that their plight is well-deserved and similarly justified" (p. 13). Thus, disadvantaged groups often unknowingly and/or unconsciously collude in their own oppression.

Gender-specific system justification (GSSJ) endorses social arrangements that maintain gender relations, gender inequality, and the sexual division of labor (Jost & Kay, 2005). Indeed, research suggests that gender-based ideologies and stereotypes assign women to caregiving roles, limit their access to resources, and control their sexuality and bodies (Pratto & Walker, 2004). According to Jost and Kay (2005), specific gender stereotypes include perceptions of women as communal and men as agentic. The supposed strengths of one gender are thought to compensate

for the supposed weaknesses of another gender. As such, gender stereotypes share a complementary relationship implying that men and women are suited for their prescribed social roles and the gendered division of labor, and perhaps even offset men's high status relative to women. Moreover, the positive traits ascribed to women make the system more palatable and flattering, thus increasing women's cooperation in the very system that oppresses them. Therefore, complementary gender stereotypes rationalize inequitable gender relations as natural, legitimate, and harmonious, and maintain the gendered status quo. In the first study to define GSSJ, Jost and Kay (2005) found that experimentally priming complementary gender stereotypes increased support for GSSJ.

No research has examined how GSSJ relates specifically to prejudice toward childfree women. However, previous research has demonstrated that this construct is related to a variety of gender-related biases, beliefs, stereotypes, and prejudice, which could inform the study of prejudice toward childfree women. In a sample of British undergraduates, Douglas and Sutton (2014) found that greater support for GSSJ was associated with unfavorable attitudes toward non-sexist language, which is presumed by the authors to maintain the status quo for gender relations. In samples of current social science professionals and students in Argentina, Spain, and El Salvador, de Lemus et al. (2014) found that GSSJ was positively related to hostile and benevolent sexism. In samples of U.S. undergraduates, Chiaburu et al. (2014) found that individuals endorsing high levels of GSSJ prescribed more stereotypical communal roles and behaviors to women. Moreover, Chiaburu et al. (2014) found greater expectations for women's stereotypical roles and behaviors following an experimental manipulation that primed general system justification. Using data collected from online and undergraduate samples in the U.S., Chapleau and Oswald (2014) reported that increased GSSJ predicted higher levels of rape myth acceptance (regardless of participant gender), measured as endorsement of "stereotypes about

female victims, male perpetrators, and the act of rape" (p. 208). Finally, in a community-based New Zealand sample, Sibley and Becker (2012) found that benevolent and hostile sexism were positively associated with greater levels of GSSJ.

GSSJ has also been shown to influence women's attitudes toward themselves and other related variables. Calogero (2013) reported that GSSJ mediated the relation between self-objectification (i.e., viewing oneself as a “sexual or decorative object;” p. 315) and gender-based social activism in U.S. undergraduate women; specifically, greater levels of self-objectification were associated with greater GSSJ and less past and intended activism. In a sample of German undergraduate women, Becker and Wright (2011) found that BS was related to greater GSSJ, which made women less likely to intend to take collective action to change inequitable gender relations; in contrast, exposure to HS was associated with less GSSJ and ultimately greater intent to take collective action. Bonnot and Jost (2014) found that U.S. undergraduate women rated their own mathematical competence and previous achievement scores lower than men’s when both general system justification and GSSJ were primed. Similarly, U.S. undergraduate women who endorsed high levels of GSSJ made more benign attributions for stranger harassment (Saunders et al., 2017); in other words, the more women perceived gender relations to be fair, the more they viewed stranger harassment as well-intentioned and/or flattering. Using data from a community-based New Zealand sample, one study found that benevolent sexism increased life satisfaction in women through endorsement of GSSJ (Hammond & Sibley, 2011). The authors of this study suggest that endorsing GSSJ serves a palliative and adaptive function for women, such that rationalizing the gendered status quo buffers women from negative experiences of gender inequality in allegedly egalitarian cultures.

Gender ideology. Although not specifically mentioned in the JSM, endorsement of gender ideologies may also justify the expression of prejudice toward childfree women.

According to Levant et al. (2007), gender ideology is defined as the extent to which one has internalized cultural and societal beliefs about gender roles. In their review, Davis and Greenstein (2009) define gender ideology in the U.S. as support for a gendered division of work and family labor founded on traditional beliefs that women and men should operate in polarized spheres of domestic work and paid work outside the home, respectively. According to this review, gender ideology in the U.S. has become progressively more egalitarian since the 1970s, related to increased education, labor force participation, and exposure to egalitarian ideals. Gender ideology is thought to be socially constructed and passed intergenerationally, although parental influence becomes less important as adolescents move into young adulthood (Davis, 2007; Davis & Greenstein, 2009). Women also appear to be more gender egalitarian than men, although this difference decreases as people age (Davis, 2007; Davis & Greenstein, 2009). Davis and Greenstein (2009) highlight that traditional gender ideology in heterosexual relationships is sometimes associated (as a predictor or moderator) with earlier first childbirth and transition to marriage; an unequal distribution of childcare and household labor; increased relationship instability and conflict; reduced relationship quality; more physical violence toward women; and less education and income for women. As Davis and Greenstein (2009) note, gender ideology is described by a variety of terms, including gender attitudes, gender egalitarianism, and gender role attitudes. Thus, a variety of related constructs and their influence on attitudes toward women are reviewed here.

More specifically, *femininity ideology* is the endorsement of traditional feminine norms and beliefs regarding the expected behavior of women (Levant et al., 2007). Femininity has been defined as "…attributes, behaviors, interests, mannerisms, appearances, roles, and expectations that we have come to associate with being female during the socialization process" (Shea et al., 2014, p. 275). Femininity ideology is comprised of beliefs that women should fulfill

stereotypical standards of physical appearance and activities; be deferent toward and dependent upon men; be sexually, behaviorally, and spiritually chaste; fulfill care-giving roles, including motherhood; have a preference for domestic work; and be emotionally sensitive and expressive (Levant et al., 2007).

Despite the potential importance of traditional gender and femininity ideology, no study has assessed how endorsement of these constructs relates to prejudice toward childfree women. Nonetheless, research in other areas can inform how traditional gender and/or femininity ideology is related to prejudice toward childfree women. Indeed, several studies suggest that subscribing to these ideologies is associated with a variety of negative responses toward and outcomes for women. For instance, Hawkes et al. (2004) found that Canadian undergraduates who endorsed more traditional gender attitudes reported negative views of all women in general and women with visible tattoos in particular, presumably because they were violating traditional gender norms regarding feminine appearance. Additionally, using data collected from a sample of U.S. undergraduate men, Reidy et al. (2009) reported that hypermasculine men behaved aggressively (i.e., choosing to administer what they thought were real electrical shocks) toward woman in general; however, these men were more aggressive toward a woman who had failed to conform to traditional norms of femininity. Gervais and Hoffman (2013) also reported that U.S. undergraduate men expressed less warmth than undergraduate women toward feminists (women assumed by the authors to be violating traditional gender roles) compared to women in general. Additionally, research has demonstrated that traditional gender ideology is associated with the division of household labor. For example, across three different European countries, women in dual-income, male-female couples where both partners endorsed traditional gender ideology shouldered the greater share of household labor and childcare (Lothaller et al., 2009).

Research also connects the endorsement of traditional gender and femininity ideology to attitudes about sexual assault, violence, and abuse experienced by women. For example, U.S. college students in Emmers-Sommer's (2014) study who supported traditional gender roles were more likely to endorse adversarial sexual beliefs (i.e., acceptance of men's use of coercion and/or force in sexual interactions with women), interpersonal violence toward women, and acceptance of rape myths. In similar work, U.S. undergraduate men who endorsed traditional gender role attitudes were more likely to blame a woman who had experienced sexual assault, to believe she found the assault pleasurable and minimally traumatizing, and to view her as more responsible and less believable (Angelone et al., 2014). Capezza and Arriaga (2008) also reported that U.S. college students perceived a nontraditional wife (i.e., a lawyer) being verbally abused by her husband as more blameworthy, negative, and colder than a traditional wife (i.e., a housewife) receiving the same abuse. Reduced perceptions of the nontraditional wife's warmth explained the relationship between her gender role congruence and perceptions of her negativity and blameworthiness. Furthermore, when the wife responded mildly aggressively rather than passively to her abuse, she was perceived as colder, and more negative and blameworthy.

Another body of literature has examined the influence of traditional gender and femininity ideology in organizational settings, with an emphasis on the effects of women's violations of gender norms, roles, and/or stereotypes. A review by Rudman and Phelan (2008) suggests that women in the workplace face a dilemma in which they must contradict gender stereotypes for women (e.g., being interdependent, noncompetitive, modest, and caring) to obtain leadership positions in traditionally masculine fields (by being agentic, ambitious, highly competent, competitive, independent, and assertive). Yet, these authors also suggest that women experience a backlash for behaving in ways that violate gender stereotypes, often resulting in negative perceptions, attitudes, and emotional reactions by others; lower chances of being hired

and promoted; decreased salary and other tangible rewards; and unfavorable performance evaluations. Similarly, Perrone (2009) reported that women who enter traditionally masculine fields experience discrimination and sexual harassment. Additionally, research suggests that women who work in traditionally masculine occupations, behave aggressively, and appear masculine (i.e., contradict femininity stereotypes) encounter gender policing and harassment; similar results occur for women who contradict stereotypes of femininity (i.e., by behaving in traditionally masculine ways) in primarily feminine occupations (Leskinen et al., 2015). Furthermore, participants in community-based and undergraduate samples in Spain had more positive perceptions of job candidates who were men regardless of his intended occupation; however, candidates who were women were viewed more negatively, especially when they were applying for jobs in fields that were incongruent with gender stereotypes (Garcia-Retamero & López-Zafra, 2006). More specifically, women applying for jobs in gender-incongruent fields were rated as masculine, and less likely to perform well, be promoted, and be compensated adequately in the future. Finally, U.S. undergraduate interviewers in Hess's (2013) study demonstrated more nonverbal indices of discrimination (e.g., furrowing their brow, shaking their head) toward women applying for a gender-incongruent job.

Research also demonstrates that femininity role ideology influences women's psychosocial outcomes and attitudes toward themselves. Richmond et al. (2015) found that traditional femininity ideology exerted an indirect effect on U.S. undergraduate women's anxiety through the mediating role of feminine gender role stress (i.e., "strain that results when a woman perceives that she is not living up to feminine role ideals," p. 265). In other words, high levels of traditional femininity ideology were associated with greater levels of women's feminine gender role stress which, in turn, were associated with greater anxiety in women. Furthermore, Tolman and Porche (2000) reported that endorsement of specific facets of traditional femininity ideology

was associated with reduced self-esteem, increased body/appearance evaluation, and greater motivation for thinness in a diverse sample of adolescent women in the U.S. Similarly, Swami and Abbasnejad (2010) found that British undergraduate women who endorsed traditional femininity ideology reported less appreciation for their bodies. Specifically, as endorsement of stereotypical feminine appearance and activities, and behavioral and sexual purity increased, body appreciation decreased. Moreover, Wigderson and Katz (2015) found that heterosexual, U.S. college women's overall belief in traditional femininity ideology was associated with less assertiveness in refusing nonconsensual sexual activity (i.e., sexual refusal assertiveness). In particular, women's belief in feminine deference to men was associated with less sexual refusal assertiveness, which was ultimately linked with greater risk for sexual assault. Deference also increased sexual abstinence, which the authors surmise reflects the internalization of the mandates of feminine purity by authority figures (e.g., parents and/or religious leaders).

Right-Wing Authoritarianism. A final construct that may influence prejudice toward childfree women is right-wing authoritarianism (RWA; Altemeyer, 1981; Altemeyer, 1998; Duckitt, 2001). RWA is conceptualized as an ideology and/or social attitude comprised of three "attitudinal clusters" that covary (Altemeyer, 1981). The first factor is *authoritarian submission* (Altemeyer, 1981), characterized by a high level of obedience to established social authorities. This obedience is warranted because right-wing authoritarians generally believe that authorities possess moral superiority, and are inherently trustworthy and deserving of respect (assuming the right-wing authoritarian agrees ideologically with the authority figure). Consequently, right-wing authoritarians discourage criticism of authorities, viewing it as divisive and harmful. Additionally, right-wing authoritarians tend to promote strong forms of authority, including control over others and censorship of discordant information.

The second factor, *authoritarian aggression* (Altemeyer, 1981), is defined as hostile attitudes or behaviors toward individuals or groups who are targeted by authorities. "Aggression" is broadly defined as physical, psychological, social, financial, or otherwise negative consequences for individuals/groups deemed worthy of punishment by authorities. Right-wing authoritarians are particularly likely to sanction aggression in the name of upholding social order and the status quo. For example, right-wing authoritarians take violations of the law very seriously, prefer punitive over restorative treatment of criminals, and express disgust toward rule/law violators. Minority groups and individuals/groups who otherwise deviate from dominant social norms are also likely recipients of aggression. However, it is important to note that authority-sanctioned aggression is a core part of right-wing hostility; in its absence, right-wing authoritarians are not inherently aggressive (Altemeyer, 1981).

The third and final factor is *conventionalism* (Altemeyer, 1981), which is defined as compliance with the traditional social norms and values endorsed by established authorities. Right-wing authoritarians seek to maintain traditional ways of thinking and behaving, and are typically resistant toward change and liberalism. They also tend to endorse traditional gender roles and family structures, moral and religious absolutism, and nationalism. According to Altemeyer (1981), for right-wing authoritarians "…social norms are moral as well as social imperatives. The authoritarian rejects the proposition that social customs are arbitrary, and one's nation's customs can be as good as another's. Other ways of doing things are wrong" (p. 154). Thus, RWA is conceptualized as the constellation of compliance with conventional social norms, strong endorsement of submission to authority, and sanctioned aggression toward those who oppose traditional norms and/or who are targeted by authority figures (Altemeyer, 1981; Altemeyer, 1998; Duckitt, 2001).

Generalized prejudice is defined as the tendency to hold negative attitudes toward a wide variety of social groups or targets (Allport, 1954; Duckitt, 2001; Duckitt & Sibley, 2007; McFarland, 2010). An array of findings document a consistent, robust, and positive relation between RWA and generalized prejudice (e.g., Altemeyer, 1998; Altemeyer & Hunsberger, 1992; Asbrock et al., 2010; Bäckström & Björklund, 2007; Cohrs et al., 2012; Duckitt & Sibley, 2007; McFarland, 2010). For example, a meta-analysis of 71 studies completed in multiple North American and Central European countries found a strong positive relation between RWA and several forms of prejudice, including generalized prejudice; sexism; modern/subtle, classic/blatant, and symbolic racism; xenophobia; and negative attitudes toward individuals who identify as Arab, Black, Asian, and "foreigners" (Sibley & Duckitt, 2008). Another study assessing data from 16 independent undergraduate and community samples of White New Zealand men and women found that RWA was associated with modern and symbolic racism; negative attitudes toward individuals identifying as Pacific Islander and Asian; endorsement of prejudice toward and biblical beliefs regarding sexual minorities; nationalistic views; religious fundamentalism, orthodoxy, and identification; and negative attitudes toward women (Sibley et al., 2006).

Since seminal research on RWA began, further studies have examined the nuances associated with this ideological construct. For example, in studies of predominantly White undergraduate men and women from Canada, New Zealand, and England, researchers found evidence of a causal model linking socialization processes, personality, worldviews, motivational goals, ideological attitudes (e.g., RWA), and prejudice (Asbrock et al., 2010; Duckitt, 2001). This model specifically suggests that strict parental socialization in childhood leads to the development of social conformity as a personality trait, which then increases beliefs that the world is a dangerous and threatening place. The individual is subsequently motivated to control

threats and increase security, which is expressed ideologically as RWA. RWA ultimately leads to positive attitudes toward one's in-group and prejudice toward out-groups, particularly those who are threatening to social order and/or who deviate from established social norms. Findings have also demonstrated that prejudice and hostility are most likely to occur when the right-wing authoritarian is confronted by particular types of out-groups. Specifically, researchers (Asbrock et al., 2010; Duckitt & Sibley, 2007) suggest that RWA is associated with facets of generalized prejudice that are reserved for "dangerous" groups who threaten the stability, safety, and/or security of the social order (e.g., drug dealers), and "dissident" groups who compete with the majority group and challenge conventional values/norms (e.g., feminists). Likewise, after assessing data from racially/ethnically-diverse (53% White) U.S. undergraduates, Feldman (2003) suggested that RWA's effect on prejudice results from the interaction between valuing social conformity (over personal autonomy) and perceiving threat to that conformity. Right-wing authoritarians who emphasize social conformity respond with hostility toward an unconventional individual/group who also challenges that conformity.

Although no known study has assessed the relation between RWA and prejudice toward childfree women, results from a variety of studies link RWA with negative attitudes toward women. Most of these studies document the positive association between RWA and various forms of sexism in Western cultures. For instance, RWA has been positively linked with modern sexism in U.S. undergraduate men and women (predominantly White; Case, Fishbein, & Ritchey, 2008) and Sweden (race/ethnicity unspecified; Akrami, Ekehammar, & Yang-Wallentin, 2011). Research also demonstrates that RWA is associated with ambivalent sexism. For example, Lee (2013) reported that RWA positively predicted both HS and BS, but BS more strongly, in a predominantly White sample of U.S. undergraduates. Another study using data collected from a nationwide online sample of U.S. men and women (race/ethnicity unspecified)

found that RWA was positively related to only BS (Christopher, Zabel, & Miller, 2013). By aggregating findings from five independent undergraduate and community-based samples of exclusively White men and women in New Zealand, other researchers found that RWA predicted negative attitudes toward women, and BS more strongly than HS (Sibley et al., 2006). Similarly, Christopher and Mull (2006) reported that RWA was positively related to both HS and BS in a community-based U.S. sample of primarily White men and women; however, after controlling for other ideological variables, RWA was only positively associated with BS. Based on this finding, the authors surmised that, because women are viewed as an inferior gender in mainstream U.S. culture, the covert relation between RWA and BS is sanctioned by authorities as dominant ideologies, whereas overt HS is not.

Further studies suggest that the relation between RWA and ambivalent sexism may depend on other factors, such as gender. For instance, using cross-sectional data collected from an Australian sample of undergraduate men and women (race/ethnicity unspecified), Feather and McKee (2012) found that RWA was positively related to both HS and BS, but more strongly with BS. These authors also reported that RWA strengthened (i.e., moderated) the positive relation between HS and BS for women, but not for men. Moreover, men and women who placed value on security, tradition, and social conformity also endorsed RWA which, in turn, was associated with greater BS. Similarly, Roets, Van Hiel, and Dhont (2012) found that the participants' and targets' gender influenced the relation between RWA and ambivalent sexism. In their community-based sample of Belgium men and women (race/ethnicity unspecified), RWA predicted BS when assessing men's attitudes toward women, women's attitudes toward men, and women's attitudes toward other women. However, the magnitude of this effect was strongest when participants assessed targets of their own gender. Additionally, women high in RWA were more likely to endorse HS toward men and other women.

Three studies by Sibley, Wilson, and Duckitt (2007) also assessed how gender influences the relation between RWA and ambivalent sexism. First, a meta-analysis of six studies (sample characteristics were unspecified) confirmed that RWA is primarily related to men's endorsement of BS but not HS, and women's endorsement of both HS and BS. In a second cross-sectional study of primarily White New Zealand men from undergraduate and national samples, RWA was positively related to both BS and HS, but the relation between RWA and HS was mediated by BS. In a third longitudinal study of predominantly White undergraduate men in New Zealand, increasing levels of RWA caused stable increases in BS over time. When summarizing their findings, Sibley, Wilson, and Duckitt (2007) argued that HS and BS are complementary attitudes, with BS legitimizing gender myths that then justify HS and subsequently imbalanced gender relations.

Another longitudinal study assessed how RWA influences women's ambivalent sexism over time (Sibley, Overall, & Duckitt, 2007). In samples of predominantly White undergraduate women in New Zealand, BS predicted changes in HS 6-12 months later. However, this relation *only* occurred for women high in RWA; in other words, RWA moderated the causal relation of between BS and HS. The authors concluded that BS "disarms" (p. 751) and justifies women's resistance to HS and that RWA facilitates this process. Regarding this finding, Sibley, Overall, and Duckitt (2007) state:

> …the causal effect of women's benevolent sexism on hostile sexism likely occurred because adherence to an ideology espousing that women fulfill the important and valued social roles of homemakers and caregivers (for which they should be protected and cherished by men) results in high levels of dissonance when other women are perceived as resisting or rejecting such roles and therefore threatening the validity and legitimacy of the social system. This, in turn, produced hostile and negative attitudes toward women who fail to conform. (p. 751)

Additional studies indicate that RWA is related to other types of attitudes toward women and gender dynamics. For example, in a study of predominantly White undergraduate men and

women from New Zealand, Duckitt and Sibley (2007) reported that RWA was positively associated with prejudice toward feminists and prostitutes (although the gender of the "prostitutes" was not described, it is presumed that participants rated women who are sex workers based on the traditionally gendered use of this term). Arguably, these groups challenge traditional gender roles that prescribe submissiveness and sexual purity to women. In a study of men and women in the U.S. (race/ethnicity unspecified), participants high in RWA preferred traditional gender roles in the workplace and for women to be stay-at-home mothers rather than work outside the home (Christopher & Wojda, 2008). Similarly, Bhattacharya and Stockdale (2016) found evidence in an online sample of predominantly White U.S. men and women of how RWA influences women's workplace experiences. Specially, when evaluating a female employee's claim of unwanted sexual attention from a male supervisor, participants high in RWA viewed the supervisor as less guilty, deemphasized negative job consequences for the supervisor, and perceived the accusation as false, although strong evidence of the unwanted sexual attention somewhat weakened these relations. Moreover, across two studies of Canadian undergraduate and community-based men (race/ethnicity unspecified), RWA was positively related to self-reports of sexually aggressive behavior toward women in the past and the likelihood of forcing sexual activity and/or rape in the future (Walker, Rowe, & Quinsey, 1993). Furthermore, using data collected from a racially/ethnically-diverse (38% White, 19% Black, 19% Asian, 19% Hispanic/Latinx) undergraduate sample of U.S. men and women, Cokley et al. (2010) found that RWA was the most significant predictor of attitudes toward gender equity, above and beyond demographic characteristics and other personality traits and ideologies.

In another study, Duncan et al. (1997) discuss how authoritarianism maintains hegemonic gender relations, hierarchies, and power structures. In a sample of U.S. undergraduate men and women (race/ethnicity unspecified), participants high in RWA were less likely to identify as a

feminist, and more likely to support traditional gender roles, view women's political concerns as less important, and perceive feminists and women as having greater societal power/influence. Additionally, men who endorsed authoritarian aggression, and women who endorsed authoritarian submission, aggression, and convention were more likely to accept traditional gender roles. Participants high in RWA were also more likely to engage in pro-choice activism and disapprove of abortion using arguments grounded in conventional morality, submission to authority, and punishment.

In a literature review, Peterson and Zurbriggen (2010) provide further insight into how RWA relates to a wide variety of attitudes toward women in predominantly White undergraduate and community-based men and women in the U.S. In these studies, participants high in RWA were more likely to believe that the women's movement was unimportant, report negative attitudes toward women, endorse traditional gender roles for women, and to not identify as a feminist. In other studies, heterosexual men and women high in RWA preferred traditionally feminine and masculine romantic partners, respectively. High RWA was also associated with increased beliefs that relationships between men and women are hostile, acceptance of rape myths, and traditional beliefs about sexuality. In undergraduate samples, participants high RWA were also more likely to pursue more traditional career and educational paths. Based on an integration of these findings, Peterson and Zurbriggen (2010) conclude that:

> Women and men high in authoritarianism live in a rigidly gendered world, one in which gender roles are narrowly defined and firmly enforced, attractiveness centers around traditional conceptions of masculinity and femininity, conventional sexual mores are prescribed, and traditional life paths (e.g., concerning education and career) are embraced. (p. 1820)

In conclusion, previous literature suggests that RWA represents a generalized tendency to respond toward out-groups with prejudice and hostility. Research also proposes that RWA is most likely activated when the authoritarian is confronted by social groups who threaten social

order (e.g., “dangerous” groups) and/or deviate from conventional values/norms (e.g., “dissident” groups). As has been discussed, childfree women likely challenge the established norms of gender-specific social systems and expectations about the roles, behaviors/activities, and interests of women. As such, childfree women could potentially fall within the social groups described above as either “dangerous” or “dissident.” Thus, accounting for RWA as a generalized disposition to express out-group antipathy may be important when assessing prejudice toward childfree women. Yet, a review of previous literature also suggests that RWA is related to specific attitudes toward women, such as ambivalent sexism and support for traditional gender norms (operationalized across a wide variety of constructs). As such, RWA might also be conceptualized as a specific justification of prejudice toward childfree women. However, because this is the first known study to assess this relation, the most conservative approach would treat RWA as a general tendency to express out-group prejudice. Consequently, RWA was used as a control variable in the current study to determine if more specific psychosocial constructs (e.g., ambivalent sexism, GSSJ and femininity ideology) justify prejudice toward childfree women *above and beyond* the tendency toward generalized prejudice accounted for by RWA.

Statement of the Problem

As has been discussed, findings from both quantitative and qualitative studies across several decades confirm that childfree women are viewed negatively. Although these many studies provide evidence that prejudice toward childfree women does indeed occur, few identify the psychosocial constructs underlying these negative attitudes. Indeed, much of the growing literature on attitudes toward childlessness has been atheoretical, necessitating the use of empirically-supported theoretical models to advance this literature. In other words, many previous studies have documented the “what” of prejudice toward childfree women, but they

have less often addressed the "why" of this prejudice. This study aims to rectify this conceptual gap by using a sound theoretical model to identify several psychosocial constructs that might justify prejudice toward childfree women, and situate it in its broader social context.

To this end, the JSM provides a conceptual framework for explaining the expression of prejudice toward certain social groups. In this model, the suppression of prejudice can be motivated by internal and external factors, influencing the ultimate expression of prejudice. Despite the prevalence of research examining the motivation to suppress prejudice, no study has assessed how the motivation to suppress sexism relates to prejudice toward childfree women. Moreover, despite efforts to suppress prejudice, the JSM proposes that prejudice is often expressed. Indeed, the JSM suggests that many psychosocial constructs actually *justify* or "release" prejudice rather than *cause* it. Because the JSM states that justifications vary widely and are often specific to the expressed prejudice, several psychosocial constructs may justify expressed prejudice toward childfree women. Previous research on ambivalent sexism, GSSJ, and femininity ideology suggests that endorsement of these constructs is related to a wide variety of negative responses toward women. Given that childfree women violate prescribed and proscribed stereotypes, roles, and norms regarding traditional femininity, adherence to these constructs likely influences social reactions toward childfree women. Yet, despite their potential relevance to the study of responses toward childfree women, no studies to-date have examined how these constructs influence prejudice toward childfree women.

Finally, the JSM proposes a specific relation between the suppression of prejudice, the justification of prejudice, and the ultimate expression of prejudice. More precisely, Crandall and Eshleman (2003) suggest that the JSM can be conceptualized as a unidirectional, sequential model in which (1) genuine prejudices develop; (2) suppression processes inhibit genuine prejudice; (3) justifications rationalize prejudice; and (4) prejudice, filtered through suppression

and justification, is expressed. Thus, the JSM proposes that justifications actually explain or mediate the relation between suppression and expression of prejudice. However, despite theoretical and empirical support for this model, no study has used JSM tenets to examine prejudice toward childfree women.

Based on these JSM tenets, the overarching goal of the current study is to identify the psychosocial constructs that justify prejudice toward childfree women. Because the collected data were cross-sectional and suppression was not manipulated, the current study primarily focused on the JSM pathway between justifications of prejudice and expressed prejudice toward childfree women. More specifically, the current study examined whether ambivalent sexism, GSSJ, and femininity ideology justified prejudice toward childfree women. In addition to making a unique contribution to the growing literature on the childfree phenomenon, identifying the psychosocial justifications of childfree prejudice may highlight the mechanisms that underlie and maintain this prejudice. This, in turn, increases opportunities for interventions designed to reduce childfree prejudice and help childfree women cope with prejudicial reactions from others.

There were also several secondary aims in the current study. First, the current study assessed associations between the internal and external motivations to respond without sexism and the expression of prejudice toward childfree women. As has been discussed, individuals with an internal motivation to suppress prejudice are more likely to report consistently and relatively low prejudice across differing contexts. However, when the social situation allows prejudice expression and/or if the reporting is anonymous (as it was in the current study), those with the external motivation to suppress prejudice are expected to report greater levels of prejudice. Second, this study investigates how RWA relates to prejudice toward childfree women, and whether justifications influence this prejudice above and beyond RWA. Therefore, the current study tested the following hypotheses:

1. Greater levels of RWA will be associated with greater expressed prejudice toward childfree women.
2. Motivation to respond without sexism will be associated with expressed prejudice toward childfree women.
    a. IMS-S will be associated with lower prejudice.
    b. EMS-S will be associated with relatively greater prejudice.
3. Ambivalent sexism will be associated with expressed prejudice toward childfree women.
    a. Greater HS will be associated with greater prejudice.
    b. Greater BS will be associated with greater prejudice.
4. Greater GSSJ will be associated with greater expressed prejudice toward childfree women.
5. Greater femininity ideology will be associated with expressed prejudice toward childfree women.
    a. Greater beliefs regarding women's stereotypic images/activities will be associated with greater prejudice.
    b. Greater beliefs regarding women's dependency/deference will be associated with greater prejudice.
    c. Greater beliefs regarding women's purity will be associated with greater prejudice.
    d. Greater endorsement of beliefs regarding women's caretaking behaviors will be associated with greater prejudice.
    e. Greater beliefs regarding women's emotionality will be associated with greater prejudice.

6. Behaving as justifications, ambivalent sexism, GSSJ, and femininity ideology will mediate the relation between the motivation to respond without sexism and expressed prejudice toward childfree women.

Method

Participants

A sample of participants was recruited for the current study through Amazon Mechanical Turk (MTurk; www.MTurk.com). MTurk is an online data collection service in which individuals can register as "Workers" and self-select to participate in human intelligence tasks or "HITS" for compensation. Using the researcher's (i.e., "requester's") inclusion criteria, only Workers who are eligible according to their registered demographic characteristics are permitted to view and participate in a study (Paolacci & Chandler, 2014; Rouse, 2015). This recruitment strategy is designed to prevent individuals from falsely claiming identities in order to participate in studies and receive compensation. Workers can also be filtered by their MTurk approval rating, defined as the "…percentage of HITS the Workers have completed reliably in the past in the judgment of other researchers…" (p. Johnson & Borden, 2012, p. 246). For example, a Worker whose data has been approved by researchers in 19 out of 20 previous studies would qualify for a 95% approval rating (Johnson & Borden, 2012). Researchers predetermine the compensation rate for each HIT (Holden, Dennie, & Hicks, 2013) and MTurk Workers typically receive 5 to 10 cents for every 5 to 10 minutes of participation (Buhrmester, Kwang, & Gosling, 2011). Although research shows that the quality of MTurk data is unaffected by compensation rates (Rouse, 2015), participation rates are slower for studies with low compensation (Buhrmester et al., 2011) and higher paying tasks are more attractive to MTurk Workers (Paolacci & Chandler, 2014).

MTurk allows researchers to easily, rapidly, and inexpensively collect data from a sample (Buhrmester et al., 2011; Casler, Bickel, & Hackett, 2013; Rouse, 2015). Research also shows that MTurk samples are as demographically diverse or more diverse than U.S. college student samples for age, race/ethnicity, socioeconomic status, and geographic region (Buhrmester et al., 2011; Casler et al., 2013; Johnson & Borden, 2012). Buhrmester et al. (2011) reported that participants in their MTurk sample lived in every U.S. state and in more than 50 countries. Research also demonstrates that responses from MTurk samples are comparable to responses collected using college student samples across a variety of tasks (Casler et al., 2013; Johnson & Borden, 2012) and research paradigms (Bates & Lanza, 2013). Reliability estimates (including alphas and test-retest) have been demonstrated at acceptable levels for MTurk responses (Bates & Lanza, 2013; Buhrmester et al., 2011; Johnson & Borden, 2012; Rouse, 2015). Researchers can also take steps to improve the chances that they will receive high-quality and reliable data, such as excluding Workers with low approval ratings (Casler et al., 2013; Holden et al., 2013; Johnson & Borden, 2012; Paolacci & Chandler, 2014), including items that assess attention (Casler et al., 2013; Rouse, 2015), and refusing to compensate Workers who provide low-quality data (Johnson & Borden, 2012; Paolacci & Chandler, 2014).

The selection criteria were that participants had to be aged 18 years or older, speak English at an adequate level, have a 95% approval rating, and live in the U.S. Participants were limited to U.S. residents to increase the interpretability and generalizability of results to U.S. adults and because the study's scales were primarily validated with U.S. samples. However, this inclusion criterion makes no assumptions that participants are exclusively U.S. citizens or individuals who have only lived or were socialized in the U.S. Nonetheless, previous research suggests that MTurk Workers are more likely to have better English language proficiency if study participation is limited to U.S. residents (Bartneck, Duenser, Moltchanova, & Zawieska,

2015). Research also suggests that Workers with limited English language proficiency are likely to fail the instructional manipulation checks described below (Goodman, Cryder, & Cheema, 2013), thus providing an indirect assessment of English language proficiency. Because higher compensation tends to improve the speed of data collection, MTurk Workers were compensated with 50 cents upon completion of Conditions 1-4 and 70 cents upon completion of Condition 5.

Table 1 presents participant characteristics. The sample consisted of 891 adults living in the U.S whose ages ranged from 18 to 87 (M = 44.90, SD = 16.21). Participants were predominantly female (59.1%) and had most commonly obtained a high school diploma or G.E.D. (21.2%), 2-year (17.2%) or 4-year (35.2%) college degree, or master's degree (12.9%). Household size ranged from 1 to 12 individuals (M = 2.62, SD = 1.41) and incomes most frequently ranged from $25,001 to $50,000 (26.3%) or $50,001 to $75,000 (25.3%). Politically, participants were predominantly Democrat (43.0%), Republican (25.4%) or Independent (25.0%). The most frequent racial/ethnic identities were White (79.5%), African American or Black (8.5%), and Asian (4.0%). Many religious affiliations were reported, although the sample primarily identified as Christian (56.1%) or Non-religious (32.8%). Most participants were heterosexual (89.9%) and married/in a domestic partnership (44.4%), single (24.5%), or separated/divorced/widowed (12.7%). Number of siblings ranged from 0 to 14 (M = 2.14, SD = 1.78) and number of children ranged from 0 to 9 (M = 1.23, SD = 1.48). Participants who indicated that they had zero children (n = 396, 44.4%) responded to two additional questions about their future intent to parent and how they identified their current non-parental status. Some nonparents did not intend to have children (45.5%), some intended to have children (29.0%) and others were uncertain about having children (25.0%). Approximately equal numbers of participants without children were temporarily childfree-by-choice (40.7%) and permanently childfree-by-choice (40.9%), and relatively few were involuntarily childless (11.1%).

Table 1.

