

## ABSTRACT

Title of Dissertation: GENDERED INVESTMENTS IN CAREER  
AND FAMILY:  
VALIDATING A MEASURE OF  
MOTHERHOOD SCHEMAS AMONG  
UNDERGRADUATE WOMEN

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One persistent trend characterizing many work-family arrangements is the tendency for women to invest more heavily in the family sphere compared to men and to compromise career pursuits for their children or partner. Discovering which factors perpetuate these gender-stratified investments in work and family is necessary because, along with investing more in the family, women tend to be concentrated in low-paid, low-prestige occupations. Improving the ability to measure how young women perceive the motherhood role will allow researchers to advance the study of women's career development. Accordingly, the present study tested, among undergraduate women, the factor structure and psychometric properties of the Meaning of Motherhood Scale, which assesses the ways in which mothers are expected to think, feel, and behave to be seen as "good" mothers. The study found that the Meaning of Motherhood Scale, originally developed with a sample of mothers, did not have the same structure in a sample of undergraduate women, non-mothers. Implications of this finding are discussed. Post-hoc

analyses were implemented to explore the factor structure of the Meaning of Motherhood Scale with undergraduate women and a three-factor structure measuring Involvement, Flourishing, and Traditional expectations of mothers was found. Tentative implications of these post-hoc findings, future directions for research, and clinical implications are discussed.

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VALIDATING A MEASURE OF MOTHERHOOD SCHEMAS AMONG  
UNDERGRADUATE WOMEN

by

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## CHAPTER 1

### Introduction

The process, choices, and challenges involved in combining career with family have long interested vocational psychologists (Allen, Herst, Bruck, & Sutton, 2000; Barnett & Hyde, 2001; Greenhaus & Powell, 2006; Hoffnung & Williams, 2013). Individuals tend to approach the task of managing career and family in decidedly personal ways (Hakim, 2006; Hoffnung & Williams, 2013), however most are united in their motivation to discover how these two spheres can come together in service of shaping meaningful and economically-secure lives. Along these lines, women and men, on average, are alike in how much they desire active participation in both career and family (Betz, 2006), but there are persistent gender differences in how much they invest in each sphere (Bartley, Blanton, & Gilliard, 2005). When women work outside the home (and most do), they are expected to invest fully and equally in both family and career (Christopher, 2012). Men are expected to invest fully in their careers, yet beyond providing financial support, they experience fewer expectations about how to carry out their role in the family (Pedersen, 2012). Women's greater investment in the family sphere is thought to contribute to the tendency among women to be concentrated in low-paid, low-prestige occupations (O'Brien, Friedman, Tipton, & Linn, 2000).

To investigate factors involved in women's career and family investments, the present study focused on the cognitive organization of motherhood, that is, how the concept of motherhood is schematized (Levy & Carter, 1989). Motherhood schemas represent the ways in which people, through interacting with their culture, come to internalize various messages about how mothers ought to think, feel, and behave to be

seen as “good” mothers (Salahuddin et al., n.d.). Through the process of translating expectations from the surrounding culture to her life, the content of a woman’s motherhood schema takes shape and likely predicts what she expects of herself when it comes to her role in the family sphere. These expectations, in turn, may help explain persistent gender-stratified investments in work and family. Schemas are necessary to understand in the career development process because, though they are fairly stable (Bigler, 1999), they are also malleable (Bigler & Liber, 1990; Padesky, 1994; Trautner, Ruble, Cyphers, Kirsten, Behrendt, & Hartmann, 2005). If young women’s motherhood schemas are incompatible with their career goals, interventions could be designed to expand young women’s organization of what it means to be a good mother and their strategies for managing career and family. To advance this line of research, there is a need for valid and reliable instrumentation that captures women’s schemas of motherhood expectations.

Accordingly, the present study builds on efforts to measure this construct among mothers in the United States (i.e., Meaning of Motherhood Scale; Salahuddin et al., n.d.). While the Meaning of Motherhood Scale (MOMS) was developed for a population of mothers with children under the age of 18, the present study takes a developmental perspective by focusing on the motherhood schemas held by college women who are not yet mothers. The stability of the factor structure of the Meaning of Motherhood Scale was tested in a population of college women, and reliability and validity was assessed.

A developmental perspective is relevant when studying motherhood expectations because schemas begin forming early in life. Gender Schema Theory (Bem, 1981) asserts that children learn, through interaction with their environment, the attitudes and

behaviors that stereotypically befit girls, women, boys, and men. Additionally, there is social incentive for children to organize their identity around gender stereotypes because they are more likely to receive positive feedback from their surroundings when they enact gender-congruent behavior (Bem, 1981; Bussey & Bandura, 1999). Hence, Bem (1981) argued that, even though variation in the internalization of gender roles exists, an individual's self-esteem is at risk when she or he enacts gender norms that are gender-incongruent. Consequently, being punished for gender-incongruent behavior (e.g., an assertive girl being called "bossy" as a way of silencing her drive to lead; Sandberg, 2010) helps maintain and perpetuate the internal organization of one's gender identity around societal gender stereotypes. Since motherhood is a central component of enacting traditional femininity (Choi, Henshaw, Baker, & Tree, 2005; Chrisler, 2013), it follows that individuals also develop schemas about how mothers ought to act, feel, and behave. Young women, even before they become mothers, theoretically, have fairly stable schemas organizing their views of motherhood. Examining the motherhood schemas of young women could illuminate processes in their career development that historically have been theorized about but need more empirical testing.

Specifically, the Expectancy-Value Model of Achievement-Related Choices (Eccles, 2011) provides a theoretical framework to guide empirical research about how the career development processes of young women are shaped by their gender role schemas, and by extension, shaped by their motherhood schemas. Like Bem (1981), Eccles (2011) also specified that individuals' personal and social identities are shaped by messages about gender from the surrounding culture. In turn, an individual's identity, or self-schema, predicts the interest, value, and cost one sees in potential career paths (e.g.,

valuing a highly prestigious career, perceiving a high cost in becoming a surgeon due to the time it would take away from family). In turn, interests, values, and perceived costs predict choices in career development, such as the choice of a college major or the choice of a specific career (Eccles, 2011). The tendency for women and men, on average, to make different choices throughout their career development (Eccles, 2011) reflects how gendered messages have been incorporated into their identities. In accordance with this theory, young women's motherhood schemas ought to link with the interest they take in particular career paths, the values they hold, the costs they perceive, the choices they make, and ultimately, their intentions around investments in work and family.

Both Gender Schema Theory and the Expectancy-Value Model of Achievement-Related Choices focus on the socialization processes involved in the development of gender roles and identity. Messages about gender can be translated from the surrounding culture to young women via various mechanisms. For example, gendered messages are transmitted during interactions with peers, as well as parents' gender-differential language use and play with children (Clearfield & Nelson, 2006; Lindsey & Mize, 2001; Oransky & Marecek, 2009). Messages about gender pertaining to the mother role are also transmitted through parental attitudes and parental modeling, such that students whose mothers held gender egalitarian views were more likely to expect a mother to return to work shortly after the birth of a child (Filipkowski & Chambliss, 2009), and children whose mothers worked throughout their childhood perceived more benefits to maternal employment compared to their counterparts who grew up with stay-at-home mothers (Weinshenker, 2006).

Qualitative research suggests that expectations of mothers tend to be vast (Christopher, 2012; Hays, 1996; Johnston & Swanson, 2006). Additionally, the dominant cultural view in the United States indicates that good mothers ought to be intensively involved in and primarily responsible for their children's development (Hays, 1996). Intensive mothering expectations emphasize mothers' constant availability to children: the mother-child relationship should be uniquely close and mothers should stay home from work when her children are young (Hays, 1996; Madina & Magnuson, 2009) or feel guilty if they must work (Guendouzi, 2006). A secondary view about mothering expectations that is gaining cultural prominence is called "extensive mothering." An extensive mothering ideology also ascribes responsibility for childcare to mothers, but stresses the importance of delegating childcare duties (Christopher, 2012). This is because many mothers enrich their well-being via activities outside of child-rearing; for example, paid employment is seen as a way for mothers to enhance their self-confidence and their financial stability (Christopher, 2012).

Additionally, beyond intensive and extensive mothering, many women ascribe to alternative mothering ideologies that fit their needs and social experiences in the United States (Romagnoli & Wall, 2012). Some women expect that good mothers will, for example, teach their children about discrimination and the history of their racial and ethnic identities (Ferrell Fouquier, 2011), and will rely on extended family and the broader community to care for children (Banks-Wallace & Parks, 2001; Kim, Conway-Turner, Sherif-Trask, & Woolfolk, 2006).

These varied schemas are important as existing research supports the assumption that young women think about motherhood and the interplay of career and family prior to

having children or starting a career (Gorman & Fritzsche, 2002; Goldberg & Lucas, 2014; Mottarella, Fritzsche, Whitte, & Bedsole, 2009). For example, in one experiment, undergraduate women perceived a woman who decided to stay at home after the birth of a child as more committed to mothering and more selfless than the same woman who decided to continue working after the birth of a child (Gorman & Fritzsche, 2002). Moreover, the participants' perception about a woman continuing to work after having a child also was dependent on whether she was satisfied or dissatisfied with working, such that dissatisfied working mothers were rated more favorably than satisfied working mothers (Gorman & Fritzsche, 2002). In a similar experimental study, Mottarella et al. (2009) found that undergraduate women and men tended to rate a mother more favorably (i.e., warmer, more agreeable) if she was described as dropping out of college after the birth of a child instead of returning to school several months after the birth of a child. The mother who returned to school was rated more coldhearted, arrogant, and calculated (Mottarella et al., 2009). Finally, Goldberg and Lucas-Thompson (2014) compared college women's estimations of how a mothers' employment affects their children to the actual costs and benefits of maternal employment in prior meta-analyses. The participants tended to overestimate the negative effect mothers' employment would have on children's externalizing behaviors (e.g., misbehaving at school) and on children's internalizing tendencies (e.g., anxiety and depression). However, among the participants who grew up with a mother who worked outside the home, estimates of the effects of maternal employment tended to be accurate or seen in a positive light (Goldberg & Lucas-Thompson, 2014), suggesting that the ecology of one's microsystem (Bronfenbrenner & Morris, 2006) is influential in shaping motherhood schemas.

To advance understanding of young women's motherhood schemas, the first purpose of this study was to examine the factor structure of the Meaning of Motherhood Scale (MOMS) among undergraduate women who are not yet mothers. Given that undergraduate women grow up in a society with the same ingrained expectations around motherhood as the women in the initial MOMS development study, it was hypothesized that the factor structure of MOMS would be the same in this new population. The MOMS was found to have a four-factor structure (Salahuddin et al., n.d.), and the subscales were described and labeled in terms of the type of mother each factor represented: (a) Traditional-Ideal Mother (i.e., adhering to traditional feminine gender roles as a mother), (b) Ever-Present/Self-Sacrificing Mother (i.e., being present for children and making work sacrifices to achieve a high level of availability), (c) Loving-Caring Mother (i.e., being nurturing and showing affection), and (d) Encouraging Health/Independence Mother (i.e., taking care of herself while caring for her child, and promoting a separate identity for herself and her child).

The second purpose of this study was to examine the reliability and construct validity of the Meaning of Motherhood Scale. Variables were selected that have previously been established to relate in theoretically expected ways to society's expectations of motherhood, especially in terms of managing career and family. The constructs that the present scale was expected to relate to include: (a) gender role attitudes, (b) willingness to compromise career for children and partner, (c) career aspirations in terms of leadership, achievement, and education aspirations, and (d) traditionality of career selection.



Gender role attitudes are defined as the extent to which individuals hold traditional notions of the roles women and men are naturally suited for, and on the opposite side of the spectrum, how much individuals see the roles and capabilities of women and men as egalitarian or equal (Larson & Long, 1988). Gender role attitudes have been found to predict mothering intentions among undergraduate women, such that holding high egalitarian attitudes predicted fewer traditional mothering aspirations (Colaner & Giles, 2008) and the desire for one's partner to scale back on their career in equal measure to take on equal childcare responsibility (Deutsch, Kokot, & Binder, 2007). These findings suggested that when women hold more traditional gender role attitudes, they also tend to hold more intensive motherhood expectations that align with motherhood being their ideal role in life, and when they hold more egalitarian gender role attitudes they view parenthood as a shared responsibility instead of something for which women are uniquely suited.

A related construct, willingness to compromise career for children and partner, is defined as the extent to which women prioritize their child or partner over their career plans (Ganginis Del Pino, O'Brien, Mereish, & Miller, 2013). High willingness to compromise has been found to predict being more oriented to family than to career (Ganginis del Pino, 2013; Gregor & O'Brien, 2013). Additionally, college women who were unwilling to compromise their career for their future partner tended to reject the prioritization of children over employment (Deutsch et al. (2007). Finally, willingness to compromise career for children was higher among undergraduates who did not plan to delay childbirth past the age of 30 (Savela & O'Brien, 2015). Taken together, these

findings suggested that high willingness to compromise career for children or a romantic partner were related to motherhood expectations that prioritize children over career.

Next, career aspirations are defined as the desire to aspire to leadership and recognition in one's career, as well as to seek education in one's field (Gregor & O'Brien, 2015). Career aspirations also were related to work role salience, such that those holding high leadership aspirations also placed higher importance on advancing their career (Gregor & O'Brien, 2015). Additionally, holding high career aspirations also was found to relate inversely to mothering aspirations (i.e., identifying highly with the mother role and intending to invest intensively in that role; Colaner & Giles, 2008). Finally, Moon (2002) found that valuing a career was related to viewing maternal employment as beneficial to children. These studies suggested that to the extent that women invest highly in their careers, their expectations of mothers tend to allow for the integration of work and children.

Finally, traditionality of career choice refers to the gender composition of a career by percentage, such that a highly traditional career for women is characterized by percentages closer to 100 (e.g., 97% of preschool and kindergarten teachers are women so this is considered a highly traditional career for women; U.S. Department of Labor, 2014b). Traditionality of career choice is thought to be a construct relevant to undergraduate women's work-family intentions because the selection of a more traditional career has been related to low anticipation that work will conflict with time spent with family (Savelle & O'Brien, 2015), and a nontraditional career choice related to a high career orientation (Fassinger, 1990). Additionally, valuing family-flexibility in one's occupation was the number one predictor in high school girls' switch from a

nontraditional career pursuit to a more traditional pursuit several years later (Frome, Alfred, Eccles, & Adler, 2006). These findings may indicate that when young women's motherhood schemas contain expectations that they will be available for their children, their career selections will tend to be more traditional. Traditionality of career choice is important to study among undergraduates because careers with higher concentrations of women tend to be undervalued in terms of income despite requiring more education than careers with higher concentrations of men (U.S. Department of Labor, 2014a, 2014b).

In light of past research, it was hypothesized that the Traditional/Ideal Mothering subscale and the Ever-Present/Self-Sacrificing Mother subscales of the MOMS—due to their overlap with mothering expectations that appear aligned with intensive mothering schemas—would be related to high traditional gender role attitudes, high willingness to compromise career for children and partner, low leadership aspirations, and high traditionality of career choice. Next, because no evidence exists that working mothers are better or worse than stay-at-home mothers at loving and nurturing their children, the Loving/Caring subscale was hypothesized to have no relationship with traditional gender role attitudes, willingness to compromise career for children and partner, career aspirations, or traditionality of career choice. Last, the Encouraging Health/Independence Mother subscale appears to overlap more with extensive mothering expectations, thus it was hypothesized to correlate with more egalitarian gender role attitudes, low willingness to compromise career for children and partner, high career aspirations, and less traditional career selections.

## CHAPTER 2

### **Method and Results**

#### **Overview**

The first study tested the stability of the factor structure and psychometric properties of the Meaning of Motherhood Scale (MOMS) with a sample of diverse female undergraduate students who do not yet have children. Confirmatory factor analyses (CFA) and exploratory factor analyses were conducted. Also, reliability coefficients were calculated. The validity of the measure was studied by examining the correlations among the subscale scores and measures of constructs hypothesized to relate to expectations of motherhood. The second study assessed the test-retest reliability of the subscales on the MOMS scale.

#### **Study 1 Method**

##### **Recruitment**

The first recruitment strategy was to utilize an undergraduate psychology course participation pool at a large Mid-Atlantic university (SONA). Students viewed, signed up for, and completed studies they were interested in and eligible for in exchange for course credit.

A second recruitment strategy was employed to increase variability in participants' potential career interests. The principal investigator reached out to advising offices throughout campus (e.g., Women in Engineering Program) and to career-oriented student groups (e.g., Association for Women in Computing; Smith School Women's Society, Pre-Medical Society) for permission to circulate the survey via their organization's listserv, and obtained a list of randomly selected women from the

University's Registrar and emailed these women, inviting them to participate in the study. To maximize the return rate, two follow-up emails were sent in two-week increments. Participants had a chance to win one of four \$25 gift cards. Additionally, the author and her research colleagues solicited participation through their personal contacts. A standard email was sent to personal contacts with a link to the study and a chance to enter a raffle to win one of four \$25 gift cards after completing the survey. The return rate could not be calculated due to the recruitment methods involving myriad organizations and individuals forwarding the survey to an unknown number of potential participants.

### **Participants**

The average age of participants in Study 1 was 19.56 ( $SD = 1.21$ ). Regarding status in school, 22.6% were first year students, 32.3% were sophomores, 25.4% were juniors, and 19.7% were seniors or beyond. Regarding race, 55% of the sample identified as White/non-Hispanic, 21.3% identified as Asian or Asian American, 14.8% identified as African American, 8.3% identified as Hispanic/Latina, 3.3% identified as Biracial/Multiracial, .6% identified as American Indian, and 2.1% indicated another ethnicity (responses included Nigerian, Jewish, Indian, African, Filipino, Middle Eastern, and Persian). In terms of sexual identity, 91.2% of the participants identified as straight, 7.5% identified as bisexual, .3% identified as gay/lesbian, and .9% identified as queer.

The majority of participants were single (67.1%) and 31.3% were in a relationship but not living with a partner while 1.6% were in a relationship and living with a partner. Additionally, the majority of participants planned on being married or in a committed relationship in the future (97.2%). In terms of future motherhood, 72.4% indicated they definitely planned to have children one day, while 12.9% indicated they would most

likely have children, 8.8% said they would possibly have children, 3.1% indicated they would most likely not have children, and 2.8% said they did not plan to have children. Of the participants who planned to have children, 44.2% planned to have 2 children, 36.7% planned to have 3 children, 7.2% planned to have 4 children, 3.1% planned to have one child, .9% planned to have 5, and 1.3% planned to have 6 or more children. The mean age at which the participants planned to start having children was 28.13 ( $SD = 2.23$ ).

In terms of education, the participants held an average GPA of 3.37 ( $SD = .45$ ). The participants were pursuing a variety of undergraduate majors, with the most frequently reported being Psychology (39.3%), Biology (7.5%), Criminology (7.5%), Public Health (5.7%), Engineering, (5.1%), and Kinesiology (4.8%). Among the participants, 16.7% planned to finish their education after earning a Bachelor's degree, while 83.3% planned to go onto some kind of graduate study (35.5% Master's degree, 17.9% Ph.D., 22% M.D., 4.4% J.D., and 3.5% Other graduate degree). The participants indicated how they foresaw the occupational status of themselves and their future partner, with 75.8% anticipating full-time work for themselves, 23.6% anticipating part-time work for themselves, and .6% anticipating they would be homemakers. For their partners, 95.3% anticipated their partner would work full-time, 4.7% anticipated their partner would work part-time, and 0% anticipated their partner would be a homemaker.

In terms of mother's highest education, approximately 37.1% of the participants' mothers held a graduate/professional degree, 33.6% held a Bachelor's degree, 8.2% had some college, 10.4% had finished high school or earned a GED, 6.9% held an Associate's degree, 2.2% had some high school, and 1.5% answered "not applicable/other." In terms of father's highest education, approximately 44.4% of the participants' fathers held a

graduate/professional degree, 26.1% held a Bachelor's degree, 7.9% had some college, 10.7% finished high school or earned a GED, 6.3% held an Associate's degree, 2.2% answered "not applicable/other," and 2.5% had some high school.

Participants also indicated the work status of their mother and father throughout their childhood. Among the respondents, 39.3% reported their mother worked full-time throughout their entire childhood, 11% reported their mother worked part-time throughout their entire childhood, 15.4% had mothers who stayed at home throughout their entire childhood, 20.1% had mothers who returned to full-time work after staying home for a while (participants' average age when mother returned to full-time work:  $M = 9.18$ ,  $SD = 4.58$ ), and 12.3% of their mothers returned to part-time work after staying home for a while (participants' average age when mother returned to part-time work:  $M = 10.91$ ,  $SD = 9.83$ ). For participants' fathers, 85.2% reported their father worked full-time throughout their entire childhood, 2.8% said their father worked part-time throughout their entire childhood, 1.6% had fathers who stayed at home throughout their entire childhood, 4.7% had fathers who returned to work full-time after staying home for a while (average age of participants when father returned to full-time work:  $M = 6.70$ ,  $SD = 5.91$ ), and 1 participant's (.3%) father returned to work part-time when she was 17 years old.

Participants reported a wide range of careers that they were most strongly considering. The careers participants considered going into included, but were not limited to, psychologists (16%), physicians or surgeons (16%), counselors (6%), registered nurses (4.5%), lawyers (4%), and engineering or technology occupations (2.4%).

## **Procedure**

Participants completed the measures using an online survey system. They first read a consent form and indicated their consent by continuing with the survey. Next, they completed the Meaning of Motherhood Scale. Then, participants completed the measures assessing construct validity in a counterbalanced order, including the Traditional Egalitarian Sex Role Scale, the Planning for Career and Family Scale, the Career Aspiration Scale-Revised, and their planned career choice. Last, the participants filled out a demographics form. After they completed the measures, participants received a brief description of the study, information about the counseling center and career center on campus, and were thanked for their time.

## **Measures**

**Motherhood schemas.** The Meaning of Motherhood Scale (MOMS) was used to assess motherhood schemas (Salahuddin et al., n.d.). The MOMS has four subscales (Traditional-Ideal Mother, Loving-Caring Mother, Ever-Present/Self-Sacrificing Mother, and Encouraging Health/Independence Mother); 10 items comprise each subscale. An example item for Traditional-Ideal Mother is “A good mother should always keep the home clean.” An example item for Loving-Caring Mother is “A good mother should always consider her child’s point of view.” An example item for Ever-Present/Self-Sacrificing Mother is “A good mother should prioritize her child over work.” An example item for Encouraging Health/Independence Mother is “A good mother should have interests of her own.”

Participants responded on a 6-point Likert scale ranging from 1 (*strongly disagree*) to 6 (*strongly agree*), with high scores corresponding to high agreement with each of the motherhood schema subscales. The MOMS subscales demonstrated reliability



when tested in a sample of mothers from the United States with children under the age of 18, with Cronbach alphas ranging from .83 to .88 (Salahuddin et al., n.d.). Convergent validity with a sample of mothers was supported such that all four subscales of MOMS correlated positively with expressivity, and both the Traditional-Idea Mother and Ever-Present/Self-Sacrificing Mother subscales correlated positively with beliefs that women are naturally better parents than men (Salahuddin et al., n.d.).