Participant Demographics

Characteristic	*n*	(%)
Age (grouped)		
18-25	143	(16.0)
26-35	154	(17.3)
36-45	151	(16.9)
46-55	153	(17.2)
56-65	151	(16.9)
66 and older	137	(15.4)
Decline to Answer	2	(0.2)
Gender		
Female	527	(59.1)
Male	354	(39.7)
Other Gender	4	(0.4)
Genderqueer	3	(0.3)
Transgender	1	(0.1)
Decline to Answer	2	(0.2)
Completed Education		
8th grade or less	1	(0.1)
Some high school	4	(0.4)
High school graduate/G.E.D.	189	(21.2)
Technical/Trade School	75	(8.4)
2-year college degree	153	(17.2)
4-year college degree	314	(35.2)
Masters degree	115	(12.9)
Doctoral or professional degree	35	(3.9)
Decline to Answer	5	(0.6)
Household Size		
1	175	(19.6)
2	305	(34.2)
3	160	(18.0)
4	124	(13.9)

(Table continues)

Table 1 (continued).

Participant Demographics

Characteristic	*n*	(%)
Household Size (continued)		
5	54	(6.1)
6	15	(1.7)
7	6	(0.7)
8	2	(0.2)
9	1	(0.1)
11	1	(0.1)
12	1	(0.1)
Decline to Answer	47	(5.3)
Income Range		
$10,000 or less	41	(4.6)
$10,001 - $15,000	43	(4.8)
$15,001 - $25,000	109	(12.2)
$25,001 - $50,000	234	(26.3)
$50,001 - $75,000	225	(25.3)
$75,001 - $100,000	132	(14.8)
$100,001 - $150,000	77	(8.6)
$150,001 - $200,000	17	(1.9)
$200,001 - $250,000	7	(0.8)
$250,001 - $500,000	3	(0.3)
$500,001 - $750,000	1	(0.1)
$750,001 or more	1	(0.1)
Decline to Answer	1	(0.1)
Political Affiliation		
Democrat	383	(43.0)
Republican	226	(25.4)
Independent	223	(25.0)
Other Political Affiliation	43	(4.8)
Decline to Answer	16	(1.8)

(Table continues)

Table 1 (continued).

Participant Demographics

Characteristic	*n*	(%)
Racial Identity		
White	708	(79.5)
Black or African American	76	(8.5)
Asian	36	(4.0)
Hispanic or Latino/Latina/Latinx	26	(2.9)
Multiracial	34	(3.8)
Other Racial Identity	6	(0.7)
American Indian or Alaska Native	3	(0.3)
Native Hawaiian or Other Pacific Islander	1	(0.1)
Decline to Answer	1	(0.1)
Religious Affiliation		
Christian	500	(56.1)
Non-religious	292	(32.8)
Other Religious Affiliation	47	(5.3)
Jewish	22	(2.5)
Buddhist	21	(2.4)
Hindu	3	(0.3)
Islamic	3	(0.3)
Decline to Answer	3	(0.3)
Sexual Identity		
Heterosexual	801	(89.9)
Bisexual	36	(4.0)
Gay/Lesbian	29	(3.3)
Other Sexual Identity	9	(1.0)
Asexual	7	(0.8)
Pansexual	5	(0.6)
Queer	3	(.03)
Decline to Answer	1	(0.1)

(Table continues)

Table 1 (continued).

Participant Demographics

Characteristic	*n*	(%)
Relationship Status		
Married/Domestic Partnership	396	(44.4)
Single	218	(24.5)
Separated/Divorced/Widowed	113	(12.7)
In a relationship, cohabitating	81	(9.1)
In a relationship, not cohabitating	56	(6.3)
Other relationship status	24	(2.7)
Decline to Answer	3	(0.3)
Number of Siblings		
0	102	(11.4)
1	280	(31.4)
2	226	(25.4)
3	133	(14.9)
4	71	(8.0)
5	29	(3.3)
6	20	(2.2)
7	9	(1.0)
Number of Children Currently		
0	396	(44.4)
1	166	(18.6)
2	173	(19.4)
3	86	(9.7)
4	33	(3.7)
5	17	(1.9)
6	9	(1.0)
7	3	(0.3)
8	2	(0.2)
9	1	(0.1)
Decline to Answer	5	(0.6)

(Table continues)

Table 1 (continued).

Participant Demographics

Characteristic	*n*	(%)
Note: Questions regarding intent to parent and self-identified parental status were presented only to participants who indicated that they currently have zero children.		
Intent to Parent (*n* = 396)		
No	180	(45.5)
Yes	115	(29.0)
Not Certain	99	(25.0)
Decline to Answer	2	(0.5)
Self-Identified Parental Status (*n* = 396)		
Permanently Childfree-By-Choice	162	(40.9)
Temporarily Childfree-By-Choice	161	(40.7)
Involuntarily Childless	44	(11.1)
Other Parental Status	20	(5.1)
Decline to Answer	9	(2.3)

Measures

Demographics. A demographic survey (Appendix A) collected data on the continuous variables of participant age, household size, number of siblings, and current number of children, and the categorical variables of gender identity, completed education, income range, racial/ethnic identity, religious affiliation, sexual identity, political affiliation, relationship status, intent to parent, and self-identified parental status (the final two items were administered only to participants who indicated that they had zero children).

An income-to-needs ratio (INR) served as the final measure of income (Diemer, Mistry, Wadsworth, López, & Reimers, 2013). As stated above, participants reported their income range (modeled after Mistry, Brown, White, Chow, & Gillen-O'Neel, 2015) and the number of individuals in their household who depend on that income. Next, using household size and the

top of the reported income range, a federal poverty threshold (FPT; Department of Health and Human Services, 2017) for the given year and family size was assigned to each participant. The INR was then calculated by dividing the participant's maximum reported income by their FPT, which yielded a continuous INR score. According to Diemer et al. (2013), INR scores less than 1 indicate incomes below the minimum subsistence level for a family of that size and scores greater than 1 indicate incomes above the minimum subsistence level. The advantage of using the INR as a proxy for income is that the INR is sensitive to both the objective amount of family income and the number of individuals in the household who are dependent upon that income.

Right-Wing Authoritarianism. The short version of the *Right-Wing Authoritarianism Scale* (RWAS; Zakrisson, 2005; Appendix B) assessed RWA in the current study. Zakrisson's (2005) 15-item scale is derived from Altemeyer's (1998) 30-item full-length scale. However, by reducing the length and number of items and modifying item wording, this shortened scale is thought to be "purer" and less extreme than previous RWA measures, which used strong wording (e.g., "perversions"), and referenced specific social groups (e.g., sexual minorities, women) and concerns (e.g., religion, sexual behaviors; Zakrisson, 2005). Participants indicated their level of agreement with 15 statements on a 7-point, Likert-type scale (1 = *strongly disagree* to 7 = *strongly agree*). Sample items include "Our country needs a powerful leader, in order to destroy the radical and immoral currents prevailing in society today" and "God's laws about abortion, pornography and marriage must be strictly followed before it is too late, violations must be punished." Seven items were reverse-scored (items 2, 4, 6, 8, 10, 12, and 14) and higher scores indicate greater levels of RWA.

Estimates of internal consistency in previous studies suggest that RWAS scores are reliable. For example, Zakrisson (2005) reported alphas of .72 and .78 across several adolescent and undergraduate samples in Sweden. Additionally, Swami et al. (2013) reported an alpha of

.76 in a sample of British men. Craig and Richeson (2014) reported RWAS alphas ranging from .92 to .93 in three undergraduate and nation-wide U.S. samples. In the scale development study (Zakrisson, 2005), RWAS scores demonstrated convergent validity with social dominance orientation (r = .33), modern racism (r = .40), and modern sexism (r = .35). Furthermore, factor analysis in the scale development study confirmed the three RWA components of authoritarian submission, authoritarian aggression, and conventionalism (Zakrisson, 2005), although the current study used only the total RWAS score. Internal consistency in the current study was estimated to be .93 for the RWAS. Because RWA is related to the tendency to be prejudiced toward many social groups (e.g., Asbrock et al., 2010; Cohrs et al., 2012; Duckitt & Sibley, 2007; McFarland, 2010), RWA will primarily be controlled for as a covariate of prejudice toward childfree women.

Motivations to respond without prejudice toward women. The *Internal and External Motivation to Respond Without Sexism Scales* (Klonis et al., 2005) was used to assess motivations to respond without sexism toward women (Appendix C). According to Klonis et al. (2005), the internal motivation to respond without sexism (IMS-S) is characterized by embracing personal beliefs and standards that discourage sexism; whereas the external motivation to respond without sexism (EMS-S) is characterized by aligning with social norms (but not necessarily personal beliefs) that discourage sexism. Five items represented the IMS-S (items 1, 3, 5, 7, and 9), with sample items that included "I am personally motivated by my beliefs to be nonsexist toward women" and "Because of my personal values, I believe that using stereotypes about women is wrong." Similarly, five items represented the EMS-S (items 2, 4, 6, 8, and 10), including items such as "I try to hide any negative thoughts about women in order to avoid negative reactions from others" and "I try to act in non-sexist ways because of pressure from others." Responses to items were provided on a 9-point Likert-type scale (1 = *strongly disagree*,

9 = *strongly agree*) on which higher scores indicate a greater motivation to suppress sexism (item 1 is reverse-scored).

Klonis et al. (2005) provided evidence of the internal consistency, and convergent and predictive validity of the IMS-S and the EMS-S. Strong estimates of internal consistency were reported across two samples, with alphas ranging from .78 to .84 for the IMS-S and .80 for the EMS-S. Correlations between IMS-S and EMS-S scores ranged from -.05 to -.01, suggesting that the internal and external motivations to suppress sexism are distinct constructs. Providing evidence of convergent validity, IMS-S was associated with low levels of modern sexism (r = .34), hostile sexism (r = -.41), neosexism (r = -.51), and traditional sexism (r = .34). Furthermore, EMS-S was associated with moderately high levels of modern sexism (r = -.28), hostile sexism (r = .39), and neosexism (r = .31). Note that lower scores on the modern and traditional sexism scales indicate higher levels of sexism. Other studies provide additional estimates of internal consistency of .71 (Webb, Sheeran, & Pepper, 2012), .76 (Latu et al., 2011), and .81 (Koenig & Richeson, 2010) for IMS-S; and .70 (Webb et al., 2012), .82 (Latu et al., 2011), and .89 (Koenig & Richeson, 2010) for EMS-S. Internal consistency estimates in the current study were .88 for IMS-S and .86 for EMS-S.

Ambivalent sexism. Glick and Fiske's (1996) 22-item *Ambivalent Sexism Inventory* (ASI) was administered to assess participants' ambivalent sexism (i.e., both positive and negative attitudes toward and stereotypes of women; Appendix D). In addition to being a global measure of sexism, 11 items each comprise two subscales. The hostile sexism subscale (items 1, 3, 6, 8, 9, 12, 13, 17, 19, 20, and 22) assesses wholly negative attitudes and antipathy toward women; whereas the benevolent sexism subscale (items 2, 4, 5, 7, 10, 11, 14, 15, 16, 18, and 21) reflects subjectively positive, but nonetheless harmful and stereotypical views of women as needing aid and protection, and as a source of emotional intimacy. Responses to items were

made on a 6-point Likert-type scale (0 = *disagree strongly*, 5 = *agree strongly*) without a neutral point; thus, participants were required to agree or disagree to some extent with each statement. Six of the 22 items were reverse-scored (items 3, 6, 7, 13, 18, and 21) so that higher scores indicate greater sexism. Sample items assessing hostile sexism included "Women seek to gain power by getting control over men" and "Most women interpret innocent remarks or acts as being sexist." Sample items assessing benevolent sexism included "Many women have a quality of purity that few men possess" and "Women should be cherished and protected by men."

In the ASI development study, Glick and Fiske (1996) found acceptable internal consistency estimates for total ASI (α = .83-.92), and hostile (α = .80-.92), and benevolent (α = .73-.85) sexism across six samples. Hostile and benevolent sexism tend to be significantly and highly correlated across a variety of countries and samples (Glick et al., 2000; Glick & Fiske, 1996), with correlation values ranging depending on sample size and population. Glick and Fiske (1996) also described evidence of convergent validity between total ASI and unsupportive attitudes toward women's equal rights (r = .63), modern sexism (r = .57), old-fashioned sexism (r = .42), and acceptance of rape myths (r = .54); between hostile sexism and unsupportive attitudes toward women's equal rights (r = .68), modern sexism (r = .65), old-fashioned sexism (r = .48), and acceptance of rape myths (r = .61); and between benevolent sexism and unsupportive attitudes toward women's equal rights (r = .40), modern sexism (r = .33), old-fashioned sexism (r = .24), and acceptance of rape myths (r = .32). Other studies report strong internal consistency estimates of .90 (Glick et al., 1997) for total ASI; .82-.83 (Murphy et al., 2011), .84 (Christopher & Wojda, 2008; Glick et al. 2015), .85 (Sutton et al., 2011), .87-.89 (Glick et al., 1997), and .91 (Gaunt, 2013) for hostile sexism; and .73 (Murphy et al., 2011), .78 (Christopher & Wojda, 2008), .80 (Sutton et al., 2011), .81 (Glick et al., 1997), .87 (Gaunt, 2013), and .90 (Glick et al.,

2015) for benevolent sexism. Estimates of internal consistency in the current study were .93 for total ASI, .89 for benevolent sexism, and .89 for hostile sexism.

Gender-specific system justification. The *Gender-Specific System Justification Scale* (GSSJS; Jost & Kay, 2005) was used to assess support for systems that maintain gender relations, gender inequality, and the sexual division of labor (see Appendix E). This 8-item scale was created by Jost and Kay (2005) by modifying Kay and Jost's (2003) scale designed to measure general system justification. Participants indicated their level of agreement with statements on a 9-point, Likert-type scale (1 = *strongly disagree*, 9 = *strongly agree*). Sample items included "The division of labor in families generally operates as it should" and "Society is set up so that men and women usually get what they deserve." Two of the eight items (items 3 and 7) were reverse-scored so that higher scores indicate greater endorsement of gender-specific system justification.

Jost and Kay (2005) provided an initial internal consistency estimate of $\alpha = .65$ when developing the GSSJS, with subsequent studies reporting comparable or higher estimates of $\alpha = .65$ (Chapleau & Oswald, 2014; Rollero, 2013), $\alpha = .75$ (Douglas & Sutton, 2014), $\alpha = .82$ (Bonnot & Jost, 2014), $\alpha = .73$-$.90$ (Chiaburu et al., 2014), $\alpha = .74$-$.81$ (Zawadzki, Shields, Danube, & Swim, 2014), and $\alpha = .81$-$.85$ (Calogero, 2013). Furthermore, several studies provide evidence of convergent validity between the GSSJS and measures of hostile sexism ($r = .58$, de Lemus et al., 2014; $r = .30$, Douglas & Sutton, 2014; $r = .30$, Rollero, 2013), benevolent sexism ($r = .48$, de Lemus et al., 2014; $r = .17$, Douglas & Sutton, 2014; $r = .21$, Rollero, 2013), negative attitudes toward women ($r = .25$; Douglas & Sutton, 2014), and support for general system justification ($r = .70$, Bonnot & Jost, 2014). Internal consistency in the current study was estimated to be .88 for the GSSJS.

Femininity ideology. The *Femininity Ideology Scale* (FIS; Levant et al., 2007) was used to examine endorsement of traditional feminine norms and beliefs regarding the expected behavior of women (Appendix F). Participants indicated their level of agreement with 45 statements on a 5-point, Likert-type scale (1 = *strongly disagree*, 5 = *strongly agree*) on which higher scores indicate greater endorsement of traditional femininity ideology (with no reverse-scored items). In addition to being a global measure of traditional femininity ideology (FIS Total), there are five FIS subscales. The *Stereotypic Image and Activities* subscale uses 11 items (items 1, 19, 20, 23, 27, 28, 29, 31, 41, 43, and 45) to assess beliefs that women should uphold specific body and behavioral ideals; sample items are "Women should have large breasts" and "Girls should not enjoy 'tomboy' activities." *Dependency/Deference* has 10 items (items 3, 4, 6, 8, 9, 10, 11, 13, 16, and 18) measuring beliefs that women should be reliant upon and show deference to men; specific statements include "Women should have men make decisions for them" and "A woman's worth should be measured by the success of her partner." Nine *Purity* items (items 5, 12, 15, 22, 25, 26, 30, 32, and 35) examine views that women should be chaste and sexually passive; examples include "A woman should not swear" and "Women should dress conservatively so they do not appear loose." The *Caretaking* subscale includes seven items (items 2, 7, 14, 17, 21, 24, and 38) to assess beliefs that women should be completely fulfilled by motherhood and caring for others; sample statements include "A woman's natural role should be the caregiver of the family" and "An appropriate female occupation is nursing." Finally, eight *Emotionality* items (items 33, 34, 36, 37, 39, 40, 42, and 44) measure expectations that women are emotionally sensitive and drawn to domestic labor; sample items include "It is expected that women will have a hard time handling stress without getting emotional" and "It is expected that women will engage in domestic hobbies such as sewing and decorating."

According to Levant et al. (2007), correlations between the five FIS subscales range from .31 to.60. Additionally, correlations between FIS subscales and FIS Total range from .75 to.83. When validating the FIS, Levant et al. (2007) provided estimates of strong internal consistency for FIS Total (α = .93), Stereotypic Image and Activities (α = .89), Dependency/Deference (α = .83), Purity (α = .85), Caretaking (α = .80), and Emotionality (α = .82). Further studies reported comparable estimates of internal consistency for FIS Total (α = .93; Swami & Abbasnejad, 2010; α = .90; Wigderson & Katz, 2015), Stereotypic Image and Activities (α = .88; Swami & Abbasnejad, 2010), Dependency/Deference (α = .85; Swami & Abbasnejad, 2010; α = .66; Wigderson & Katz, 2015), Purity (α = .88; Swami & Abbasnejad, 2010; α = .64; Wigderson & Katz, 2015), Caretaking (α = .89; Swami & Abbasnejad, 2010), and Emotionality (α = .83; Swami & Abbasnejad, 2010). Convergent validity has also been established between the FIS and conventional masculinity ideology (Levant et al., 2007), feminist identity development (Levant et al., 2007), attitudes toward women (Douglas & Sutton, 2014), and general system justification (Bonnot & Jost, 2014). Finally, Levant et al., (2007) established discriminant validity between the FIS and the Bem Sex Role Inventory (Bem, 1974), which measures "…desirable and stereotypical feminine personality traits thought to be essential to normal personality development rather than traditional femininity ideology" (p. 375). Estimates of internal consistency in the current study were .96 for FIS Total; .92 for Stereotypic Image and Activities; .93 for Dependency/Deference; .93 for Purity; .86 for Caretaking; and .89 for Emotionality.

Attitudes regarding the disadvantages of being childfree. A 4-item scale was used to assess prejudice toward women and couples who are permanently childfree-by-choice (Blake, 1979; Appendix G). In the original scale, the four items comprise statements about the perceived disadvantages of childlessness. Example statements from the original scale include "Childless

marriages are more likely to end in divorce than are marriages where there are children" and "People who are childless are more likely to be lonely in their older years than persons who have had children." However, minor modifications were made to these items in the current study to assess prejudice toward women or couples who were described as permanently childfree-by-choice. Following these modifications, each statement still examined perceptions of the disadvantages of not having children, but references to "childlessness" or being "childless" were replaced with references to women or couples who are "permanently childfree-by-choice." Modified sample statements included, “Couples who are permanently childfree-by-choice are more likely to lead empty lives than couples with children” and “A women who is permanently childfree-by-choice is likely to feel unfulfilled unless she becomes a mother.” Responses to each item were made on a 5-point Likert-type scale (1 = *strongly disagree*, 5 = *strongly agree*) with higher scores indicating more perceived disadvantages of being permanently childfree-by-choice.

Although psychometric data regarding this scale are limited, evidence suggests that it is a reliable and valid measure of the perceived disadvantages of not having children. In the scale development article, inter-item correlations ranged from .27 to .39 (Blake, 1979), indicating that scores for one item are positively related to scores for all other items. Another study using the perceived disadvantages of childlessness to predict participants’ willingness to adopt a child provided evidence of the internal consistency of this scale ($\alpha = .72$; Bausch, 2006). Additionally, an unpublished study by Bays et al. (2015b) found an alpha of .79 when using a modified version of this scale to assess the perceived disadvantages of being childfree. Although additional studies are needed to further establish the reliability and validity of this measure, Blake's (1979) 4-item scale is the closest approximation to a reliable and valid measure of the perceived disadvantages of being childless or childfree. The current study found an internal consistency estimate of .89 for the modified 4-item scale.

Evaluation thermometer. An *Evaluation Thermometer* (Haddock, Zanna, & Esses, 1993) was used as an additional measure of prejudice toward women who are permanently childfree-by-choice (Appendix H). This flexible one-item measure is used to examine pure evaluations of a target group in the absence of specific trait dimensions related to that group. The 101-point Evaluation Thermometer assessed prejudice toward women who were described as permanently childfree-by-choice in degrees of 10, with 0° indicating extremely negative attitudes, 50° indicating neutral attitudes, and 100° indicating extremely positive attitudes. The Evaluation Thermometer has been used in previous research to examine attitudes related to race and ethnicity (Blair, Judd, Havranek, & Steiner, 2010), sexual orientation (Haddock et al., 1993), the self (Karpinski, 2004), and health status (Cranney et al., 2001). Previous studies have estimated the 2-week temporal stability of the Evaluation Thermometer with correlations of .77 (Haddock et al., 1993) and .83 (Cranney et al., 2001). Scores on the Evaluation Thermometer have also converged with scores from semantic differential scales, with correlations ranging from .69 (Karpinski, 2004) to .70 (Haddock et al., 1993).

Personality trait rating scale. Finally, participants completed LaMastro's (2001) *Interpersonal Warmth* scale as a third measure of prejudice toward childfree women (Appendix I). This scale represents 11 personality dimensions that often have been linked to perceptions of women without children in previous studies (Bays et al., 2015b; Çopur & Koropeckyj-Cox, 2010; Koropeckyj-Cox et al., 2007; Koropeckyj-Cox et al., 2015; LaMastro, 2001; Lampman & Dowling-Guyer, 1995). Moreover, warmth has been shown to be a primary component of social evaluations (Cuddy et al., 2009; Fiske, Cuddy, Glick, & Xu, 2002; Fiske, Cuddy, & Glick, 2007). Specific personality dimensions assessed the extent to which childfree women are perceived as caring, well-adjusted, warm, traditional, kind, feminine, nurturing, sincere, likable, sensitive, and happy. Each personality dimension was presented as polarized traits and

responses were made on a 7-point, Likert-type scale. For example, if participants were rating a childfree woman for warmth, a response of "1" indicated that the woman was rated as warm, whereas a response of "7" indicated that the woman was rated as cold. Thus, higher scores indicate more negative attitudes toward the target (i.e., higher scores indicate *less* warmth).

Variations of this scale have been used in previous studies to compare perceptions of individuals who are involuntarily childless, childfree, and parents (Koropeckyj-Cox et al., 2015; Lampan & Dowling-Guyer, 1995); assess perceptions of and attributions for voluntary and involuntary childlessness (LaMastro, 2001); examine attitudes toward childless, heterosexual couples (Çopur & Koropeckyj-Cox, 2010; Koropeckyj-Cox et al., 2007; Koropeckyj-Cox et al., 2015); and compare perceptions of women who are involuntarily childless, childfree, and mothers (Bays et al., 2015b; Koropeckyj-Cox et al., 2015). In the scale development study, LaMastro (2001) provided evidence of adequate internal consistency for Interpersonal Warmth ($\alpha = .80$). Additional studies using this or variations of this scale have found comparable estimates of reliability of $\alpha = .84$ (Bays et al., 2015b), $\alpha = .88$ (Çopur & Koropeckyj-Cox, 2010), $\alpha = .89$ (Koropeckyj-Cox et al., 2007), and $\alpha = .90$ (Koropeckyj-Cox et al., 2015). Internal consistency in the current study was estimated to be .95 for Interpersonal Warmth.

Procedure

Before commencing with the current study, exempt approval was obtained from Virginia Commonwealth University's Institutional Review Board. After being recruited through the MTurk website (www.MTurk.com) and selecting the current study's "HIT", participants were redirected to the online survey software program, Qualtrics, to complete the study. All data were collected anonymously online from a computer of the participants' choosing. Before contributing to the study, participants were apprised of its purpose and their option to withdraw at any time without penalty. Once participants provided informed consent via an electronic

signature, they were randomly assigned to one of five conditions that elicited responses to women described as permanently childfree-by-choice. This description was intended to ensure that participants understood that the woman's nonparental status is of her own choosing (i.e., she is not involuntarily childless) and is not going to change in the future (i.e., she is not temporarily delaying parenthood). Indeed, findings from previous research demonstrate that attitudes may be more favorable toward delaying parenting (Jacobson & Heaton, 1991; Koropeckyj-Cox et al., 2007; Koropeckyj-Cox et al., 2015) than being permanently childfree and when reasons for nonparental status are known, involuntarily childless and childfree women are perceived differently (Bays, 2017; Kopper & Smith, 2001; Koropeckyj-Cox et al., 2015; Lampman & Dowling-Guyer, 1995; Polit, 1978).

Data collection occurred over five conditions using two published MTurk HITS (HIT 1 and HIT 2) that assessed relations between RWA, motivations to respond without sexism, justifications of prejudice toward childfree women, and expressed prejudice toward childfree women (see Table 2). In HIT 1, participants were randomly assigned to one of four conditions. Condition 1 assessed motivations to respond without sexism and subsequent levels of expressed prejudice toward childfree women in the absence of opportunities to justify expressed prejudice. Thus, in Condition 1, participants were asked to complete only the RWAS, IMS-S, and EMS-S (Klonis et al., 2005), followed by the measure of the perceived disadvantages of being childfree (Blake, 1979), the Evaluation Thermometer (Haddock et al., 1993), and the measure of childfree women's Interpersonal Warmth (LaMastro, 2001).

The remaining four conditions assessed how RWA, IMS-S, EMS-S, and justifications of prejudice toward childfree women affect expressed prejudice toward childfree women. In these conditions, a questionnaire procedure was used to activate and increase the accessibility of justifications of prejudice toward childfree women. Previous research has demonstrated that

merely completing a questionnaire about a particular construct can activate that construct, which in turn, influences responses to subsequent questionnaires (Bonnot & Jost, 2014; Guimond & Roussel, 2001; Jost & Kay, 2005; Katz & Hass, 1988). Thus, in conditions involving justifications, participants first completed justification measures and then completed measures of expressed prejudice toward childfree women. In other words, participants who were first given the opportunity to complete justification measures were presumably primed with one or more justifications prior to completing measures of expressed prejudice toward childfree women. This priming, in turn, was hypothesized to increase their expressed prejudice toward childfree women on subsequent measures.

Accordingly, in Conditions 2-4 (with data collected in HIT 1), all participants first completed the RWAS, IMS-S, and EMS-S followed by one justification measure. Specifically, participants in Condition 2 completed the ASI (Glick & Fiske, 1996), participants in Condition 3 completed the GSSJS (Jost & Kay, 2005), and participants in Condition 4 completed the FIS (Levant et al., 2007). After completing a justification measure, all participants in Conditions 2-4 then completed the 4-item measure of the perceived disadvantages of being childfree, the Evaluation Thermometer, and the measure of childfree women's Interpersonal Warmth. HIT 2 collected data for Condition 5 (the final condition), in which participants first completed the RWAS, IMS-S, and EMS-S, followed by all three justification measures in randomized order (ASI, GSSJS, and FIS), and concluding with the perceived disadvantages measure, the Evaluation Thermometer, and the Interpersonal Warmth measure. Thus, Condition 5 permitted comparisons between the three proposed justifications of prejudice toward childfree women while controlling for the tendency toward generalized prejudice (i.e., RWA). A summary of the measures that were administered in each condition is presented in Table 2.

Table 2.

Measures Administered in Each Condition

Measure	Condition 1 (*n* = 105)	Condition 2 (*n* = 108)	Condition 3 (*n* = 112)	Condition 4 (*n* = 108)	Condition 5 (*n* = 458)
RWAS (15)	✓	✓	✓	✓	✓
IMS-S, EMS-S (10)	✓	✓	✓	✓	✓
ASI (22)	--	✓	--	--	✓
GSSJS (8)	--	--	✓	--	✓
FIS (45)	--	--	--	✓	✓
Disadvantage of CF (4)	✓	✓	✓	✓	✓
Evaluation Thermometer (1)	✓	✓	✓	✓	✓
Interpersonal Warmth (11)	✓	✓	✓	✓	✓
Demographic Survey (12-14)	✓	✓	✓	✓	✓

Note. Measures are listed in order of administration, except in Condition 5 in which the ASI, GSSJS, and FIS were administered in random order. The number of items in each measure is listed parenthetically. RWAS = Right-Wing Authoritarian Scale; IMS-S = Internal Motivation to Respond Without Sexism Scale; EMS-S = External Motivation to Respond Without Sexism Scale; ASI = Ambivalent Sexism Inventory; GSSJS = Gender-Specific System Justification Scale; FIS = Femininity Ideology Scale; CF = Childfree.

Regardless of the condition to which participants were assigned or the HIT they completed, all participants were asked to complete the demographic questionnaire at the end of their respective condition, after which they were debriefed, thanked for their participation, and invited to exit the study. Once they completed the study, participants were given a completion code and instructed to submit this code to MTurk to receive their compensation. Throughout all

conditions, instructional manipulation checks were included to assure the attentiveness of participants, increase the validity and reliability of responses, ensure that participants have English language proficiency, and screen for artificial intelligence systems designed to fabricate answers to receive compensation (Appendix J). Several of these instructional manipulation checks were modeled after those used by previous researchers (Goodman et al., 2013; Rouse 2015). Presumably, artificial intelligence systems and participants with an inadequate understanding of the English language will have difficulty answering questions of this nature with any consistency, prompting the researcher to closely examine and potentially discard particular response sets. A total of 97 (18.06%) participants did not pass manipulation checks in HIT 1 and 5 (1.07%) participants did not pass manipulation checks in HIT 2. Including initial instructions and debriefing, completion of the entire study took an average of 11 minutes and 58 seconds in Conditions 1-4 and an average of 18 minutes and 28 seconds in Condition 5. This can be compared to approximate completion times ranging from 10 to 15 minutes during survey pilot testing.

Using G*Power statistical software (Faul, Erdfelder, Lang, & Buchner, 2007), a priori power analyses were conducted to determine the most appropriate sample size for each condition. For Condition 1, a power analysis was computed for multiple regression with up to four demographic covariates and three (RWA, IMS, EMS) independent variables, and using $\alpha = .05$ criterion for achieving an 80% chance of detecting a medium effect of at least .15 (Cohen, 1992). This analysis yielded of sample size estimate of $n = 77$ for Condition 1. For Conditions 2-4, a power analysis was computed for the most complex condition, which was Condition 4 due to the intended use of the five FIS subscales. Thus, analyses were conducted for multiple regression with up to four demographic covariates and six (all 5 FIS subscales and RWA) independent variables, and using $\alpha = .05$ criterion for achieving an 80% chance of detecting a

medium effect. The power analysis for Conditions 2-4 yielded a sample size estimate of $n = 98$ per condition. To account for attrition and unusable response sets, and to ensure an approximately equal number of participants across Conditions 1-4 ($n = 110$), a total of 440 participants were recruited for Conditions 1-4 (final sample was $n = 433$ across Conditions 1-4).

For Condition 5, a power analysis was computed for multiple regression with up to four demographic covariates, two independent variables (RWA and either IMS-S or EMS-S), and up to eight mediating variables. Parameters were selected to enhance the conservativeness of the sample size and account for the increased power required to conduct the mediational analyses assessing Hypothesis 6 (discussed at length below). Thus, this power analysis used $\alpha = .01$ criterion for achieving a 90% chance of detecting a small effect, yielding a sample size estimate of $n = 398$. To account for attrition and unusable response sets, a total of 460 participants were recruited for Condition 5 (final sample was $n = 458$ for Condition 5).

Results

Preliminary Data Screening

Prior to conducting primary analyses, data from all measures was assessed for missing values and participants missing 20% or more of their data for a measure were excluded from primary analyses using that measure. Because the Childfree Disadvantages and Childfree Evaluations measures contained four or fewer items, participants missing any item responses on these measures were excluded from analyses with those measures. For participants with missing data who were included in final analyses, the mean of their non-missing responses was used to extrapolate their missing responses. There was relatively little missing data, a summary of which is presented in Table 3. The FIS emotionality subscale had the largest percentage (n = 26, 4.6%) of participants with missing data, whereas the measure of perceived disadvantages of being childfree had the smallest (n = 4, .04%). Additionally, the evaluation thermometer had the most missing item responses (n = 9, 1%) and the ASI hostile sexism subscale had the fewest (n = 5, .08%). Finally, analyses involving the evaluation thermometer had the greatest number of participants excluded for missing data (n = 9, 1%), whereas the GSSJ scale had the least (n = 1, .2%).

Because separate samples were used in analyses for Hypotheses 1-5, the multiple hypotheses did not increase the chance of Type I error and Bonferroni corrections were therefore not made. The 4-item measure of attitudes regarding the disadvantages of being childfree (i.e., Childfree Disadvantages; Blake, 1979), the 1-item Evaluation Thermometer for childfree women

(i.e., Childfree Evaluations; Haddock et al.,1993), and the 11-item measure of the Interpersonal Warmth of childfree women (i.e., Childfree Warmth; LaMastro, 2001) served as the dependent variables in all primary analyses. Scores for Childfree Disadvantages were calculated by the summing the ratings for all items in each scale. The overall mean in the current study was 9.26 (*SD* = 4.07) for Childfree Disadvantages. This mean can be compared with Blake's (1979) reported mean of 12.30 (*SD* = 3.10) from data with U.S. adults to develop this scale as a measure of attitudes toward childlessness (participant parental status and average age were unreported). Using data collected from a U.S. college sample (mean age = 20.18; 74.5% intended to parent), Bays et al. (2015b) reported a mean of 11.93 (*SD* = 3.72) when using this scale to assess attitudes toward childfree women.

In the current study, the overall mean for Childfree Evaluations was 73.19 (*SD* = 24.64), which may be compared to other studies that used the Evaluation Thermometer to evaluate various targets. For instance, when assessing evaluations of childfree women in a college sample, Bays, Ingram, and Phills (2015a) reported a mean of 54.68 (*SD* = 21.79) for the Evaluation Thermometer. Additionally, Haddock et al. (1993) reported means between 40.84 (*SD* = 25.48) and 40.87 (*SD* = 21.71) for attitudes toward individuals based on sexual orientation. Regarding attitudes toward self, Karpinski (2004) reported means of 83.50 (*SD* = 10.76) for women and 76.64 (*SD* = 15.29) for men.

Scores for Childfree Warmth were calculated by the summing the scores for all items in each scale, resulting in an overall mean of 34.97 (*SD* = 13.90). Again, it is important to note that higher values on the interpersonal warmth scale indicate *more negative* evaluations of childfree women (i.e., *less* warmth). The current descriptive statistics of the warmth scale can be compared to other studies assessing female targets, including LaMastro's (2001) reported mean of 23.36 (*SD* = 8.55) and Bays et al.'s (2015b) reported mean of 27.62 (*SD* = 9.34).

Table 3.

Missing Data Analyses

		Participants Missing Data		Missing Item Responses		Excluded Participants	
Variable	*N*	*n*	(%)	*n*	(%)	*n*	(%)
Evaluation Thermometer	891	9	(1.0)	9	(1.0)	9	(1.0)
CF Disadvantages	891	4	(0.04)	5	(.13)	4	(0.4)
CF Warmth	891	21	(2.4)	22	(.21)	0	(0.0)
IMS-S	891	11	(1.2)	11	(.22)	0	(0.0)
EMS-S	891	10	(1.1)	10	(.20)	0	(0.0)
RWAS	891	32	(3.6)	36	(.26)	0	(0.0)
ASI Hostile	566	5	(0.9)	5	(.08)	0	(0.0)
ASI Benevolent	566	17	(3.0)	19	(.32)	0	(0.0)
GSSJS	570	6	(1.1)	12	(.29)	1	(0.2)
FIS Stereotypic	566	17	(3.0)	23	(.38)	2	(0.4)
FIS Dependency	566	23	(4.1)	26	(.47)	0	(0.0)
FIS Purity	566	15	(2.7)	15	(.32)	0	(0.0)
FIS Caretaking	566	11	(1.9)	11	(.29)	0	(0.0)
FIS Emotionality	566	26	(4.6)	27	(.59)	0	(0.0)

Note. Participants missing 20% or more of their responses were excluded from final analyses. Because the Evaluation Thermometer and the CF Disadvantages scale both contained four or fewer items, participants missing responses to any items on these measures were excluded from analyses involving these variables. RWAS = Right-Wing Authoritarian Scale; IMS-S = Internal Motivation to Respond Without Sexism Scale; EMS-S = External Motivation to Respond Without Sexism Scale; ASI = Ambivalent Sexism Inventory; GSSJS = Gender-Specific System Justification Scale; FIS = Femininity Ideology Scale; FIS Stereotypic = Stereotypic Image and Activities; CF = Childfree.

Table 4.

Total Sample Sizes, Means, Standard Deviations, and Ranges of Scales

Scale Name	Total Sample				
	n	*M*	*SD*	Sample Range	Possible Range
Thermometer for CF	882	73.19	24.64	0.00-100.00	0.00-100.00
Disadvantages of CF	887	9.26	4.07	4.00-20.00	4.00-20.00
Warmth of CF	891	34.97	13.90	11.00-77.00	11.00-77.00
RWAS	891	3.29	1.31	1.00-7.00	1.00-7.00
IMS-S	891	7.23	1.75	1.00-9.00	1.00-9.00
EMS-S	891	4.00	1.96	1.00-9.00	1.00-9.00
ASI					
Hostile	566	1.71	1.20	0.00-5.00	0.00-5.00
Benevolent	566	2.01	1.10	0.00-5.00	0.00-5.00
GSSJS	569	4.95	1.71	1.00-9.00	1.00-9.00
FIS					
Total	566	2.01	.69	1.00-3.93	1.00-5.00
Stereotypic	564	1.75	.74	1.00-4.36	1.00-5.00
Dependency/Deference	566	1.52	.68	1.00-3.90	1.00-5.00
Purity	566	2.12	1.01	1.00-5.00	1.00-5.00
Caretaking	566	2.67	.91	1.00-4.86	1.00-5.00
Emotionality	566	2.26	.90	1.00-5.00	1.00-5.00

Note. RWAS = Right-Wing Authoritarian Scale; IMS-S = Internal Motivation to Respond Without Sexism Scale; EMS-S = External Motivation to Respond Without Sexism Scale; ASI = Ambivalent Sexism Inventory; GSSJS = Gender-Specific System Justification Scale; FIS = Femininity Ideology Scale; Stereotypic = Stereotypic Image and Activities; CF = Childfree.

Table 5.

Correlations Among Variables

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. CF Disadvantages	--														
2. CF Evaluations	-.59	--													
3. CF Warmth	.53	-.55	--												
4. RWAS	.47	-.36	.23	--											
5. IMS-S	-.36	.34	-.35	-.41	--										
6. EMS-S	.28	-.19	.16	.23	-.14	--									
7. ASI Hostile	.49	-.41	.31	.61	-.52	.33	--								
8. ASI Benevolent	.57	-.39	.24	.59	-.29	.30	.48	--							
9. GSSJS	.39	-.27	.20	.54	-.33	.24	.54	.47	--						
10. FIS Total	.63	-.47	.40	.61	-.45	.30	.65	.60	.45	--					
11. FIS Stereotypic	.57	-.44	.40	.46	-.50	.33	.60	.51	.40	.90	--				
12. FIS Dependency	.49	-.38	.35	.38	-.48	.31	.49	.42	.27	.81	.84	--			
13. FIS Purity	.52	-.40	.29	.71	-.29	.19	.52	.54	.44	.84	.62	.56	--		
14. FIS Caretaking	.51	-.39	.30	.52	-.27	.27	.54	.54	.48	.79	.61	.46	.65	--	
15. FIS Emotionality	.48	-.30	.31	.39	-.33	.16	.51	.43	.24	.77	.61	.48	.54	.57	--

Note. RWAS = Right-Wing Authoritarian Scale; IMS-S = Internal Motivation to Respond Without Sexism Scale; EMS-S = External Motivation to Respond Without Sexism Scale; ASI = Ambivalent Sexism Inventory; GSSJS = Gender-Specific System Justification Scale; FIS = Femininity Ideology Scale; FIS Stereotypic = Stereotypic Image and Activities; CF = Childfree. All variables were significantly correlated at the $p < .01$ level.

Descriptive statistics for Childfree Disadvantages, Childfree Evaluations, and Childfree Warmth of childfree women are presented in Table 4 and correlations between variables are presented in Table 5. Differences between the current and previously reported means for

Childfree Disadvantages, Childfree Evaluations, and Childfree Warmth are likely due to a variety of factors. First, this study's questionnaire priming procedure was intended to activate justifications of prejudice toward childfree women and have a subsequent effect on prejudice measures. If another study did not use similar methods, it might be expected that outcome means would differ. Additionally, variability may be explained by differences in the targets being assessed, sample demographics (e.g., the age of participants), and current and intended parental status. Finally, because the cited research on attitudes toward childfree individuals spans several decades, attitudes toward being childfree may have changed in contemporary samples.

A series of multiple regression analyses were conducted to identify the demographic covariates that accounted for the most variance in each dependent variable (Childfree Disadvantages, Childfree Evaluations, Childfree Warmth). Based on the most frequently reported categories within each demographic variable, categorical variables were dummy coded such that respective reference groups were participants who were White, Democratic, heterosexual, Christian, female, holding a 4-year college degree, married/in a domestic partnership, temporarily childfree-by-choice, and intending to have children. Up to four demographic covariates were permitted in primary analyses to account for associated variance in prejudice while maintaining the statistical power to conduct primary analyses. The standardized beta weights (β) of significant demographic covariates were compared to identify the four strongest demographic covariates. Based on the results of these regression analyses (Table 6), being male, Republican, not intending to have children, and being uncertain about having children were consistently associated with all three prejudice outcomes. However, because the sample sizes for not intending to have children (n = 180) and being uncertain about having children (n = 99) were small across the entire sample (and were even smaller within conditions), including these variables would have decreased statistical power to an unacceptable extent.

Thus, not intending to have children and being uncertain about having children were excluded as demographic covariates (results of exploratory analyses conducted with all four demographic covariates are presented in Appendix K), whereas being a man and Republican were retained as covariates. Age, number of children, and identifying as Black/African American predicted at least one of the three prejudice measures, but not all three measures consistently or as strongly as being male, Republican, not intending to have children, and being uncertain about having children. Additionally, education level, household size, INR, number of siblings, relationship status, religious affiliation, and sexual identity were unrelated to all three prejudice measures.

Table 6.

Multiple Linear Regressions Determining Demographic Covariates of Dependent Variables

	Thermometer		CF Disadvantages		CF Warmth	
Demographic Variable	*β*	*t*	*β*	*t*	*β*	*t*
Age	-.08	-1.05	.20	2.61*	-.01	-.12
Education (compared to 4-year college degree)						
8th grade or less	-.03	-.83	.02	.53	.04	1.18
Some high school	-.02	-.49	.07	1.40	.03	.57
High school graduate/G.E.D.	-.03	-.46	-.02	-.37	-.02	-.42
Technical/Trade School	-.08	-1.49	.03	.55	.04	.75
2-year college degree	.00	.00	.00	.00	-.06	-.98
Masters degree	.04	.66	-.07	-1.29	.03	.50
Doctoral or professional degree	-.03	-.64	.00	.02	.02	.31
Gender (compared to female)						
Male	**-.18**	-3.50**	**.21**	4.15**	**.21**	3.95**
Transgender	.03	.63	-.02	-.46	-.01	-.15
Genderqueer	.03	.45	-.01	-.14	.01	.18
Other Gender	-.06	-1.18	.06	1.25	.04	.83

(Table continues)

Table 6 (continued).

Multiple Linear Regressions Determining Demographic Covariates of Dependent Variables

	Thermometer		CF Disadvantages		CF Warmth	
Demographic Variable	*β*	*t*	*β*	*t*	*β*	*t*
Household Size	-.04	-.68	.06	1.17	.06	1.06
Income-To-Needs-Ratio	.08	1.55	-.07	-1.42	-.06	-.99
Number of Children	-.10	-2.85**	.12	3.68**	.03	.98
Number of Siblings	-.03	-.66	-.03	-.62	-.04	-.80
Parenting Intentions (compared to yes)						
No	**.49**	4.84**	**-.42**	-4.19**	**-.33**	-3.04**
Not Certain	**.37**	6.01**	**-.25**	-4.12**	**-.26**	-3.91**
Parental Status (compared to temporarily childfree)						
Involuntarily Childless	-.09	-1.69	.10	1.88	-.02	-.28
Other Parental Status	-.08	-1.53	.03	.52	-.06	1.01
Permanently Childfree-By-Choice	-.03	-.31	-.01	-.15	.02	.25
Political Affiliation (compared to Democrat)						
Republican	**-.18**	-3.14**	**.22**	4.02**	**.23**	3.78**
Independent	-.10	-1.84	.03	.61	.08	1.36
Other Political Affiliation	-.03	-.49	.02	.47	.06	1.04
Racial Identity (compared to White)						
American Indian or Alaska Native	.07	1.52	.04	.91	-.05	-1.02
Asian	-.03	-.47	.02	.28	.01	.22
Black or African American	-.10	-2.02*	.11	2.17*	.06	1.10
Hispanic or Latino/Latina/Latinx	-.02	-.33	.02	.47	.01	.27
Multiracial	-.04	-.73	.05	.94	.00	.08
Native Hawaiian or Other Pacific Islander	-.00	-.03	.00	.06	.02	.39
Other Racial Identity	.01	.29	.05	.96	.03	.54

(Table continues)

Table 6 (continued).

Multiple Linear Regressions Determining Demographic Covariates of Dependent Variables

	Thermometer		CF Disadvantages		CF Warmth	
Demographic Variable	*β*	*t*	*β*	*t*	*β*	*t*
Relationship Status (compared to married/partnered)						
Single	-.02	-.32	.05	.75	.02	.25
Separated/Divorced/ Widowed	-.03	-.49	.02	.30	.02	.41
In a relationship, cohabitating	.00	.08	.00	.02	.01	.12
In a relationship, not cohabitating	.03	.64	-.02	-.44	-.04	-.77
Other relationship status	-.04	-.79	.04	.89	.05	.91
Religious Affiliation (compared to Christian)						
Buddhist	-.01	-.17	.03	.60	.04	.81
Hindu	-.07	-1.40	.05	.91	.03	.54
Islamic	-.02	-.31	.02	.32	-.04	-.82
Jewish	-.02	-.46	-.01	-.09	.01	.27
Non-religious	.01	.12	-.10	-1.89	.09	1.47
Other Religion	-.01	-.09	-.05	-.94	.06	1.10
Sexual Identity (compared to heterosexual)						
Asexual	-.03	-.54	.02	.32	.04	.76
Bisexual	.07	1.51	-.03	-.69	-.04	-.76
Gay/Lesbian	.07	1.43	-.07	-1.51	.01	.11
Other Sexual Identity	.10	1.96	-.07	-1.46	-.01	-.21
Pansexual	-.01	-.19	-.03	-.66	.03	.58
Queer	.00	-.00	-.02	-.36	-.06	-.83

Note. Categorical variables were dummy coded such that participants who identified as White, Democratic, heterosexual, Christian, female, holding a 4-year college degree, married/in a domestic partnership, temporarily childfree-by-choice, and intending to have children served as the respective reference groups. *β* is the standardized coefficient. The four covariates selected for analyses are bolded for each dependent variable.
**p* < .05. ** *p* < .01.

Hypotheses 1 and 2

Hypothesis 1 stated that RWA will be associated with greater levels of expressed prejudice toward childfree women. Hypothesis 2 broadly proposed that motivation to respond without sexism will be associated with expressed prejudice toward childfree women. Hypothesis 2a specifically stated that the internal motivation respond without sexism will be associated with lower levels of expressed prejudice toward childfree women. Because the proposed study's data collection was anonymous, Hypothesis 2b further predicted that the external motivation to respond without sexism will be associated with relatively greater levels of expressed prejudice toward childfree women.

Preliminary analyses. RWAS served as the independent variable in analyses assessing Hypothesis 1, and the internal (IMS-S) and external (EMS-S) motivations to respond without sexism served as independent variables in analyses assessing Hypothesis 2. In addition to assessing Hypothesis 1, RWAS scores were also included as a statistical control for participants' tendency toward generalized prejudice. Scores for the RWAS were calculated by averaging the scores for all 15 items in the scale. The mean of the RWAS was 3.29 (*SD* = 1.31), which is comparable to means reported in previous studies involving RWA. For example, Barnes, Brown, Lenes, Bosson, and Carvallo (2014) reported means of 3.03 (*SD* = 1.10). Additional comparisons can be made with Craig and Richeson's (2014) reported RWAS means of 3.12 (*SD* = 1.16) and Swami et al.'s (2013) reported means of 3.73 (*SD* = .84). Descriptive statistics for RWA can be found in Table 4.

Scores for the IMS-S and EMS-S were calculated by the averaging the scores for all scale items. Descriptive statistics are presented in Table 4. Small to moderate correlations were observed between IMS-S, EMS-S, and RWAS (magnitude ranging from r = -.14 to -.41, all ps < .01; see Table 5). Data collected from participants in Condition 1 (n = 105), who completed only

the RWAS, IMS-S, and EMS-S as predictors, were used to assess Hypotheses 1 and 2. Within Condition 1, means were 7.17 (*SD* = 1.71) for IMS-S, 3.80 (*SD* = 1.88) for EMS-S, and 3.18 (*SD* = 1.31) for RWAS. The descriptive statistics of IMS-S and EMS-S in the current study can be compared to those reported by Klonis et al. (2005), which were 6.67 (*SD* = 1.63) for IMS-S and 4.01 (*SD* = 1.77) for EMS-S. Within Condition 1, means were 9.06 (*SD* = 3.80) for Childfree Disadvantages, 72.96 (*SD* = 24.75) for Childfree Evaluations, and 35.72 (*SD* = 14.21) for Childfree Warmth.

Before proceeding with primary analyses, variables within this condition were tested for the assumptions of hierarchical multiple regression, which were independence of observations; outliers; linearity between the independent and dependent variables; homoscedasticity; multicollinearity between variables; and normality of residuals and variables. Visual inspection of a scatterplot of studentized residuals versus unstandardized predicted values and partial regression plots indicated there was linearity between IMS-S, EMS-S, RWAS, and the three dependent variables, and that these variables met the assumption of homoscedasticity. These data also met the assumption of multicollinearity, as no variables were correlated greater than .70 and all Tolerance statistics were greater than .10 (Field, 2009). There were no outliers for these variables, as no cases had standardized residuals greater than three standard deviations of the mean (i.e., ±3.29, Tabachnick & Fidell, 1996). Visual inspection of a histogram with a superimposed normal curve indicated that the residuals were approximately normally distributed. IMS-S, EMS-S, and RWAS scores were also normally distributed, with skewness and kurtosis values in an acceptable range (-1 to 1; Tabachnick & Fidell, 2007).

Primary analyses. Results of regression models for Hypotheses 1 and 2 are presented in Table 7. Three three-step hierarchical regression analyses assessed relations between RWA, IMS-S, EMS-S, and the dependent variables (Childfree Disadvantages, Childfree Evaluations,

Childfree Warmth). In all regressions, the first step included the two demographic covariates identified in preliminary analyses (i.e., being male and Republican). The second step included RWAS scores to account for variance in attitudes due to the tendency toward generalized prejudice, and assessed Hypothesis 1. The third step included IMS-S and EMS-S, and assessed Hypothesis 2.

The first three-step hierarchical regression assessed the association of RWA, IMS-S, and EMS-S with Childfree Disadvantages. In the first step, the two demographic covariates significantly predicted Childfree Disadvantages, $\Delta F(2, 99) = 5.35$, $p = .01$, $R^2 = .10$, ($\Delta R^2 = .10$) and accounted for 9.7% of the variance in Childfree Disadvantages. Being a man, $t(99) = 2.66$, $p = .01$, $\beta = .26$, and Republican, $t(99) = 2.22$, $p = .03$, $\beta = .21$, were both positively associated with greater perceived Childfree Disadvantages. Introducing RWA in the second step significantly changed R^2, $\Delta F(1, 98) = 24.28$, $p < .001$, $R^2 = .28$, ($\Delta R^2 = .18$), and explained an additional 17.9% of variance in Childfree Disadvantages. Supporting Hypothesis 1, RWAS was positively associated with greater perceived Childfree Disadvantages, $t(98) = 4.93$, $p < .001$, $\beta = .47$. Adding IMS-S and EMS-S to the regression model in the third step explained an additional 5.5% of the variance in Childfree Disadvantages and the change in R^2 was significant, $\Delta F(2, 96) = 3.93$, $p = .02$, $R^2 = .33$, ($\Delta R^2 = .06$). Participants high in IMS-S perceived fewer Childfree Disadvantages, $t(96) = -2.36$, $p = .02$, $\beta = -.22$, whereas EMS-S was not associated with Childfree Disadvantages, $t(96) = 1.51$, $p = .14$, $\beta = .13$. The final model was also significant, $F(5, 96) = 9.52$, $p < .001$, with being male, $t(96) = 2.41$, $p = .02$, $\beta = .21$, RWA, $t(96) = 3.27$, $p = .002$, $\beta = .34$, and IMS-S, $t(96) = -2.36$, $p = .02$, $\beta = -.22$, as significant predictors. Participants who were male and high in RWA perceived greater Childfree Disadvantages, whereas those who were high in IMS-S perceived fewer disadvantages. Together, the five predictors accounted for 33.1% of the variance in Childfree Disadvantages.

Table 7.

Hierarchical Multiple Linear Regression Models for Hypotheses 1 and 2

	Dependent Variable: Childfree Disadvantages[a]							
Step and Variable(s)	*df*	R^2	ΔR^2	ΔF	*B*	*SE B*	β	*t*
1. Demographic Covariates	(2, 99)	.10	.10	5.35**				
Male					1.95	.73	.26	2.66**
Republican					2.09	.94	.21	2.22*
2. RWAS	(1, 98)	.28	.18	24.28**	1.37	.28	.47	4.93**
3. Motivation	(2, 96)	.33	.06	3.93*				
IMS-S					-.49	.21	-.22	-2.36*
EMS-S					.27	.18	.13	1.51

	Dependent Variable: Childfree Evaluations[b]							
Step and Variable(s)	*df*	R^2	ΔR^2	ΔF	*B*	*SE B*	β	*t*
1. Demographic Covariates	(2, 100)	.05	.05	2.63				
Male					-7.37	4.87	-.15	-1.51
Republican					-11.87	6.26	-.19	-1.90
2. RWAS	(1, 99)	.07	.02	2.25	-3.07	2.04	-.16	-1.50
3. Motivation	(2, 97)	.24	.17	10.85**				
IMS-S					6.05	1.44	.42	4.21**
EMS-S					-2.42	1.22	-.18	-1.99*

	Dependent Variable: Childfree Warmth[c]							
Step and Variable(s)	*df*	R^2	ΔR^2	ΔF	*B*	*SE B*	β	*t*
1. Demographic Covariates	(2, 101)	.01	.01	.68				
Male					3.27	2.84	.12	1.15
Republican					-.13	3.65	-.00	-.04
2. RWAS	(1, 100)	.06	.05	5.05*	2.64	1.17	.24	2.25*
3. Motivation	(2, 98)	.19	.13	7.70**				
IMS-S					-2.52	.85	-.30	-2.97**
EMS-S					1.84	.72	.24	2.55*

Note. RWAS = Right-Wing Authoritarian Scale; IMS-S = Internal Motivation to Respond Without Sexism Scale; EMS-S = External Motivation to Respond Without Sexism Scale. Betas (β) are reported at the steps in which variables were entered.
[a] Final model for Childfree Disadvantages: $R^2 = .33$, $F(5, 96) = 9.52$, $p < .001$.
[b] Final model for Childfree Evaluations: $R^2 = .24$, $F(5, 97) = 6.16$, $p < .001$.
[c] Final model for Childfree Warmth: $R^2 = .19$, $F(5, 98) = 4.54$, $p = .001$.
*$p < .05$, **$p < .01$

The second three-step hierarchical regression was conducted to assess the association of RWA, IMS-S, and EMS-S with Childfree Evaluations. In the first step of the hierarchical multiple regression, the two demographic covariates did not significantly predict Childfree Evaluations, $\Delta F(2, 100) = 2.63$, $p = .08$, $R^2 = .05$, ($\Delta R^2 = .05$) and accounted for 5% of the variance in Childfree Evaluations. Introducing RWA in the second step did not significantly change R^2, $\Delta F(1, 99) = 2.25$, $p = .14$, $R^2 = .07$, ($\Delta R^2 = .02$), and explained an additional 2.1% of variance in Childfree Evaluations. Adding IMS-S and EMS-S to the regression model in the third step explained an additional 17% of the variance in Childfree Evaluations and led to a significant change in R^2, $\Delta F(2, 97) = 10.85$, $p < .001$, $R^2 = .24$, ($\Delta R^2 = .17$). In the third step, IMS-S, $t(97) = 4.21$, $p < .001$, $\beta = .42$, was a significant predictor of Childfree Evaluations; as participants endorsed greater internal motivation to respond without sexism, they also reported more positive evaluations of childfree women. EMS-S was also a significant predictor of Childfree Evaluations, $t(97) = -1.99$, $p = .05$, $\beta = -.18$; participants high in EMS-S were more likely to report negative evaluations of childfree women. The final model was significant, $F(5, 97) = 6.16$, $p < .001$, and IMS-S and EMS-S remained the only significant predictors of Childfree Evaluations. Together, the five predictors accounted for 24.1% of the variance in Childfree Evaluations.

The third three-step hierarchical regression was conducted to assess the association of RWA, IMS-S, and EMS-S with Childfree Warmth (note: Childfree Warmth is scored such that higher scores indicate *less* warmth). In the first step of the hierarchical multiple regression, the two demographic covariates did not significantly predict Childfree Warmth, $\Delta F(2, 101) = .68$, $p = .51$, $R^2 = .01$, ($\Delta R^2 = .01$) and accounted for 1.3% of the variance in Childfree Warmth. Introducing RWA in the second step significantly changed R^2, $\Delta F(1, 100) = 5.05$, $p = .03$, $R^2 = .06$, ($\Delta R^2 = .05$), and explained an additional 4.7% of variance in Childfree Warmth. Supporting

Hypothesis 1, RWAS was negatively associated with perceived Childfree Warmth, $t(98) = 2.25$, $p = .03$, $\beta = .24$; participants high in RWA was more likely to perceive childfree women as cold. Adding IMS-S and EMS-S to the regression model in the third step explained an additional 12.8% of the variance in Childfree Warmth and significantly changed R^2, $\Delta F(2, 98) = 7.70$, $p = .001$, $R^2 = .19$, ($\Delta R^2 = .13$). In the third step, IMS-S, $t(98) = -2.97$, $p = .004$, $\beta = -.30$, was a significant predictor of Childfree Warmth; as participants endorsed greater internal motivation to respond without sexism, they also reported greater perceived warmth of childfree women. EMS-S was also a significant predictor of Childfree Warmth, $t(98) = 2.55$, $p = .01$, $\beta = .24$; participants high in EMS-S were more likely to perceive childfree women as cold. The final model was also significant, $F(5, 98) = 4.54$, $p = .001$, with IMS-S and EMS-S as the only significant predictors. Together, the five predictors accounted for 18.8% of the variance in Childfree Evaluations.

Hypothesis 3

Hypothesis 3 stated that ambivalent sexism will be related to prejudice toward childfree women. Specifically, it was expected that both hostile (HS; Hypothesis 3a) and benevolent (BS; Hypothesis 3b) will be associated with greater expressed prejudice toward childfree women.

Preliminary analyses. HS and BS served as independent variables in analyses assessing Hypothesis 3. Scores for HS and BS were calculated by the averaging the scores for all items in each scale, and descriptive statistics are presented in Table 4. A positive correlation was observed between HS and BS ($r = .48$, $p < .01$; see Table 5). Data collected from participants in Condition 2 ($n = 108$), who completed only the RWAS, IMS-S, EMS-S, and ASI as predictors, was used to assess Hypothesis 3. Within Condition 2, means were 1.89 ($SD = 1.19$) for HS and 2.10 ($SD = 1.12$) for BS. The descriptive statistics of HS and BS in this condition can be compared to Glick and Fiske's (1996) reported means for male participants ranging between 2.38-3.05 (*SD*s ranging between .74-1.04) for HS and 2.31-2.87 (*SD*s ranging between .69-.97)

for BS; and for female participants, means ranged between 1.49-2.38 (*SD*s ranging between .84-1.05) for HS and 1.90-2.43 (*SD*s ranging between .83-1.04) for BS. Additional comparisons can be made with Christopher and Wojda's (2008) reported means of 2.20 (*SD* = .91) for HS and 2.47 (*SD* = .80) for BS. Furthermore, Murphy et al. (2011) described an average HS score of 2.28 (*SD* = .82) and an average BS score of 2.28 (*SD* = .77) when assessing attitudes toward pregnant women. Differences between the current ASI means and those previously reported could again be explained by the questionnaire priming procedure used in the current study. Specifically, participants first completed the IMS-S and EMS-S before completing the ASI, which may have prompted them to suppress their sexism and subsequently reduced their HS and BS scores. Within Condition 2, means were 9.19 (*SD* = 4.13) for Childfree Disadvantages, 72.12 (*SD* = 26.47) for Childfree Evaluations, and 34.37 (*SD* = 13.26) for Childfree Warmth.

Before proceeding with primary analyses, all variables within this condition were tested for the assumptions of independence of observations; outliers; linearity between the independent and dependent variables; homoscedasticity; multicollinearity between variables; and normality of residuals and variables. Visual inspection of a scatterplot of studentized residuals versus unstandardized predicted values and partial regression plots indicated there was linearity between HS, BS, and the three dependent variables, and that these variables met the assumption of homoscedasticity. These data also met the assumption of multicollinearity, as no variables were correlated greater than .70 and all Tolerance statistics were greater than .10 (Field, 2009). There were no outliers for these variables, as no cases had standardized residuals greater than three standard deviations of the mean (i.e., ±3.29, Tabachnick & Fidell, 1996). Visual inspection of a histogram with a superimposed normal curve indicated that the residuals were approximately normally distributed. HS and BS scores were also normally distributed, with skewness and kurtosis values in an acceptable range (-1 to 1; Tabachnick & Fidell, 2007).

Primary analyses. The results of all regression models for Hypotheses 3 are presented in Table 8. Three three-step hierarchical regression analyses were conducted to assess the relation between HS, BS, and each of the dependent variables (Childfree Disadvantages, Childfree Evaluations, Childfree Warmth). In all three regressions, the first step included the two demographic covariates identified in preliminary analyses (i.e., being male and Republican). The second step included RWAS scores to account for variance in attitudes due to the tendency toward generalized prejudice. The third step included HS and BS scores.

The first three-step hierarchical regression was conducted to assess the association of HS and BS with Childfree Disadvantages. In the first step of the hierarchical multiple regression, the two demographic covariates significantly predicted Childfree Disadvantages, $\Delta F(2, 103) = 3.25$, $p = .04$, $R^2 = .06$, ($\Delta R^2 = .06$) and accounted for 5.9% of the variance in Childfree Disadvantages. However, despite a significant overall model at the first step, neither being male, $t(103) = 1.85$, $p = .07$, $\beta = .18$, nor being Republican, $t(103) = 1.78$, $p = .08$, $\beta = .17$, were uniquely and significantly associated with Childfree Disadvantages. Introducing RWA in the second step led to a significant change in R^2, $\Delta F(1, 102) = 29.71$, $p < .001$, $R^2 = .27$, ($\Delta R^2 = .21$), and explained an additional 21.2% of variance in Childfree Disadvantages. RWAS was positively associated with greater perceived Childfree Disadvantages, $t(102) = 5.45$, $p < .001$, $\beta = .56$, such that greater endorsement of RWA was related to more perceived disadvantages of being childfree. Adding HS and BS to the regression model in the third step explained an additional 10% of the variance in Childfree Disadvantages and the change in R^2 was significant, $\Delta F(2, 100) = 8.00$, $p = .001$, $R^2 = .37$, ($\Delta R^2 = .10$). Participants high in BS were more likely to report greater perceived Childfree Disadvantages, $t(100) = 3.63$, $p < .001$, $\beta = .37$. However, HS was unrelated to Childfree Disadvantages, $t(100) = 1.26$, $p = .21$, $\beta = .14$. The final model was

also significant, $F(5, 100) = 11.85$, $p < .001$, with BS as the only significant predictor. Together, the five predictors accounted for 37.2% of the variance in Childfree Disadvantages.

The second three-step hierarchical regression was conducted to assess the association of HS and BS with Childfree Evaluations. In the first step of the hierarchical multiple regression, the two demographic covariates did not significantly predict Childfree Evaluations, $\Delta F(2, 101) = 1.58$, $p = .21$, $R^2 = .03$, ($\Delta R^2 = .03$) and accounted for 3% of the variance in Childfree Evaluations. Introducing RWA in the second step led to a significant change in R^2, $\Delta F(1, 100) = 19.48$, $p < .001$, $R^2 = .19$, ($\Delta R^2 = .16$), and explained an additional 15.8% of variance in Childfree Evaluations. RWAS was negatively associated with greater perceived Childfree Evaluations, $t(100) = -4.41$, $p < .001$, $\beta = -.48$, such that greater endorsement of RWA was related to more unfavorable evaluations of childfree women. Adding HS and BS to the regression model in the third step explained 3.5% of the variance in Childfree Evaluations, but there was no significant change in R^2, $\Delta F(2, 98) = 2.20$, $p = .12$, $R^2 = .22$, ($\Delta R^2 = .04$). The final model was significant, $F(5, 98) = 5.64$, $p < .001$, but no variable uniquely and significantly predicted Childfree Evaluations. Together, the five predictors accounted for 22.3% of the variance in Childfree Evaluations.

The third three-step hierarchical regression was conducted to assess the association of HS and BS with Childfree Warmth. In the first step of the hierarchical multiple regression, the two demographic covariates significantly predicted Childfree Warmth, $\Delta F(2, 103) = 3.25$, $p = .04$, $R^2 = .06$, ($\Delta R^2 = .06$) and accounted for 5.9% of the variance in Childfree Warmth. Participants who were men were more likely to perceive childfree women as cold, $t(103) = 2.06$, $p = .04$, $\beta = .20$, but being Republican was unrelated to Childfree Warmth, $t(103) = 1.53$, $p = .13$, $\beta = .15$. Introducing RWA in the second step did not significantly change R^2, $\Delta F(1, 102) = 2.81$, $p = .10$, $R^2 = .09$, ($\Delta R^2 = .03$), and explained an additional 2.5% of variance in Childfree Warmth.

Adding HS and BS to the regression model in the third step explained 1.7% of the variance in Childfree Warmth, but did not significantly change R^2, $\Delta F(2, 100) = .94$, $p = .40$, $R^2 = .10$, ($\Delta R^2 = .02$). The final model was significant, $F(5, 100) = 2.26$, $p = .05$, but no variable uniquely and significantly predicted Childfree Warmth. Together, the five predictors accounted for 10.1% of the variance in Childfree Warmth.

Table 8.

Hierarchical Multiple Linear Regression Models for Hypothesis 3

	Dependent Variable: Childfree Disadvantages[a]							
Step and Variable(s)	*df*	R^2	ΔR^2	ΔF	*B*	*SE B*	*β*	*t*
1. Demographic Covariates	(2, 103)	.06	.06	3.25*				
Male					1.49	.81	.18	1.85
Republican					1.47	.83	.17	1.78
2. RWAS	(1, 102)	.27	.21	29.71**	1.76	.32	.56	5.45**
3. Ambivalent Sexism	(2, 100)	.37	.10	8.00**				
Hostile Sexism					.50	.40	.14	1.26
Benevolent Sexism					1.38	.38	.37	3.63**

	Dependent Variable: Childfree Evaluations[b]							
Step and Variable(s)	*df*	R^2	ΔR^2	ΔF	*B*	*SE B*	*β*	*t*
1. Demographic Covariates	(2, 101)	.03	.03	1.58				
Male					-7.23	5.30	-.13	-1.37
Republican					-6.25	5.42	-.11	-1.15
2. RWAS	(1, 100)	.19	.16	19.48**	-9.71	2.20	-.48	-4.41**
3. Ambivalent Sexism	(2, 98)	.22	.04	2.20				
Hostile Sexism					-4.51	2.85	-.20	-1.58
Benevolent Sexism					-3.25	2.72	-.14	-1.20

(table continues)

Table 8 (continued).

Hierarchical Multiple Linear Regression Models for Hypothesis 3

	Dependent Variable: Childfree Warmth[c]							
Step and Variable(s)	*df*	R^2	ΔR^2	ΔF	*B*	*SE B*	β	*t*
1. Demographic Covariates	(2, 103)	.06	.06	3.25*				
Male					5.32	2.59	.20	2.06*
Republican					4.05	2.65	.15	1.53
2. RWAS	(1, 102)	.09	.03	2.81	1.95	1.16	.19	1.68
3. Ambivalent Sexism	(2, 100)	.10	.02	.94				
Hostile Sexism					2.03	1.52	.18	1.33
Benevolent Sexism					.24	1.45	.02	.16

Note. RWAS = Right-Wing Authoritarian Scale. Betas (β) are reported at the steps in which variables were entered.
[a] Final model for Childfree Disadvantages: $R^2 = .37$, $F(5, 100) = 11.85$, $p < .001$.
[b] Final model for Childfree Evaluations: $R^2 = .22$, $F(5, 98) = 5.64$, $p < .001$.
[c] Final model for Childfree Warmth: $R^2 = .10$, $F(5, 100) = 2.26$, $p = .05$.
*$p < .05$, **$p < .01$

Hypothesis 4

Hypothesis 4 predicted that gender-specific system justification (GSSJ) and expressed prejudice toward childfree women will share a positive relation, such that greater GSSJ will be associated with greater expressed prejudice toward childfree women.