After completing the Meaning of Motherhood Scale, participants completed 3 items assessing to what extent they thought about (a) themselves as a mother in the future, (b) their own mother, and (c) “mothers” in general as they completed the measure. Participants responded on a 4-point Likert scale ranging from 1 (*not at all*) to 4 (*to a great extent*).

**Gender role attitudes.** The Traditional Egalitarian Sex Role Ideology Scale (TESR) was used to assess gender role attitudes (Larsen & Long, 1988). The measure has 20 items and items were summed with high scores indicating more egalitarian attitudes toward gender roles and low scores indicating more traditional attitudes toward gender roles. Participants responded to items on a 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Sample items include “The man should be more responsible for the economic support of the family than the woman” (reverse-scored item) and “Women should have as much sexual freedom as men.”

The TERSR was found to be reliable when tested among undergraduate women (Cronbach’s alphas ranged from .84-.90; Bosson, Taylor, & Prewitt Freilino, 2006; Forry, Leslie, & Letiecq, 2007). Among undergraduate samples, convergent validity was supported in that high scores on the TERSR correlated inversely with a measure of

traditionalist thinking and religious orthodoxy (Larson & Long, 1988). The TESR also predicted the change in role status before and after women and men became parents, such that having a child resulted in more traditional gender role attitudes (Katz-Wise, Priess, & Hyde, 2010).

**Willingness to compromise career for family.** The Planning for Career and Family Scale (PLAN) is a 24-item measure that assesses the extent to which people take into account future partner and future children when making career decisions (Ganginis Del Pino et al., 2013). The measure has two subscales – a partner subscale (12 items) and a children subscale (12 items). Participants will respond to items on a 4-point Likert scale ranging from 1 (*strongly disagree*) to 4 (*strongly agree*). Items were summed on each subscale, with high scores indicating willingness to compromise one's career for children or partner. Sample items include “My partner's career will take priority over mine” (partner subscale) and “When choosing a career, I will think about whether the work load will hinder my ability to care for my children” (children subscale).

The PLAN subscales were reliable when tested across two samples of undergraduate women (alphas ranged from .76 to .83) and two-week test-retest reliability was found to be .79 for leadership, .74 for achievement, and .87 for education. Convergent validity was supported in that high scores on the PLAN correlated negatively with career orientation and career aspiration, and discriminant validity was shown in that scores on the PLAN had no relationship with scores on measures of career decision making self-efficacy, life satisfaction, and general happiness (Ganginis, 2008).

**Career aspirations.** The Career Aspiration Scale-Revised (CAS-R) was used to assess aspirations with regard to leadership, achievement, and education (Gregor &

O'Brien, 2015). Eight items comprise each subscale. An example item for leadership is "I hope to move up to a leadership position in my organization or business." An example item for achievement is "Being outstanding at what I do at work is very important to me." An example item for education is "I plan to reach the highest level of education in my field." Participants responded on a 5-point Likert scale ranging from 0 (*not at all true of me*) to 4 (*very true of me*), with high scores corresponding to high aspirations in a career.

The CAS-R subscales demonstrated reliability when tested in a sample of female undergraduate students and a sample of female graduate students (Cronbach alphas ranged from .81 to .90), and adequate test-retest reliability (Cronbach alphas ranged from .68 to .81) over a two-week period (Gregor & O'Brien, 2015). Convergent validity with undergraduate women was supported such that the CAS-R correlated positively with high salience of the career role and with achievement motivation among female graduate students (Gregor & O'Brien, 2015). Additional support for validity was demonstrated by a negative relationship between leadership aspirations and female graduate students' willingness to compromise their careers for their partners' careers (Gregor & O'Brien, 2015).

**Career choice traditionality.** Participants were asked to indicate the career that they would most like to pursue. Traditionality of career was operationalized as the percentage of women presently employed in the first-choice career and coded from 0 to 100 according to current United States Department of Labor Statistics (O'Brien & Fassinger, 1993; U.S. Department of Labor, 2014b). Two undergraduate research assistants independently coded each participant's career with its closest match within the Department of Labor's data. Disagreements between the two raters were given to the

principal investigator to independently code. The final match rate, defined as two raters coding the career identically, was 82%. Any continuing disagreements were resolved through discussion among the three coders.

**Demographic questionnaire and quality check items.** Participants indicated their race, sexual orientation, gender identity, year in school, relationship status, future plans regarding marriage and children, GPA, college major, educational plans, parents' highest education, and parents' employment status throughout participant's childhood. Additionally, two items (e.g., "Select (3) 'Agree' on this item.") were included to detect inconsistent responses.

### **Analyses**

To assess the factor structure of the MOMS, confirmatory factor analyses were conducted by testing a four factor structure (see Figure 1) and a higher-order factor structure (see Figure 2). Using MPlus, confirmatory factor analysis using full information likelihood estimation was employed. For each model, the root-mean-square error of approximation (RMSEA, Comparative Fit Index (CFI), and Tucker-Lewis Index (TLI) cutoff was used for evaluating model fit. Values of less than .10 for RMSEA and greater than or equal to .90 for CFI/TLI are indicative of adequate model fit (Hu & Bentler, 1999). Additionally, factor correlations, factor loadings, and uniqueness terms were analyzed. Likelihood ratio testing was planned to determine which model was superior in terms of model fit and misspecification.

If the hypothesized factor structure did not hold for these two models, and if good fit was not achieved by minor modifications (i.e., removing a small number of items), two more plausible alternative models were to be tested. First, items on the Traditional/Ideal Mother factor and the Ever-Present/Self-Sacrificing Mother factor were

loaded onto the same latent variable (see Figure 3). This model is based on the relationships in the original MOMS measurement development study wherein these two factors had a strong positive relationship ( $r = .57, p < .01$ ). Next, items on the Loving/Caring Mother factor and the Promoting Health/Independence factor were loaded onto the same latent variable (see Figure 4). This model was based on the relationship in the original MOMS measurement development study wherein these two factors had a strong positive relationship ( $r = .65, p < .01$ ).

For the final model (obtained after exploratory factor analyses), descriptive statistics on all scales and subscales were obtained. Reliability estimates (Cronbach alphas) for each subscale were calculated. The relationships among the variables were assessed using Pearson  $r$  correlations and a correlation matrix was computed. Construct validity was assessed through examining the relationships among the MOMS subscales, gender role attitudes, willingness to compromise career for children and partner, career aspirations, and traditionality of career choice.

## **Study 1 Results**

### **Preliminary Analyses**

The initial page of the online survey was accessed by 393 people, with 370 participants meeting the inclusion criteria for participation and providing consent to participate in the research. Participants who were missing more than 15% of the items (not including the demographic variables) were deleted from the study, leaving a sample of 350. Then, participants who missed one or both quality control questions were eliminated, resulting in a sample of 334. One participant indicated they identified as male

on the demographic form so his data were removed, leaving a final sample of 333.

### **Descriptive Statistics**

To address the first research question of the study, descriptive statistics were calculated for all variables (see Table 2). The women in this sample, on average, had moderate to strong levels of egalitarian beliefs about gender roles ( $M=4.36$ ,  $SD=.49$ ; possible range 1-5). On average, the participants had moderate levels of willingness to compromise their career for children ( $M=2.57$ ,  $SD=.53$ ; possible range 1-4) and partner ( $M=2.43$ ,  $SD=.43$ ; possible range 1-4). Participants planned to go, on average, into slightly more traditional careers ( $M=56.49$ ,  $SD=22.97$ ; possible range 0-100), and they held moderate to strong career aspirations regarding future leadership ( $M=2.77$ ,  $SD=.79$ ; possible range 0-4), achievement ( $M=3.06$ ,  $SD=.64$ ; possible range 0-4), and education ( $M=2.77$ ,  $SD=.77$ ; possible range 0-4).

After completing the Meaning of Motherhood Scale, participants were asked what they thought about as they filled out the questionnaire, in terms of whether they thought about themselves as a mother in the future, about their own mother, or about “mothers” in general. On average, participants thought themselves as a mother in the future to a moderate-strong extent ( $M=3.32$ ,  $SD=.87$ ; possible range 1-4), about their own mothers to a moderate-strong extent ( $M=3.45$ ,  $SD=.74$ ; possible range 1-4), and about “mothers” in general to a moderate extent ( $M=3.12$ ,  $SD=.72$ ; possible range 1-4).

### **Confirmatory Factor Analyses**

Prior to conducting the confirmatory factor analysis, an evaluation of the Meaning of Motherhood Scale (MOMS) data revealed the items were non-normally distributed, with skew values ranging from -1.677 to .029 and kurtosis values ranging from 4.167 to

.035. Therefore, the Maximum Likelihood Robust (MLR) estimation was used for all analyses.

The confirmatory factor analysis with the 40-item four-factor model (see Figure 1) did not exhibit adequate model fit indices: ( $\chi^2$  (734),  $N=333$ )=2154.661,  $p<.01$ , CFI=.655, TLI=.634, and RMSEA=.076 (90% CI: .073 ~ .080). The CFI and TLI did not meet the standards for a well-fitting model. Based on the modification indices, four items were deleted and the revised four-factor model of the MOMS was tested. First, 2 items of the MOMS were deleted due to high covariance. Items 11 and 15 had a modification index of 140.174 and Items 13 and 17 had a modification index of 158.106. The co-varying items were similar in content so one item was deleted from each pair (Items 15 and 17). Next, 2 items were deleted due to low factor loadings. Low factor loadings were found for items 1 (.336) and 16 (.313). After deleting these items, the model did not exhibit adequate fit: ( $\chi^2$  (588),  $N=333$ )=1468.775,  $p<.01$ , CFI=.729, TLI=.710, and RMSEA=.067 (90% CI: .063 ~ .071).

Next, we tested the proposed higher-order model of the MOMS (see Figure 2). The higher order model did not exhibit adequate model fit: ( $\chi^2$  (736),  $N=333$ )=2247.088,  $p<.01$ , CFI=.633, TLI=.612, and RMSEA=.079 (90% CI: .075 ~ .082). The CFI and TLI did not meet the standards for a well-fitting model. Thus, we examined the modification indices, deleted several items, and reran the model. First, two items of the MOMS were deleted due to high covariance. Items 11 and 15 had a modification index of 141.205 and Items 13 and 17 had a modification index of 142.577. The co-varying items were similar in content so one item was deleted from each pair (Items 15 and 17). Next, six items were deleted due to low factor loadings. Low factor loadings were found for item 16 (.329),

item 1 (.365), item 10 (.395), item 22 (.365), item 32 (.382), and item 24 (.390). After deleting these items, the model did not exhibit adequate model fit: ( $\chi^2$  (460),  $N=333$ )=1266.355,  $p<.01$ , CFI=.724, TLI=.702, and RMSEA=.073 (90% CI: .068 ~ .077).

Next, we tested the proposed three-factor model A of the MOMS (see Figure 3). The three-factor model A did not exhibit adequate model fit: ( $\chi^2$  (737),  $N=333$ )=2343.752,  $p<.01$ , CFI=.610, TLI=.587, and RMSEA=.081 (90% CI: .077 ~ .085). The CFI and TLI did not meet the standards for a well-fitting model. After examination of the modification indices, four items were deleted and the revised model was tested. Specifically, two items of the MOMS were deleted due to high covariance. Items 11 and 15 had a modification index of 148.100 and Items 13 and 17 had a modification index of 169.879. The co-varying items were similar in content so one item was deleted from each pair (Items 15 and 17). Next, two items were deleted due to low factor loadings. Low factor loadings were found for items 1 (.380) and 16 (.313). After deleting these items, the model did not exhibit adequate model fit: ( $\chi^2$  (591),  $N=333$ )=1581.997,  $p<.01$ , CFI= .695, TLI=.675, and RMSEA=.071 (90% CI: .067 ~ .075).

Next, we tested the proposed three-factor model B of the MOMS (see Figure 4). The three-factor model B did not exhibit adequate model fit indices: ( $\chi^2$  (737),  $N=333$ )=2211.544,  $p<.01$ , CFI= .642, TLI=.621, and RMSEA=.078 (90% CI: .074 ~ .081). The CFI and TLI did not meet the standards for a well-fitting model. Examination of the modification indices suggested the elimination of seven items. First, 2 items of the MOMS were deleted due to high covariance. Items 11 and 15 had a modification index of



143.150 and Items 13 and 17 had a modification index of 161.920. The co-varying items were similar in content so one item was deleted from each pair (Items 15 and 17). Next, 5 items were deleted due to low factor loadings. Low factor loadings were found for items 1 (.336), 10 (.392), 16 (.259), 24 (.392), and 30 (.378). After deleting these items, the model did not exhibit adequate model fit: ( $\chi^2$  (492),  $N=333$ )=1286.138,  $p<.01$ , CFI=.735, TLI=.716, and RMSEA=.070 (90% CI: .065 ~ .074).

### **Post-Hoc Analyses**

**Alternate Models Tested Using Confirmatory Factor Analysis.** Given the model misspecification across all proposed models, two additional models were tested. Findings from the confirmatory factor analysis of the four factor model in the present study included a cluster of moderate to high correlations between the four original proposed factors ( $r_{\text{traditional-loving}} = .28, p < .01$ ;  $r_{\text{traditional-sacrificing}} = .67, p < .01$ ;  $r_{\text{traditional-health}} = .29, p < .01$ ;  $r_{\text{loving-sacrificing}} = .67, p < .01$ ;  $r_{\text{loving-health}} = .83, p < .01$ ;  $r_{\text{sacrificing-health}} = .52, p < .01$ ), suggesting that more than one dimension may be present in the data. Thus, we tested two bifactor models. Bifactor models are multidimensional and specify that, in addition to the variance accounted for by the specific group factors on which the items load, a general factor also exists that accounts for variance in each item across all specific group factors (Reise, Moore, & Haviland, 2010). In other words, as a bifactor model, the Meaning of Motherhood Scale would specify an overall level of mothering expectations, which reflects broad attitudes and beliefs about how mothers ought to think, feel, and behave. These broad expectations would account for variance among all items, while each specific group factor would

explain additional variance in specific types of mothering expectations over and above the general factor.

The first bifactor model tested (see Figure 5) specified that the general factor encompassed all four group factors, but this model did not exhibit adequate model fit indices: ( $\chi^2$  (705),  $N=333$ )=2484.519,  $p<.01$ , CFI= .612, TLI=.570, and RMSEA=.087 (90% CI: .083 ~ .091). The CFI and TLI did not meet the standards for a well-fitting model. Thus we tested an alternative bifactor model (see Figure 6). Based on the correlations between group factors, we determined that factor one did not correlate as highly with all of the other three factors, which in turn, all correlated highly with one another. Thus the second bifactor model specified a general factor consisting of factors two, three, and four, and specific/group factors consistent with the original four-factor model. The alternative bifactor model did not exhibit adequate model fit indices: ( $\chi^2$  (715),  $N=333$ )=2731.319,  $p<.01$ , CFI=.560, TLI=.520, and RMSEA=.092 (90% CI: .088 ~ .096).

**Exploratory Factor Analysis.** Exploratory factor analysis was conducted in light of model misspecification revealed by confirmatory factor analysis. The construct of motherhood schemas in a sample of undergraduate women, non-mothers appeared to be different in structure compared to a sample from a population of mothers with children under the age of 18. The data were factorable based on a Kaiser-Meyer-Olkin measure of sampling adequacy above .60 (KMO=.87), suggesting that there is a good probability that the data set contained factors and not only correlations based on chance. Additionally, Bartlett's test of sphericity was significant  $\chi^2$  (780),  $N=333$ )=5116.68,  $p<.01$ , suggesting that the correlation matrix was not random.

Parallel analysis identified nine factors for retention, and we examined factor solutions ranging from three to ten. To examine the factor structure, Principal Axis Factoring was selected as the extraction because it examines only shared variance among the items. The Direct Oblimin rotation was selected because it assumes correlations between variables, which was expected for the factors of the MOMS. Three graduate students and one professor of counseling psychology independent reviewed the factor solutions. The 5-factor, 6-factor, 7-factor, 8-factor, and 9-factor solutions were eliminated from further analyses because they each included multiple factors consisting of only one or two items. The 10-factor solution also included multiple factors consisting of only one or two items, and in addition, some factors appeared inconsistent with theory (e.g., “Plan parties for child” loaded onto the same factor as “Show a lot of physical affection,” and “Model a healthy romantic relationship with her partner”). Thus, the 3-factor and 4-factor solutions were selected by the four individuals to be examined in greater detail. After eliminating items that loaded below .40 across all factors, and eliminating items with cross-loadings above .30 on more than one factor, too few items (2) were retained on one of the factors of the 4-factor model. The 3-factor model was selected because the item pool best reflected the intended construct while still retaining an adequate number of items on each factor. The 3-factor model solution accounted for 44.18% of the variance and contained 27-items (See Table 1).

***Description of factors on the Meaning of Motherhood Scale.*** Factor 1 was comprised of 6 items and was named “Involvement” because it appeared to assess the degree to which undergraduate women expected good mothers to be highly involved with their children, similar to intensive and extensive mothering expectations in the United

States. That is, the items reflected the tendency for women to be the primary caregivers of children, specifically, being aware of and responsible for their children's safety and well-being even when they are not together, spending quality time with their children, and being uniquely suited (as mothers) to provide the best love and emotional care to their children. Participants, on average, endorsed moderately high Involvement scores ( $M=4.93$ ,  $SD=.69$ ; possible range 1-6; see Table 2), and the factor exhibited adequate internal consistency ( $\alpha=.79$ ). Regarding convergent validity, the Involvement factor had a moderate positive relationship with willingness to compromise career for children ( $r=.38$ ,  $p<.01$ ), and a small positive relationship with achievement aspirations ( $r=.13$ ,  $p<.01$ ), suggesting that those who score high on this factor may tend to expect their best efforts across multiple roles. Involvement did not relate to egalitarian gender role attitudes, willingness to compromise career for partner, traditionality of career choice, leadership aspirations, or educational aspirations.

Factor 2 was comprised of 10 items and was named "Flourishing" because it appeared to assess the degree to which undergraduate women expected good mothers to promote the physical, emotional, and relational health of their children while also prioritizing self-care. Flourishing is theorized to include an emphasis on positive emotion, engagement, relationships, meaning, and accomplishment (Seligman, 2011). Women in this sample appeared to recognize that the well-being of the mother plays an important role in the well-being of the child (Mottarella et al., 2009). Participants, on average, endorsed high Flourishing scores ( $M=5.26$ ,  $SD=.45$ ; possible range 1-6; see Table 2) and the factor exhibited adequate internal consistency ( $\alpha=.80$ ). Regarding convergent validity, the Flourishing factor had a small positive relationship with

egalitarian gender role attitudes ( $r=.27, p<.01$ ), a small positive relationship with willingness to compromise career for children ( $r=.20, p<.01$ ), and small positive relationships with leadership aspirations ( $r=.15, p<.01$ ), achievement aspirations ( $r=.25, p<.01$ ), and education aspirations ( $r=.25, p<.01$ ). Flourishing did not relate to willingness to compromise career for partner or traditionality of career choice.

Factor 3 was comprised of 10 items and was named “Traditional” because it appeared to assess the degree to which undergraduate women expected good mothers to exhibit traditional femininity as expressed through the motherhood role. Traditional motherhood in the United States is perhaps best captured by the media representation the suburban housewife, beginning in the 1950s (Friedan, 1963). Through the media (e.g., magazines, television and film, social media, lifestyle blogs), injunctive norms perpetuate the manufactured appearance that mothers are attractive, family-focused, chaste, and perfectly able to manage their responsibilities. Participants in this study, on average, endorsed moderate Traditional scores ( $M=3.18, SD=.82$ ; possible range 1-6; see Table 2), and the factor exhibited adequate internal consistency ( $\alpha=.85$ ). Regarding convergent validity, the Traditional factor had a moderate inverse relationship with egalitarian gender role attitudes ( $r=-.51, p<.01$ ), and small positive relationships with willingness to compromise career for children ( $r=.37, p<.01$ ) and partner ( $r=.14, p<.01$ ). The Traditional factor was not related to traditionality of career choice, or leadership, achievement, or education aspirations.

**Overall Motherhood Expectations.** To assess the overall difference in motherhood expectations between the present sample and the original sample from the population of mothers with children under age 18, the total motherhood expectation score

was calculated across all 40 items from the original MOMS. On average, undergraduate women had higher overall good mother expectations ( $M=177.50$ ,  $SD=19.08$ ) compared to mothers ( $M=170.49$ ,  $SD=21.87$ ). The difference between the samples was significant ( $t(563)=4.05$ ,  $p<.01$ ;  $d=.34$ ).

## **Study 2 Method**

### **Design**

The purpose of the second study was to assess the reliability of the MOMS over time. Adequate test-retest reliability was defined as  $>.70$  for each subscale. Test-retest reliability was analyzed to test whether participants' motherhood schemas were consistent across a brief period of time (i.e., two weeks). Given that participants in the present study were not mothers, it was necessary to examine whether their opinions of motherhood schemas at this developmental stage were stable or whether they varied over a short period of time.

### **Participants**

Data were collected from 44 participants to achieve adequate power. The average age of participants in Study 2 was 20.70 ( $SD=1.49$ ). Regarding status in school, 6.8% were first year students, 15.9% were sophomores, 27.3% were juniors, and 50% were seniors or beyond. Regarding race, 54.5% of the sample identified as White/non-Hispanic, 6.8% identified as Asian or Asian American, 22.7% identified as African American, 15.9% identified as Hispanic/Latina, 4.5% identified as Biracial/Multiracial, and 4.5% indicated another ethnicity (responses included Jewish and Indian). In terms of sexual identity, 92.9% of the participants identified as straight, 4.8% identified as bisexual, and 2.4% identified as queer.

The majority of participants were single (59.1%) and 36.4% were in a relationship but not living with a partner, while 4.5% were in a relationship and living with a partner. Additionally, the majority of participants planned on being married or in a committed relationship in the future (72.7%; 27.3% of participants skipped this question). In terms of future motherhood, 77.3% indicated they definitely planned to have children one day, while 11.4% indicated they would most likely have children, 9.1% said they would maybe have children, and 2.3% said they would most likely not have children. Of the participants who planned to have children, on average, they planned to have between 1-4 children ( $M=2.64$ ,  $SD=.87$ ). The mean age at which the participants planned to start having children was 28.22 ( $SD=1.72$ ).

In terms of education, the participants held an average GPA of 3.35 ( $SD=.31$ ). Among the participants, 9.5% planned to finish their education after earning a Bachelor's degree, while 90.4% planned to go onto some kind of graduate study (38.1% Master's degree, 26.2% Ph.D., 19% M.D., 7.1% J.D.). The participants indicated how they foresaw the occupational status of themselves and their future partner, with 65% anticipating full-time work for themselves and 35% anticipating part-time work for themselves. For their partners, 90.2% anticipated their partner would work full-time, and 9.8% anticipated their partner would work part-time.