Preliminary analyses. Scores from the gender-specific justification scale (GSSJS) served as the independent variable in analyses assessing Hypothesis 4. GSSJS scores were calculated by the averaging the scores for all scale items, and descriptive statistics are presented in Table 4. Data collected from participants in Condition 3 (n = 112), who completed only the RWAS, IMS-S, EMS-S, and GSSJS as predictors, was used to assess Hypothesis 4. Means were 5.07 (SD = 1.76) for GSSJS within this condition. GSSJS descriptive statistics in the current study can be compared to GSSJS scores reported by Jost and Kay (2005), which were 4.82 (SD = 1.28) for men and 4.25 (SD = .91) for women. Additional comparisons can be made with

Douglas and Sutton's (2014) reported GSSJS mean of 4.41 (*SD* = .92). Within Condition 3, means were 9.69 (*SD* = 4.35) for Childfree Disadvantages, 74.00 (*SD* = 25.07) for Childfree Evaluations, and 36.73 (*SD* = 14.30) for Childfree Warmth.

Before proceeding with primary analyses, all variables within this condition were tested for the assumptions of hierarchical multiple regression, including independence of observations; outliers; linearity between the independent and dependent variables; homoscedasticity; multicollinearity between variables; and normality of residuals and variables. Visual inspection of a scatterplot of studentized residuals versus unstandardized predicted values and partial regression plots indicated there was linearity between GSSJS and the three dependent variables, and that these variables met the assumption of homoscedasticity. These data also met the assumption of multicollinearity, as no variables were correlated greater than .70 and all Tolerance statistics were greater than .10 (Field, 2009). There were no outliers for GSSJS, as no cases had standardized residuals greater than three standard deviations of the mean (i.e., ±3.29, Tabachnick & Fidell, 1996). Visual inspection of a histogram with a superimposed normal curve indicated that the residuals were approximately normally distributed. GSSJS scores were also normally distributed, with skewness and kurtosis values in an acceptable range (-1 to 1; Tabachnick & Fidell, 2007).

Primary analyses. The results of all regression models for Hypotheses 4 are presented in Table 9. Three three-step hierarchical regression analyses were conducted to assess the relation between GSSJS and each of the dependent variables (Childfree Disadvantages, Childfree Evaluations, Childfree Warmth). In all three regressions, the first step included the two demographic covariates identified in preliminary analyses (i.e., being male and Republican). The second step included RWAS scores to account for variance in attitudes toward childfree women due to the tendency toward generalized prejudice. The third step included GSSJS scores.

The first three-step hierarchical regression was conducted to assess the association of GSSJ with Childfree Disadvantages. In the first step of the hierarchical multiple regression, the two demographic covariates significantly predicted Childfree Disadvantages, $\Delta F(2, 107) = 21.25$, $p < .001$, $R^2 = .28$, ($\Delta R^2 = .28$) and accounted for 28.4% of the variance in Childfree Disadvantages. Being a man, $t(107) = 3.35$, $p = .001$, $\beta = .28$, and Republican, $t(107) = 4.96$, $p < .001$, $\beta = .41$, were associated with greater perceived disadvantages of being childfree. Introducing RWA in the second step also led to a significant change in R^2, $\Delta F(1, 106) = 25.60$, $p < .001$, $R^2 = .42$, ($\Delta R^2 = .14$), and explained an additional 13.9% of variance in Childfree Disadvantages. RWA was positively associated with greater perceived Childfree Disadvantages, $t(106) = 5.06$, $p < .001$, $\beta = .42$, such that greater endorsement of RWA was related to more perceived disadvantages of being childfree. Adding GSSJ to the regression model in the third step explained an additional 2.5% of the variance in Childfree Disadvantages and the change in R^2 was significant, $\Delta F(1, 105) = 4.70$, $p = .03$, $R^2 = .45$, ($\Delta R^2 = .03$). Participants high in GSSJ were more likely to perceive greater disadvantages of being childfree, $t(105) = 2.17$, $p = .03$, $\beta = .20$. In the final step, the four predictors accounted for 44.8% of the variance in Childfree Disadvantages. The final model was significant, $F(4, 105) = 21.32$, $p < .001$, with being a man, $t(105) = 2.95$, $p = .004$, $\beta = .22$, being Republican, $t(105) = 2.23$, $p = .03$, $\beta = .19$, RWA, $t(105) = 3.66$, $p < .001$, $\beta = .34$, and GSSJ, $t(105) = 2.17$, $p = .03$, $\beta = .20$, significantly predicting Childfree Disadvantages.

The second three-step hierarchical regression was conducted to assess the association of GSSJS with Childfree Evaluations. In the first step of the hierarchical multiple regression, the two demographic covariates significantly predicted Childfree Evaluations, $\Delta F(2, 106) = 4.57$, $p = .01$, $R^2 = .08$, ($\Delta R^2 = .08$) and accounted for 7.9% of the variance in Childfree Evaluations. Participants who were men, $t(106) = -2.43$, $p = .02$, $\beta = -.23$, endorsed more negative evaluations

of childfree women. Introducing RWA in the second step led to a significant change in R^2, $\Delta F(1, 105) = 21.94$, $p < .001$, $R^2 = .24$, ($\Delta R^2 = .16$), and explained an additional 15.9% of variance in Childfree Evaluations. RWA was negatively associated with Childfree Evaluations, $t(105) = -4.68$, $p < .001$, $\beta = -.45$, such that greater endorsement of RWA was related to more unfavorable evaluations of childfree women. Adding GSSJ to the regression model in the third step explained 0.7% of the variance in Childfree Evaluations, but there was no significant change in R^2, $\Delta F(1, 104) = 1.02$, $p = .32$, $R^2 = .25$, ($\Delta R^2 = .01$). The final model was significant, $F(4, 104) = 8.48$, $p < .001$; being a man, $t(104) = -2.17$, $p = .03$, $\beta = -.19$, and high in RWA, $t(104) = -3.76$, $p < .001$, $\beta = -.41$, were associated with negative evaluations of childfree women. Together, the four predictors accounted for 24.6% of the variance in Childfree Evaluations.

The third three-step hierarchical regression was conducted to assess the effect of GSSJ on Childfree Warmth. In the first step of the hierarchical multiple regression, the two demographic covariates significantly predicted Childfree Warmth, $\Delta F(2, 107) = 11.73$, $p < .001$, $R^2 = .18$, ($\Delta R^2 = .18$) and accounted for 18% of the variance in Childfree Warmth. Participants who were men, $t(107) = 3.06$, $p = .003$, $\beta = .27$, and Republican, $t(107) = 3.19$, $p = .002$, $\beta = .28$, were more likely to perceive childfree women as cold. Introducing RWA in the second step significantly changed R^2, $\Delta F(1, 106) = 5.92$, $p = .02$, $R^2 = .22$, ($\Delta R^2 = .04$), and explained an additional 4.3% of variance in Childfree Warmth. Participants high in RWA, $t(106) = 2.43$, $p = .02$, $\beta = .24$, also perceived childfree women as cold. Adding GSSJS to the regression model in the third step explained an additional 2.4% of the variance in Childfree Warmth, but did not significantly change R^2, $\Delta F(1, 105) = 3.29$, $p = .07$, $R^2 = .25$, ($\Delta R^2 = .02$). Together, these four predictors accounted for 24.7% of the variance in Childfree Warmth and the final model was significant, $F(4,105) = 8.60$, $p < .001$. Being a man, $t(105) = 2.52$, $p = .01$, $\beta = .22$, was the only predictor of childfree warmth in the final model.

Table 9.

Hierarchical Multiple Linear Regression Models for Hypothesis 4

	Dependent Variable: Childfree Disadvantages[a]							
Step and Variable(s)	*df*	R^2	ΔR^2	ΔF	*B*	*SE B*	β	*t*
1. Demographic Covariates	(2, 107)	.28	.28	21.25**				
Male					2.52	.75	.28	3.35**
Republican					4.09	.83	.41	4.96**
2. RWAS	(1, 106)	.42	.14	25.60**	1.36	.27	.42	5.06**
3. GSSJS	(1, 105)	.45	.03	4.70*	.48	.22	.20	2.17*

	Dependent Variable: Childfree Evaluations[b]							
Step and Variable(s)	*df*	R^2	ΔR^2	ΔF	*B*	*SE B*	β	*t*
1. Demographic Covariates	(2, 106)	.08	.08	4.57*				
Male					-11.96	4.92	-.23	-2.43*
Republican					-7.44	5.41	-.13	-1.37
2. RWAS	(1, 105)	.24	.16	21.94**	-8.36	1.79	-.45	-4.68**
3. GSSJS	(1, 104)	.25	.01	1.02	-1.52	1.51	-.11	-1.01

	Dependent Variable: Childfree Warmth[c]							
Step and Variable(s)	*df*	R^2	ΔR^2	ΔF	*B*	*SE B*	β	*t*
1. Demographic Covariates	(2, 107)	.18	.18	11.73**				
Male					8.08	2.64	.27	3.06**
Republican					9.26	2.90	.28	3.19**
2. RWAS	(1, 106)	.22	.04	5.92*	2.49	1.02	.24	2.43*
3. GSSJS	(1, 105)	.25	.02	3.29	1.55	.85	.19	1.81

Note. RWAS = Right-Wing Authoritarian Scale; GSSJS = Gender-Specific System Justification Scale. Betas (β) are reported at the steps in which variables were entered.
[a] Final model for Childfree Disadvantages: $R^2 = .45$, $F(4, 105) = 21.32$, $p < .001$.
[b] Final model for Childfree Evaluations: $R^2 = .25$, $F(4, 104) = 8.48$, $p < .001$.
[c] Final model for Childfree Warmth: $R^2 = .25$, $F(4, 105) = 8.60$, $p < .001$.
*$p < .05$, **$p < .01$

Hypothesis 5

Hypothesis 5 stated that endorsement of femininity ideology and expressed prejudice toward childfree women will share a positive relation, such that greater endorsement of femininity ideology will be associated with greater expressed prejudice toward childfree women.

Specifically, Hypothesis 5 stated that greater endorsement of beliefs regarding the stereotypic images and activities (Hypothesis 5a), dependency/deference (Hypothesis 5b), purity (Hypothesis 5c), caretaking behaviors (Hypothesis 5d), and emotionality (Hypothesis 5e) of women will be associated with greater expressed prejudice toward childfree women.

Preliminary analyses. The five FIS subscales of stereotypic images and activities, dependency/deference, purity, caretaking behaviors, and emotionality were intended to serve as the independent variables in analyses assessing Hypothesis 5. Subscale scores were calculated by the averaging the scores for all subscale items, and descriptive statistics are presented in Table 4. Data collected from participants in Condition 4 (n = 108), who completed only the RWAS, IMS-S, EMS-S, and FIS as predictors, was used to assess Hypothesis 5. Means were 1.81 (SD = .71) for stereotypic images and activities, 1.50 (SD = .62) for dependency/deference, 2.18 (SD = 1.07) for purity, 2.71 (SD = .86) for caretaking behaviors, 2.28 (SD = .87) for emotionality, and 2.04 (SD = .68) for FIS Total within this condition. The current descriptive statistics of the FIS subscales can be compared to those reported by Levant et al. (2007), which were 2.32 (SD = .67) for stereotypic images and activities, 1.82 (SD = .57) for dependency/deference, 2.85 (SD = .84) for purity, 3.05 (SD = .63) for caretaking behaviors, 2.74 (SD = .70) for emotionality, and 2.55 (SD = .53) for FIS Total for men; and 1.45 (SD = .47) for stereotypic images and activities, 1.33 (SD = .40) for dependency/deference, 2.56 (SD = .92) for purity, 2.62 (SD = .91) for caretaking behaviors, 2.30 (SD = .77) for emotionality, and 2.05 (SD = .52) for FIS Total for women. Additional comparisons can be made with Swami and Abbasnejad's (2010) reported means of 3.18 (SD = 1.66) for stereotypic images and activities, 3.40 (SD = 1.43) for dependency/deference, 4.22 (SD = 2.13) for purity, 4.29 (SD = 2.55) for caretaking behaviors, 4.38 (SD = 2.30) for emotionality, and 3.42 (SD = 1.95) for FIS Total for women only. Within

Condition 4, means were 9.25 (*SD* = 4.01) for Childfree Disadvantages, 69.76 (*SD* = 24.50) for Childfree Evaluations, and 34.05 (*SD* = 12.61) for Childfree Warmth.

Before proceeding with primary analyses, FIS subscale scores within this condition were tested for the assumptions of hierarchical multiple regression, which included independence of observations; outliers; linearity between the independent and dependent variables; homoscedasticity; multicollinearity between variables; and normality of residuals and variables. All Tolerance statistics were greater than .10 (Field, 2009), but scores for several FIS subscales were correlated greater than .70 (see Table 5), indicating multicollinearity between these variables. Thus, to avoid violations of the multicollinearity assumption, the Total FIS score was used in place of these five FIS subscales in all analyses for Hypothesis 5. Visual inspection of a scatterplot of studentized residuals versus unstandardized predicted values and partial regression plots indicated there was linearity between FIS Total and the three dependent variables, and that these variables met the assumption of homoscedasticity. There were no outliers for FIS Total, as no cases had standardized residuals greater than three standard deviations of the mean (i.e., ±3.29, Tabachnick & Fidell, 1996). Visual inspection of a histogram with a superimposed normal curve indicated that the residuals were approximately normally distributed. FIS Total scores were also normally distributed, with skewness and kurtosis values in an acceptable range (-1 to 1; Tabachnick & Fidell, 2007).

Primary analyses. The results of all regression models for Hypotheses 5 are presented in Table 10. Three three-step hierarchical regression analyses were conducted to assess the relation between Total FIS and each of the dependent variables (Childfree Disadvantages, Childfree Evaluations, Childfree Warmth). In all three regressions, the first step included the two demographic covariates identified in preliminary analyses (i.e., being male and Republican).

The second step included RWAS scores to account for variance in attitudes due to the tendency toward generalized prejudice. The third step included FIS Total scores.

The first three-step hierarchical regression was conducted to assess the association of Total FIS with Childfree Disadvantages. In the first step of the hierarchical multiple regression, the two demographic covariates significantly predicted Childfree Disadvantages, $\Delta F(2, 105) = 6.41$, $p = .002$, $R^2 = .11$, ($\Delta R^2 = .11$) and accounted for 10.9% of the variance in Childfree Disadvantages. Participants who were Republican, $t(105) = 3.33$, $p = .001$, $\beta = .31$, endorsed greater perceived disadvantages of being childfree. Introducing RWA in the second step also led to a significant change in R^2, $\Delta F(1, 104) = 15.70$, $p < .001$, $R^2 = .23$, ($\Delta R^2 = .12$), and explained an additional 11.7% of variance in Childfree Disadvantages. RWAS was associated with Childfree Disadvantages, $t(104) = 3.96$, $p < .001$, $\beta = .38$, such that greater endorsement of RWA was related to more perceived disadvantages of being childfree. Adding Total FIS to the regression model in the third step explained an additional 10.8% of the variance in Childfree Disadvantages and the change in R^2 was significant, $\Delta F(1, 103) = 16.71$, $p < .001$, $R^2 = .33$, ($\Delta R^2 = .11$). In the third step FIS Total was a significant predictor of Childfree Disadvantages, $t(103) = 4.09$, $p < .001$, $\beta = .43$; as participants reported greater femininity ideology, they also endorsed greater perceived disadvantages of being childfree. The final model was also significant, $F(4, 103) = 12.90$, $p < .001$, and only FIS Total remained a significant predictor of Childfree Disadvantages. The four predictors accounted for 33.4% of the variance in Childfree Disadvantages.

The second three-step hierarchical regression was conducted to assess the association of Total FIS with Childfree Evaluations. In the first step of the hierarchical multiple regression, the two demographic covariates significantly predicted Childfree Evaluations, $\Delta F(2, 104) = 5.22$, $p = .007$, $R^2 = .09$, ($\Delta R^2 = .09$) and accounted for 9.1% of the variance in Childfree Evaluations.

Participants who were men, $t(104) = -2.79$, $p = .006$, $\beta = -.26$, reported more unfavorable evaluations of childfree women. Introducing RWA in the second step significantly changed R^2, $\Delta F(1, 103) = 5.33$, $p = .02$, $R^2 = .14$, ($\Delta R^2 = .05$), and explained an additional 4.5% of variance in Childfree Evaluations. Participants high in RWA, $t(103) = -2.31$, $p = .02$, $\beta = -.24$, were more likely to evaluate childfree women negatively. Adding Total FIS to the regression model in the third step explained 8.8% of the variance in Childfree Evaluations and there was a significant change in R^2, $\Delta F(1, 102) = 11.53$, $p = .001$, $R^2 = .22$, ($\Delta R^2 = .09$). In the third step, FIS Total was a significant predictor of Childfree Evaluations, $t(102) = -3.40$, $p = .001$, $\beta = -.39$; as participants reported greater femininity ideology, they reported more negative evaluations of childfree women. The final model was also significant, $F(4, 102) = 7.34$, $p < .001$, and the four predictors accounted for 22.4% of the variance in Childfree Evaluations. In the final model, FIS Total, $t(102) = -3.40$, $p = .001$, $\beta = -.39$, and being a man, $t(102) = -1.96$, $p = .05$, $\beta = -.18$, remained significant predictors of Childfree Evaluations.

The third three-step hierarchical regression was conducted to assess the association of Total FIS with Childfree Warmth. In the first step of the hierarchical multiple regression, the two demographic covariates significantly predicted Childfree Warmth, $\Delta F(2, 105) = 3.80$, $p = .03$, $R^2 = .07$, ($\Delta R^2 = .07$) and accounted for 6.7% of the variance in Childfree Warmth. Participants who were men, $t(105) = 2.17$, $p = .03$, $\beta = .20$, were more likely to perceive childfree women as cold. Introducing RWA in the second step did not significantly change R^2, $\Delta F(1, 104) = 1.14$, $p = .29$, $R^2 = .08$, ($\Delta R^2 = .01$), and explained an additional 1% of variance in Childfree Warmth. Adding Total FIS to the regression model in the third step explained 10.5% of the variance in Childfree Warmth and significantly changed R^2, $\Delta F(1, 103) = 13.28$, $p < .001$, $R^2 = .18$, ($\Delta R^2 = .11$). In the third step, FIS Total was a significant predictor of Childfree Warmth, $t(103) = 3.64$, $p < .001$, $\beta = .43$; as participants reported greater femininity ideology, they

perceived more coldness in childfree women. The final model was also significant, $F(4, 103) = 5.76$, $p < .001$, and the four predictors accounted for 18.3% of the variance in Childfree Warmth. In the final model, FIS Total remained the only significant predictor.

Table 10.

Hierarchical Multiple Linear Regression Models for Hypothesis 5

	Dependent Variable: Childfree Disadvantages[a]							
Step and Variable(s)	*df*	R^2	ΔR^2	ΔF	*B*	*SE B*	β	*t*
1. Demographic Covariates	(2, 105)	.11	.11	6.41**				
Male					1.12	.75	.14	1.50
Republican					2.69	.81	.31	3.33**
2. RWAs	(1, 104)	.23	.12	15.70**	1.18	.30	.38	3.96**
3. FIS Total	(1, 103)	.33	.11	16.71**	2.53	.62	.43	4.09**

	Dependent Variable: Childfree Evaluations[b]							
Step and Variable(s)	*df*	R^2	ΔR^2	ΔF	*B*	*SE B*	β	*t*
1. Demographic Covariates	(2, 104)	.09	.09	5.22**				
Male					-12.93	4.63	-.26	-2.79**
Republican					-8.86	5.00	-.17	-1.77
2. RWAs	(1, 103)	.14	.05	5.33*	-4.44	1.93	-.24	-2.31*
3. FIS Total	(1, 102)	.22	.09	11.53**	-13.92	4.10	-.39	-3.40**

	Dependent Variable: Childfree Warmth[c]							
Step and Variable(s)	*df*	R^2	ΔR^2	ΔF	*B*	*SE B*	β	*t*
1. Demographic Covariates	(2, 105)	.07	.07	3.80*				
Male					5.20	2.40	.20	2.17*
Republican					4.72	2.59	.17	1.82
2. RWAs	(1, 104)	.08	.01	1.14	1.09	1.02	.11	1.07
3. FIS Total	(1, 103)	.18	.11	13.28**	7.85	2.15	.43	3.64**

Note. RWAS = Right-Wing Authoritarian Scale; FIS = Femininity Ideology Scale. Betas (β) are reported at the steps in which variables were entered.
[a] Final model for Childfree Disadvantages: $R^2 = .33$, $F(4, 103) = 12.90$, $p < .001$.
[b] Final model for Childfree Evaluations: $R^2 = .22$, $F(4, 102) = 7.34$, $p < .001$.
[c] Final model for Childfree Warmth: $R^2 = .18$, $F(4, 103) = 5.76$, $p < .001$.
*$p < .05$, **$p < .01$

Hypothesis 6

The sixth and final hypothesis predicted that the justifications of ambivalent sexism, gender-specific system justification, and femininity ideology will mediate the relation between the motivation to respond without sexism and expressed prejudice toward childfree women.

Preliminary analyses. Data collected from participants in Condition 5 (n = 458), who completed the RWAS, IMS-S, EMS-S, and all four justification measures (HS, BS, GSSJS, and FIS) as predictors, were used to assess Hypothesis 6. Within this condition, means were 3.22 (SD = 1.29) for RWAS, 7.29 (SD = 1.75) for IMS-S, 3.96 (SD = 1.99) for EMS-S, 1.67 (SD = 1.20) for HS, 1.99 (SD = 1.09) for BS, 4.92 (SD = 1.70) for GSSJS, 2.00 (SD = .69) for FIS Total, 9.22 (SD = 4.07) for Childfree Disadvantages, 74.10 (SD = 24.13) for Childfree Evaluations, and 34.71 (SD = 14.17) for Childfree Warmth.

Before proceeding with primary analyses, all variables used to test Hypothesis 6 were tested for the assumptions of ordinary least squares regression, which were independence of observations; outliers; linearity between the independent, mediating, and dependent variables; homoscedasticity; multicollinearity between variables; and normality of residuals and variables. Visual inspection of a scatterplot of studentized residuals versus unstandardized predicted values and partial regression plots indicated there was linearity between all predictor and mediating variables and the three dependent variables, and that these variables met the assumption of homoscedasticity. These data also met the assumption of multicollinearity, as no variables were correlated greater than .70 and all Tolerance statistics were greater than .10 (Field, 2009). Three univariate outliers for IMS-S were winsorized, resulting in their correction. There were no univariate outliers for any other variable, as no cases had standardized residuals greater than three standard deviations of the mean (i.e., ±3.29, Tabachnick & Fidell, 1996). Visual inspection of a histogram with a superimposed normal curve indicated that the residuals were

approximately normally distributed. Scores for all scales were also normally distributed, with skewness and kurtosis values in an acceptable range (-1 to 1; Tabachnick & Fidell, 2007).

Primary Analyses. Hayes' (2013) PROCESS model was used to conduct mediational analyses in the current study. These mediation tests used ordinary least squares path analysis, 5,000 bootstraps, and 95% biased-corrected confidence intervals to assess the specific indirect effects of justifications on the relation between the motivation to respond without sexism and expressed prejudice. According to this mediation model, when a confidence interval does not include zero, a significant result is inferred. PROCESS permits up to 10 parallel mediators in analyses and will also control for covariates of the dependent variables. When conducting analyses of the specific indirect effects of each mediator, this model also controls for the effects of all other mediators in the model. PROCESS analyses provide an estimate of the total indirect effect of the independent variable (*X*) on the dependent variable (*Y*) through all mediators (*M*), plus the specific indirect effects of individual mediators on the relation between *X* and *Y*.

This multiple parallel mediation model simultaneously assessed for specific indirect effects of all justifications as mediators of the relation between the motivation to respond without sexism and prejudice toward childfree women while controlling for associations between justifications. Six total multiple parallel mediation analyses were conducted to assess these relations across the three dependent variables (Childfree Disadvantages, Childfree Evaluations, and Childfree Warmth). For three of these analyses, IMS-S served as the independent variable; for the remaining three analyses, EMS-S served as the independent variable. In all six mediation analyses, RWAS and the contrasting motivation to respond without sexism were included as covariates, and HS, BS, GSSJ, and FIS Total were included as parallel mediators. Because PROCESS uses listwise deletion, the four significant demographic covariates identified in preliminary analyses for Hypotheses 1-5 (i.e., being male, Republican, not intending to have

children, and being uncertain about having children) were not included in mediation analyses. In other words, the PROCESS model excludes from analyses any participant who is missing a response to *any* variable included in the model; thus, inclusion of the four demographic covariates in the PROCESS model would have resulted in an unacceptable loss of participant data (244-245 participants depending on the outcome measure) and ultimately statistical power. For each analysis, the size of specific indirect effects for any significant mediators were compared to determine which mediators had the largest indirect effect on the relation between the motivation to respond without sexism and expressed prejudice toward childfree women.

The first three PROCESS analyses assessed the mediating effect of HS, BS, GSSJ, and FIS Total on the relation between IMS-S and the three measures of expressed prejudice toward childfree women (Childfree Disadvantages, Childfree Evaluations, Childfree Warmth). RWAS and EMS-S were included as covariates. The results of these analyses are presented in Figure 2. There was an indirect effect (IE) of IMS-S on Childfree Disadvantages (n = 456; direct effect [DE]= -.05, SE = .10, CI: -.24, .13) via FIS Total (IE = -.25, SE = .06, CI: -.37, -.15), but not HS (IE = -.09, SE = .06, CI: -.20, .02), BS (IE = -.04, SE = .03, CI: -.11, .01), or GSSJ (IE = .00, SE = .01, CI: -.02, .03). There was an indirect effect of IMS-S on Childfree Evaluations (n = 453; DE = 1.13, SE = .67, CI: -.19, 2.46) via FIS Total (IE = .84, SE = .28, CI: .37, 1.48), but not HS (IE = .55, SE = .37, CI: -.15, 1.33), BS (IE = .12, SE = .10, CI: -.02, .37), or GSSJ (IE = -.08, SE = .08, CI: -.32, .02). Additionally, there was an indirect effect of IMS-S on Childfree Warmth (n = 457; DE = -1.65, SE = .41, CI: -2.46, -.84) via FIS Total (IE = -.64, SE = .20, CI: -1.10, -.31), but not HS (IE = -.17, SE = .23, CI: -.62, .28), BS (IE = -.03, SE = .04, CI: -.16, .02), or GSSJ (IE = .06, SE = .06, CI: -.01, .22). Supporting Hypothesis 6, participants who were internally motivated to respond without sexism used femininity ideology to justify their perception that

being childfree is disadvantageous, their negative evaluations of childfree women, and their perception that childfree women are cold.

The second three PROCESS analyses assessed the mediating effect of HS, BS, GSSJ, and FIS Total on the relation between EMS-S and childfree prejudice with RWAS and IMS-S as covariates (Figure 3). There was an indirect effect of EMS-S on Childfree Disadvantages (*n* = 456; direct effect (DE) = .00, *SE* = .08, CI: -.15, .16) via FIS Total (IE = .19, *SE* = .04, CI: .12, .29) and BS (IE = .12, *SE* = .04, CI: .06, .20), but not HS (IE = .05, *SE* = .03, CI: -.01, .12) or GSSJ (IE = -.00, *SE* = .01, CI: -.03, .02). Supporting Hypothesis 6, participants high in EMS-S used femininity ideology and benevolent sexism to justify their perception that being childfree is disadvantageous. Comparison of the specific indirect effects of significant mediators indicated that FIS Total and BS had comparably sized indirect effects (effect size = -.07, *SE* = .06, CI: -.19, .04) on the relation between EMS-S and Childfree Disadvantages.

There was also an indirect effect of EMS-S on Childfree Evaluations (*n* = 453; DE = .08, *SE* = .54, CI: -.99, 1.14) via FIS Total (IE = -.66, *SE* = .21, CI: -1.13, -.30) and BS (IE = -.37, *SE* = .16, CI: -.75, -.11), but not HS (IE = -.31, *SE* = .23, CI: -.82, 08) and GSSJ (IE = .11, *SE* = .10, CI: -.03, .37). Supporting Hypothesis 6, participants who were externally motivated to respond without sexism used femininity ideology and benevolent sexism to justify their negative perceptions of childfree women. Comparison of the specific indirect effects of significant mediators indicated that FIS Total and BS had comparably sized indirect effects (effect size = .30, *SE* = .28, CI: -.25, .81) on the relation between EMS-S and Childfree Evaluations.

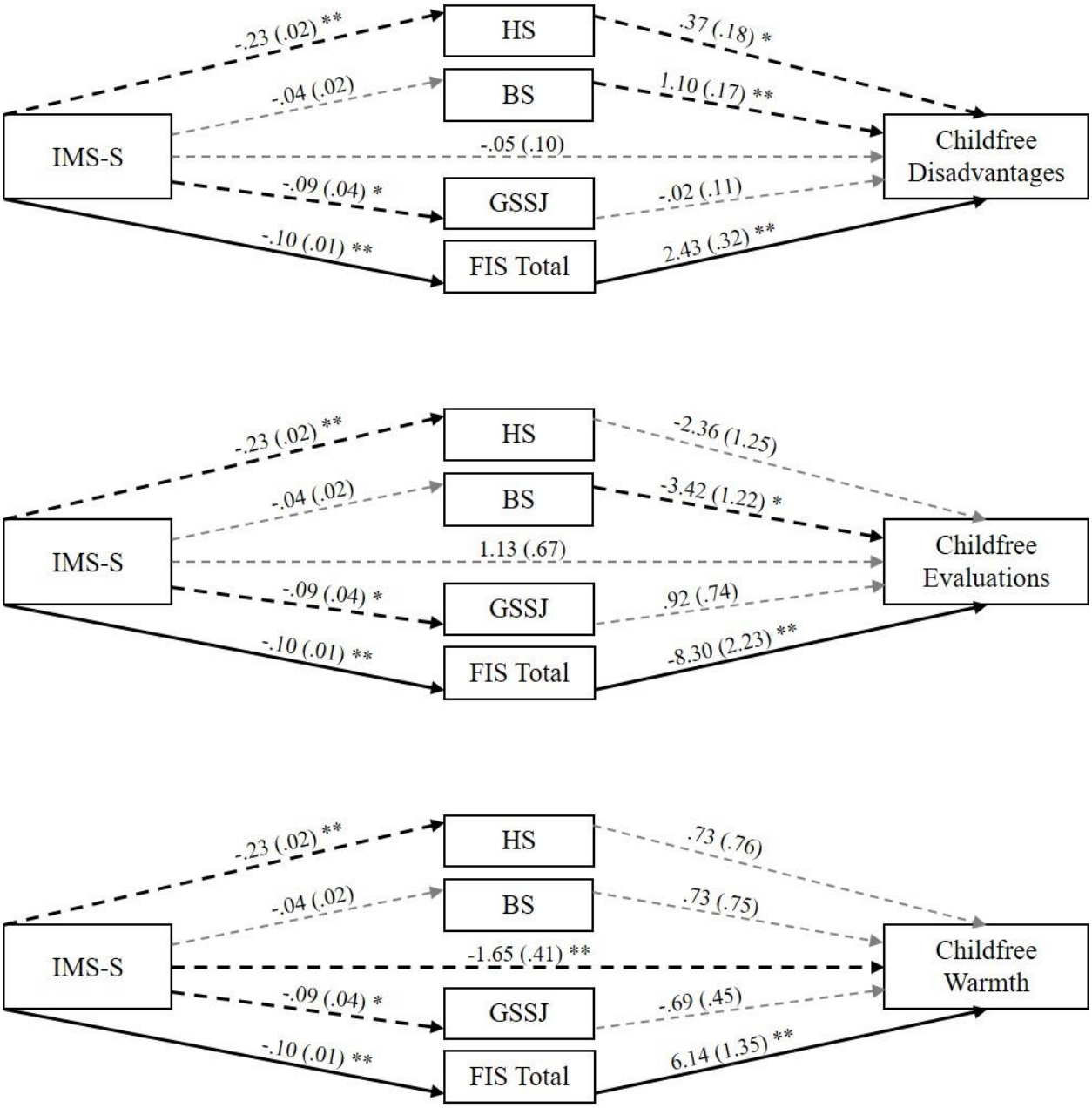

Figure 2. Justifications (HS, BS, GSSJ, FIS Total) as parallel mediators of the relation between the internal motivation to respond without sexism (IMS-S) and expressed prejudice toward childfree women (Childfree Disadvantages, Childfree Evaluations, Childfree Warmth). The coefficient is followed by standard error in parentheses. Unbolded dashed lines indicate nonsignificant relations between two variables; bolded dashed lines indicate significant relations between two variables; bolded solid lines indicate that a third variable is significantly mediating the relation between two variables. IMS-S = Internal Motivation to Respond Without Sexism Scale; HS = Hostile Sexism; BS = Benevolent Sexism; GSSJ = Gender-Specific System Justification; FIS Total = Femininity Ideology Scale; RWA = Right-Wing Authoritarianism. EMS-S and RWA were included as covariates. *$p < .05$. **$p < .01$.