In terms of mother's highest education, approximately 30.2% of the participants' mothers held a graduate/professional degree, 34.9% held a Bachelor's degree, 9.3% had some college, 9.3% had finished high school or earned a GED, 14% held an Associate's degree, and 2.3% had some high school. In terms of father's highest education, approximately 39.5% of the participants' fathers held a graduate/professional degree,

27.9% held a Bachelor's degree, 9.3% had some college, 14% finished high school or earned a GED, 4.7% held an Associate's degree, 2.3% had some high school, and 2.3% answered "not applicable/other." Participants also indicated the work status of their mother and father throughout their childhood. Among the respondents, 42.9% reported their mother worked full-time throughout their entire childhood, 11.9% reported their mother worked part-time throughout their entire childhood, 19% had mothers who returned to full-time work after staying home for a while (participants' average age when mother returned to full-time work:  $M=6.50$ ,  $SD=5.64$ ), and 19% of their mothers returned to part-time work after staying home for a while (participants' average age when mother returned to part-time work:  $M=10.67$ ,  $SD=5.05$ ). For participants' fathers, 88.4% reported their father worked full-time throughout their entire childhood, 2.3% said their father stayed at home throughout their entire childhood, and 7.0% had fathers who returned to work full-time after staying home for a while (average age of participants when father returned to full-time work:  $M=8.00$ ,  $SD=4.24$ ).

## **Procedure**

During a regularly scheduled meeting of undergraduate psychology courses, the author or her research assistant attended the last few minutes of the lecture and read a scripted invitation inviting eligible students to participate. The research assistant gave instructions to the class, namely, that they would be asked to participate in a 5-minute questionnaire about college women's motherhood and career plans. Participants were asked to participate in this survey in addition to a follow up survey two weeks later. For their participation students received extra credit in their course or one dollar for participating in the survey and the follow-up survey plus a chance to win one of four \$25



gift cards. At each of the two administrations, the author or her research assistant distributed a hard copy of the MOMS, as well as a demographic questionnaire identical to the one administered in Study 1. Participants filled out an informed consent form and proceeded with the questionnaire. Students who did not want to participate, or who are not eligible to participate, were allowed to leave. The surveys were collected and the same procedure took place two weeks later. At the end of the second administration, participants were debriefed and thanked for their time.

### **Measures**

The MOMS and a demographic form, identical to that used in Study 1, was administered.

### **Analyses**

Pearson correlations were calculated to assess the relations among the scores on the MOMS subscales across the first and second administration of the measure.

Reliability estimates were calculated for all subscales.

### **Study 2 Results**

The descriptive statistics and reliability estimates for the MOMS can be found in Table 3. On average, participants held moderate to strong Involvement expectations at Time 1 ( $M=4.60$ ,  $SD=.77$ ; possible range 1-6) and Time 2 ( $M=4.66$ ,  $SD=.71$ ; possible range 1-6). They had strong Flourishing expectations at both Time 1 ( $M=5.20$ ,  $SD=.44$ ; possible range 1-6) and Time 2 ( $M=5.19$ ,  $SD=.55$ ; possible range 1-6), and weak to moderate Traditional expectations at both Time 1 ( $M=2.64$ ,  $SD=.73$ ; possible range 1-6) and Time 2 ( $M=2.81$ ,  $SD=.82$ ; possible range 1-6).

The three subscales exhibited adequate internal consistency (Involvement Time 1  $\alpha=.73$ , Time 2  $\alpha=.74$ ; Flourishing Time 1  $\alpha=.75$ , Time 2  $\alpha=.84$ ; Traditional Time 1  $\alpha=.83$ , Time 2  $\alpha=.87$ ). The two-week test-retest reliability estimates were as follows: Involvement ( $r=.76, p<.01$ ), Flourishing ( $r=.75, p<.01$ ), Traditional ( $r=.84, p<.01$ ).

## CHAPTER 3

### Discussion

This study demonstrated that undergraduate women organized motherhood schemas differently than mothers who have children under the age of 18. Confirmatory factor analysis suggested poor fit for several models, both unidimensional and multidimensional, when items were constrained to the original factor structure (i.e., Traditional/Ideal Mother, Loving/Caring Mother, Ever-Present/Self-Sacrificing Mother, Encouraging Health/Independence Mother). The second finding, based on post-hoc exploratory factor analysis, suggested a three-factor model explained undergraduate women's motherhood schemas. The 26-item measure represented Involvement, Flourishing, and Traditional schemas about being a good mother. These subscales are preliminary, considering the post-hoc nature of the analyses. The subscales exhibited some support for reliability and validity and overall the scale appeared promising for future measurement development research on the topic of motherhood schemas among undergraduate women.

The main contribution to the literature from this study was the comparison of the factor structure of the Meaning of Motherhood Scale, originally developed with a population of women with children under the age of 18, with a sample of undergraduate women who are not mothers. Contrary to hypothesis, the four-factor structure was not replicated in the younger sample. Reasons for this discrepancy may include differences in the life stage and experiences of the two samples, the ethnic and racial diversity within the samples, cohort differences, and methodological differences between the two studies.

First, literature on undergraduate women's career development has suggested that

young women tend to be idealistic in their assessment of the challenges associated with combining career and motherhood: they expect both motherhood and career, but at this age do not appear to be concerned with having a strategy for making it all work. For example, Hoffnung and Williams (2013) found that, as college seniors, women wanted to “have it all,” that is, to be married, have children, and be engaged in a full-time career all at once. Upon follow-up 16 years later, they found that only half of these women had a full-time career and children; having a less-educated spouse was associated with “having it all.” Additionally, even when undergraduate women anticipated conflict between work and family, they were not more likely to have plans (i.e., family-altering or career-altering) for addressing this conflict (Coyle, Van Leer, Schroeder, & Fulcher, 2015). For example, they expected to have the same number of children regardless of plans to work full-time, part-time, or to stay at home with children.

This tendency toward unrealistic expectations may have been reflected in the present study as the undergraduate women held higher overall expectations for mothers, compared to the overall motherhood expectations found in the sample of mothers. Though the effect size of this difference was small, undergraduate women’s ability to assess what is realistic to expect of mothers, especially when women participate in multiple roles across work and family, may have a small influence on the structure of this construct. It is likely difficult to anticipate the realistic strategies one will need to utilize to “have it all” as a mother living in the United States and undergraduate women’s slightly higher overall expectations may have changed how items grouped together.

For example, the experience of being a mother is likely relevant in explaining the difference in structure of motherhood schemas between these two samples. One of the

main differences between the factor structures was that, among mothers, items assessing a Loving/Caring schema grouped separately whereas, among undergraduate non-mothers, items from the Loving/Caring subscale were connected to other expectations of good mothers. For undergraduates, Loving/Caring connected to Flourishing, and to a greater extent, these items were associated with the original Ever-Present/Self-Sacrificing subscale. Undergraduate women may perceive that love and care are related to a mother being there and being intensively engaged with her children. This interpretation corresponds with experimental research wherein a hypothetical mother was perceived more favorably by undergraduates when she dropped out of college after having a child (vs. staying in college; Mottarella et al., 2009). For undergraduates, perhaps the stress of pursuing one's own goals may be seen as (or feared to be) incompatible with adequately loving and caring for one's children. Among mothers, the structure of motherhood schemas may include a separate Loving/Caring subscale because, based on experience, the acts of love and care toward one's child are less connected with a "perfect" performance of parenting.

Moreover, it is possible that undergraduate non-mothers thought about the stem of the MOMS (i.e., "A good mother should...") differently than the mothers who completed the scale in the original study. While participants in the present study indicated that they thought about themselves as mothers in the future, about their own mothers, and about mothers in general to a similar extent, mothers who fill out the MOMS may mostly think about themselves as mothers because they are presently immersed in the role. This distinction may influence the factor structure of the measure, thus future research is needed to clarify how participants across various populations think about the stem as they

respond to the questionnaire.

Next, theory and research suggests that the construct of motherhood is culturally defined (Greenman, 2011; Johnston & Swanson, 2006). Through interaction with their environment, culturally-bound messages about what mothers should think, feel, and how they should behave become internalized (Hays, 1996). The sample in the present study was more diverse in racial and ethnic background compared to the original sample of mothers, which was mostly White (~87%) and high-income. Perceptions linked to cultural norms and expectations may play a role in determining the factor structure of a construct assessing motherhood schemas. Historically, for women of color in the United States, staying at home after having children has not been an option because women's income is necessary for the economic security of the family (O'Brien, Franco, & Dunn, 2014). For example, Greenman (2011) found that, in the United States, Asian American women were less likely than White women to reduce their work hours after having children. Greenman (2011) interpreted this finding as a reflection of both cultural norms (e.g., grandparents expecting to care for grandchildren while both parents work full-time, desire to invest money in children's education) and economic necessity, especially among immigrant families. Growing up in a household where maternal employment is a cultural norm likely influenced the motherhood schemas of the young women of color in the present study, perhaps increasing their expectations of what good mothers can manage.

A third possible explanation for the difference in structure of the MOMS is the shift of gender role attitudes in the United States over time. Research has suggested that gender role attitudes have become increasingly liberal since the 1970s, when scientific studies about gender roles began to emerge (Brooks & Bolzendahl, 2003). One

mechanism behind this change is cohort replacement, wherein a younger generation—exposed to different norms and values compared to its elder cohorts—come of age and shift overall attitudes (Brooks & Bolzendahl, 2003). Brewster and Padavic (2000) found that cohort replacement explained more variance in the gender role attitude shift between 1977 and 1996 than did changes in individual’s attitudes across time. In the present study, the cohort of undergraduate women may have had more liberal gender role attitudes compared to the cohort of mothers from the original study. These attitudes would theoretically influence responses to the MOMS, and this was perhaps reflected in the present study by the fact that items about working mothers (i.e., “Not work too many hours per week” and “Be there when her child gets home from school every day”) loaded onto the Traditional factor instead of being grouped with Involvement or Flourishing (see below for further discussion of the factors).

Fourth, one methodological difference between the present study and the original study was the presence and absence, respectively, of incentives to participate in the research. Undergraduate women received extra credit or entry into a gift card lottery whereas mothers were eligible for a gift card lottery. The extra credit opportunity for undergraduates may have attracted a sample with varying motivation to contribute to research on motherhood, whereas mothers were perhaps more apt to participate if they were highly motivated to contribute to research on motherhood. The relative interest and willingness to participate may have had an impact on the factor structure of the measure. Perhaps participants with less interest in reflecting on motherhood thought about items differently than those with interest in this topic. For example, Item 28 “Exercise regularly,” (which was originally on the subscale Encouraging Health/Independence) was

not retained because it cross-loaded on Flourishing and Traditional. Perhaps young women's motivation and interest in the topic of motherhood had an impact on the lens through which they interpreted this item; some thought about it in terms of physical health while others thought about it in terms of maintaining an attractive appearance.

The second finding of the study, based on post-hoc analyses, was that motherhood schemas among undergraduate women fit a three-factor structure, with subscales representing Involvement, Flourishing, and Traditional motherhood expectations. Although preliminary evidence suggests a promising direction for measurement of motherhood schemas in this population, these findings should be interpreted with caution prior to replication and given the post-hoc nature of the analyses. Overall, the three-factor model was conceptually similar to the original four-factor model: Traditional was similar to the Traditional/Ideal factor, Involvement was similar to the Ever-present/Self-Sacrificing factor, and Flourishing was similar to the Promoting Health/Independence factor. The main difference was the lack of a Loving/Caring subscale in the three-factor model, although several items from Loving/Caring were retained on both Involvement and Flourishing. Moreover, there did not appear to be a pattern explaining which items were dropped versus retained in the three-factor model; items that were not retained came from each of the four original factors.