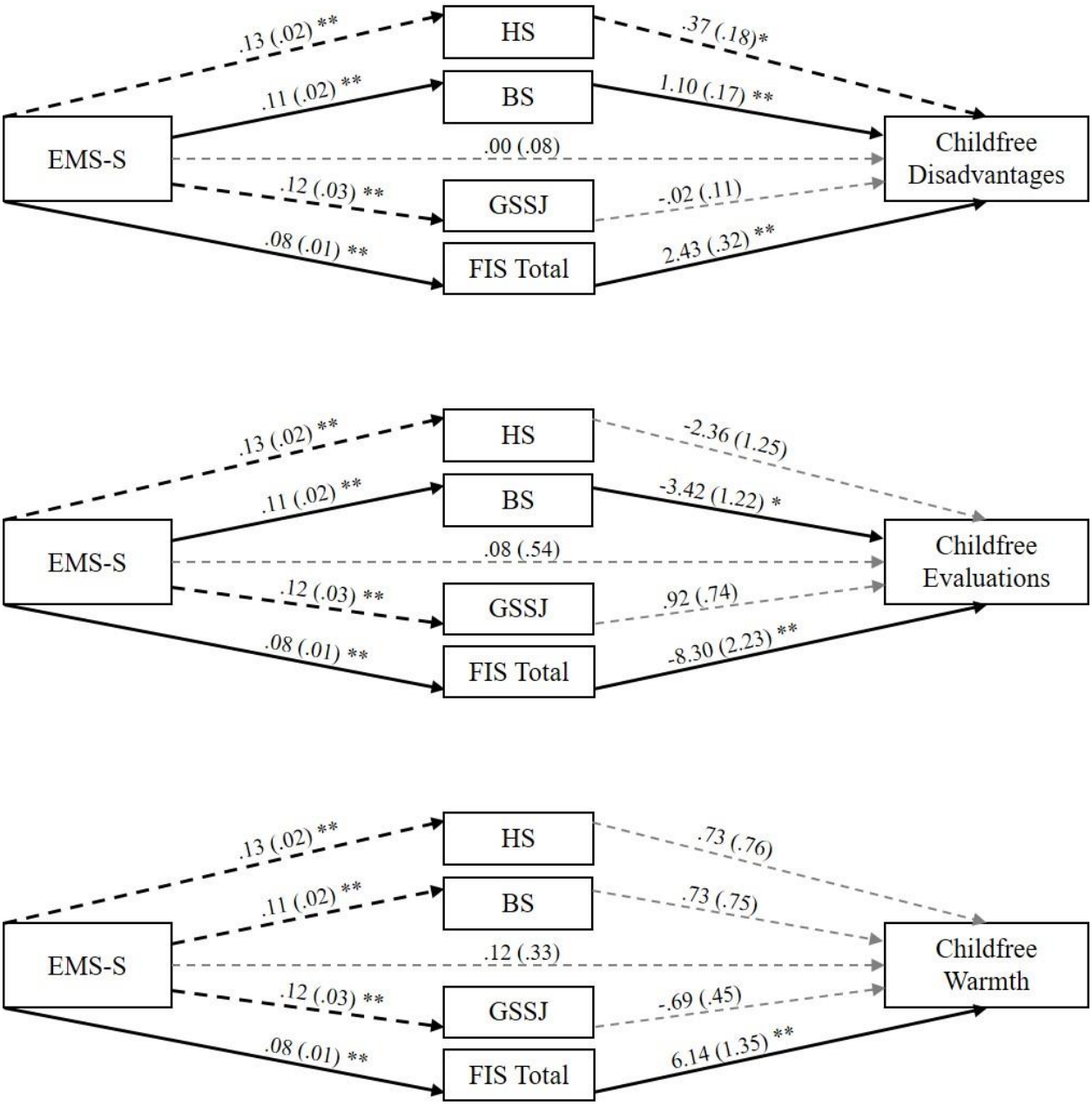

Figure 3. Justifications (HS, BS, GSSJ, FIS Total) as parallel mediators of the relation between the external motivation to respond without sexism (EMS-S) and expressed prejudice toward childfree women (Childfree Disadvantages, Childfree Evaluations, Childfree Warmth). The coefficient is followed by standard error in parentheses. Unbolded dashed lines indicate nonsignificant relations between two variables; bolded dashed lines indicate significant relations between two variables; bolded solid lines indicate that a third variable is significantly mediating the relation between two variables. EMS-S = External Motivation to Respond Without Sexism Scale; HS = Hostile Sexism; BS = Benevolent Sexism; GSSJ = Gender-Specific System Justification; FIS Total = Femininity Ideology Scale; RWA = Right-Wing Authoritarianism. IMS-S and RWA were included as covariates. The *$p < .05$. **$p < .01$.

Finally, there was an indirect effect of EMS-S on Childfree Warmth (n = 457; DE = .12, SE = .33, CI: -.53, .77) via FIS Total (IE = .49, SE = .14, CI: .25, .82), but not HS (IE = .10, SE = .14, CI: -.16, .39), BS (IE = .08, SE = .09, CI: -.07, .30) or GSSJ (IE = -.08, SE = .07, CI: -.26, .02). In support of Hypothesis 6, participants who were externally motivated respond without sexism used femininity ideology to justify their perception of childfree women as cold.

Exploratory Analyses

Several supplementary analyses further explored these data. Because the entire sample was used (N = 891) for these additional analyses, a Bonferroni correction accounted for the increased Type I error rate associated with conducting multiple tests within the same set of data. The standard .05 alpha level was adjusted for two multivariate analyses of variance (MANOVA) and three analyses of variance (ANOVA), resulting in an adjusted alpha level of .01 for determining statistical significance.

Interactions between demographic variables. The first set of exploratory analyses assessed the intersecting influence of participants' gender, race/ethnicity, and SES on prejudice toward childfree women. These analyses facilitate further discussion about how prejudice toward childfree women may occur along gendered, racialized, and classed lines. Before proceeding with primary analyses, data were prepared for use in three-way ANOVAs, which requires categorical independent variables. Using Diemer et al.'s (2013) recommendations, participants' income-to-needs ratios (INR) were classified as extreme poverty (INR ≤ .50), poor (INR = .51-1.00), low-income (INR = 1.01-2.00), adequate income (INR = 2.01-4.00), and affluent (INR ≥ 4.01). Due to relatively small and unequal cell sizes for extreme poverty (n = 13), poor (n = 57), and low-income (n = 91), these three INR categories were combined into one category of low-income (n = 161), and compared against adequate income (n = 299), and affluent income (n = 383). Additionally, due to small and unequal cell sizes for participants who

identified as American Indian/Alaska Native (*n* = 3), Asian (*n* = 36), Black (*n* = 76), Hispanic/Latinx (*n* = 26), Native Hawaiian/Pacific Islander (*n* = 1), Multiracial (*n* = 34), and other race/ethnicity (*n* = 6) compared to White participants (*n* = 708), participants were classified as either White (*n* = 708) or non-White (*n* = 182) for these analyses. Again, due to small and unequal cell sizes for participants who identified as transgender (*n* = 1), genderqueer (*n* = 3), and other gender (*n* = 4), participant gender was limited to women (*n* = 527) and men (*n* = 357). Nonetheless, cell sizes remained relatively unequal for the categories of gender, race/ethnicity, and SES; thus, results should be interpreted cautiously.

Before proceeding with these analyses, data were checked for the assumptions of ANOVA. Nearly all cells of the design were normally distributed, except two cells for Childfree Disadvantages and two cells for Childfree Evaluations (White women who had adequate income or were affluent for both dependent variables), which demonstrated acceptable kurtosis but negative skew for Childfree Evaluations and positive skew for Childfree Disadvantages. Nonetheless, ANOVA is relatively robust to violations of normality (Harwell, Rubinstein, Hayes, & Olds, 1992), particularly with many degrees of freedom for error (Tabachnick & Fidell, 2007). Therefore, ANOVA was used despite some violations of normality. According to inspection of boxplots, there were five outliers for Childfree Disadvantages (two outliers in the cell for White men with adequate income and three outliers in the cell for White women who are affluent), three outliers for Childfree Evaluations (one outlier in the cell for non-White men with adequate income and two outliers in the cell for White women who are affluent), and seven outliers for Childfree Warmth (two outliers in the cell for White men who are low-income, three outliers in the cell for non-White men with adequate income, one outlier for White men who are affluent, and one outlier for non-White women who are affluent). These 15 outliers were winsorized, resulting in their correction. The assumption of homogeneity of variances was

violated according to a significant Levene's Test of Equality of Variances for Childfree Disadvantages (p = .03), Childfree Evaluations (p = .004), and Childfree Warmth (p = .01). A square-root transformed Childfree Disadvantages met the assumption of homogeneity of variances (p = .20) and was thus retained in final analyses. Despite a series of transformations (i.e., square root, reflected square root, logarithmic, reflected logarithmic, inverse, and reflected inverse), Childfree Evaluations continued to violate the assumption of homogeneity of variances (p-values ranged from .000-.001 for transformations of Childfree Evaluations). The untransformed Childfree Evaluations variable demonstrated the least violation (p = .004) and was thus retained in final analyses, as ANOVA is somewhat robust to violations of homogeneity of variances (Harwell et al., 1992). After square root, logarithmic, and inverse transformations for Childfree Warmth failed to meet the assumption of homogeneity of variances, a reflected square root transformation for Childfree Warmth met the assumption of homogeneity of variances (p = .14) and was thus retained in final analyses. However, because the cells of these ANOVAS have unequal sample sizes, and some assumptions of normality and homogeneity of variances were violated, results from the following 3 three-way ANOVAs should be interpreted with extreme caution.

The first three-way ANOVA assessed the main effects of and interactions between gender, race/ethnicity, and SES on Childfree Disadvantages. Gender (men, women), race/ethnicity (non-White, White), and SES (low-income, adequate income, affluent) were entered as fixed factors and Childfree Disadvantages served as the dependent variable. ANOVA (N = 828) results indicated that there was no significant three-way interaction between gender, race/ethnicity, and SES, $F(2, 816) = .74$, $p = .48$. There were also no significant two-way interactions between race/ethnicity and SES, $F(2, 816) = 2.02$, $p = .13$; race/ethnicity and gender, $F(1, 816) = .53$, $p = .47$; and gender and SES, $F(2, 816) = .17$, $p = .85$. Additionally, there were

no significant main effects of race/ethnicity, $F(1, 816) = 5.69$, $p = .017$; and SES, $F(2, 816) = 2.28$, $p = .10$; but there was a significant main effect for gender, $F(1, 816) = 34.07$, $p < .001$. As expected based on results from primary analyses, women ($N = 500$, $M = 2.84$, $SD = .65$) reported fewer perceived disadvantages of being childfree than did men ($N = 328$, $M = 3.17$, $SD = .65$).

The second three-way ANOVA assessed the main effects of and interactions between gender, race/ethnicity, and SES on Childfree Evaluations. Gender (men, women), race/ethnicity (non-White, White), and SES (low-income, adequate income, affluent) were entered as fixed factors and Childfree Evaluations served as the dependent variable. ANOVA ($N = 823$) results indicated that there was no significant three-way interaction between gender, race/ethnicity, and SES, $F(2, 811) = .51$, $p = .60$. There were also no significant two-way interactions between race/ethnicity and SES, $F(2, 811) = 1.71$, $p = .18$; race/ethnicity and gender, $F(1, 811) = .18$, $p = .67$; and gender and SES, $F(2, 811) = .61$, $p = .54$. Additionally, there were no significant main effects of race/ethnicity, $F(1, 811) = 2.34$, $p = .13$; and SES, $F(2, 811) = .27$, $p = .77$; but there was a significant main effect for gender, $F(1, 811) = 23.02$, $p < .001$. Consistent with results from primary analyses, women ($N = 498$, $M = 77.46$, $SD = 24.62$) reported more favorable evaluations of childfree women than did men ($N = 325$, $M = 66.32$, $SD = 23.46$).

The third three-way ANOVA assessed the main effects of and interactions between gender, race/ethnicity, and SES on Childfree Warmth. Gender (men, women), race/ethnicity (non-White, White), and SES (low-income, adequate income, affluent) were entered as fixed factors and Childfree Warmth served as the dependent variable. ANOVA ($N = 832$) results indicated that there was no significant three-way interaction between gender, race/ethnicity, and SES, $F(2, 820) = 1.21$, $p = .30$. There were also no significant two-way interactions between race/ethnicity and SES, $F(2, 820) = 1.39$, $p = .25$; race/ethnicity and gender, $F(1, 820) = .47$, $p = .49$; and gender and SES, $F(2, 820) = .15$, $p = .86$. Additionally, there were no significant main

effects of race/ethnicity, $F(1, 820) = .26$, $p = .64$; and SES, $F(2, 820) = .55$, $p = .58$; but there was a significant main effect for gender, $F(1, 820) = 33.30$, $p < .001$. As expected based on results from primary analyses, women ($N = 503$, $M = 6.67$, $SD = 1.12$) reported more perceived warmth of childfree women than did men ($N = 329$, $M = 6.11$, $SD = 1.09$; note that the Childfree Warmth descriptives reported here are based on the reflected transformed Childfree Warmth variable; thus, the direction of the scale is reversed, such that higher scores indicate more perceived warmth for this analysis).

Differences in justifications by age. Another set of analyses explored shifts in the use and/or strength of justifications with age using a one-way MANOVA with age category (18-25, 26-35, 36-45, 46-55, 56-65, 66 and older) as the grouping factor and HS, BS, GSSJ, and FIS scores as the dependent variables. All four dependent variables were normally distributed with skewness and kurtosis values in an acceptable range (-1 to 1; Tabachnick & Fidell, 2007). There were no univariate outliers for any variables, as no cases had standardized residuals greater than three standard deviations of the mean (i.e., ±3.29, Tabachnick & Fidell, 1996). There was no multicollinearity, as no dependent variable correlated with any other above .65 (correlations above .90 are problematic for MANOVA according to Tabachnick & Fidell, 2007), and there were linear relationships between the dependent variables in each age group, according to scatterplot inspection. The assumptions of homogeneity of variance-covariance matrices was violated according to the Box's test of equality of covariance matrices ($p < .05$). Additionally, according to a significant Levene's Test of Equality of Variances, HS ($p = .03$), GSSJ ($p = .01$), and FIS ($p = .01$) violated assumptions of homogeneity of variances, but BS did not ($p > .05$). HS, GSSJ, and FIS were subsequently transformed using square root transformations, which resolved the violation of homogeneity of variances for HS ($p = .03$) and FIS ($p = .03$), but not GSSJ ($p = .03$). Further GSSJ transformations (i.e., reflected square root, logarithmic, reflected

logarithmic, inverse, and reflected inverse) did not resolve this violation for GSSJ (*p*-values ranged from .001-.007 for transformations of GSSJ). Furthermore, no transformations of any variable resolved the violation of equality of covariance matrices; therefore, Pillai's Trace results (which is more robust to violations of this assumption) are reported. Although GSSJ continuously violated the assumption of homogeneity of variances, the untransformed GSSJ variable demonstrated the least violation ($p = .008$) and was thus retained in these exploratory analyses. However, due to GSSJ's violation of homogeneity of variances, results from these analyses should be interpreted cautiously. Final results of the overall one-way MANOVA ($N = 455$) revealed that there were no significant differences in the endorsement of any justification by age, $F(20, 1796) = .95$, $p = .53$, Pillai's Trace = .04; partial $\eta^2 = .01$.

Differences in prejudice by justification condition. A final set of supplementary analyses examined whether there were additive effects of completing multiple justification measures on prejudice toward childfree women versus completing one justification measure. This was assessed using a one-way MANOVA with condition as the grouping factor and Childfree Disadvantages, Childfree Evaluations, and Childfree Warmth as the dependent variables. All three dependent variables were normally distributed with skewness and kurtosis values in an acceptable range (-1 to 1; Tabachnick & Fidell, 2007). There were also no outliers for these variables, as no cases had standardized residuals greater than three standard deviations of the mean (i.e., ±3.29, Tabachnick & Fidell, 1996). There was no multicollinearity, as no dependent variable correlated with any other above -.59, and there was a linear relationship between the dependent variables in each condition, according to scatterplot inspection. There was also homogeneity of variance-covariance, according to the Box's test of equality of covariance matrices ($p = .34$), and homogeneity of variances according to nonsignificant Levene's Test of Equality of Variances ($p > .05$). The overall one-way MANOVA ($N = 878$)

revealed that there were no significant differences in the three measures of childfree prejudice based on condition, (i.e., the number of justification measures participants completed), $F(12, 2304.74) = 1.17$, $p = .30$, Wilks' $\Lambda = .98$; partial $\eta^2 = .01$.

Discussion

This final chapter summarizes and discusses the findings of this study, and situates them within the previous literature on childlessness, the JSM, and potential psychosocial justifications of prejudice toward childfree women. This chapter also discusses strengths and limitations of the current study, as well as the implications of findings and directions for future research.

Summary of Findings

Hypothesis 1. Hypothesis 1 stated that RWA will be positively related to expressed prejudice toward childfree women. In partial support of Hypothesis 1, greater RWA was associated with greater perceived disadvantages of being childfree and the tendency to perceive childfree women as cold. Contrary to the expectations of Hypothesis 1, RWA was unrelated to evaluations of childfree women. RWA was associated with greater perceived disadvantages for and coldness in childfree women, which is consistent with previous findings that RWA is affiliated with generalized prejudice (e.g., Asbrock et al., 2010; Cohrs et al., 2012; McFarland, 2010; Sibley & Duckitt, 2008; Sibley et al., 2006). Additionally, current results support previous findings that greater RWA is related to negative responses toward women (Peterson & Zurbriggen, 2010; Sibley et al., 2006); increased modern sexism (Akrami et al., 2011; Case et al., 2008), hostile sexism (Feather & McKee, 2012; Lee, 2013; Sibley et al., 2006; Sibley, Wilson, & Duckitt, 2007) and benevolent sexism (Christopher et al., 2013; Christopher & Mull, 2006; Feather & McKee, 2012; Lee, 2013; Roets et al., 2012; Sibley et al., 2006; Sibley, Wilson, & Duckitt, 2007; Sibley, Overall, & Duckitt, 2007); support for women's traditional gender roles

(Christopher & Wojda, 2008; Duckitt & Sibley, 2007; Duncan et al., 1997; Peterson & Zurbriggen, 2010); negative views of women's sexual harassment claims (Bhattacharya & Stockdale, 2016); sexually aggressive and/or forceful behavior toward women (Walker et al., 1993); endorsement of rape myth acceptance and adversarial sexual beliefs (Peterson & Zurbriggen, 2010); and non-supportive attitudes toward gender equality (Cokley et al., 2010; Duncan et al., 1997; Peterson & Zurbriggen, 2010).

Findings regarding RWA, the perceived disadvantages of being childfree, and the perceived coldness of childfree women also align with theory regarding the mechanisms underlying RWA, which is typically characterized as endorsement of conventional social norms, submission to authority, and aggression toward those who refuse to do so (Altemeyer, 1981; Altemeyer, 1998; Duckitt, 2001). In particular, RWA produces negative responses toward individuals/groups who threaten the established social order (i.e., "dangerous" groups) and/or who compete with the majority group and challenge conventional norms ("dissident groups;" Asbrock et al., 2010; Duckitt, 2001; Duckitt & Sibley, 2007; Feldman, 2003). Current findings imply that it may be childfree women's challenge, refusal, and violation of established social norms of femininity that activates RWA. These findings also align with feminist and queer theories that may explain prejudice toward childfree women. As discussed, childfree women may defy hegemonic gender ideologies that view caregiving and nurturing as innately feminine qualities/activities (Butler, 1999; de Beauvoir, 2010; DiQuinzio,1999; Ruddick, 1989), mandate heterosexual reproduction (Butler, 1999; Chodorow, 1999; Edelman, 2004), create disparate realities along a rigid gender binary (Chodorow, 1999; de Beauvoir, 2010; Hartsock, 1983), and make motherhood compulsory (DiQuinzio,1999; Ruddick, 1989).

Nonetheless, Hypothesis 1 was not fully supported, as RWA did not predict evaluations of childfree women. There are several possible reasons why RWA did not predict all prejudice

outcomes reliably. According to the expected mechanisms of the questionnaire priming procedure used in this study, simply providing responses to one measure can activate that construct, which may affect responses to all successive measures (Bonnot & Jost, 2014; Guimond & Roussel, 2001; Jost & Kay, 2005; Katz & Hass, 1988). Administering RWA to all participants first likely activated this construct and subsequently influenced their responses to all following measures, with an equal influence occurring for all participants. However, administering suppression measures *after* RWA could have lessened RWA's influence on some prejudice measures, particularly ones that may be weakly related to childfree prejudice, such as evaluations of childfree women.

Differences between the prejudice measures may also contribute to inconsistent findings for RWA. Because no valid and reliable measure of prejudice toward childfree women exists, a variety of outcomes were used to measure childfree prejudice in this study. Even so, these measures differed from each other. Using a number ranging from 0 to 100, the evaluation thermometer assessed pure evaluations of a target group in the absence of specific traits (Haddock et al., 1993). Although this measure has been used in a variety of studies (Blair et al., 2010; Cranney et al., 2001; Haddock et al., 1993; Karpinski, 2004), it is not designed to evoke a specific trait, emotion, belief, or context. The Interpersonal Warmth measure diverges by assessing traits that are often associated with childfree women (i.e., the extent to which they are perceived caring, well-adjusted, warm, traditional, kind, feminine, nurturing, sincere, likable, sensitive, and happy), providing some context for perceptions of childfree women. The measure of perceived childfree disadvantages (Blake, 1979) is even more contextual, evoking the anticipated consequences of being childfree by asking participants to consider whether being childfree is associated with loneliness in older women, empty lives and divorce for couples, and women feeling unfulfilled. Conceivably, this discrepancy may relate to the distinction between

“hot” cognitions, or cognitive processes that are emotion-dependent, and “cold” cognitions, or processes that are independent of emotion (Roiser & Sahakian, 2013). By asking about the personality traits and social circumstances of childfree individuals/women, the disadvantages and warmth measures may evoke “hot” responses that are more related to emotion-based, genuine prejudices. On the other hand, the evaluation thermometer may evoke “cold” responses that are less emotion-laden.

Also, recall that RWA is characterized by obedience to established authority figures, compliance with conventional social norms, and aggression and/or punitive behavior toward individuals who do not conform to dominant social values (Altemeyer, 1981). Additionally, literature from a variety of sources implies that childfree women violate gender hegemony (Butler, 1999; Chodorow, 1999; de Beauvoir, 2010; DiQuinzio, 1999; Downing, 2011; Edelman, 2004; Hartsock, 1983; Luibhéid, 2002; Ruddick, 1989). Conceivably, then, believing that a woman who has chosen to forgo motherhood is cold and will be lonely, empty, divorced from her spouse, and unfulfilled meets the right-wing authoritarian’s need to see justice served toward those who defy conventional norms.

Hypothesis 2. Hypothesis 2 stated that the motivation to respond without sexism will be associated with expressed prejudice toward childfree women. Specifically, Hypothesis 2a proposed that IMS-S will be associated with lower prejudice and Hypothesis 2b proposed that EMS-S will be associated with relatively greater prejudice. Hypothesis 2a was wholly supported, as greater levels of IMS-S were related to fewer perceived disadvantages of being childfree, more favorable evaluations of childfree women, and greater perceived warmth in childfree women. Additionally, there was partial support for Hypothesis 2b, as EMS-S was related to more negative evaluations of and perceived coldness in childfree women, but unrelated to perceived disadvantages of being childfree.

Generally (with the exception of perceived childfree disadvantages), these findings are consistent with previous reports that EMS-S is related to increased prejudice toward others (Plant & Devine, 1998) and negative responses toward women, including modern and hostile sexism (Klonis et al., 2005), BS (Gervais & Hoffman, 2013), ascribing more positive traits to men over women in the workplace (Latu et al., 2011), paternalistic attitudes toward women (Young & Nauta, 2013), and approval of sexist humor (Klonis et al., 2005). Additionally, the finding that greater IMS-S was associated with less (if any) prejudice toward childfree women across all outcome measures aligns with previous findings that IMS-S is related to reduced prejudice toward others (Plant & Devine, 1998) and more positive responses to women, such as less traditional and modern sexism (Klonis et al., 2005); less hostile sexism (Gervais & Hoffman, 2013; Klonis et al., 2005); greater warmth toward feminists (Gervais & Hoffman, 2013); lower likelihood of ascribing positive traits to men over women in the workplace (Latu et al., 2011); and disapproval of sexist humor (Klonis et al., 2005).

These findings also align with theory stating that the internal and external motivations to suppress prejudice operate in different ways. Recall that internally motivated individuals tend to report low levels of prejudice toward others (Plant & Devine, 1998), and that prejudice can be suppressed with effort and practice (Crandall & Eshleman, 2003, 2005). Thus, it might be expected that internally motivated individuals either are not prejudiced toward childfree women or will actively suppress their childfree prejudice to maintain a non-prejudiced view of self and avoid feelings of guilt and self-criticism (Plant & Devine, 1998). Because of their regular and deliberate attempts to suppress prejudice, internally motivated individuals may be more attuned to how “hot” cognitions elicit prejudicial responses and have had more practice in suppressing these responses. In this study, internally motivated participants may have recognized the “hot” cognitions associated with completing measures of childfree disadvantages and warmth, and the

concurrent potential for their non-prejudiced view of self to be threatened (resulting in guilt and self-criticism). And, even though the evaluation thermometer may evoke "cold" cognitions, internally motivated individuals may be more prone to evaluate *all* others favorably, regardless of the target's identities or circumstances. In the absence of justification opportunities, they may have subsequently suppressed their responses on all prejudice measures to the extent that IMS-S appears to be directly related to wholly positive and nonprejudiced responses toward childfree women.

Nonetheless, why might the external motivation to respond without sexism be directly related to childfree evaluations and warmth, but not disadvantages? One potential reason is that this study may have conflated the external motivation to suppress negative responses toward women *in general* with the external motivation to suppress prejudice toward childfree women *specifically*. Indeed, research by Crandall et al. (2002) on conformity to social norms suggests that prejudice expression is least acceptable toward some subtypes of women (e.g., stay-at-home-mothers) and most acceptable toward others (e.g., a pregnant woman who consumes alcohol). Perhaps not coincidentally, both the least and most acceptable prejudices toward women subtypes in Crandall et al.'s (2002) study involved women's behavior toward children. Specifically, the pregnant woman consuming alcohol was allegedly harming her unborn child, whereas the stay-at-home mother was devoting much of her day to caring for her children. Although Crandall et al. (2002) did not include subtypes of women based on parental status, it is nonetheless conceivable that it is acceptable to express some forms of prejudice toward childfree women as a specific subtype (e.g., beliefs that childfree women are cold and unfavorable evaluations of them), particularly in participants who are externally motivated to suppress their sexism otherwise. This is supported by Bays' (2017) findings that mothers were the most admired group and elicited helping behaviors, whereas childfree women elicited envy, disgust,

and harm behaviors. Moreover, when completing measures of prejudice suppression toward women in general (i.e., the IMS-S and EMS-S), participants may have imagined the prototypical woman, which research suggests includes images of motherhood (Chodorow, 1999; DiQuinzio, 1999; Ruddick, 1989). Additionally, as discussed by Edelman (2004), a cultural emphasis on reproductive futurity also places ultimate value on children, particularly as a vehicle for maintaining the status quo. Those who refuse to protect (e.g., the pregnant woman consuming alcohol) or produce (e.g., childfree women) children are viewed as threatening the established social order and stability of the future, potentially increasing prejudice expression toward them despite social norms that generally discourage prejudice toward women overall. Thus, it is possible that participants are externally motivated to suppress their prejudice toward women in general, but not *consistently* toward childfree women specifically. In other words, the motivation to suppress prejudice toward women may not map perfectly onto the motivation to suppress prejudice toward *childfree* women, resulting in a mixed pattern of significant results for measures of childfree prejudice.

Second, previous research proposes that both positive and negative attitudes can be held simultaneously toward women (Glick & Fiske, 1996), and that holding positive attitudes toward some women justifies holding negative attitudes toward others (Glick et al., 1997). In this study, participants may have endorsed the external motivation to respond without sexism to women *in general*, which subsequently justified their expression of some prejudice toward childfree women (e.g., perceived coldness and negative evaluations) *in particular*. Similar lines of research suggest that giving individuals the opportunity to accumulate legitimacy credits (i.e., prior behavior that makes one appear non-prejudiced) justifies the ensuing expression of prejudice (Choi et al., 2014). In the present work, asking participants to first complete measures of the motivation to respond without sexism may have allowed them to amass legitimacy credits

regarding their attitudes toward women (i.e., they could initially establish that they are not sexist), which then allowed them to express some prejudice toward childfree women on subsequent measures. However, this temporal relation cannot be confirmed with these data because there was no condition in which participants did not complete suppression measures before completing prejudice measures.

A final explanation for the nonsignificant association between the external motivation to respond without sexism and perceived childfree disadvantages might again be found in differences between prejudice measures. As discussed, both the evaluation thermometer and measure of interpersonal warmth require responses toward childfree women without sufficient context. As such, the evaluation and warmth measures may both assess childfree prejudice, but only indirectly and ambiguously. On the other hand, the disadvantages scale directly and unambiguously asks participants to consider the social consequences of being childfree, an arguably more conspicuous measure of childfree prejudice. Recall that externally motivated individuals are primarily concerned with avoiding negative social sanctions due to prejudice expression and associated feelings of threat from others (Crandall & Eshleman, 2003; Plant & Devine, 1998). Recall also that situational ambiguity increases prejudice expression, whereas unambiguous situations discouraging prejudice increase suppression (Crandall & Eshleman, 2003). Conceivably then, externally motivated individuals may be practiced in identifying unambiguous and threatening situations in which their responses may be interpreted by others as obviously prejudicial. Being a more direct and unambiguous measure of childfree prejudice, the disadvantages scale may have activated this vigilance and potential feelings of threat, causing externally motivated individuals to suppress their negative responses regarding the disadvantages of being childfree. Because the process of identifying threatening and unambiguous situations might occur implicitly and/or automatically, even anonymous responding might have been

inadequate to overcome the suppression response. Conversely, externally motivated individuals might have felt less threatened by expressing prejudice toward childfree women on the comparatively ambiguous evaluations and warmth measures. Thus, the interaction between suppression attempts and situational ambiguity may explain significant relations between external motivations, evaluations, and warmth, and the nonsignificant relation between external motivation and perceived disadvantages of being childfree.

Hypothesis 3 and 4. Hypothesis 3 proposed that greater HS (3a) and BS (3b) will be associated with greater prejudice. Hypothesis 3a was wholly unsupported, as HS was not directly associated with perceived disadvantages of being childfree, evaluations of childfree women, and warmth of childfree women. Additionally, BS was associated only with the perceived disadvantages of being childfree, providing only partial support for Hypothesis 3b. With the exception of the relation between BS and childfree disadvantages, these findings are generally inconsistent with previous research in which ambivalent sexism was associated with a range of responses toward women, including negativity toward those who do not conform to traditional gender roles (Becker, 2010; Fowers & Fowers, 2010; Gaunt, 2013; Glick et al., 2015; Glick et al., 1997; Murphy et al., 2011; Sibley & Wilson, 2004; Sutton et al., 2011); unsupportive attitudes toward women's equality (Becker & Wright, 2011; Brandt, 2011; Glick et al., 2000; Glick & Fiske, 1996); negative perceptions of women who have experienced assault, abuse, or harassment (Angelone et al., 2014; Capezza & Arriaga, 2008; Glick & Fiske, 1996; Saunders et al., 2017); and unfavorable responses toward women in the workplace (Christopher & Wojda, 2008; Cikara et al., 2009; Latu et al., 2011). Moreover, ambivalent sexism theory predicts that HS punishes women who stray from traditional gender norms, whereas BS rewards them (Glick et al., 1997; Glick & Fiske, 1996). Thus, because childfree women violate prescriptions (e.g., women should seek caregiving roles) and proscriptions (e.g., women should

not pursue agentic tasks or self-reliance) of conventional femininity, it was expected that both HS and BS would be associated with more prejudice toward childfree women. Yet, HS and BS were almost completely unrelated to childfree prejudice in direct regression analyses.

The positive relation between BS and childfree disadvantages is the lone exception. It appears that participants high in BS believe that being a childfree woman is associated with several disadvantages, including that she will feel empty, unfulfilled, and lonely, and will become divorced from her partner/spouse. This is consistent with ambivalent sexism theory, which states that BS prescribes traditional behaviors, roles, and stereotypes to women (Glicke & Fiske, 1996). This theory also suggests that BS serves a palliative function, such that women who comply with conventional gender norms are rewarded with protection, genteel treatment, and important complementary domestic roles (Glicke & Fiske, 1996). Current findings imply that individuals who endorse BS believe that women who fail to comply with traditional gender mandates will be excluded from these benefits, and potentially miss out on the feelings of fulfillment, stability in romantic relationships, and satisfying connection with others assessed by the childfree disadvantages measure. This finding is consistent with previous research linking BS with preference for traditional women, such as women who are homemakers, (Becker, 2010; Christopher & Wojda, 2008; Glick et al., 1997; Glick et al., 2015), chaste/pure (Fowers & Fowers, 2010; Sibley & Wilson, 2004), feminine (Glick et al., 2015), and caregiving (Gaunt, 2013). It is also consistent with findings that BS is associated with support for unequal gender relations (Becker & Wright, 2011) and willingness to intervene with women whose behaviors violate pregnancy prescriptions (Murphy et al., 2011; Sutton et al., 2011).

Hypothesis 4 stated that greater GSSJ will be associated with greater expressed prejudice toward childfree women. Hypothesis 3 was partially supported, as GSSJ was associated with greater perceived disadvantages of being childfree. This finding is consistent with previous

findings that link GSSJ to a variety of negative outcomes for women, including support for sexist language (Douglas & Sutton, 2014); HS and BS toward women (de Lemus et al., 2014; Sibley & Becker, 2012); endorsement of more stereotypical roles for women (Chiaburu et al., 2014); greater acceptance of rape myths (Chapleau & Oswald, 2014); lower activism for women's rights (Becker & Wright, 2011; Calogero, 2013); greater acceptance of stranger harassment (Saunders et al., 2017); and women's reduced academic self-confidence (Bonnot & Jost, 2014). The finding that GSSJ is positively associated with perceived disadvantages of being childfree is also consistent with theory regarding GSSJ. Specifically, GSSJ legitimizes unequal social arrangements between men and women based on gender stereotypes (Jost & Banaji, 1994; Jost & Kay, 2005; van der Toorn & Jost, 2014). Moreover, GSSJ theory suggests that gender roles and the sexual division of labor are natural because they compensate for the supposed weaknesses of another gender (Jost & Kay, 2005). Much like BS, GSSJ also serves a palliative function, implying that women play an important supportive role complementing men's high status and thereby coercing women's cooperation with an oppressive gender system (Jost & Kay, 2005). Current findings imply that individuals who endorse GSSJ believe that women who comply with existing gender systems by having children are rewarded by stable romantic relationships, emotional fulfillment, and satisfying connection with others.

However, like BS, GSSJ was unrelated to evaluations of childfree women and warmth of childfree women. Why might BS and GSSJ have been associated with only childfree disadvantages? The answer to this question may again lie within the differences and similarities between the constructs being assessed. It is likely not a coincidence that both ambivalent sexism and GSSJ primarily address relationship dynamics between men and women. Many ambivalent sexism items strongly invoke the gender binary (men vs. women), with sample items including "Women should be cherished and protected by men," "Women, compared to men, tend to have a

superior moral sensibility," and "Women seek to gain power by getting control over men." GSSJ items are similar in nature, such as "In general, relations between men and women are fair" and," and "Society is set up so that men and women usually get what they deserve." Of the prejudice measures, only the childfree disadvantages scale also addresses gender dynamics (albeit indirectly). Indeed, approximately half of the childfree disadvantages items also imply the gender binary by contextualizing the production of children within "couples" (item #2: "Couples who are permanently childfree-by-choice are more likely to lead empty lives than couples with children") and "marriages" (item #3: "Marriages that are permanently childfree-by-choice are more likely to end in divorce than are marriages where there are children"). As has been discussed, neither the Evaluation Thermometer (requiring a number from 0 to 100) nor the Interpersonal Warmth scale (assessing traits frequently associated with childfree women) places childbearing (or lack thereof) within this specific context. Thus, because both BS and GSSJ rely so heavily on relationships between genders, it might be expected that these constructs would be directly associated with perceived disadvantages of being childfree, particularly as these disadvantages relate to negative consequences within gendered relationships. Other potential explanations for mostly non-significant relations between ambivalent sexism, GSSJ, and prejudice toward childfree women are further discussed in the next section.

Hypothesis 5. Hypothesis 5 stated that femininity ideology will be positively associated with expressed prejudice toward childfree women. Specifically, Hypothesis 5 proposed that greater beliefs regarding women's stereotypic images/activities (5a), dependency/deference (5b), purity (5c), caretaking behaviors (5d), and emotionality (5e) will be associated with greater prejudice. Unfortunately, Hypotheses 5a-5e were not tested because preliminary analyses indicated that several of these subscales were not statistically different enough to represent unique constructs. However, Hypothesis 5, in which the FIS total score was used as the measure

of femininity ideology, was supported. Greater femininity ideology was associated with greater perceived disadvantages of being childfree, more unfavorable evaluations of childfree women, and less perceived warmth of childfree women.

This finding is consistent with prior reports that femininity ideology is related to negative outcomes for women, such as unfavorable attitudes toward women in general (Garcia-Retamero & López-Zafra, 2006; Hawkes et al., 2004); acceptance of sexual assault, violence, and abuse toward women (Angelone et al., 2014; Capezza & Arriaga, 2008; Emmers-Sommer, 2014); support for an unequal and gendered division of household labor (Lothaller et al., 2009); and women's unfavorable views of self (Richmond et al., 2015; Swami & Abbasnejad, 2010; Tolman & Porche, 2000; Wigderson & Katz, 2015). Current results are also consistent with previous findings that traditional gender and/or femininity ideology is associated with aggression and hostility toward women who violate traditional gender norms (Reidy et al., 2009) regarding their appearance (Hawkes et al., 2004), occupation (Garcia-Retamero & López-Zafra, 2006; Hess, 2013; Leskinen et al., 2015; Perrone, 2009; Rudman & Phelan, 2008), and belief systems (Gervais & Hoffman, 2013). In this study, femininity ideology was characterized by beliefs that women should be emotive and sensitive to affect; fulfill conventional ideals regarding their appearance and activities; demonstrate sexual, spiritual, and behavioral purity; defer to/depend on men; prefer domestic work/activities; and provide care/nurturing to those around them (Levant et al., 2007). Thus, it is no surprise that endorsement of these views was strongly associated with prejudice toward childfree women, who are thought to violate many of these stereotypical feminine behaviors/traits. Interpretation of feminist and queer theories also suggest that childfree women expose the performative and constructed nature of gender in their rejection of motherhood (Butler, 1999; Chodorow, 1999; de Beauvoir, 2010; DiQuinzio, 1999); violate mandates of heterosexual reproduction and conflations between sex, gender, and sexuality

(Butler, 1999; Chodorow, 1999; DiQuinzio, 1999; Luibhéid, 2002); challenge unequal heteropatriarchal gender relations and divisions of labor based on reproduction (de Beauvoir, 2010; Hartsock, 1983); eschew passive, submissive, and domestic pursuits in favor of active, independent, and public pursuits (de Beauvoir, 2010); and fail to embody classically feminine traits, such as being selfless, sacrificial, fecund, and primarily oriented toward caring for others (de Beauvoir, 2010; DiQuinzio, 1999; Ruddick, 1989). Current results imply that, due to their inability or refusal to comply with the mandates of traditional femininity ideology, childfree women are essentially an "unintelligible" gender (Butler, 1999, p. 24).

Considering results from Hypotheses 3-5, what might explain mixed patterns of significant and nonsignificant associations between ambivalent sexism, GSSJ, and childfree prejudice (depending on the outcome measure), but a consistently significant association between femininity ideology and prejudice? One reason could be that HS, BS, and GSSJ may be improving in the U.S. In other words, people may be realizing that it is undesirable to express open antipathy toward women (HS), view women as best suited for passive roles and in need protection (BS), and/or support unequal gender relations/division of labor (GSSJ). Indeed, mean scores in Condition 2 were 1.89 for HS and 2.10 for BS, which appear to be lower than means reported in previous studies assessing HS (M = 2.20, Christopher & Wojda, 2008; M = 2.28, Murphy et al., 2011) and BS (M = 2.47, Christopher & Wojda, 2008; M = 2.28, Murphy et al., 2011). However, this explanation does not hold for the current GSSJ average of 5.07, which appears to be higher than previous reports of 4.25-4.82 (Jost & Kay, 2005) and 4.41 (Douglas & Sutton, 2014). Additionally, the questionnaire priming procedure used in this study may explain these mean differences, such that first completing measures of the motivation to respond without sexism may have subsequently suppressed ambivalent sexism and GSSJ scores, masking any significant associations between these constructs and prejudice toward childfree women.

Moreover, femininity ideology may be so robustly related to childfree prejudice that this association was evident *above and beyond* the dampening effect of suppression measures, and after accounting for the generalized tendency toward prejudice (represented by RWA) and demographic variables significantly associated with prejudice toward childfree women.

A second explanation is that ambivalent sexism and GSSJ may simply be less important than anticipated in predicting attitudes toward childfree women, particularly once demographic characteristics (e.g., being a Republican man) and the tendency toward generalized prejudice (RWA) are accounted for. Moreover, as prejudice expression becomes less and less acceptable in increasingly egalitarian cultures like the U.S., more sophisticated and/or inflexible ideologies may be related to prejudice toward childfree women. For example, although it was not assessed in this study, previous research suggests that various facets of religiosity are robustly related to childfree prejudice (Koropeckyj-Cox & Pendell, 2007a, 2007b; Merz & Liefbroer, 2012; Pearce, 2002). Another study by Ashburn-Nardo (2016) found that childfree individuals evoked moral outrage, defined as feelings of disgust, anger, contempt, and disapproval that provoke reprisal against deliberate wrong-doers and/or those who inflict harm on others. Perhaps constructs such as RWA, femininity ideology, moral outrage, and religiosity are less likely to change over time or are relatively rigid, whereas constructs like ambivalent sexism and GSSJ have greater potential to change with experiences and circumstances.

A third explanation could again be due to the nature of the constructs being assessed. Recall the earlier discussion about how ambivalent sexism and GSSJ both predominantly feature items addressing relationship dynamics and social structures between men and women. However, few, if any, ambivalent sexism and GSSJ items directly address the expected behaviors of women specifically, and none explicitly address women's reproduction. On the other hand, FIS items reference a variety of behaviors/characteristics that are more closely linked with

women's reproduction (e.g., abortion, timing of childbirth, appearance during pregnancy), motherwork (e.g., caregiving for the family, organizing family plans, teaching family values to children, engaging in domestic hobbies, maintaining custody of children), sexuality (e.g., sexual initiation and satisfaction, virginity, breast size, masturbation, conservative and/or attractive appearance, use of pornography), nurturing traits (e.g., gentleness, softness, emotionality, little anger), and heterosexual marriage (e.g., fulfillment and childbirth within marriage, attracting an appropriately aged male partner). Thus, ambivalent sexism and GSSJ mainly address appropriate relationships between men and women, whereas femininity ideology addresses prescriptions and proscriptions for women's behavior/traits. This difference may explain why ambivalent sexism and GSSJ were not consistently related to prejudice toward childfree women in direct regression analyses, whereas femininity ideology was powerfully associated with it.

Hypothesis 6. Hypothesis 6 stated that ambivalent sexism, GSSJ, and femininity ideology will justify (i.e., mediate) the relation between the motivation respond without sexism and expressed prejudice toward childfree women. Hypothesis 6 was partially supported, as at least one justification mediated the relation between both the internal and external motivations to respond without sexism and all measures of prejudice toward childfree women, even after controlling for the effects of RWA and the opposing motivation to respond without sexism. Specifically, femininity ideology explained the relation (i.e., mediated) between IMS-S and all three measures of prejudice toward childfree women. Initially, greater IMS-S was associated with lower femininity ideology; however, priming/activating femininity ideology following suppression measures was associated with more self-reported prejudice toward childfree women. In other words, participants high in IMS-S used femininity ideology to justify their perceived disadvantages of being childfree, unfavorable evaluations of childfree women, and view that childfree women are cold.

However, recall the Hypothesis 2 discussion that internally motivated participants may be either non-prejudiced toward childfree women *or* simply more practiced at suppressing prejudicial responses. Recall also that IMS-S was associated with wholly favorable responses (i.e., less prejudice) toward childfree women in direct linear regression analyses for Hypothesis 2. As discussed, in the absence of opportunities to justify prejudice, internally motivated participants likely suppressed their childfree prejudice to the extent that they appeared to have primarily positive and nonprejudiced responses toward childfree women. Yet, results from Hypothesis 6 mediation analyses provide a more complete and nuanced picture of how IMS-S influences the expression of childfree prejudice. In fact, IMS-S was strongly related to *greater* prejudice toward childfree women on all outcome measures, but only *indirectly* through femininity ideology. In other words, without the justifying effect of completing the measure of femininity ideology, internally motivated participants had no recourse but to suppress their childfree prejudice to maintain their non-prejudiced view of self and avoid feelings of guilt and self-criticism (Plant & Devine, 1998). However, endorsing femininity ideology allowed participants to justify or cover their childfree prejudice in a cloak of hegemonic gender ideology, which permitted them to maintain their non-prejudiced view of self, and avoid feelings of guilt and self-criticism while simultaneously expressing their prejudice toward childfree women. Consequently, these findings suggest that internally motivated individuals may not be non-prejudiced toward childfree women *per se*, but merely more skilled at suppressing and/or justifying their prejudice.

Consistent with previous literature (Crandall & Eshleman, 2003, 2005; Plant & Devine, 1998), the internal and external motivations also operated in different ways in mediation analyses. Femininity ideology and BS explained the relation (i.e., mediated) between EMS-S and most measures of prejudice toward childfree women. However, in contrast to IMS-S (which

was initially related to *less* femininity ideology), greater EMS-S was associated with *greater* levels of femininity ideology, which then further exacerbated prejudice toward childfree women. Thus, participants high in EMS-S also used femininity ideology to justify their perception that being childfree is disadvantageous, their negative evaluations of childfree women, and their perception that childfree women are cold. BS also justified some prejudice toward childfree women in participants high in EMS-S. Specifically, greater EMS-S was associated with greater BS which, in turn, was associated with greater perceived disadvantages of being childfree and negative evaluations of childfree women. Regarding the relation between EMS-S and prejudice, femininity ideology and BS were used equally (i.e., neither was a stronger justification than the other) to justify prejudice toward childfree women.

In this study, externally motivated participants used both femininity ideology and BS to justify their childfree prejudice (except for perceptions of childfree warmth), whereas internally motivated participants used only femininity ideology. Why did internally and externally motivated individuals use justifications in somewhat different ways? According to the JSM, genuine prejudices develop early in the lifespan due to socialization, cultural transmission, and/or developmental experiences (Crandall & Eshleman, 2003, 2005). Genuine prejudices also often develop and operate outside of conscious awareness, and have their own motivational force for expression (Crandall & Eshleman, 2003, 2005). As has been discussed, beliefs associated with gender essentialism produce a rigid, intelligible construction and socialization of gender (e.g., Bohan, 1993; Butler, 1999; de Beauvoir, 2010; DiQuinzio's, 1999). This likely permeates many aspects of life for most people from birth, including prescribed and proscribed behaviors, characteristics, and relationship dynamics with family, peers, and authorities. Due to the pervasiveness of these socialization processes, it might be expected that both internally and

externally motivated individuals would be equally likely to hold genuine prejudices toward women in general and women who violate traditional norms of femininity in particular.

In other words, the *reasons* for suppressing prejudice (rather than the *degree or type* of prejudice) may be an important distinction between internally and externally motivated individuals. Recall that internally motivated individuals believe that holding and expressing prejudice is wrong and violates their personal standards, eliciting feeling of guilt and self-reproach (Plant & Devine, 1998). Externally motivated individuals, on the other hand, do not necessarily believe that holding and expressing prejudice is wrong, but they wish to align with prevailing egalitarian social norms that discourage prejudice, and avoid associated social sanctions and feelings of threat (Plant & Devine, 1998). Thus, it might be expected that because internally motivated individuals do not wish to express prejudice, they may rely on as few justifications as possible, and only those that are very powerful or may have developed early in the lifespan, such as femininity ideology. In contrast, externally motivated individuals may seek ample opportunities to express their childfree prejudice with as many reasonable justifications as possible while still presenting themselves in a non-prejudiced manner. Although egalitarian norms may universally discourage obvious forms of prejudice, like hostile sexism, to justify childfree prejudice, BS and femininity ideology may be more modern, nuanced, and excusable constructs that continue to serve the purpose sufficiently.

Findings regarding the mediating effect of femininity ideology and BS also align with JSM claims that suppression processes precede justifications which, in turn, increase the expression of prejudice (Crandall & Eshleman, 2003, 2005). Current results also support JSM claims that justifications are narrow and specific to the prejudice being expressed. Indeed, constructs representing hostile attitudes toward women (HS) and support for unequal gender relations (GSSJ) were not sufficient to justify prejudice toward childfree women, whereas

femininity ideology and BS (at times) were. Current findings also support previous reports that a wide assortment of constructs justify various types of prejudice (Crandall & Eshleman, 2003, 2005), including out-group threat (Bahns, 2017; Pereira et al., 2009; Pereira et al., 2010); attributions of control (Ebneter et al., 2011; Hegarty & Golden, 2008; King et al., 2006); legitimacy credits (Choi et al., 2014); ambivalent beliefs about groups (Costarelli & Gerłowska, 2015); social context (Courtois et al., 2014); perceived negative traits/appearance (King & Ahmad, 2010); potential or actual negative consequences (Miller et al., 2009; Wang et al., 2013); and stereotypes (Crandall et al., 2011). Results of the current study add to these findings by identifying femininity ideology and (sometimes) BS as likely justifications of prejudice toward childfree women. These results also provide some evidence for the "specific" approach to the JSM (Crandall & Eshleman, 2003, p. 433), which specifies temporal associations between suppression, justification, and prejudice expression. Although this study did not directly manipulate suppression and primarily focused on the JSM pathway between justifications and prejudice expression, it did manipulate the presentation of justification measures. Specifically, participants were first asked to complete suppression measures, then one or more justification measure, followed by prejudice measures. Thus, the current study found tentative support for "specific model" JSM claims that justifications explain the temporal association between suppression and expression of prejudice (Crandall & Eshleman, 2003, 2005).

Despite promising findings regarding femininity ideology and to some extent BS, Hypothesis 6 was not fully supported, as neither HS nor GSSJ justified prejudice toward childfree women following measures of suppression. There may be several reasons for this non-significant finding, a number of which have been previously discussed at length. Similar to results from the multiple linear regression analyses, HS and GSSJ may not have justified prejudice toward childfree women for one or more of the following reasons: (1) HS and GSSJ

may be improving in the U.S.; (2) completing suppression measures prior to measures of HS and GSSJ might have suppressed their influence and/or masked their relatively weak justifying effect on childfree prejudice; (3) after accounting for RWA and demographic characteristics, HS and GSSJ may simply be less important than anticipated in justifying prejudice toward childfree women; (4) other untested justifications (e.g., religiosity, moral outrage) may better explain associations between the motivation to respond without sexism and expressed prejudice toward childfree women; and (5) more so than HS, BS, and GSSJ, femininity ideology most closely examines prescribed and proscribed behaviors of women specifically, rather than relationships between men and women in general.

Exploratory analyses. Several sets of analyses were also conducted to further explore these data. The first set of analyses examined whether prejudice toward childfree women differed at intersections of participant gender, race/ethnicity, and SES. Contrary to what might be expected by discussions of how motherhood and femininity ideology occur along racialized and classed lines (Collins, 1994, 1998, 2005; Donovan, 2011; Ghavami & Peplau, 2013; Landrine, 1985; Roberts, 1993), childfree prejudice in this study did not change based on combinations of participant gender, race/ethnicity, and SES. Yet, these results are tempered by considerably unequal sample sizes, as disproportionately few participants identified as low-income and belonging to non-White racial/ethnic groups, compared to White participants with adequate and affluent income.

Another set of analyses determined whether the use or strength of justifications changed with age (categorized as 18-25, 26-35, 36-45, 46-55, 56-65, 66 and older) in this sample. Results revealed that the endorsement of ambivalent sexism, GSSJ, and femininity ideology did not differ between the age categories. These findings provide some initial evidence that the endorsement of these constructs and their use as justifications of prejudice toward childfree

women may remain stable over the lifespan. However, because this study was not longitudinal or specifically designed to assess this question, these results must again be interpreted cautiously.

A final set of analyses assessed whether expressed prejudice was influenced by the number of justification measures completed. In other words, these analyses examined if completing more than one justification measure had an additive influence on prejudice toward childfree women, even if ambivalent sexism and GSSJ had little-to-no effect individually. Results of these analyses revealed that expressed prejudice toward childfree women did not differ whether participants completed one or all justification measures. Thus, it can be tentatively concluded that ambivalent sexism and GSSJ explained little variance in childfree prejudice, even when participants responded to them alongside the powerful femininity ideology.

Strengths

The current study has several strengths. First, Hayes' (2013) PROCESS mediation model permits a sophisticated and complex analytical approach to the data. Rather than assessing potentially mediating variables one at a time, PROCESS permits up to 10 parallel mediators in its model. Not only does this acknowledge that psychological phenomena are often influenced by multiple factors, but the PROCESS model will also control for the effects of covariates and all other mediators in the model as it assesses a single mediator. Additionally, Hayes' (2013) PROCESS model has been shown to be superior to Baron and Kenny's (1986) causal steps approach to mediation for several reasons. First, the PROCESS approach directly tests and estimates the size of the indirect effect rather than inferring it from a series of individual hypothesis tests regarding relations between *X*, *M*, and *Y* (Hayes, 2013). This allows researchers to compare the size of the specific indirect effects associated with different mediators and eliminates categorizing variables as either partial or full mediators. Second, the PROCESS approach eliminates reliance on three separate and significant hypothesis tests to determine if a

variable mediates a given relation; indeed, failure to reject a null hypothesis for any one of these steps in the Baron and Kenny (1986) method implies that the variable of interest is not a mediator. Additionally, PROCESS does not rely on a significant relation between *X* and *Y* as a prerequisite for mediation analyses (Hayes, 2013). Instead, the PROCESS approach allows that *X* can have an indirect effect on *Y through M*, even if *X* does not have a direct effect on *Y*; this approach permits a more thorough and refined analysis of one's data. Third, using PROCESS, relations between *X*, *M*, and *Y* are analyzed using a single test of the indirect effect. Minimizing the number of hypothesis tests required to draw a conclusion not only reduces the chances of Type I or Type II errors, but it also increases the power of the test (Hayes, 2013).

The sampling technique represents an additional strength of the present study. More often than not, previous studies of attitudes toward women without children have used college student samples. Although it is important to assess attitudes regarding parental status in the youngest adult cohort in the U.S., research suggests that attitudes in older populations may differ significantly from those in younger populations (Gubernskaya, 2010; Koropeckyj-Cox & Pendell, 2007a, 2007b; Merz & Liefbroer, 2012; Noordhuizen et al., 2010). Additionally, results from undergraduate samples may not be generalizable to the U.S. adult population and populations in other Western cultures (Henrich, Heine, & Norenzayan, 2010). Thus, collecting an online sample that is unaffiliated with a college or university represented a significant strength in this study, as it allowed conclusions to be drawn about an older U.S. population. Moreover, research suggests that MTurk samples are more diverse than college student samples for a variety of demographic characteristics (Buhrmester et al., 2011; Casler et al., 2013; Johnson & Borden, 2012). Indeed, the current sample was more diverse than what might be expected from a college sample for age, SES, relationship status, parental status, and political affiliation. Stratifying the sample by age was also a particularly strong approach, as collecting a sample of

diverse ages may also provide insight into whether the use of justifications evolves over time. Although the current data were cross-sectional, and therefore limit the ability to draw conclusions about changes over the life span, results of exploratory analyses suggest that there were no differences by age in the strength of the justifications thought to influence prejudice toward childfree women.

Including RWA as a representation of the general tendency to be prejudiced toward out-groups and controlling for it as a covariate of childfree prejudice was an additional. Although the inclusion of RWA may have wholly or partially eliminated the influence of HS, BS, and GSSJ on childfree prejudice (note: the analyses are not reported here, but both ambivalent sexism and GSSJ significantly predicted all three prejudice measures when RWA and demographic covariates were excluded), including RWA likely prevented the spurious report that ambivalent sexism and GSSJ have a greater impact on prejudice toward childfree women than current findings imply. Additionally, including RWA as a covariate strengthened the veracity of findings regarding how femininity ideology, BS, and GSSJ influence prejudice toward childfree women, *above and beyond* RWA as a robust predictor of generalized prejudice. Even after accounting for the effects of significant demographic covariates and RWA, femininity ideology remained a powerful predictor of all measures of childfree prejudice, and BS and GSSJ predicted perceived childfree disadvantages. Furthermore, even after controlling for RWA, femininity ideology and (sometimes) BS explained the relation between the motivation to respond without sexism and prejudice toward childfree women.

Findings from this study also make several novel contributions to the literature on attitudes toward childfree women. In addition to integrating theoretical insights from the feminist, queer, and psychological disciplines, this study examined the mechanisms underlying prejudice toward childfree women using the JSM as a sound theoretical foundation. This is a

particular strength, given that much of the current literature on attitudes toward childless women is atheoretical. Moreover, this study provided a partial test of the JSM pathway between justifications and expressed prejudice, providing further evidence of JSM tenets. This is also the first known study to assess how the motivation to respond without sexism, RWA, ambivalent sexism, GSSJ, and femininity ideology are related to prejudice toward childfree women. In doing so, this study not only replicated the "what" of prejudice toward childfree women (i.e., that this prejudice persists), but it also empirically documented some of the psychosocial constructs that constitute the "why" of this prejudice. In finding evidence for several psychosocial constructs that are related to and/or justify prejudice toward childfree women, this study also identified potential sites of intervention for reducing this prejudice.

Limitations

Nevertheless, there are several methodological limitations to the current study that should be considered. Although the sample was more diverse than a college-aged sample for some demographic characteristics (e.g., age, SES, relationship status, parental status, political affiliation), it was as limited as or less diverse than what might be expected from a large, urban college campus for other characteristics (e.g., gender, race/ethnicity, sexual identity, religious affiliation). Additionally, MTurk was only able to restrict the MTurk Worker sample to participants who were currently living in the U.S., but not necessarily Workers who are U.S. citizens or live in specific U.S. regions. Consequently, assumptions could not be made about the primary culture in which Workers were socialized, their nationality, the status and/or length of their U.S. residency and citizenship, and their primary language. Nonetheless, steps were taken in the instructional manipulation checks to ensure a reasonable understanding of the English language.

Despite using the powerful PROCESS approach to parallel mediation (Hayes, 2013), causal relations between the motivation to respond without sexism, justifications of prejudice toward childfree women, and expressed prejudice toward childfree women cannot be definitively established without additional experimental studies. Similarly, the motivation to respond without sexism was not directly manipulated in this study, limiting a more comprehensive test of the JSM. Likewise, although the questionnaire priming procedure used in the current study should have activated and increased the accessibility of justifications (Bonnot & Jost, 2014; Guimond & Roussel, 2001; Jost & Kay, 2005; Katz & Hass, 1988), conditions that explicitly manipulated justifications were not used. Additionally, the RWA measure was administered before all other measures to assess participants' generalized tendency toward prejudice prior to measuring motivations to suppress and the activation of justifications. Consistent with the expected mechanisms underlying the questionnaire priming procedure, it is possible that assessing RWA first affected responses to all subsequent measures. In other words, assessing RWA first could have activated this construct at the beginning of the study, which may have either diluted or strengthened subsequent responses to measures assessing the motivation to respond without sexism, ambivalent sexism, GSSJ, and femininity ideology. However, because all participants completed the RWA measure before completing other measures (regardless of condition), any potential effect of RWA should have occurred equally for all participants.

There are also limitations to several measures in this study. To-date, no widely used, valid, and reliable measure of attitudes toward childfree women exists. Although Blake's (1979) measure of the perceived disadvantages of childlessness is the closest approximation, this measure has not been adequately established as reliable and valid. Furthermore, modifications to the scale to assess the perceived disadvantages of being childfree (versus childless) may have changed the construct being examined. Nonetheless, the internal consistency of the scale in this

study was excellent (α = .89) and similar modifications made in unpublished work support the use of this scale to assess attitudes toward being childfree (Bays et al., 2015b). Similarly, the IMS-S/EMS-S (Klonis et al., 2005), GSSJ Scale (Jost & Kay, 2005), and Femininity Ideology Scale (Levant et al., 2007) have been used in few studies; nonetheless, these past studies provide tentative support for the validity and reliability of these scales. Additionally, the five FIS subscales could not be assessed as planned because analyses indicated that the subscales did not represent statistically unique constructs in this population. Although femininity ideology was a powerful predictor of all measures of prejudice toward childfree women and explained the relation between the motivation to respond without sexism and prejudice, this study was unable to identify the specific facets of femininity ideology responsible for this outcome. Analyzing outcomes based on the five FIS subscales would have provided a more nuanced understanding of how femininity ideology relates to prejudice toward childfree women. Moreover, this study relied on self-report measures to assess all constructs. As such, the tendency of participants to present themselves in a favorable light when reporting on sensitive topics, such as prejudice, may alter the outcomes of interest and threaten the validity of the constructs being assessed. However, anonymous online data collection was intended to ameliorate participants' tendency to respond in a socially desirable way.

Additionally, in preliminary analyses that assessed the demographic covariates of childfree prejudice, participants were divided into parents and non-parents. Yet, this may be an overly simplistic way of categorizing participants, particularly since the current study did not examine the *meaning* or *valence* that participants attached to parenting. Presumably, a participant who feels ambivalent about parenting or became a parent inadvertently after intending to remain childfree may respond differently to childfree women than participants who were less ambivalent and/or more intentional about their parenting decisions. Furthermore,

stress associated with parenting may explain a significant portion of variance in prejudice outcomes. However, variables such as parenting meaning, valence, and/or stress were not included in the current model predicting childfree prejudice and subsequently cannot be accounted for. Thus, all findings from this study are tempered by these methodological limitations.

There are also some notable theoretical limitations that should be considered. First, the current study used the "specific model" of the JSM (Crandall & Eshleman, 2003, p. 433) to assume unidirectional and sequential relations between the motivation to respond without sexism, justifications of prejudice toward childfree women, and expressed prejudice toward childfree women. Yet, an alternative JSM conceptualization suggests that the processes associated with suppression, justification, and prejudice expression interact in a recursive, bidirectional fashion. For example, simply completing justification measures may have decreased the future need to suppress prejudice toward childfree women. Similarly, completing measures of prejudice toward childfree women may have further strengthened suppression attempts and subsequently exacerbated justifications, or provoked participants into activating *additional* justifications of childfree prejudice that were not assessed in this study. Thus, the current study may have relied on an overly simplified model of prejudice expression toward childfree women that does not accurately reflect how these processes interact in reality.

An additional theoretical limitation lies within assumptions made by the psychological theory and methodology used in this study. As discussed, conceptualizations of femininity and motherhood are linked to racial/ethnic, sexual, and class hegemony. However, the structure of this study may not necessarily reflect this. Insights from feminist and queer theorists imply that heterosexuality may be assumed in the absence of specified sexual identity (Butler, 1999; Chodorow, 1999; DiQuinzio, 1999; Edelman, 2004; Luibhéid, 2002). Similarly, research

suggests that unspecified race/ethnicity and class of female targets likely activates images of White, middle-class women (Collins, 1994, 1998, 2005; Donovan, 2011; Ghavami & Peplau, 2013; Landrine, 1985; Roberts, 1993). Because participants were asked to respond to "women" who are childfree-by-choice with unspecified race/ethnicity, class, and sexual identity, results of the current study may not be generalizable to attitudes toward working-class, non-heterosexual women of color.

The measures used in this study may also reflect White, middle-class, heterosexual norms of femininity. For instance, specific FIS items assume the strong private-public distinction historically experienced by White, middle-class women (e.g., "Women should not want to succeed in the business world because men will not want to marry them," "A woman should not consider her career as important as a man's," and "A woman's natural role should be the caregiver of the family"), which may not accurately reflect non-White and working-class women's long-standing participation in both the domestic and labor force domains (Collins, 1994; Roberts, 1993). FIS items may also reflect expected traits of White femininity (e.g., "A woman should not show anger," "A woman should not be competitive," and "Women should be gentle"), traits that women of color may not necessarily value or are perceived to embody (Donovan, 2011; Ghavami & Peplau, 2013; Landrine, 1985; Lott & Saxon, 2002). Furthermore, many FIS items imply heterosexual femininity (e.g., "A woman should not marry a younger man," "Women should act helpless to attract a man," and "A girl should be taught how to catch a husband"). Similar assumptions are evident in the ASI (e.g., "Men should be willing to sacrifice their own well-being in order to provide financially for the women in their lives") and GSSJ (e.g., "The division of labor in families generally operates as it should") scales. Although this study attempts to highlight the problematic nature of these ideologies for women in general and childfree women in particular, it cannot be assumed that these constructs and connections

between them affect childfree women of varying races/ethnicities, social classes, and sexual identities equally or even in similar ways. Conceivably, were these measures constructed to account for the experiences of non-heterosexual, working-class, and/or non-White women, items may look very different. Additionally, the ideologies represented by these measures potentially interact with women's intersecting identities to exacerbate negative outcomes for non-White, non-heterosexual, and working-class childfree women. Thus, it may be most appropriate to conclude that the *White, middle-class, heterosexual* femininity ideology represented by the FIS produces prejudice toward some childfree women, rather than erroneously assuming that a universal femininity ideology exists and affects all women equally.

From a sociohistorical, cultural, and political perspective, it should also be noted that circumstances around the November 2016 presidential election may have influenced this study's data, which were gathered in December 2016. Although the study was given a relatively neutral title on MTurk, the election results may have primed some individuals to be more or less willing to share their responses to "a survey about your attitudes toward others." For example, MTurk Workers who might have otherwise suppressed their prejudice toward others and childfree women in particular may have felt freer to express their prejudice with little fear of reprisal and greater confidence that their peers would agree with them. Alternatively, to avoid distress and controversial discourse associated with the election results, other would-be participants may have retreated from the online world, missing the opportunity to provide their responses. Thus, the sociopolitical context may threaten the validity of this study's findings.

Implications

As has been discussed, women without children experience a variety of undesirable outcomes, including negative emotional responses, stigmatization, stereotyping, and harmful behaviors from others (e.g., Ashburn-Nardo, 2016; Bays, 2017; Doyle et al., 2012; Koropeckyj-

Cox et al., 2015; Rich et al., 2011; Shaw, 2011); unequal treatment in the workplace (Doyle et al., 2012; Eby et al., 2004; Mollen, 2006; Picard, 1997); and bias in the medical field (Furnham et al., 2002; Mollen, 2006; Wiseman, 2006, 2007, 2010). Results of the current study suggest that femininity ideology and (sometimes) BS may justify bias from individuals with power over professional, interpersonal, and medical outcomes for women without children. Additionally, these findings imply that there could be opportunities for intervening in the ideologies that justify prejudice toward childfree women and potentially ameliorating these detrimental outcomes.

To the author's knowledge, there are no interventions designed to reduce prejudice toward women without children, yet inspiration can be drawn from several parallel areas of study. For example, Ashburn-Nardo, Morris, and Goodwin (2008) outline a general model of confronting prejudice in organizational settings. They suggest that observers/targets of prejudice must traverse the following step-wise hurdles in confronting prejudice: (1) detecting the discrimination; (2) determining if the incident is harmful enough to intervene; (3) assuming responsibility for the confrontation; (4) deciding how to confront the prejudiced person; and (5) confronting the prejudiced individual. Ashburn-Nardo et al. (2008) recommend that diversity trainers teach this model to prepare people in organizational settings to confront prejudice. These authors also suggest that this education should include increasing understanding of how frequent, varied, covert, and consequential prejudice can be, and give trainees opportunities to increase their confidence and self-efficacy using the model through practice. Although this intervention is not specific to childfree prejudice, it could potentially be used to address the harmful effects of femininity ideology, BS, and GSSJ on prejudice toward childfree women.

Interventions to reduce sexism, albeit rare, also serve as models of what interventions to reduce prejudice toward childfree women might look like. One such successful intervention is the Workshop Activity for Gender Equity Simulation (WAGES), which includes informational

and experiential components about gender inequity in the workplace in a manner designed to reduce negative reactance and increase self-efficacy. Several studies with undergraduates show that WAGES improves knowledge of gender inequity (Zawadzki, Danube, & Shields, 2012); reduces modern sexism, neosexism, HS, and GSSJ (Zawadzki et al., 2014); and increases perceptions that everyday sexism is harmful and future intentions to engage in discussion and education about gender inequity (Cundiff, Zawadzki, Danube, & Shields, 2014). Several of these findings occurred through the mediating effects of reduced negative reactance, and increased self-efficacy, engagement, and empathy.

Additional interventions in Western cultures show promise in reducing sexism, and may be generalizable to prejudice toward childfree women. For example, Yoder, Mills, and Raffa (2016) found that undergraduates' HS and BS were successfully reduced by an intervention integrated into a Research Methods course. This intervention consistently focused on ambivalent sexism theory in course readings, activities, and assignments without compromising the learning objectives of the course (i.e., to understand research methods). These authors concluded that this approach can be easily altered to address other prejudices. Using another coursework intervention, Case (2007) reported that undergraduates taking courses on race and gender endorsed increased awareness of male privilege, decreased HS and modern sexism (but not BS), and increased support for gender-related affirmative action.

Similarly, across undergraduate and online samples, Becker and Swim's (2012) intervention successfully increased awareness that BS is harmful and pervasive, thereby reducing endorsement of BS and modern sexism. In another study by Becker and Swim (2011), women who increased their sexism awareness by tracking sexism in their lives endorsed less modern sexism, neosexism, and BS, and were more likely to engage in collective activism. Men who tracked sexism and experienced empathy for targets of sexism also endorsed less modern sexism

and neosexism, and were more likely to engage in collective activism; however, men's self-reported BS did not change. Case, Hensley, and Anderson (2014) also found that a video intervention decreased modern sexism and increased awareness of heterosexual privilege. Although current results imply that ambivalent sexism, GSSJ, and femininity ideology operate in somewhat different ways regarding prejudice toward childfree women, these intervention studies nonetheless provide a jumping-off point for designing interventions to reduce femininity ideology, BS, and GSSJ, specifically as they relate to childfree prejudice.

Another line of research suggests that mental health professionals can play a role in reducing negative outcomes for childfree women. For example, Gold and Wilson (2002) note that dominant cultural ideologies imply that marriage and children legitimize a family. However, with increasing numbers of couples without children, societal schemas regarding family must be challenged and revised. These authors suggest that clinicians can play a vital role in the process of redefining the family, but they must first examine their own biases and belief systems regarding the primacy of parenting in the family. These authors also note that it is important that clinicians become aware of cultural attitudes toward and myths around childfree individuals/couples. Through such awareness, clinicians can validate the client's childfree choice, help the client challenge stereotypes, and facilitate stigma management techniques.

Similarly, Mollen (2006) suggests that mental health professionals carefully examine and challenge their own pronatalist biases when treating childless populations. This author proposes that it is important for clinicians to accept childfree women as normal, and not assume that they experience adverse psychosocial outcomes for their choice not to parent. Similarly, it is essential that clinicians acknowledge how traditional developmental theories assume that parenting is necessary for growth as an adult, which marginalizes childfree populations. Awareness of cultural and theoretical biases against nonparents is especially important when diagnosing

childfree clients and selecting appropriate treatment plans. Mollen (2006) also advises that clinicians can empower childfree women to use stigma management techniques and consider the many parenting (or non-parenting) options that are available (e.g., being childfree, surrogacy, adopting, step-parenting). Mollen (2006) states that exploring and embracing a feminist perspective that critiques hegemonic views of womanhood might be helpful in this regard. Current results imply that it may be helpful for mental health professionals to be aware of how femininity ideology, BS, and GSSJ could promote others' prejudice toward childfree women and to also examine their own endorsement of these constructs.