Preliminary support was found for the reliability of the three-factor structure of the MOMS. All three subscales exhibited adequate internal consistency and adequate test-retest reliability. Additionally, preliminary support was found for the validity of the three-factor structure of the MOMS in a sample of undergraduate women. The subscales correlated in some theoretically expected ways with the variables selected to assess



convergent validity, suggesting that this measure may be useful for investigating the various paths women take in career development. For example, all three subscales had a positive correlation with willingness to compromise career for children, but only the Traditional subscale had a positive relationship with willingness to compromise career for partner. This finding underscores how a traditional ideology suggests separate roles for women and men across career and family. Those who score high on Traditional motherhood expectations are perhaps more likely to desire a relationship with a partner who wants to be the primary breadwinner or they may desire a career that allows them to slow down after having children. Next, Involvement and Flourishing were both positively associated with career aspirations, suggesting that these motherhood expectations may tell us which undergraduate women desire multiple roles. Breaking this finding down further, since the Involvement subscale retained items reflecting the expectation that mothers are ever-present and primarily responsible for their children, its positive association with career achievement aspirations might suggest that those who score high on Involvement expect mothers to be achievement-oriented across multiple roles (i.e., both motherhood and career). In other words, high scores on Involvement might tell us which undergraduate women expect mothers to be “supermoms.” On the other hand, Flourishing was the only factor with items centered on the mother’s interests and well-being. High scores on this subscale may suggest awareness of the importance of the mother’s health to the child’s well-being, as reflected in research showing that, for many women, satisfaction with motherhood is increased when they are satisfied in other life roles, like work (Gorman & Fritzche, 2002). These interpretations are tentative, and the extent to which motherhood schemas tell us about the career development and desires of

young women is still in need of further examination.

### **Limitations**

Several limitations of the current study should be addressed. Although the women in the sample were representative of the population in general for undergraduate students, they were mostly White heterosexual women. Thus, generalizability to other groups of women and to men is limited. In addition, the sample was about 19 years old, on average, and in the early stages of their college career. College students at this age are exploring and may their opinions and future directions (e.g., many students change their majors several times before settling on an educational path). Similarly, students likely will change their motherhood schema over the years, especially as they experience life events that move them closer to having children (e.g., meeting a serious romantic partner). Moreover, questions about good mothers are likely very abstract for non-mothers at this age and their responses may change, based on life experience, as they grow older.

Next, the sample's lack of variability in college major representation is a limitation. Women who are studying psychology and biology may view motherhood schemas differently than women in STEM or business majors. It would be worthwhile to assess whether motherhood schemas have a similar structure when women are under-represented in their major. For example, desire for family-flexibility has been found to predict which young women eventually switch their career pursuit from non-traditional to gender-neutral or traditional (Frome et al., 2006), so women in non-traditional majors may be more likely to group items together that relate to how much a good mother should work.

Additionally, the sample seemed to be high-achieving (based on GPA) with high aspirations and well-educated parents and may not represent the structure of motherhood schemas for an average undergraduate woman. It is possible that young women with strong academic performance and high career aspirations organize their motherhood schemas differently than average performers based on their experiences growing up. For example, maternal education has been linked to children's enhanced academic performance (Harding, Morris, & Hughs, 2015). Harding et al. (2015) theorized that this link may exist because a mother's education increases her access to a range of resources (e.g., social networks, cultural awareness) that can shape the messages children receive about their abilities. Growing up in a home with an educated mother may prompt undergraduate women to expect mothers to further the intergenerational transmission of academic success while also pursuing their career goals. In other words, their expectations for mothers to be high-achieving across multiple roles may be very high. Additionally, in the present study, over 50% of the participants' mothers were employed throughout their childhood. Mothers' employment has been associated with daughters' career success (McGinn, Lingo, & Castro, 2015) and with more egalitarian gender roles (Davis & Greenstein, 2009). Future research on motherhood schemas should focus on recruitment strategies that would yield a more random sample of university women—for example, motherhood schemas could be included in mass testing initiatives on college campuses.

Another limitation of the current study is that the four-factor model tested was originally developed using an exploratory factor analysis, which can be strongly influenced by the sample and cannot necessarily be generalized to the population. The

original model has not yet been confirmed with other samples of mothers with children under the age of 18 so the validity of the present study's comparisons to the original four-factor model are contingent on confirmation of the original model. Relatedly, a limitation of the present study is that the Meaning of Motherhood Scale was developed for mothers and tested with mothers. Thus, since the present sample has no experience with being a mother, it is feasible that an improved measure for undergraduate women could be developed if the construct and items were created with non-mothers in mind.

### **Future Research**

Since the factor structure of the MOMS was inconsistent among undergraduate women and mothers with children under the age of 18, further research is necessary to replicate the post-hoc findings of the present study's exploratory factor analysis. Prior to use, the MOMS must be administered to more samples of undergraduate women to assess further the stability of the factor structure and the psychometric properties of the measure. In addition, it is critical to study the original measure further in the population of mothers. A confirmatory factor analysis and further assessment of its psychometric properties would lend greater certainty to the finding that this construct is indeed different in each of these populations.

If replicated, administration of the MOMS may help researchers to determine the relationship between motherhood schemas and variables associated with career development. For example, building off of recent work by Coyle et al. (2015)—wherein undergraduate's plans for addressing work-family conflict were found to be misaligned with the type of work-family conflict they anticipated—it would be interesting to test if undergraduate women's schemas about motherhood align with their ideal configuration

of career and family for themselves and their partner. Moreover, the MOMS could help build on research that seeks to understand undergraduates' ideal and expected relationship dynamics (Deutsch et al., 2007) and chore division (Askari, Liss, Erchull, Staebell, & Axelson, 2010). These variables are important to assess as a part of women's career development because they inform the types of investments women are anticipating across work and family.

Longitudinal research, wherein young women's motherhood schemas would be measured as they move from young adulthood into emerging adulthood (Arnett, 2010), would be ideal for understanding how motherhood schemas change as women experience significant life events. For example, life events such as entering the workforce, making a career change, entering a serious relationship, getting married, and having children may each shape women's motherhood schemas. It is possible that motherhood schemas move from abstract/unrealistic expectations toward more concrete/realistic expectations as women experience these milestones of adulthood. Additionally, understanding men's motherhood and fatherhood schemas would illuminate how gendered parenting schemas form and change as men enter their careers, get married, and have children. For example, studying heterosexual couples during emerging adulthood in terms of their motherhood/fatherhood schemas may predict outcomes such as relationship quality, work-family conflict and enrichment, and life satisfaction. Perhaps discussing motherhood schemas prior to marriage or children may predict different outcomes across these variables.

Finally, it is important to note that motherhood schemas alone cannot account for the actual behaviors women and men enact as they manage work and family. Future

research should also take into account variables such as job availability, partner's career choice and salary, and access to childcare resources to improve our understanding of gender divisions of labor.

### **Counseling Implications**

If the results of the current study are replicated, this measure would be useful as a tool in counseling to raise awareness about schemas and perhaps become more intentional and realistic in understanding how one's motherhood expectations could affect goals. Given that many students are evaluating their career options during their school years, the MOMS could be used to assess students' expectations of good mothers and raise their awareness when those expectations may not align with their future goals. For example, if a client wants to become a surgeon but endorses high Traditional motherhood schemas, those schemas could be discussed, challenged, and replaced by schemas that are more adaptive for the given individual. Cognitive therapists have demonstrated that schemas can be changed over the course of therapy (Padesky, 1994). Young women's schemas about motherhood may be altered if, for example, they want to select a career that requires long hours but also associate "good" mothering with being at home when their children return from school.

Next, counselors who use the MOMS as a tool to prompt discussion of career-family management can be aware that all three subscales had a positive relationship with willingness to compromise career for children. It might seem intuitive to assume that women scoring high on Traditional would be most likely to compromise their career, but findings from the present study demonstrated that high scores on any of these factors relates to a greater willingness to compromise career for children. This finding

underscores previous research emphasizing the need to integrate discussions of work-family management into vocational counseling.

Outside of counseling individuals, intervention programs could be designed to give young women information about the effects of maternal employment on children and to discuss strategies that satisfy women's goals for how they would ideally want to combine career and family (e.g., using flexible policies in the workplace or selecting a partner who is willing to share childcare responsibilities equally). On a broader level, interventions to raise awareness about motherhood schemas could be designed to promote discussion among emerging adult populations about the way gender plays a role in perceptions of how to be a good mother or father. As discussed above, research suggests that gender roles are becoming more liberal over time (Brooks & Bolzendahl, 2003; Brewster & Padavic, 2000), however these findings are attenuated by research suggesting that some aspects of unequal gender role division have remained constant over time (Goldberg, Kelly, Matthews, Kang, Li, & Sumaroka, 2012). For example, as women's participation in the labor force has increased in the United States, men's participation in the home has increased at a much slower pace (Pailhe & Solaz, 2006). This may be due in part to the fact that implicit attitudes—which are individuals' automatic, even unconscious, associations with a particular concept—play a role in the maintenance of gender role attitudes (Rudman & Phelan, 2010). Thus, interventions to make the implicit more explicit are needed to address long-standing and difficult-to-alter attitudes about gender roles. The MOMS could be used as a tool to spark discussions about what women and men want or expect from each other when it comes to gendered divisions of labor across work and family. Moreover, the MOMS could help women and

men reflect on what they expect of themselves as they navigate the process of combining work and family.

In sum, this study provided preliminary data to suggest that motherhood schemas are structured differently among undergraduate women non-mothers compared to mothers. Pending further replication, the three-factor structure measure of motherhood schemas for undergraduate women described in this study has promise for informing future research and clinical interventions. Schemas are crucial to understand in the career development process because, though they are fairly stable, they are also malleable. Young women's sense of possibility or flexibility in role expectations could be expanded when they hold incompatible career and family goals. Career counselors could work with young women to promote adaptive strategies for combining career and family. Influencing women before they enter their careers (or relationships) may also stimulate a sense of empowerment to negotiate for and use flexible workplace policies and egalitarian romantic partnerships to improve the management of work and family.



## Appendix A

### Literature Review

Women and men approach the task of combining career and family using various configurations (Hakim, 2006; Hoffnung & Williams, 2013), but one persistent trend characterizing many work-family arrangements is the tendency for women to invest more heavily in the family sphere (Bartley, Blanton, & Gilliard, 2005) and to compromise career pursuits for their children or partner (Ganginis et al., 2013). Gendered investments in career and family appear to be linked to the process of gender role socialization (Betz, 2006; Eccles, 2011), such that women tend to take on communal responsibilities at home and in society, and men tend to direct their focus toward—and contribute to the family through—personal achievement, career prestige, and financial success (Ferrman, Lubinski, & Benbow, 2009).

Discovering which factors perpetuate these gender-stratified investments is necessary because, along with investing more in the family, women tend to be concentrated in low-paid, low prestige occupations (O'Brien et al., 2000). Women are underrepresented in high-paid, high-prestige science, technology, engineering, and mathematics (STEM) careers (Frome, Alfred, Eccles, & Barber, 2006) and the well-paid trades (e.g., Ericksen & Schultheiss, 2009). Moreover, even in fields where women have achieved parity, women are underrepresented in high status positions (Baumgartner & Schneider, 2010; Bertrand, Goldin, & Katz, 2010). When women disproportionately take on unpaid responsibility in the family sphere, or are viewed as primarily responsible for the family sphere, they are also at risk of becoming economically disadvantaged.

Though many factors related to broad cultural trends perpetuate the reproduction of gender-stratified investments in work and family (e.g., the “motherhood wage penalty” wherein women with children are paid far less than their counterparts while the opposite is true for men with children; Correll, Benard, & Paik, 2007), the present study focused on the interplay of cultural norms and women’s perceptions of how they “should” be making decisions about investing in family. Specifically, the present study tested the factor structure and validity of an instrument measuring undergraduate women’s motherhood schemas. Improving the ability to measure how young women perceive the motherhood role (e.g., How present/involved should I be with my future children? Will working distract me from being a good mother?) will allow researchers to advance the study of women’s career development, especially during an age where women are selecting their careers, beginning to develop their professional networks, and investing in romantic relationships wherein career compromise may eventually play a role in economic stability for women in dual-earner couples.

### **Why Study Motherhood Schemas Among Undergraduate Women?**

A schema is defined as a cognitive structure that organizes and filters information about the world, and its form is described as a network of knowledge or associations that one has with a given concept (Bem, 1981; Padesky, 1994). The present study concerns the knowledge networks and associations young women have about motherhood. Specifically, “motherhood schema” is defined as the various messages individuals internalize about how mothers ought to think, feel, and behave to be seen as “good” mothers (Salahuddin et al., n.d.). Motherhood schemas are theorized to play a role in the choices women make about how to manage career and family.

It is important to study schemas about motherhood from a developmental perspective because, even though schemas are fairly stable, they are not static. Piaget (1964) argued that learning is an active process and, when one's schemas do not match one's sense of reality, individuals can change their knowledge structures to better accommodate new information. For example, even though stereotypes about gender roles (e.g., what kinds of careers are best suited for women or men) are difficult to change (Bigler, 1999), they are still malleable (Trautner, Ruble, Cyphers, Kirsten, Behrendt, & Hartmann, 2005). The malleability of schemas appears to be related to the engagement of specific cognitive processes, such as memory and rehearsal. Bigler and Liben (1990) demonstrated the importance of cognitive processes in an experiment of occupational stereotyping with children ages 6-11. In the experimental group, children learned gender non-stereotypic "rules" about whether someone could take on a given occupation; specifically, the rules included liking an occupation and learning to do skills associated with an occupation. Children practiced this rule and sorted individuals into occupations during 20-minute lessons over the course of five days. In contrast, children in the control group learned about two occupations each day. After the intervention, children were given a list of occupations and asked whether "only men," "only women," or "both men and women" could do the job. Children in the experimental group were far less gender stereotypical than children in the control group.

Given that schemas are stable but still malleable, there is potential to intervene with undergraduate women to shape their schemas about motherhood, such that their beliefs about motherhood align with their ideal configuration of career and family. Cognitive therapists have demonstrated that schemas can be changed over the course of

therapy (Padesky, 1994). Young women's schemas about motherhood may be altered if, for example, they want to select a career that requires long hours but also associate "good" mothering with being at home when their children return from school.

Intervention programs could be designed to give young women information about the effects of maternal employment on children and to discuss strategies that satisfy women's goals for how they would ideally want to combine career and family (e.g., using flexible policies in the workplace or selecting a partner who is willing to share childcare responsibilities equally). Intervening before young women enter the workforce would hopefully prepare the next generation to assert their needs and desires as mothers and workers, rather than reproducing traditional gender roles and divisions of labor.

### **Theoretical Framework**

**Gender Schema Theory.** To frame the process that one might use to begin to develop a reliable and valid measure of cultural expectations about "good" mothering practices, it is necessary to look to the overarching category of gender, in which mothering expectations are embedded. Gender refers to the socially constructed norms that a given culture associates with the performance of femininity and masculinity, and it is conceptually distinct from an individual's biological or physical sex (Matlin, 2008). Accordingly, the gender stereotypes and norms of one's culture become associated with biological sex differences, and automatic generalizations proliferate about the abilities, tendencies, and proclivities of girls/women and boys/men.

Gender Schema Theory holds that the stereotypic or dominant gender roles of a given culture become internalized as children engage in social-cognitive development (Bem, 1981). As children learn about their environment, they sort gender-specific

information into categories by a process called schematization (Levy & Carter, 1989), producing a fairly stable gender schema that helps organize their experiences. In other words, children actively engage with the gendered messages of their culture to learn about themselves and the world (Bussy & Bandura, 1999).

Individuals also appraise the feedback they receive from others for conforming to or breaking stereotypes (Bussey & Bandura, 1999), and assign meaning to new stimuli based on the organization of their schema (Bem, 1981). Gender Schema Theory asserts that starting from childhood, individuals evaluate themselves in terms how well they conform to their emerging gender schema. These evaluations help organize an individual's attitudes, personality attributes and behaviors—in short, their self-concept (Bem, 1981). Bem (1981) argued that individuals are motivated to take on the dominant or traditional gender norms of their culture because one's self-esteem and sense of adequacy as a person is related to becoming prototypically gendered. Conforming to gender norms is typically praised by others, thus individuals learn to tailor their attitudes and behaviors toward the dominant cultural gender norms.

**Expectancy-Value Model of Achievement-Related Choices.** The Expectancy-Value Model of Achievement-Related Choices (Eccles, 2011) is a theoretical framework that helps explain how gender schemas are related to career planning. Eccles (2011) argued that career planning outcomes (e.g., career choice, course enrollment, choice of college major) are predicted by an individual's values, motivations, and expectations for success. For example, a young woman may avoid selecting a non-traditional career (e.g., surgeon) because she values a career with a flexible schedule so she can spend time with her future family (Frome et al., 2006). An individual's values, motivations, and

expectations for success are not innate, however. Rather, they are shaped by cultural messages about gender roles, the beliefs of one's socializers (e.g., parents, teachers, and peers), and learning experiences (Eccles, 2011).

These influences are internalized through the individual's unique cognitive filter, thereby shaping her or his self-concept. Eccles (2011) conceives of the self-concept as one's sense of short- and long-term goals, confidence in abilities, and perception of the demands that a given task presents. The tendency for women and men to make different career choices is therefore a reflection of their surrounding culture's messages about women's and men's appropriate roles. For example, in their research on parents as socializers, Eccles, Jacobs, and Harold (1990) found that parents who endorsed traditional gender role stereotypes also tended to underestimate their daughters' abilities for "male" activities while overestimating their sons' abilities for those same activities.

### **The Shaping of Motherhood Schemas**

**Process.** Both Gender Schema Theory (Bem, 1981) and the Model of Achievement-Related Choices (Eccles, 2011) emphasize the role of socialization in the formation of schemas. Moreover, Bem (1981) specified that Gender Schema Theory is a framework for understanding the *process* of gender schema formation, rather than speculating on the content of gender schemas. That which an individual internalizes depends on the ecological environment she or he interacts with (Bem, 1981), and environmental messages may vary when considering different levels of analysis. For example, an individual may internalize messages about gender at home by observing her or his parents, but those messages could differ from the gender norms witnessed in the media (i.e., the microsystem level and the exosystem level, respectively; Bronfenbrenner

& Morris, 2006). Accordingly, Gender Schema Theory supports the assumption that an individual's environment is a crucial factor in the schematization process, and variability necessarily exists across gender schemas in a given culture.

Various mechanisms have been studied that explain how stereotypical gender schemas form when children interact with their environment. The influence of gendered language and interaction style between parents and children have been found to differ based on a child's gender (Chick, Heilman-Houser, & Hunter, 2002; Clearfield & Nelson, 2006; Lindsey & Mize, 2001). For example, Clearfield and Nelson (2006) measured the language mothers used while playing with their 6-, 9-, and 14-month-old infants, and the language was coded into different verbal categories such as praise, directives (i.e., statements telling the child where to focus his or her attention), and interpretations (i.e., statements about the child's feelings and needs). They found that mothers tended to make more interpretations with daughters than with sons, suggesting more emotional attunement. The higher degree of emotional attunement between mothers and daughters fits the stereotype that women are more verbal and emotion-focused than men. Messages about gender roles also have been found to be transmitted through interactions with siblings (Cobb, Walsh, & Priest, 2009; Rust, Golombok, Hines, Johnston, & Golding, 2000), and through pressure from peers (Ewing-Lee & Troop-Gordon, 2011; Oransky & Marecek, 2009).

The mechanisms of gender role schema development can be logically extrapolated to the development of schemas about motherhood. Motherhood is a key component of fulfilling a prototypically feminine gender role (Choi, Henshaw, Baker, & Tree, 2005; Chrisler, 2013). Accordingly, it is likely that gender schemas contain

knowledge networks about how mothers are supposed to act, feel, and behave to feel like, or be seen as, “good” mothers.

Several studies shed light on the role parental modeling and attitudes have in association with young women’s motherhood schemas. Weinshenker (2006) measured high school students’ expectations about when a mother should return to work after the birth of a child and they found that participants who grew up with a stay-at-home mother were more likely to expect that a mother ought to scale back her work while her children were still at home. Conversely, participants whose mothers held gender-egalitarian attitudes were more likely to expect a mother to return to work shortly after the birth of a child. Additionally, Filipokowski and Chambliss (2009) found that having a mother who worked throughout one’s childhood was associated with high school students’ perceptions of the benefits of maternal employment, such that they perceived more benefits than their counterparts who had stay-at-home mothers.

In sum, motherhood schemas are shaped through various processes, starting early in childhood, when people interact with their environment. Gender Schema Theory suggests that schemas are most likely to be comprised of dominant cultural attitudes, however, research supports the possibility that schemas vary based on the direct interactions individuals have on a daily basis. The Model of Achievement-Related Choices suggests that the self-schemas that are formed when an individual interacts with her or his socializers, and these interactions play a role in shaping an individual’s work-life values, expectations for success, and motivations, which predict various variables related to career planning.



**Content of Motherhood Schemas in the United States.** The dominant mothering ideology in the United States—intensive mothering—was described by Hays (1996). An intensive mothering ideology places the responsibility for children’s well-being and development on the mother instead of the father, extended family, or surrounding community, and requires a demanding amount of time, skill, and attention. Interviewing mothers in the United States, Hays (1996) found that “good” mothering was associated with a) putting children’s needs above her own, b) being solely responsible for her child’s development, c) being constantly available to her child, and d) investing ample time, energy, and money into her child’s development. Mothers ascribing to an intensive mothering ideology also sacrificed their careers and well-being (e.g., sleep, relaxing activities) to ensure optimal cognitive development for their children (Wall, 2010).

Further theoretical development (Medina & Magnuson, 2009) and qualitative research (Johnston & Swanson, 2006) suggested that intensive mothering expectations impacted working mothers and stay-at-home mothers alike. For example, Johnston and Swanson (2006) interviewed stay-at-home mothers and working mothers to assess themes in mothering ideologies. They found that stay-at-home mothers placed importance on self-sacrifice, the quantity of time spent with their children, defining one’s identity through the mother role, and the ability of the mother to be highly accessible to children at all times. In contrast, mothers who were working placed more importance on quality time and having an identity separate from motherhood, yet they expressed guilt and anxiety around their inability to be highly available or accessible to their children. Some research also suggested that holding intensive mothering expectations were associated

with experiencing higher levels of depression, stress, guilt, and shame (Guendouzi, 2006; Rizzo, Schiffrin, & Liss, 2012; Southerland, 2010) due to the inherent difficulty of living up to intensive role expectations.

Research on less-dominant mothering ideologies also is gaining traction. For example, some mothers have begun adopting an ideology called extensive mothering (Christopher, 2012). Extensive mothering is characterized more by delegation of child-rearing than by being constantly available or self-sacrificing, allowing mothers to organize their ideas of “good” mothering in a manner that permits greater investment in career while their children are young. In a qualitative study, Christopher (2012) interviewed a diverse group of mothers in the United States (N=40; 47% White; 60% working full time) and found that extensive mothering attitudes involved a) strong identification with both a career identity and a mother identity, b) spending time with children high in quality as opposed to quantity, c) viewing their children’s bonds with caregivers other than themselves as central to healthy child development, and d) working for self-satisfaction rather than solely for financial necessity.

Beyond intensive and extensive mothering, qualitative research also suggests that some women emphasize that “good” mothers will contribute to the health and development of a child’s self-esteem, especially when one’s child is exposed to oppressive social structures. Kim, Conway-Turner, Sherif-Trask, and Woolfolk (2006) underscored Korean-American mothers’ desire for their children to create connections with members of their community, outside of the nuclear family. Additionally, Banks-Wallach and Parks (2001) interviewed African-American mothers (N=25) about their mothering expectations and found that they placed emphasis on a) teaching children

about their ethnic and cultural history, b) validating non-dominant cultural beliefs and behaviors as a way of preventing the internalization of racism, c) teaching children how to respond to racism, and d) helping their children create meaningful connections with others in their cultural community.