Scholars also recommend specific therapeutic approaches and modalities for working with individuals without children. Pelton and Hertlein (2011) outline an approach to treating heterosexual, childfree, married couples as they progress through several stages of the childfree life cycle. First, therapy might assist the couple in deciding whether to have children, which could include negotiating conflict and communication difficulties. Second, therapists may assist childfree couples in negotiating continued pressure from others to reproduce and to manage the stigma/stereotypes associated with being childfree. This would include identifying and exploring culturally appropriate stigma management techniques and, relevant to current results regarding femininity ideology, BS, and GSSJ, exploring shifts in long-held beliefs about gender roles. Additional interventions may include psychoeducation about normative cultural beliefs, challenging traditional values/roles, and role-playing stigmatizing social situations. Third, therapists can empower childfree couples to redefine their adult identities, relationship roles, and growth as individuals and as a couple beyond parenthood. Exploring the advantages of being childfree, alternative lifestyles, and new financial and occupational opportunities can facilitate this process. Finally, therapists might help the childfree couple plan their legacy, anticipate

challenges without children in their older years, and build community beyond the context of children.

Relatedly, Park (2002) outlined stigma management techniques that could be explored with childfree clients in therapy. One technique is *passing* in which childfree individuals in their childbearing years pretend that they eventually plan to reproduce. Another technique is *identity substitution* in which individuals claim to be involuntarily childless instead of childfree. Other stigma management techniques include *justifications*, such as condemning those who criticize being childfree and/or demanding the right to self-fulfillment by a variety of means. Some techniques include offering *excuses* for the childfree decision, such as lacking a biological drive to reproduce or the maternal instinct. Another technique is to *redefine the situation* by highlighting childfree individuals' positive contributions to society, such as their (typically) large taxable incomes, reduced environmental demands, and/or increased volunteerism.

Finally, Motherwell and Prudent (1998) highlight the utility of group psychotherapy for women without children. Related to the current discussion regarding femininity ideology, they suggest that group therapy is an excellent forum to examine societal expectations of women, explore new ways of conceptualizing feminine identity, and identify and affirm life choices other than motherhood. Involuntarily childless women in group therapy can grieve their loss; work through feelings of frustration, shame, and inadequacy; redefine their identity outside of motherhood; and receive social support from others. Childfree women, on the other hand, can gain support and validation for their choice; explore alternative ways of living; reduce the isolation associated with marginalization; and challenge cultural stereotypes of childfree women.

In summary, current findings that femininity ideology, BS, and GSSJ are directly related to various forms of childfree prejudice, and that femininity ideology and (sometimes) BS justify prejudice toward childfree women imply that interventions may be necessary to reduce the

influence of these constructs. As discussed, these interventions could focus on reducing others' prejudice toward childfree women and/or assisting childfree women in coping with negative responses from others.

Directions for Future Research

Current findings imply fruitful areas for additional research. Future research could continue the search for constructs that justify prejudice toward childfree women and for which intervention might be warranted. For example, the tenets of Duckitt's (2001) Dual-Process Model of Prejudice (DPMP) suggests that RWA and social dominance orientation (SDO; Pratto, Sidanius, Stallworth, & Malle, 1994) operate in a complementary yet independent manner to produce prejudice. Pratto et al. (1994) define SDO as "…the extent to which one desires that one's in-group dominate and be superior to out-groups" (p. 742). As outlined by the causal steps of the DPMP and discussed previously, RWA occurs when strict parental socialization of children increases social conformity, beliefs that the world is dangerous, motivations to control threats, and ultimate prejudice toward out-groups who threaten social stability. A similar process is proposed by the DPMP for SDO, such that punitive parental socialization prompts tough-mindedness as a personality trait, which then increases beliefs that the world is a competitive place and subsequent motivations to dominate individuals/out-groups who are perceived as inferior to their in-group. Because RWA appears to be related to multiple forms of childfree prejudice (i.e., the perceived disadvantages of being childfree and warmth of childfree women), and RWA works in tandem with SDO according to the DPMP, SDO may also relate to childfree prejudice.

An additional construct that may justify prejudice toward childfree women is perceptions of parenting. For instance, the extent to which individuals believe that parenting will be enriching, require a great degree of commitment, feel isolating, have a variety of associated

costs, provide continuity in their lives, and be supported by important others (Lawson, 2004) may either justify or ameliorate prejudice toward childfree women. Similarly, whether people feel that having children is essential to living a fulfilling life may also predict prejudice toward childfree women (Eibach & Mock, 2011a, 2011b). Specifically, research has suggested that individuals may idealize and/or overstate the emotional awards of parenthood to balance the psychosocial, financial, and emotional costs associated with parenthood (Eibach & Mock, 2011a, 2011b). Additional studies could examine whether individuals who endorse greater idealization of parenthood are also more likely to endorse prejudice toward childfree women.

Likewise, future research might assess if concepts such as moral outrage and disgust also justify prejudice toward childfree women. For instance, Ashburn-Nardo (2016) found that moral outrage (defined as feelings of disgust, anger, and disapproval) explained/mediated participants' perceptions of childfree individuals as less psychologically fulfilled than parents. Similarly, Bays (2017) found that disgust explained/mediated the relation between cognitive stereotypes of childfree women as competent but cold and anticipated harmful behaviors toward childfree women. Other research suggests that moral disgust is likely to be elicited by people, ideologies, or activities that do not align with conventional social and moral norms; and individuals who harm others at an individual or group level (Chapman & Anderson 2013; La Rosa & Mir 2013). Moreover, Russell and Giner-Sorolla (2013) proposed that moral disgust may also be elicited by failure to comply with bodily morals, which they define as "…acts that offend categorical moral norms about what should or should not be done with the body and its products…" (p. 330). Conceivably, childfree women may be violating bodily morals and subsequently eliciting moral disgust from others due to their refusal to produce children with their bodies. Thus, further research could examine if disgust operates as a justification of prejudice toward childfree women in the JSM framework, such that emotions related to disgust could further explain the association

between the motivation to suppress prejudice toward childfree women and expressed prejudice toward childfree women. Once additional justifications of prejudice toward childfree women are identified, next steps could include creating interventions designed to reduce this prejudice by changing endorsement of these constructs.

Additional areas of future research might assess how intersections of both participant and target identity influence prejudice toward childfree women. As discussed, conceptualizations of femininity and motherhood may be bound to particular social identities (e.g., race/ethnicity, social class) and should thus be broadened to include the experiences of diverse women. Therefore, further studies could examine if hegemonic conceptualizations of femininity ideology and BS justify prejudice toward childfree women differently than the specific femininity ideologies associated with racial/ethnic, economic, and sexual subgroups (to name a few). Developing measures designed to identify these distinctions would be helpful in this regard. In a related vein, additional studies might investigate how differing values across groups, cultures, and countries influence prejudice toward childfree women. For example, cultures that emphasize interdependence within a group may perceive parenting (and lack thereof) very differently than cultures that emphasize independence, autonomy, and growth of the self. Additionally, one's developmental stage of life (e.g., obtaining education, seeking and fostering a long-term romantic relationship, having and raising children, retirement, etc.) may bring markedly different perspectives on parenting decisions. Although the current study used age as a proxy for stage of life, further studies might examine how specific life stages (rather than merely age) influence endorsement of the psychosocial constructs assessed here (RWA, ambivalent sexism, GSSJ, and femininity ideology) and their association with prejudice toward childfree women.

Methodologically, future studies could broaden the tools and techniques used to examine prejudice toward childfree women. The current study relied on anonymous self-report data to

draw conclusions, but what might direct observations of behavior reveal? Similarly, expressed prejudice when considering a childfree woman in the abstract may differ from expressed prejudice during or following real-life interactions with childfree women. Furthermore, the study of prejudice toward childfree women may find its greatest value in linking this prejudice to actual behaviors toward childfree women. For instance, Bays (2017) found that negative emotions were associated with anticipated harmful behaviors toward childfree women, such as being excluded, attacked, and demeaned. Additional studies could assess if childfree prejudice influences the previously discussed negative outcomes for childfree women in occupational (Doyle et al., 2012; Eby et al., 2004; Mollen, 2006; Picard, 1997), medical (Furnham et al., 2002; Mollen, 2006; Wiseman, 2006, 2007, 2010), and social (e.g., Ashburn-Nardo, 2016; Bays, 2017; Doyle et al., 2012; Koropeckyj-Cox et al., 2015; Rich et al., 2011; Shaw, 2011) situations. Additionally, valid, reliable, and widely used measures of prejudice toward childfree women are necessary to advance this literature and develop a more nuanced understanding of these attitudes. Although the current study assessed prejudice toward childfree women using a variety of potential prejudice measures, a validated and reliable measure of prejudice toward childfree women will increase researchers' confidence that this prejudice is assessed as intended. Increasing the validity of childfree prejudice measures will also strengthen any subsequent findings regarding connections between prejudice and behaviors toward childfree women.

Theoretically, many questions remain unanswered regarding JSM applications to childfree prejudice. For instance, future studies might measure and manipulate actual suppression of prejudice toward childfree women. This could include an examination of whether people are, in fact, motivated to suppress their prejudice toward childfree women at all or simply express their prejudice without first suppressing and then justifying it. Similarly, manipulating suppression processes before measuring justification and prejudice may shed some light on how

suppression influences subsequent justification and suppression of childfree prejudice. Other research could examine if asking participants to first complete measures of the motivation to respond without sexism allowed them to amass legitimacy credits (Choi et al., 2014) regarding their attitudes toward women (i.e., they could initially establish that they are not sexist), which then justified the expression of prejudice toward childfree women on subsequent measures. Relatedly, longitudinal designs would be helpful in establishing the causal/temporal associations proposed by the JSM for suppression, justification, and expression of prejudice toward childfree women specifically. Alternatively, further studies might examine if proposed JSM components operate in the bidirectional, recursive fashion proposed by the "general" JSM model to a greater extent than the unidirectional, sequential fashion proposed by the "specific" JSM model for prejudice toward childfree women (Crandall & Eshleman, 2003, p. 433).

Conclusion

The current study investigated whether a variety of psychosocial constructs were related to and/or justified prejudice toward childfree women. First, this study examined whether RWA is related to prejudice toward childfree women. Findings suggest that greater RWA is positively associated with greater perceived disadvantages of being childfree and perceived coldness in childfree women. Second, this study explored how motivations to respond without sexism are associated with expressed prejudice toward childfree women. IMS-S was associated with fewer perceived disadvantages of being childfree, more positive evaluations of childfree women, and more perceived warmth in childfree women, whereas EMS-S was associated with more unfavorable evaluations of and perceived coldness in childfree women. Third, the current study examined how ambivalent sexism, GSSJ, and femininity ideology relate to prejudice toward childfree women. Both BS and GSSJ were associated with greater perceived disadvantages of being childfree, but unrelated to evaluations and perceived warmth of childfree women. HS was

also unrelated to all measures of prejudice toward childfree women. Additionally, greater femininity ideology was associated with more perceived disadvantages of being childfree, unfavorable evaluations of childfree women, and perceptions that childfree women are cold. Fourth, this study explored whether ambivalent sexism, GSSJ, and femininity ideology justified or "released" prejudice toward childfree women. HS and GSSJ did not explain/mediate the relation between motivations to respond without sexism and expressed prejudice toward childfree women, but femininity ideology and (sometimes) BS did. Initially, IMS-S was associated with less femininity ideology; however, priming femininity ideology was ultimately associated with greater perceived disadvantages of being childfree, unfavorable evaluations of childfree women, and perceptions that childfree women are cold. On the other hand, EMS-S was associated with greater femininity ideology which, in turn, exacerbated prejudice toward childfree women on all three prejudice measures. BS operated in a similar way for EMS-S on two of three prejudice measures, such that EMS-S was associated with greater BS, which was subsequently associated with greater perceived disadvantages of being childfree and unfavorable evaluations of childfree women. Thus, femininity ideology and (sometimes) BS explained/mediated the relation between the motivations to respond without sexism and expressed prejudice toward childfree women. Although a full, experimental, and longitudinal test of the JSM was not conducted, these findings provide tentative evidence that femininity ideology and (sometimes) BS justify rather than cause prejudice toward childfree women. Finally, the current study not only replicated the "what" of prejudice toward childfree women (i.e., that childfree prejudice persists), but also documented the "why" of this prejudice. By identifying several psychosocial constructs that are related to and may justify prejudice toward childfree women, this study highlights areas for future study and potential interventions that could ameliorate childfree prejudice and the negative outcomes associated with it. Thus, the

current study contributes new insight to the growing literature on attitudes toward childfree women and the foundation from which additional inquiries can evolve.

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Appendix A

Demographic Questionnaire

What is your age? ☐

What is your gender? Please check all that apply.

- ☐ Female
- ☐ Male
- ☐ Transgender
- ☐ Genderqueer
- ☐ Other – Please Specify: _____

What is your highest level of completed education?

- ☐ 8th grade or less
- ☐ Some high school
- ☐ High school graduate/G.E.D.
- ☐ Technical/trade school
- ☐ 2-year college degree
- ☐ 4-year college degree
- ☐ Master's degree
- ☐ Doctoral or professional degree (Ph.D., J.D., M.D.)
- ☐ Other – Please Specify: _____

How many individuals live in your household? ☐

Please select the category that best describes your approximate **total family** income before taxes are paid, including support from all members of your household who regularly contribute financially to your household. Consider all sources of income, including earned wages/salaries, dividends/interest, Social Security, unemployment benefits, public assistance, pensions, disability, child support, and alimonies.

- ☐ $10,000 or less
- ☐ $10,001 to $15,000
- ☐ $15,001 to $25,000
- ☐ $25,001 to $50,000
- ☐ $50,001 to $75,000
- ☐ $75,001 to $100,000
- ☐ $100,001 to $150,000
- ☐ $150,001 to $200,000
- ☐ $200,001 to $250,000
- ☐ $250,001 to $500,000
- ☐ $500,001 to $750,000
- ☐ $750,001 or more

What political affiliation best describes you? Please check all that apply.

- ☐ Democrat
- ☐ Republican
- ☐ Independent
- ☐ Other – Please Specify: _____

What is your race/ethnicity? Please check all that apply.

- ☐ American Indian or Alaska Native
- ☐ Asian
- ☐ Black or African American
- ☐ Hispanic or Latino/Latina/Latinx
- ☐ Native Hawaiian or Other Pacific Islander
- ☐ White
- ☐ Other – Please Specify: _____

What is your religious affiliation? Please check all that apply.

- ☐ Buddhist
- ☐ Christian
- ☐ Hindu
- ☐ Islamic
- ☐ Jewish
- ☐ Non-religious
- ☐ Other – Please Specify: _____

What is your sexual orientation? Please check all that apply.

- ☐ Heterosexual/Straight
- ☐ Gay/Lesbian
- ☐ Bisexual
- ☐ Queer
- ☐ Pansexual
- ☐ Asexual
- ☐ Other – Please Specify: _____

What is your relationship status? Please check all that apply.

- ☐ Single
- ☐ In a relationship, not cohabitating
- ☐ In a relationship, cohabitating
- ☐ Married or in a domestic partnership
- ☐ Separated/Divorced/Widowed
- ☐ Other – Please Specify: _____

How many siblings do you have, either living or deceased? ☐

How many children do you currently have? ☐

[*The final two questions were only presented to participants who indicated on the previous question that they currently have zero children*]

If you do not have children already, do you intend to have children?

- ☐ Yes
- ☐ No
- ☐ Not Certain

How do you currently identify your parental status?

- ☐ Permanently childfree-by-choice
- ☐ Temporarily childfree-by-choice
- ☐ Involuntarily childless
- ☐ Other – Please Specify: _____

Appendix B

Right-Wing Authoritarianism Scale

Please select the answer that best describes your response to each statement below.

---

1. Our country needs a powerful leader, in order to destroy the radical and immoral currents prevailing in society today.

Very Negative			Neutral			Very Positive
1	2	3	4	5	6	7
☐	☐	☐	☐	☐	☐	☐

2. Our country needs free thinkers, who will have the courage to stand up against traditional ways, even if this upsets many people.

Very Negative			Neutral			Very Positive
1	2	3	4	5	6	7
☐	☐	☐	☐	☐	☐	☐

3. The “old-fashioned ways” and “old-fashioned values” still show the best way to live.

Very Negative			Neutral			Very Positive
1	2	3	4	5	6	7
☐	☐	☐	☐	☐	☐	☐

4. Our society would be better off if we showed tolerance and understanding for untraditional values and opinions.

Very Negative			Neutral			Very Positive
1	2	3	4	5	6	7
☐	☐	☐	☐	☐	☐	☐

5. God's laws about abortion, pornography and marriage must be strictly followed before it is too late, violations must be punished.

Very Negative			Neutral			Very Positive
1	2	3	4	5	6	7
☐	☐	☐	☐	☐	☐	☐

6. Society needs to show openness towards people thinking differently, rather than a strong leader, the world is not particularly evil or dangerous.

Very Negative			Neutral			Very Positive
1	2	3	4	5	6	7
☐	☐	☐	☐	☐	☐	☐

7. It would be best if newspapers were censored so that people would not be able to get hold of destructive and disgusting material.

Very Negative			Neutral			Very Positive
1	2	3	4	5	6	7
☐	☐	☐	☐	☐	☐	☐

8. Many good people challenge the state, criticize the church and ignore "the normal way of living".

Very Negative			Neutral			Very Positive
1	2	3	4	5	6	7
☐	☐	☐	☐	☐	☐	☐

9. Our forefathers ought to be honored more for the way they have built our society, at the same time we ought to put an end to those forces destroying it.

Very Negative			Neutral			Very Positive
1	2	3	4	5	6	7
☐	☐	☐	☐	☐	☐	☐

10. People ought to pay less attention to the Bible and religion, instead they ought to develop their own moral standards.

Very Negative			Neutral			Very Positive
1	2	3	4	5	6	7
☐	☐	☐	☐	☐	☐	☐

11. There are many radical, immoral people trying to ruin things; society ought to stop them.

Very Negative			Neutral			Very Positive
1	2	3	4	5	6	7
☐	☐	☐	☐	☐	☐	☐

12. It is better to accept bad literature than to censor it.

Very Negative			Neutral			Very Positive
1	2	3	4	5	6	7
☐	☐	☐	☐	☐	☐	☐

13. Facts show that we have to be harder against crime and sexual immorality, in order to uphold law and order.

Very Negative			Neutral			Very Positive
1	2	3	4	5	6	7
☐	☐	☐	☐	☐	☐	☐

14. The situation in society of today would be improved if troublemakers were treated with reason and humanity.

Very Negative			Neutral			Very Positive
1	2	3	4	5	6	7
☐	☐	☐	☐	☐	☐	☐

15. If society so wants, it is the duty of every true citizen to help eliminate the evil that poisons our country from within.

Very Negative			Neutral			Very Positive
1	2	3	4	5	6	7
☐	☐	☐	☐	☐	☐	☐

Appendix C

Internal and External Motivation to Respond Without Sexism

Please indicate the strength of your personal agreement or disagreement with each of the following statements by selecting a number below.

---

1. According to my personal values, using stereotypes about women is OK.

Strongly Disagree				Neutral				Strongly Agree
1	2	3	4	5	6	7	8	9
☐	☐	☐	☐	☐	☐	☐	☐	☐

2. Because of today's PC (politically correct) standards I try to appear nonsexist toward women.

Strongly Disagree				Neutral				Strongly Agree
1	2	3	4	5	6	7	8	9
☐	☐	☐	☐	☐	☐	☐	☐	☐

3. I am personally motivated by my beliefs to be nonsexist toward women.

Strongly Disagree				Neutral				Strongly Agree
1	2	3	4	5	6	7	8	9
☐	☐	☐	☐	☐	☐	☐	☐	☐

4. I try to hide any negative thoughts about women in order to avoid negative reactions from others.

Strongly Disagree				Neutral				Strongly Agree
1	2	3	4	5	6	7	8	9
☐	☐	☐	☐	☐	☐	☐	☐	☐

5. Being nonsexist toward women is important to my self-concept.

Strongly Disagree				Neutral				Strongly Agree
1	2	3	4	5	6	7	8	9
☐	☐	☐	☐	☐	☐	☐	☐	☐

6. If I acted sexist toward women, I would be concerned that others would be angry with me.

Strongly Disagree				Neutral				Strongly Agree
1	2	3	4	5	6	7	8	9
☐	☐	☐	☐	☐	☐	☐	☐	☐

7. Because of my personal values, I believe that using stereotypes about women is wrong.

Strongly Disagree				Neutral				Strongly Agree
1	2	3	4	5	6	7	8	9
☐	☐	☐	☐	☐	☐	☐	☐	☐

8. I attempt to appear nonsexist toward women in order to avoid disapproval from others.

Strongly Disagree				Neutral				Strongly Agree
1	2	3	4	5	6	7	8	9
☐	☐	☐	☐	☐	☐	☐	☐	☐

9. I attempt to act in nonsexist ways toward women because it is personally important to me.

Strongly Disagree				Neutral				Strongly Agree
1	2	3	4	5	6	7	8	9
☐	☐	☐	☐	☐	☐	☐	☐	☐

10. I try to act in nonsexist ways because of pressure from others.

Strongly Disagree				Neutral				Strongly Agree
1	2	3	4	5	6	7	8	9
☐	☐	☐	☐	☐	☐	☐	☐	☐

Appendix D

Ambivalent Sexism Inventory

Below is a series of statements concerning men and women and their relationships in contemporary society. Please indicate the degree to which you agree or disagree with each statement using the following scale: 0 = disagree strongly; 1 = disagree somewhat; 2 = disagree slightly; 3 = agree slightly; 4 = agree somewhat; 5 = agree strongly.

---

1. No matter how accomplished he is, a man is not truly complete as a person unless he has the love of a woman.

Disagree Strongly	Disagree Somewhat	Disagree Slightly	Agree Slightly	Agree Somewhat	Agree Strongly
0	1	2	3	4	5
☐	☐	☐	☐	☐	☐

2. Many women are actually seeking special favors, such as hiring policies that favor them over men, under the guise of asking for "equality."

Disagree Strongly	Disagree Somewhat	Disagree Slightly	Agree Slightly	Agree Somewhat	Agree Strongly
0	1	2	3	4	5
☐	☐	☐	☐	☐	☐

3. In a disaster, women ought not necessarily to be rescued before men.

Disagree Strongly	Disagree Somewhat	Disagree Slightly	Agree Slightly	Agree Somewhat	Agree Strongly
0	1	2	3	4	5
☐	☐	☐	☐	☐	☐

4. Most women interpret innocent remarks or acts as being sexist.

Disagree Strongly	Disagree Somewhat	Disagree Slightly	Agree Slightly	Agree Somewhat	Agree Strongly
0	1	2	3	4	5
☐	☐	☐	☐	☐	☐

5. Women are too easily offended.

Disagree Strongly	Disagree Somewhat	Disagree Slightly	Agree Slightly	Agree Somewhat	Agree Strongly
0	1	2	3	4	5
☐	☐	☐	☐	☐	☐

6. People are often truly happy in life without being romantically involved with a member of the other sex.

Disagree Strongly	Disagree Somewhat	Disagree Slightly	Agree Slightly	Agree Somewhat	Agree Strongly
0	1	2	3	4	5
☐	☐	☐	☐	☐	☐

7. Feminists are not seeking for women to have more power than men.

Disagree Strongly	Disagree Somewhat	Disagree Slightly	Agree Slightly	Agree Somewhat	Agree Strongly
0	1	2	3	4	5
☐	☐	☐	☐	☐	☐

8. Many women have a quality of purity that few men possess.

Disagree Strongly	Disagree Somewhat	Disagree Slightly	Agree Slightly	Agree Somewhat	Agree Strongly
0	1	2	3	4	5
☐	☐	☐	☐	☐	☐

9. Women should be cherished and protected by men.

Disagree Strongly	Disagree Somewhat	Disagree Slightly	Agree Slightly	Agree Somewhat	Agree Strongly
0	1	2	3	4	5
					☐
☐	☐	☐	☐	☐	

10. Most women fail to appreciate fully all that men do for them.

Disagree Strongly	Disagree Somewhat	Disagree Slightly	Agree Slightly	Agree Somewhat	Agree Strongly
0	1	2	3	4	5
☐	☐	☐	☐	☐	☐

11. Women seek to gain power by getting control over men.

Disagree Strongly	Disagree Somewhat	Disagree Slightly	Agree Slightly	Agree Somewhat	Agree Strongly
0	1	2	3	4	5
☐	☐	☐	☐	☐	☐

12. Every man ought to have a woman whom he adores.

Disagree Strongly	Disagree Somewhat	Disagree Slightly	Agree Slightly	Agree Somewhat	Agree Strongly
0	1	2	3	4	5
☐	☐	☐	☐	☐	☐

13. Men are complete without women.

Disagree Strongly	Disagree Somewhat	Disagree Slightly	Agree Slightly	Agree Somewhat	Agree Strongly
0	1	2	3	4	5
☐	☐	☐	☐	☐	☐

14. Women exaggerate problems they have at work.

Disagree Strongly	Disagree Somewhat	Disagree Slightly	Agree Slightly	Agree Somewhat	Agree Strongly
0	1	2	3	4	5
☐	☐	☐	☐	☐	☐

15. Once a woman gets a man to commit to her, she usually tries to put him on a tight leash.

Disagree Strongly	Disagree Somewhat	Disagree Slightly	Agree Slightly	Agree Somewhat	Agree Strongly
0	1	2	3	4	5
☐	☐	☐	☐	☐	☐

16. When women lose to men in a fair competition, they typically complain about being discriminated against.

Disagree Strongly	Disagree Somewhat	Disagree Slightly	Agree Slightly	Agree Somewhat	Agree Strongly
0	1	2	3	4	5
☐	☐	☐	☐	☐	☐

17. A good woman should be set on a pedestal by her man.

Disagree Strongly	Disagree Somewhat	Disagree Slightly	Agree Slightly	Agree Somewhat	Agree Strongly
0	1	2	3	4	5
☐	☐	☐	☐	☐	☐

18. There are actually very few women who get a kick out of teasing men by seeming sexually available and then refusing male advances.

Disagree Strongly	Disagree Somewhat	Disagree Slightly	Agree Slightly	Agree Somewhat	Agree Strongly
0	1	2	3	4	5
☐	☐	☐	☐	☐	☐

19. Women, compared to men, tend to have a superior moral sensibility.

Disagree Strongly	Disagree Somewhat	Disagree Slightly	Agree Slightly	Agree Somewhat	Agree Strongly
0	1	2	3	4	5
☐	☐	☐	☐	☐	☐

20. Men should be willing to sacrifice their own well being in order to provide financially for the women in their lives.

Disagree Strongly	Disagree Somewhat	Disagree Slightly	Agree Slightly	Agree Somewhat	Agree Strongly
0	1	2	3	4	5
☐	☐	☐	☐	☐	☐

21. Feminists are making entirely reasonable demands of men.

Disagree Strongly	Disagree Somewhat	Disagree Slightly	Agree Slightly	Agree Somewhat	Agree Strongly
0	1	2	3	4	5
☐	☐	☐	☐	☐	☐

22. Women, as compared to men, tend to have a more refined sense of culture and good taste.

Disagree Strongly	Disagree Somewhat	Disagree Slightly	Agree Slightly	Agree Somewhat	Agree Strongly
0	1	2	3	4	5
☐	☐	☐	☐	☐	☐

Appendix E

Gender-Specific System Justification Scale

Please indicate the strength of your personal agreement or disagreement with each of the following statements by selecting a number below.

---

1. In general, relations between men and women are fair.

Strongly Disagree				Neutral				Strongly Agree
1	2	3	4	5	6	7	8	9
☐	☐	☐	☐	☐	☐	☐	☐	☐

2. The division of labor in families generally operates as it should.

Strongly Disagree				Neutral				Strongly Agree
1	2	3	4	5	6	7	8	9
☐	☐	☐	☐	☐	☐	☐	☐	☐

3. Gender roles need to be radically restructured.

Strongly Disagree				Neutral				Strongly Agree
1	2	3	4	5	6	7	8	9
☐	☐	☐	☐	☐	☐	☐	☐	☐

4. For women, the United States is the best country in the world to live in.

Strongly Disagree				Neutral				Strongly Agree
1	2	3	4	5	6	7	8	9
☐	☐	☐	☐	☐	☐	☐	☐	☐

5. Most policies relating to gender and the sexual division of labor serve the greater good.

Strongly Disagree				Neutral				Strongly Agree
1	2	3	4	5	6	7	8	9
☐	☐	☐	☐	☐	☐	☐	☐	☐

6. Everyone (male or female) has a fair shot at wealth and happiness.

Strongly Disagree				Neutral				Strongly Agree
1	2	3	4	5	6	7	8	9
☐	☐	☐	☐	☐	☐	☐	☐	☐

7. Sexism in society is getting worse every year.

Strongly Disagree				Neutral				Strongly Agree
1	2	3	4	5	6	7	8	9
☐	☐	☐	☐	☐	☐	☐	☐	☐

8. Society is set up so that men and women usually get what they deserve.

Strongly Disagree				Neutral				Strongly Agree
1	2	3	4	5	6	7	8	9
☐	☐	☐	☐	☐	☐	☐	☐	☐

Appendix F

Femininity Ideology Scale

Please indicate the strength of your personal agreement or disagreement with each of the following statements by selecting a number below.

---

1. It is more appropriate for a female to be a teacher than a principal.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
1	2	3	4	5
☐	☐	☐	☐	☐

2. When someone's feelings are hurt, a woman should try to make them feel better.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
1	2	3	4	5
☐	☐	☐	☐	☐

3. A woman should not marry a younger man.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
1	2	3	4	5
☐	☐	☐	☐	☐

4. A woman should not make more money than her partner.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
1	2	3	4	5
☐	☐	☐	☐	☐

5. If a woman chooses to have an abortion, she should feel guilty.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
1	2	3	4	5
☐	☐	☐	☐	☐

6. Women should have men make decisions for them.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
1	2	3	4	5
☐	☐	☐	☐	☐

7. An appropriate female occupation is nursing.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
1	2	3	4	5
☐	☐	☐	☐	☐

8. A woman should not initiate sex.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
1	2	3	4	5
☐	☐	☐	☐	☐

9. A woman's worth should be measured by the success of her partner.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
1	2	3	4	5
☐	☐	☐	☐	☐

10. Women should not want to succeed in the business world because men will not want to marry them.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
1	2	3	4	5
☐	☐	☐	☐	☐

11. A woman should not expect to be sexually satisfied by her partner.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
1	2	3	4	5
☐	☐	☐	☐	☐

12. A woman should not swear.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
1	2	3	4	5
☐	☐	☐	☐	☐

13. A woman should not be competitive.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
1	2	3	4	5
☐	☐	☐	☐	☐

14. A woman should know how people are feeling.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
1	2	3	4	5
☐	☐	☐	☐	☐

15. A woman should remain a virgin until she is married.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
1	2	3	4	5
☐	☐	☐	☐	☐

16. A woman should not consider her career as important as a man's.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
1	2	3	4	5
☐	☐	☐	☐	☐

17. A woman's natural role should be the caregiver of the family.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
1	2	3	4	5
☐	☐	☐	☐	☐

18. Women should act helpless to attract a man.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
1	2	3	4	5
☐	☐	☐	☐	☐

19. A woman should wear attractive clothing, shoes, lingerie and bathing suits, even if not comfortable.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
1	2	3	4	5
☐	☐	☐	☐	☐

20. It is expected that a woman who expresses irritation or anger must be going through P.M.S.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
1	2	3	4	5
☐	☐	☐	☐	☐

21. Women should be gentle.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
1	2	3	4	5
☐	☐	☐	☐	☐

22. A woman should be dependent on religion and spirituality for guidance.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
1	2	3	4	5
☐	☐	☐	☐	☐

23. A woman should have a petite body.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
1	2	3	4	5
☐	☐	☐	☐	☐

24. A woman should be responsible for making and organizing family plans.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
1	2	3	4	5
☐	☐	☐	☐	☐

25. Women should not read pornographic material.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
1	2	3	4	5
☐	☐	☐	☐	☐

26. It is not acceptable for a woman to masturbate.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
1	2	3	4	5
☐	☐	☐	☐	☐

27. A woman should not show anger.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
1	2	3	4	5
☐	☐	☐	☐	☐

28. Women should have soft voices.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
1	2	3	4	5
☐	☐	☐	☐	☐

29. Women should have large breasts.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
1	2	3	4	5
☐	☐	☐	☐	☐

30. A woman should not tell dirty jokes.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
1	2	3	4	5
☐	☐	☐	☐	☐

31. A girl should be taught how to catch a husband.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
1	2	3	4	5
☐	☐	☐	☐	☐

32. A woman should not have a baby until she is married.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
1	2	3	4	5
☐	☐	☐	☐	☐

33. It is expected that women will not think logically.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
1	2	3	4	5
☐	☐	☐	☐	☐

34. It is expected that women will discuss their feelings with one another.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
1	2	3	4	5
☐	☐	☐	☐	☐

35. Women should dress conservatively so they do not appear loose.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
1	2	3	4	5
☐	☐	☐	☐	☐

36. It is expected that women will have a hard time handling stress without getting emotional.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
1	2	3	4	5
☐	☐	☐	☐	☐

37. It is expected that women in leadership roles will not be taken seriously.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
1	2	3	4	5
☐	☐	☐	☐	☐

38. A woman should be responsible for teaching family values to her children.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
1	2	3	4	5
☐	☐	☐	☐	☐

39. It is expected that women will be viewed as overly emotional.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
1	2	3	4	5
☐	☐	☐	☐	☐

40. It is expected that a single woman is less fulfilled than a married woman.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
1	2	3	4	5
☐	☐	☐	☐	☐

41. A woman should not be expected to do mechanical things.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
1	2	3	4	5
☐	☐	☐	☐	☐

42. It is expected that a woman will engage in domestic hobbies such as sewing and decorating.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
1	2	3	4	5
☐	☐	☐	☐	☐

43. It is unlikely that a pregnant woman would be attractive.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
1	2	3	4	5
☐	☐	☐	☐	☐

44. It is likely that a woman who gives up custody of her children will not be respected.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
1	2	3	4	5
☐	☐	☐	☐	☐

45. Girls should not enjoy “tomboy” activities.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
1	2	3	4	5
☐	☐	☐	☐	☐

Appendix G

Attitudes Regarding the Disadvantages of Being Childfree

Please indicate your level of agreement with the following statements. Select a value from 1 to 5. A value of 1 would indicate that you strongly disagree and a value of 5 would indicate that you strongly agree.

---

1. Women who are **permanently childfree-by-choice** are more likely to be lonely in their older years than women who have had children.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
1	2	3	4	5
☐	☐	☐	☐	☐

2. Couples who are permanently childfree-by-choice are more likely to lead empty lives than couples with children.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
1	2	3	4	5
☐	☐	☐	☐	☐

3. Marriages that are permanently childfree-by-choice are more likely to end in divorce than are marriages where there are children.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
1	2	3	4	5
☐	☐	☐	☐	☐

4. A woman who is permanently childfree-by-choice is likely to feel unfulfilled unless she becomes a mother.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
1	2	3	4	5
☐	☐	☐	☐	☐

Appendix H

Evaluation Thermometer for Childfree Women

Select a number between 0 and 100 to indicate your overall evaluation of women who are **permanently childfree-by-choice**.		
	100˚	extremely favorable
	90˚	very favorable
	80˚	quite favorable
	70˚	fairly favorable
	60˚	slightly favorable
	50˚	neutral
	40˚	slightly unfavorable
	30˚	fairly unfavorable
	20˚	quite unfavorable
	10˚	very unfavorable
	0˚	extremely unfavorable

Appendix I

Interpersonal Warmth Rating Scale

Please rate women who are **permanently childfree-by-choice** for the following pairs of opposite characteristics. Select a value from 1 to 7 that best represents women who are permanently childfree-by-choice for that characteristic. For example, a value of 1 would indicate that you think that women who are permanently childfree-by-choice are warm. In contrast, selecting a value of 7 would indicate that you think they are cold.

Caring			Neutral			Uncaring
1	2	3	4	5	6	7
☐	☐	☐	☐	☐	☐	☐
Feminine			Neutral			Masculine
1	2	3	4	5	6	7
☐	☐	☐	☐	☐	☐	☐
Happy			Neutral			Unhappy
1	2	3	4	5	6	7
☐	☐	☐	☐	☐	☐	☐
Kind			Neutral			Unkind
1	2	3	4	5	6	7
☐	☐	☐	☐	☐	☐	☐

Likable			Neutral			Unlikable
1	2	3	4	5	6	7
☐	☐	☐	☐	☐	☐	☐
Nurturing			Neutral			Not Nurturing
1	2	3	4	5	6	7
☐	☐	☐	☐	☐	☐	☐
Sensitive			Neutral			Insensitive
1	2	3	4	5	6	7
☐	☐	☐	☐	☐	☐	☐
Sincere			Neutral			Insincere
1	2	3	4	5	6	7
☐	☐	☐	☐	☐	☐	☐
Traditional			Neutral			Non-traditional
1	2	3	4	5	6	7
☐	☐	☐	☐	☐	☐	☐
Warm			Neutral			Cold
1	2	3	4	5	6	7
☐	☐	☐	☐	☐	☐	☐
Well-Adjusted			Neutral			Not Well-Adjusted
1	2	3	4	5	6	7
☐	☐	☐	☐	☐	☐	☐

Appendix J

Instructional Manipulation Checks

1. "What is the fifth word in this question: '*How many rivers are in the U.S.?*'"

   ☐

2. Research shows that people, when answering questions, prefer not to pay attention and minimize their effort as much as possible. Some studies show that over 50% of people don't carefully read questions. If you are reading this question and have read all the other questions, please select the box marked "Other" and type "parental status" in the space provided. Do not select "Your attitudes." Thank you for participating and taking the time to read through the questions carefully!

   What was this study about?

   ☐ Your attitudes

   ☐ Your friends' attitudes

   ☐ Political preferences

   ☐ Other: _____

3. Please select 2 for this question.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
1	2	3	4	5
☐	☐	☐	☐	☐

4. Realistically, I know some MTurk responders do not pay close attention to the questions they are answering. This affects the quality of my data. Please select one of the following honestly. Your answer is confidential. It will not affect whether or not you receive payment and will not affect any rating given to you for your work. Did you pay attention and answer honestly?

   ☐ Yes, keep my data

   ☐ No, delete my data

Appendix K

Exploratory Analyses with Four Demographic Covariates

The current study permitted up to four demographic covariates of prejudice measures in primary analyses, which preliminary analyses indicated were being male, Republican, not intending to have children, and being uncertain about having children. However, small sample sizes for not intending to have children (n = 180) and being uncertain about having children (n = 99) precluded their use as demographic covariates in primary analyses. Thus, exploratory analyses that included not intending to have children and being uncertain about having children (in addition to being male and Republican) were conducted for Hypotheses 1-5 (hereafter referred to as Hypotheses K1-5). The results of these analyses are presented here.

Hypotheses K1 and K2

Three three-step hierarchical regression analyses assessed relations between RWA, IMS-S, EMS-S, and the dependent variables (Childfree Disadvantages, Childfree Evaluations, Childfree Warmth). In all regressions, the first step included the four demographic covariates identified in preliminary analyses (i.e., being male, Republican, not intending to have children, and being uncertain about having children). The second step included RWAS scores to account for variance in attitudes due to the tendency toward generalized prejudice, and assessed Hypothesis K1. The third step included IMS-S and EMS-S and assessed Hypothesis K2. Results from these analyses are presented in Table K1.

The first three-step hierarchical regression assessed the association of RWA, IMS-S, and EMS-S with Childfree Disadvantages. In the first step of the hierarchical multiple regression, the four demographic covariates did not significantly predict Childfree Disadvantages, $\Delta F(4, 33) = 1.03$, $p = .41$, $R^2 = .11$, ($\Delta R^2 = .11$) and accounted for 11.1% of the variance in Childfree Disadvantages. Introducing RWA in the second step led to a significant change in R^2, $\Delta F(1, 32) = 7.63$, $p = .01$, $R^2 = .28$, ($\Delta R^2 = .17$), and explained an additional 17% of variance in Childfree Disadvantages. Supporting Hypothesis K1, RWAS was positively associated with greater perceived Childfree Disadvantages $t(32) = 2.76$, $p = .01$, $\beta = .47$. Adding IMS-S and EMS-S to the regression model in the third step explained an additional 6% of the variance in Childfree Disadvantages, but the change in R^2 was nonsignificant, $\Delta F(2, 30) = 1.37$, $p = .27$, $R^2 = .34$, ($\Delta R^2 = .06$). The final model was also nonsignificant, $F(7, 30) = 2.23$, $p = .06$. Together, these seven predictors accounted for 34.2% of the variance in Childfree Disadvantages.

The second three-step hierarchical regression was conducted to assess the association of RWA, IMS-S, and EMS-S with Childfree Evaluations. In the first step of the hierarchical multiple regression, the four demographic covariates did not significantly predict Childfree Evaluations, $\Delta F(4, 33) = .95$, $p = .45$, $R^2 = .10$, ($\Delta R^2 = .10$) and accounted for 10.4% of the variance in Childfree Evaluations. Introducing RWA in the second step did not significantly change R^2, $\Delta F(1, 32) = .80$, $p = .38$, $R^2 = .13$, ($\Delta R^2 = .02$), and explained an additional 2.2% of variance in Childfree Evaluations. Adding IMS-S and EMS-S to the regression model in the third step explained an additional 16.3% of the variance in Childfree Evaluations and led to a significant change in R^2, $\Delta F(2, 30) = 3.44$, $p = .045$, $R^2 = .29$, ($\Delta R^2 = .16$). In the third step, IMS-S, $t(30) = 2.32$, $p = .03$, $\beta = .40$, was a significant predictor of Childfree Evaluations; as participants endorsed greater internal motivation to respond without sexism, they also reported more positive evaluations of childfree women. EMS-S was not a significant predictor of

Childfree Evaluations, $t(30) = -1.18$, $p = .25$, $\beta = -.20$. The final model was nonsignificant, $F(7, 30) = 1.74$, $p = .14$. Together, these seven predictors accounted for 28.9% of the variance in Childfree Evaluations.

The third three-step hierarchical regression was conducted to assess the association of RWA, IMS-S, and EMS-S with Childfree Warmth. In the first step of the hierarchical multiple regression, the four demographic covariates did not significantly predict Childfree Warmth, $\Delta F(4, 34) = .53$, $p = .71$, $R^2 = .06$, ($\Delta R^2 = .06$) and accounted for 5.9% of the variance in Childfree Warmth. Introducing RWA in the second step did not significantly change R^2, $\Delta F(1, 33) = 2.19$, $p = .15$, $R^2 = .12$, ($\Delta R^2 = .06$), and explained an additional 5.9% of variance in Childfree Warmth. Adding IMS-S and EMS-S to the regression model in the third step explained an additional 10.5% of the variance in Childfree Warmth, but did not significantly change R^2, $\Delta F(2, 31) = 2.09$, $p = .14$, $R^2 = .22$, ($\Delta R^2 = .11$). The final model was also nonsignificant, $F(7, 31) = 1.27$, $p = .30$. Together, these seven predictors accounted for 22.2% of the variance in Childfree Warmth.

Table K1.

Hierarchical Multiple Linear Regression Models for Hypotheses K1 and K2

	Dependent Variable: Childfree Disadvantages[a]							
Step and Variable(s)	*df*	R^2	ΔR^2	ΔF	*B*	*SE B*	β	*t*
1. Demographic Covariates	(4, 33)	.11	.11	1.03				
Male					1.82	1.27	.24	1.43
Republican					2.34	1.66	.24	1.41
Uncertain about children					.25	1.67	.03	.15
No intention to have children					1.05	1.63	.14	.65
2. RWAS	(1, 32)	.28	.17	7.63**	1.35	.49	.47	2.76**
3. Motivation	(2, 30)	.34	.06	1.37				
IMS-S					-.48	.37	-.21	-1.29
EMS-S					.34	.33	.17	1.02

(table continues)

Table K1 (continued).

Hierarchical Multiple Linear Regression Models for Hypotheses K1 and K2

	Dependent Variable: Childfree Evaluations[b]							
Step and Variable(s)	*df*	R^2	ΔR^2	ΔF	*B*	*SE B*	β	*t*
1. Demographic Covariates	(4, 33)	.10	.10	.95				
Male					-7.24	8.33	-.15	-.87
Republican					-13.96	10.84	-.22	-1.29
Uncertain about children					12.62	10.93	.24	1.16
No intention to have children					.79	10.64	.02	.07
2. RWAS	(1, 32)	.13	.02	.80	-3.14	3.51	-.17	-.90
3. Motivation	(2, 30)	.29	.16	3.44*				
IMS-S					5.83	2.51	.40	2.32*
EMS-S					-2.64	2.24	-.20	-1.18

	Dependent Variable: Childfree Warmth[c]							
Step and Variable(s)	*df*	R^2	ΔR^2	ΔF	*B*	*SE B*	β	*t*
1. Demographic Covariates	(4, 34)	.06	.06	.53				
Male					3.97	4.83	.14	.82
Republican					-.69	6.29	-.02	-.11
Uncertain about children					-7.52	6.34	-.25	-1.19
No intention to have children					-6.88	6.17	-.24	-1.12
2. RWAS	(1, 33)	.12	.06	2.19	2.95	2.00	.27	1.48
3. Motivation	(2, 31)	.22	.11	2.09				
IMS-S					-2.52	1.48	-.30	-1.70
EMS-S					1.47	1.32	.19	1.11

Note. RWAS = Right-Wing Authoritarian Scale; IMS-S = Internal Motivation to Respond Without Sexism Scale; EMS-S = External Motivation to Respond Without Sexism Scale; Betas (β) are reported at the steps in which variables were entered.
[a] Final model for Childfree Disadvantages: $R^2 = .34$, $F(7, 30) = 2.23$, $p = .06$
[b] Final model for Childfree Evaluations: $R^2 = .29$, $F(7, 30) = 1.74$, $p = .14$
[c] Final model for Childfree Warmth: $R^2 = .22$, $F(7, 31) = 1.27$, $p = .30$
*$p < .05$, **$p < .01$

Hypothesis K3

Three three-step hierarchical regression analyses were conducted to assess the relation between HS, BS, and each of the dependent variables (Childfree Disadvantages, Childfree Evaluations, Childfree Warmth). In all three regressions, the first step included the four

demographic covariates identified in preliminary analyses (i.e., being male, Republican, not intending to have children, and being uncertain about having children). The second step included RWAS scores to account for variance in attitudes due to the tendency toward generalized prejudice. The third step included HS and BS scores. Results from these analyses are presented in Table K2.

The first three-step hierarchical regression was conducted to assess the association of HS and BS with Childfree Disadvantages. In the first step of the hierarchical multiple regression, the four demographic covariates did not significantly predict Childfree Disadvantages, $\Delta F(4, 33) = 2.35$, $p = .07$, $R^2 = .22$, ($\Delta R^2 = .22$) and accounted for 22.2% of the variance in Childfree Disadvantages. Introducing RWA in the second step led to a significant change in R^2, $\Delta F(1, 32) = 9.35$, $p = .00$, $R^2 = .40$, ($\Delta R^2 = .18$), and explained an additional 18.0% of variance in Childfree Disadvantages. RWAS was positively associated with greater perceived Childfree Disadvantages, $t(32) = 3.06$, $p = .004$, $\beta = .51$, such that greater endorsement of RWA was related to more perceived disadvantages of being childfree. Adding HS and BS to the regression model in the third step explained an additional 8.9% of the variance in Childfree Disadvantages, but the change in R^2 was nonsignificant, $\Delta F(2, 30) = 2.60$, $p = .09$, $R^2 = .49$, ($\Delta R^2 = .09$). Together, these seven predictors accounted for 48.7% of the variance in Childfree Disadvantages. The final model was significant, $F(7, 30) = 4.07$, $p = .003$, with not intending to have children, $t(30) = -2.32$, $p = .03$, $\beta = -.36$, and BS, $t(30) = 2.17$, $p = .04$, $\beta = .37$, as significant predictors. Specifically, participants who did not intend to have children perceived fewer disadvantages of being childfree, whereas participants endorsing BS perceived greater disadvantages.

The second three-step hierarchical regression was conducted to assess the association of HS and BS with Childfree Evaluations. In the first step of the hierarchical multiple regression,

the four demographic covariates did not significantly predict Childfree Evaluations, $\Delta F(4, 33) = 2.13$, $p = .10$, $R^2 = .21$, ($\Delta R^2 = .21$) and accounted for 20.5% of the variance in Childfree Evaluations. Introducing RWA in the second step led to a significant change in R^2, $\Delta F(1, 32) = 5.87$, $p = .02$, $R^2 = .33$, ($\Delta R^2 = .12$), and explained an additional 12.3% of variance in Childfree Evaluations. RWAS was negatively associated with greater perceived Childfree Evaluations, $t(32) = -2.42$, $p = .02$, $\beta = -.43$, such that greater endorsement of RWA was related to more unfavorable evaluations of childfree women. Adding HS and BS to the regression model in the third step explained 2.1% of the variance in Childfree Evaluations, but there was no significant change in R^2, $\Delta F(2, 30) = .49$, $p = .62$, $R^2 = .35$, ($\Delta R^2 = .02$). Together, these seven predictors accounted for 35% of the variance in Childfree Evaluations. The final model was also significant, $F(7, 30) = 2.31$, $p = .05$. Not intending to have children, $t(30) = 2.32$, $p = .03$, $\beta = .40$, was the only significant predictor in the final model, such that participants who did not intend to have children were likely to report favorable evaluations of childfree women.

Table K2.

Hierarchical Multiple Linear Regression Models for Hypothesis K3

	Dependent Variable: Childfree Disadvantages[a]							
Step and Variable(s)	*df*	R^2	ΔR^2	ΔF	*B*	*SE B*	β	*t*
1. Demographic Covariates	(4, 33)	.22	.22	2.35				
Male					2.06	1.32	.24	1.56
Republican					2.20	1.40	.25	1.57
Uncertain about children					-3.37	2.11	-.27	-1.60
No intention to have children					-3.69	1.45	-.45	-2.54
2. RWAS	(1, 32)	.40	.18	9.35**	1.62	.53	.51	3.06**
3. Ambivalent Sexism	(2, 30)	.49	.09	2.60				
Hostile Sexism					.29	.66	.09	.45
Benevolent Sexism					1.37	.63	.37	2.17*

(table continues)

Table K2 (continued).

Hierarchical Multiple Linear Regression Models for Hypothesis K3

	Dependent Variable: Childfree Evaluations[b]							
Step and Variable(s)	*df*	R^2	ΔR^2	ΔF	*B*	*SE B*	β	*t*
1. Demographic Covariates	(4, 33)	.21	.21	2.13				
Male					-10.92	8.52	-.20	-1.28
Republican					-11.58	9.06	-.21	-1.28
Uncertain about children					20.15	13.66	.26	1.48
No intention to have children					24.92	9.38	.47	2.66*
2. RWAS	(1, 32)	.33	.12	5.87*	-8.67	3.58	-.43	-2.42*
3. Ambivalent Sexism	(2, 30)	.35	.02	.49				
Hostile Sexism					-3.17	4.75	-.14	-.67
Benevolent Sexism					-2.99	4.53	-.13	-.67

	Dependent Variable: Childfree Warmth[c]							
Step and Variable(s)	*df*	R^2	ΔR^2	ΔF	*B*	*SE B*	β	*t*
1. Demographic Covariates	(4, 33)	.20	.20	2.07				
Male					7.02	4.27	.26	1.64
Republican					5.03	4.55	.18	1.11
Uncertain about children					-14.35	6.86	-.36	-2.09*
No intention to have children					-9.13	4.71	-.35	-1.94
2. RWAS	(1, 32)	.22	.02	.74	1.67	1.93	.16	.86
3. Ambivalent Sexism	(2, 30)	.23	.01	.15				
Hostile Sexism					1.34	2.60	.12	.52
Benevolent Sexism					.36	2.47	.03	.15

Note. RWAS = Right-Wing Authoritarian Scale; Betas (β) are reported at the steps in which variables were entered.
[a] Final model for Childfree Disadvantages: $R^2 = .49$, $F(7, 30) = 4.07$, $p = .003$
[b] Final model for Childfree Evaluations: $R^2 = .35$, $F(7, 30) = 2.31$, $p = .05$
[c] Final model for Childfree Warmth: $R^2 = .23$, $F(7, 30) = 1.26$, $p = .30$
*$p < .05$, **$p < .01$

The third three-step hierarchical regression was conducted to assess the association of HS and BS with Childfree Warmth. In the first step of the hierarchical multiple regression, the four demographic covariates did not significantly predict Childfree Warmth, $\Delta F(4, 33) = 2.07$, $p = .11$, $R^2 = .20$, ($\Delta R^2 = .20$) and accounted for 20.1% of the variance in Childfree Warmth.

Introducing RWA in the second step did not significantly change R^2, $\Delta F(1, 32) = .74$, $p = .40$, $R^2 = .22$, ($\Delta R^2 = .02$), and explained an additional 1.8% of variance in Childfree Warmth. Adding HS and BS to the regression model in the third step explained .8% of the variance in Childfree Warmth, but did not significantly change R^2, $\Delta F(2, 30) = .15$, $p = .86$, $R^2 = .23$, ($\Delta R^2 = .01$). The final model was also nonsignificant, $F(7, 30) = 1.26$, $p = .30$. Together, these seven predictors accounted for 22.7% of the variance in Childfree Evaluations.

Hypothesis K4

Three three-step hierarchical regression analyses were conducted to assess the relation between GSSJS and each of the dependent variables (Childfree Disadvantages, Childfree Evaluations, Childfree Warmth). In all three regressions, the first step included the four demographic covariates identified in preliminary analyses (i.e., being male, Republican, not intending to have children, and being uncertain about having children). The second step included RWAS scores to account for variance in attitudes due to the tendency toward generalized prejudice. The third step included GSSJS scores. Results from these analyses are presented in Table K3.

The first three-step hierarchical regression was conducted to assess the association of GSSJS with Childfree Disadvantages. In the first step of the hierarchical multiple regression, the four demographic covariates significantly predicted Childfree Disadvantages, $\Delta F(4, 46) = 6.75$, $p < .001$, $R^2 = .37$, ($\Delta R^2 = .37$) and accounted for 37% of the variance in Childfree Disadvantages. Being a man, $t(46) = 2.16$, $p = .04$, $\beta = .26$, Republican, $t(46) = 2.58$, $p = .01$, $\beta = .32$; and not intending to have children, $t(46) = -2.24$, $p = .03$, $\beta = -.31$, were significant predictors of Childfree Disadvantages; participants who identified as a Republican and/or a man were more likely to endorse greater perceived disadvantages of being childfree, whereas participants who did not intend to have children endorsed fewer perceived disadvantages. Introducing RWA in

the second step also led to a significant change in R^2, $\Delta F(1, 45) = 7.38$, $p = .01$, $R^2 = .46$, ($\Delta R^2 = .09$), and explained an additional 8.9% of variance in Childfree Disadvantages. RWA was positively associated with greater perceived Childfree Disadvantages, $t(45) = 2.72$, $p = .01$, $\beta = .36$, such that greater endorsement of RWA was related to more perceived disadvantages of being childfree. Adding GSSJS to the regression model in the third step explained an additional 2.4% of the variance in Childfree Disadvantages, but the change in R^2 was nonsignificant, $\Delta F(1, 44) = 2.01$, $p = .16$, $R^2 = .48$, ($\Delta R^2 = .02$). In the final step, these six predictors accounted for 48.2% of the variance in Childfree Disadvantages. The final model was significant, $F(6, 44) = 6.83$, $p < .001$, but no individual variables significantly predicted Childfree Disadvantages.

The second three-step hierarchical regression was conducted to assess the association of GSSJS with Childfree Evaluations. In the first step of the hierarchical multiple regression, the four demographic covariates significantly predicted Childfree Evaluations, $\Delta F(4, 46) = 6.95$, $p < .001$, $R^2 = .38$, ($\Delta R^2 = .38$) and accounted for 37.7% of the variance in Childfree Evaluations. Being uncertain about having children, $t(46) = 2.76$, $p = .01$, $\beta = .36$; and not intending to have children, $t(46) = 4.62$, $p < .001$, $\beta = .63$, were significant predictors of Childfree Evaluations; participants who were uncertain about having children and did not intend to have children endorsed more positive evaluations of childfree women. Introducing RWA in the second step led to a significant change in R^2, $\Delta F(1, 45) = 4.17$, $p = .047$, $R^2 = .43$, ($\Delta R^2 = .05$), and explained an additional 5.3% of variance in Childfree Evaluations. RWA was positively associated with Childfree Evaluations, $t(45) = -2.04$, $p = .047$, $\beta = -.28$, such that greater endorsement of RWA was related to more unfavorable evaluations of childfree women. Adding GSSJ to the regression model in the third step explained 1.4% of the variance in Childfree Evaluations, but there was no significant change in R^2, ΔF (1, 44) = 1.12, $p = .30$, $R^2 = .44$, ($\Delta R^2 = .01$). Together, these predictors accounted for 44.4% of the variance in Childfree Evaluations. The final model was

also significant, $F(6, 44) = 5.85$, $p < .001$, with not intending to have children, $t(44) = 3.92$, $p < .001$, $\beta = .55$, and being uncertain about having children, $t(44) = 2.26$, $p = .03$, $\beta = .29$, as significant predictors. Specifically, participants who did not intend to have children or were uncertain about having children were likely to report favorable evaluations of childfree women.

The third three-step hierarchical regression was conducted to assess the effect of GSSJ on Childfree Warmth. In the first step of the hierarchical multiple regression, the four demographic covariates significantly predicted Childfree Warmth, $\Delta F(4, 46) = 5.93$, $p = .00$, $R^2 = .34$, ($\Delta R^2 = .34$) and accounted for 34% of the variance in Childfree Warmth. Not intending to have children, $t(44) = -3.08$, $p = .00$, $\beta = -.43$, and being uncertain about having children were significant predictors of Childfree Warmth, $t(44) = -2.55$, $p = .01$, $\beta = -.34$; participants who either did not intend to have children or who were uncertain about having children were both more likely to endorse greater perceived warmth of childfree women. Introducing RWA in the second step did not significantly change R^2, $\Delta F(1, 45) = .49$, $p = .49$, $R^2 = .35$, ($\Delta R^2 = .01$), and explained an additional 0.7% of variance in Childfree Warmth. Adding GSSJS to the regression model in the third step explained 2.6% of the variance in Childfree Warmth, but also did not significantly change R^2, $\Delta F(1, 44) = 1.84$, $p = .18$, $R^2 = .37$, ($\Delta R^2 = .03$). Together, these six predictors accounted for 37.3% of the variance in Childfree Warmth and the final model was significant, $F(6, 44) = 4.37$, $p = .002$. Participants who did not intend to have children, $t(44) = -2.81$, $p = .01$, $\beta = -.42$, and were uncertain about having children, $t(44) = -2.19$, $p = .03$, $\beta = -.30$, were more likely to perceive childfree women as warm.

Table K3.

Hierarchical Multiple Linear Regression Models for Hypothesis K4

	Dependent Variable: Childfree Disadvantages[a]							
Step and Variable(s)	*df*	R^2	ΔR^2	ΔF	*B*	*SE B*	β	*t*
1. Demographic Covariates	(4, 46)	.37	.37	6.75**				
Male					2.33	1.08	.26	2.16*
Republican					3.21	1.25	.32	2.58*
Uncertain about children					-2.59	1.29	-.27	-2.01
No intention to have children					-2.79	1.25	-.31	-2.24*
2. RWAS	(1, 45)	.46	.09	7.38**	1.15	.42	.36	2.72**
3. GSSJS	(1, 44)	.48	.02	2.01	.48	.34	.20	1.42

	Dependent Variable: Childfree Evaluations[b]							
Step and Variable(s)	*df*	R^2	ΔR^2	ΔF	*B*	*SE B*	β	*t*
1. Demographic Covariates	(4, 46)	.38	.38	6.95**				
Male					-10.59	6.18	-.20	-1.71
Republican					3.08	7.14	.05	.43
Uncertain about children					20.41	7.38	.36	2.76**
No intention to have children					33.10	7.16	.63	4.62**
2. RWAS	(1, 45)	.43	.05	4.17*	-5.11	2.50	-.28	-2.04*
3. GSSJS	(1, 44)	.44	.01	1.12	-2.16	2.04	-.15	-1.06

	Dependent Variable: Childfree Warmth[c]							
Step and Variable(s)	*df*	R^2	ΔR^2	ΔF	*B*	*SE B*	β	*t*
1. Demographic Covariates	(4, 46)	.34	.34	5.93**				
Male					7.29	3.63	.25	2.01
Republican					5.17	4.19	.16	1.23
Uncertain about children					-11.04	4.33	-.34	-2.55*
No intention to have children					-12.96	4.20	-.43	-3.08**
2. RWAS	(1, 45)	.35	.01	.49	1.07	1.53	.10	.70
3. GSSJS	(1, 44)	.37	.03	1.84	1.67	1.23	.21	1.37

Note. RWAS = Right-Wing Authoritarian Scale; GSSJS = Gender-Specific System Justification Scale; Betas (β) are reported at the steps in which variables were entered.
[a] Final model for Childfree Disadvantages: $R^2 = .48$, $F(6, 44) = 6.83$, $p < .001$
[b] Final model for Childfree Evaluations: $R^2 = .44$, $F(6, 44) = 5.85$, $p < .001$
[c] Final model for Childfree Warmth: $R^2 = .37$, $F(6, 44) = 4.37$, $p = .002$
*$p < .05$, **$p < .01$

Hypothesis K5

Three three-step hierarchical regression analyses were conducted to assess the relation between Total FIS and each of the dependent variables (Childfree Disadvantages, Childfree Evaluations, Childfree Warmth). In all three regressions, the first step included the four demographic covariates identified in preliminary analyses (i.e., being male, Republican, not intending to have children, and being uncertain about having children). The second step included RWAS scores to account for variance in attitudes due to the tendency toward generalized prejudice. The third step included FIS Total scores. Results from these analyses are presented in Table K4.

The first three-step hierarchical regression was conducted to assess the association of Total FIS with Childfree Disadvantages. In the first step of the hierarchical multiple regression, the four demographic covariates significantly predicted Childfree Disadvantages, $\Delta F(4, 42) = 2.67$, $p = .045$, $R^2 = .20$, ($\Delta R^2 = .20$) and accounted for 20% of the variance in Childfree Disadvantages. Not intending to have children, $t(42) = -2.22$, $p = .03$, $\beta = -.35$, was a significant predictor of Childfree Disadvantages, such that participants who did not intend to have children endorsed fewer perceived disadvantages. Introducing RWA in the second step also led to a significant change in R^2, $\Delta F(1, 41) = 6.49$, $p = .02$, $R^2 = .31$, ($\Delta R^2 = .11$), and explained an additional 10.9% of variance in Childfree Disadvantages. RWA was positively associated with greater perceived Childfree Disadvantages, $t(41) = 2.55$, $p = .02$, $\beta = .37$, such that greater endorsement of RWA was related to more perceived disadvantages of being childfree. Adding Total FIS to the regression model in the third step explained an additional 10.2% of the variance in Childfree Disadvantages and the change in R^2 was significant, $\Delta F(1, 40) = 6.96$, $p = .01$, $R^2 = .41$, ($\Delta R^2 = .10$). In the third step FIS Total was a significant predictor of Childfree Disadvantages, $t(40) = 2.64$, $p = .01$, $\beta = .42$; as participants reported greater femininity

ideology, they also endorsed greater perceived disadvantages of being childfree. The final model was also significant, $F(6, 40) = 4.70$, $p = .001$, with not intending to have children, $t(40) = -2.32$, $p = .03$, $\beta = -.32$, and FIS, $t(40) = 2.64$, $p = .01$, $\beta = .42$, as significant predictors. Specifically, participants who did not intend to have children perceived fewer disadvantages of being childfree, whereas those who endorsed FIS perceived greater disadvantages. These six predictors accounted for 41.4% of the variance in Childfree Disadvantages.

The second three-step hierarchical regression was conducted to assess the association of Total FIS with Childfree Evaluations. In the first step of the hierarchical multiple regression, the four demographic covariates did not significantly predict Childfree Evaluations, $\Delta F(4, 42) = 1.54$, $p = .21$, $R^2 = .13$, ($\Delta R^2 = .13$) and accounted for 12.8% of the variance in Childfree Evaluations. Introducing RWA in the second step also did not significantly change R^2, $\Delta F(1, 41) = 2.05$, $p = .16$, $R^2 = .17$, ($\Delta R^2 = .04$), and explained an additional 4.2% of variance in Childfree Evaluations. Adding Total FIS to the regression model in the third step explained an additional 8.6% of the variance in Childfree Evaluations and there was a significant change in R^2, $\Delta F(1, 40) = 4.61$, $p = .04$, $R^2 = .26$, ($\Delta R^2 = .09$). In the third step, FIS Total was a significant predictor of Childfree Evaluations, $t(40) = -2.15$, $p = .04$, $\beta = -.38$; as participants reported greater femininity ideology, they reported more negative evaluations of childfree women. The final model was nonsignificant, $F(6, 40) = 2.29$, $p = .06$. Together, these six predictors accounted for 25.5% of the variance in Childfree Evaluations.

The third three-step hierarchical regression was conducted to assess the association of Total FIS with Childfree Warmth. In the first step of the hierarchical multiple regression, the four demographic covariates did not significantly predict Childfree Warmth, $\Delta F(4, 42) = 1.11$, $p = .36$, $R^2 = .10$, ($\Delta R^2 = .10$) and accounted for 9.6% of the variance in Childfree Warmth. Introducing RWA in the second step did not significantly change R^2, $\Delta F(1, 41) = .45$, $p = .51$, R^2

= .11, (ΔR^2 = .01), and explained an additional 1.05% of variance in Childfree Warmth. Adding Total FIS to the regression model in the third step explained an additional 11.3% of the variance in Childfree Warmth and significantly changed R^2, $\Delta F(1, 40) = 5.75$, $p = .02$, $R^2 = .22$, (ΔR^2 = .11). In the third step, FIS Total was a significant predictor of Childfree Warmth, $t(40) = 2.40$, $p = .02$, $\beta = .44$; as participants reported greater femininity ideology, they perceived more coldness in childfree women. Together, these six predictors accounted for 21.8% of the variance in Childfree Warmth. Again, the final model was nonsignificant, $F(6, 40) = 1.86$, $p = .11$.

Table K4.

Hierarchical Multiple Linear Regression Models for Hypothesis K5

	Dependent Variable: Childfree Disadvantages[a]							
Step and Variable(s)	*df*	R^2	ΔR^2	ΔF	*B*	*SE B*	β	*t*
1. Demographic Covariates	(4, 42)	.20	.20	2.67*				
Male					.90	1.13	.11	.80
Republican					2.16	1.24	.25	1.75
Uncertain about children					-1.40	1.44	-.15	-.97
No intention to have children					-2.88	1.30	-.35	-2.22*
2. RWAS	(1, 41)	.31	.11	6.49*	1.14	.45	.37	2.55*
3. FIS Total	(1, 40)	.41	.10	6.96*	2.46	.93	.42	2.64*

	Dependent Variable: Childfree Evaluations[b]							
Step and Variable(s)	*df*	R^2	ΔR^2	ΔF	*B*	*SE B*	β	*t*
1. Demographic Covariates	(4, 42)	.13	.13	1.54				
Male					-11.98	7.19	-.24	-1.67
Republican					-7.08	7.89	-.13	-.90
Uncertain about children					3.20	9.17	.06	.35
No intention to have children					10.71	8.28	.22	1.29
2. RWAS	(1, 41)	.17	.04	2.05	-4.29	2.99	-.23	-1.43
3. FIS Total	(1, 40)	.26	.09	4.61*	-13.80	6.43	-.38	-2.15*

(table continues)

Table K4 (continued).

Hierarchical Multiple Linear Regression Models for Hypothesis K5

	Dependent Variable: Childfree Warmth[c]							
Step and Variable(s)	*df*	R^2	ΔR^2	ΔF	*B*	*SE B*	β	*t*
1. Demographic Covariates	(4, 42)	.10	.10	1.11				
Male					4.83	3.77	.19	1.28
Republican					5.05	4.13	.18	1.22
Uncertain about children					4.60	4.80	.16	.96
No intention to have children					-.43	4.34	-.02	-.10
2. RWAS	(1, 41)	.11	.01	.45	1.07	1.60	.11	.67
3. FIS Total	(1, 40)	.22	.11	5.75*	8.13	3.39	.44	2.40*

Note. RWAS = Right-Wing Authoritarian Scale; FIS = Femininity Ideology Scale; Betas (β) are reported at the steps in which variables were entered.
[a] Final model for Childfree Disadvantages: $R^2 = .41$, $F(6, 40) = 4.70$, $p = .001$
[b] Final model for Childfree Evaluations: $R^2 = .26$, $F(6, 40) = 2.29$, $p = .06$
[c] Final model for Childfree Warmth: $R^2 = .22$, $F(6, 40) = 1.86$, $p = .11$
*$p < .05$, **$p < .01$

Vita

Annalucia Bays was born on September 21, 1980, in Honolulu, Hawaii, and is a citizen of both the United States and Canada. She graduated from Bruton High School in Williamsburg, Virginia in 1998. Before returning to college in 2010 to finish her undergraduate education, she held several professional positions in which she managed retail and food service venues, planned events, and directed sales and marketing. She received her Bachelor of Science in Psychology with a minor in Sociology from Christopher Newport University in May 2012. That same year, she began studying at Virginia Commonwealth University (VCU) in the counseling psychology doctoral program and subsequently earned her Master of Science in Psychology in December 2014. In addition to her studies, Annalucia has been a teaching assistant and independent course instructor for applied statistics and an Assistant Director at the Center for Psychological Services and Development (CPSD) at VCU. She has also served as a therapist at VCU's University Counseling Services and CPSD, and the College of William & Mary Counseling Center (WMCC). Furthermore, Annalucia designed, implemented, and maintained the first sustainable group therapy program at the CPSD. Annalucia is currently completing her predoctoral internship at WMCC. She hopes to work as a university counseling center staff psychologist after completing her Ph.D., with a professional emphasis on clinical leadership, teaching and supervision, program development and outreach, and multicultural approaches to counseling.