In sum, mothering schemas in the United States are based on more than one set of expectations about what it means to be a “good” mother. Whether dominant or non-dominant, measuring these expectations will enable researchers to better understand how motherhood schemas play a role in women’s career development.

### **College Students’ Expectations of Motherhood**

Research has suggested that college women have expectations about how women should manage the interplay of career and motherhood, especially shortly after the birth of a child (Goldberg & Lucas-Thompson, 2014; Gorman & Fritzsche, 2002; Mottarella et al., 2009). These studies shed light on the types of knowledge networks that comprise emerging adults’ motherhood schemas prior to becoming parents themselves.

For example, in an experiment designed to test college students’ perceptions of what it means to be a “good” mother, it was found that ratings of a female peer’s interpersonal traits depended on whether or not, and when, she returned to school after the birth of a child (Mottarella et al., 2009). Participants (N=205, 66% women, 68% white) were randomly assigned to conditions wherein they read about a female peer who became a mother while she was enrolled in college, and the information that varied between conditions was whether she returned to school six months after giving birth, after her child was six years old, or whether she permanently discontinued her education after having her child. Participants then rated their peer in terms of perceived personality

traits and interpersonal characteristics. Mottarella and colleagues found that participants rated the mother as warmer and more agreeable when she dropped out of school, compared to the other two conditions. Additionally, the mother who returned to school six months after having her child was rated as more coldhearted, arrogant, and calculated in comparison to the mother who dropped out of school. The findings of this study suggest that mothers are judged critically by young adult college students when they prioritize career pursuits while they have young children. Accordingly, it appears that college students may hold motherhood schemas that associate “good” mothering with being intensively involved with and constantly available to children.

In a similar experiment examining college students’ expectations of “good” mothers, Gorman and Fritzsche (2002) manipulated descriptions of a mother based on her work status after the birth of a child (i.e., not employed, interrupted employment, or continuous employment) and whether she was satisfied or dissatisfied with her work status. Participants (N=192 undergraduates, 70% women) read one of six descriptions of a mother and then rated her personality traits and perceptions of her commitment to motherhood. The researchers found that the mother who was never employed and satisfied with this work status was rated more selfless and more committed to motherhood. In contrast, the mother who remained continually employed after having a child was rated less committed to motherhood. However, if the continually employed mother was dissatisfied with her work status, she was rated more selfless and committed than her satisfied counterpart. These findings suggest that college students’ perceptions of “good” mothers were associated with self-sacrifice. That is, working for the purpose of

self-fulfillment (i.e., the satisfied working mother) instead of for financial need (i.e., the dissatisfied working mother) was perceived negatively (Gorman & Fritzsche, 2002).

Expectations that comprise motherhood schemas among college-aged women also were expressed in a study of the accuracy of undergraduates' perceptions of the effect that maternal employment has on young children (Goldberg & Lucas-Thompson, 2014). The researchers compiled data on the actual effects of maternal employment on children, derived from two meta-analyses of studies that examined this topic between the years of 1961 and 2009, including its effect on children's achievement (i.e., grades, intelligence scores, and standardized test scores) and behavior (i.e., internalizing symptoms and externalizing symptoms). Unaware of the meta-analytic data, female participants (N=1,259, 21% White) rated how much they thought their own future full-time employment would have an effect on their future children's achievement and behavior. Findings indicated that, while college women tended to be accurate in their assessment of the effect of maternal employment on children's achievement, they tended to overestimate the costs of maternal employment on children's internalizing and externalizing behavior. Moreover, participants' gender role ideology played a role in estimates, such that those with higher egalitarian gender role attitudes perceived fewer costs and more benefits of full-time maternal employment on children's achievement and behavior. Overall, the prevailing perception, as suggested by these findings, was that young women perceived that working full time while their future children are young may have a negative effect on their children's behavioral health. Taken together with the studies reviewed above, college women's motherhood schemas may tend to match up with intensive mothering expectations.

## **Meaning of Motherhood Scale Development**

Intensive mothering expectations, as reviewed above, is considered the dominant mothering ideology in the United States (Hays, 1996; Medina & Magnuson, 2009; Liss, Schiffrin, Mackintosh, Miles-McLean, & Erchull, 2013). Accordingly, research focusing on this construct, as well as its measurement, has advanced in recent years. Specifically, Liss and colleagues (2013) constructed a measure of intensive parenting attitudes that was found to be reliable and valid in a population of mothers and a population of female college students. Factors that emerged in the development of the Intensive Parenting Attitudes Questionnaire included five dimensions related to an intensive mothering ideology: a) the belief that mothers are naturally better caregivers than fathers (Essentialism), b) the belief that having a child is the ultimate fulfillment of one's purpose in life (Fulfillment), c) the belief that a parent must engage children in intensive learning (Stimulation), d) the belief that parenting is taxing and difficult (Challenging), and e) the belief that parenting involves self-sacrifice (Child-Centered). Each of these subscales, aside from Stimulation, was positively related to perceiving more costs than benefits of maternal employment on children (Liss et al., 2013).

Liss and colleagues (2013) developed items for the Intensive Parenting Attitudes Questionnaire based on qualitative research describing intensive mothering and its proposed components to explore whether quantitative factors would align with the qualitative findings. A limitation of this approach to the study of motherhood schemas is that it focused solely on the dominant cultural ideology of mothering. Thus the purpose of the Meaning of Motherhood Scale development was to ground the measurement of mothering expectations in both dominant and non-dominant/alternative ideologies about

good mothering in the United States (Salahuddin et al., n.d.). In other words, the construction of MOMS did not presuppose that intensive mothering was the only meaningful dimension to measure in the study of motherhood schemas and expectations.

To develop the MOMS, a search for literature on motherhood was conducted, including intensive mothering, extensive mothering, communal mothering, good parenting, and motherhood across various subcultures within the United States. Themes were generated based on this review of literature and items were developed by a team of researchers that included two faculty members in counseling psychology, and three advanced doctoral students in counseling psychology. The initial measure, comprised of 156 items across 21 themes (see Appendix H), was administered to a small group of mothers (71% White). After completing the initial measure, these mothers were asked to comment on themes of motherhood that were not yet represented by the items. After incorporating this feedback, the research team came to a consensus about which items to retain and delete (due to redundancy or issues of clarity) and the final measure (123 items) was administered to 262 mothers. Exploratory Factor Analyses was conducted and a four-factor solution, comprised of 40 items, was determined to be the best fit (Salahuddin et al., n.d.).

The first factor that emerged was called Traditional/Ideal Mother because the common theme among these items was adherence to traditional feminine gender roles within the motherhood role (e.g., be attractive, do all the grocery shopping, always keep the house clean). The second factor was called Ever-Present/Self-Sacrificing Mother because the common theme among these items aligned with—though did not capture all dimensions of—intensive mothering. For example, these items appeared to center around

being present (e.g., being home when her child comes back from school) and making work sacrifices to attain a high level of availability (e.g., prioritizing her child over work). The third factor centered around nurturing one's child (e.g., showing affection and spending quality time with her child) and was called Loving/Caring Mother. The fourth factor was called Encouraging Health/Independence Mother because the common theme among these items was having an identity separate from motherhood and taking care of oneself while still supporting the interests and development of her child (e.g., having interests of her own, ensuring that her child becomes independent).

Though past research has focused on intensive mothering expectations in the study of "good" mother schemas, the results of the Meaning of Motherhood Scale development suggested that separate dimensions of mothering exist apart from intensive mothering. To understand the motherhood schemas of young women who have not yet become mothers, and the association of this construct with career planning variables, the present study tested the stability of the MOMS factor structure among undergraduate women and the reliability and validity of the measure.

### **Correlates of Motherhood Expectations Among Undergraduate Women**

Assessing the validity of the motherhood schema construct among undergraduate women requires an examination of its relationship with theoretically related constructs. Drawing from Gender Schema Theory (Bem, 1981), undergraduate women's motherhood expectations were expected to be related to gender role attitudes. Additionally, grounded in the Model of Achievement-Related Choices (Eccles, 2011), the interplay of motherhood and career among undergraduate women suggested that motherhood expectations also would be associated with willingness to make career compromises for



one's partner and children, career aspirations, and the traditionality of one's career choice.

Gender role attitudes are defined as the extent to which individuals hold traditional notions of the roles women and men are naturally suited for, and on the opposite side of the spectrum, how much individuals see the roles and capabilities of women and men as egalitarian or equal (Larson & Long, 1988; Colaner & Giles, 2008). In one study of college women who identified as religious (N=134, 95% White), researchers assessed the link between gender role attitudes and mothering aspirations (Colaner & Giles, 2008). Mothering aspirations were defined as the extent to which participants prioritize the mother role over all other potential facets of identity. They found that gender role attitudes predicted 20% of the variance in mothering aspirations, such that the more participants endorsed the attitude that a woman's role is to support and complement men's roles, the greater their mothering aspirations. This finding suggested that when women hold beliefs that some roles are appropriate for women while others are appropriate for men, they also viewed motherhood as their ideal role in life.

Additionally, in a study of undergraduate women's expectations of how they plan to divide childcare responsibility with their partner, researchers found that participants (N=202; 69% White) who desired an arrangement where they and their partner would both "scale back" from their career upon having children were more likely to hold egalitarian gender role attitudes (Deutsch, Kokot, & Binder, 2007). This finding suggested that young women with more egalitarian attitudes did not view parenting as something women are uniquely suited for, and instead believed that women and men both should slow down at work to care for young children. This finding, taken together with

the finding from Colaner and Giles (2008) suggested that the motherhood expectations young women hold may relate to the types of gender role attitudes a they hold.

Next, when women plan their careers, they tend to take their future children and future partner into account (Ganginis Del Pino et al., 2013). The extent to which undergraduate women are willing to compromise their career for children or partner has been related to their motherhood expectations. For example, Deutsch et al. (2007) found that college women who were unwilling to compromise their career for their a future partner or children (i.e., they desired an egalitarian relationship with their future partner, in which both partners would work full time after having children and arrange their schedules to share childcare equally), also tended to reject the idea that children should be prioritized over being employed. In other words, these women's motherhood schemas appeared to hold the expectation that good mothering does not necessarily mean being highly available or the primary caregiver to one's children. Additionally, in another study of college women, participants (N=177, 77% White) endorsed a higher willingness to compromise their career for their future children when they did not plan to delay having children past the age of 30 (Savela & O'Brien, 2015). This finding aligned with longitudinal research wherein becoming a parent shortly after graduating from college curbed the amount of success women attained in their career (Abele & Spurk, 2011). In other words, when women are unwilling or unable to delay the birth of a child, it is possible that they are more likely to hold motherhood expectations that prioritize children over career.

Regarding career aspirations, defined as the extent to which an individual seeks leadership, achievement, and education within her or his chosen career, expecting to be

highly involved in the mother role was related to lower career aspirations (Colaner & Giles, 2008; Gregor & O'Brien, 2015; Moon, 2002). Studying undergraduate women (N=134, 95% White), Colaner and Giles (2008) found that mothering aspirations (i.e., the tendency to value the mothering role over all other life roles) were inversely related to career aspirations. Additionally, Gregor and O'Brien (2015) found that among undergraduate women (N=328, 60% White), holding the work role more salient (as opposed to holding one's family role more salient) predicted the aspirations for a career high in leadership, achievement, and education. Finally, Moon (2002) studied a population of mothers (N=270, 67% White, age ranged from 19 to 52) and found a positive relationship between valuing a career more the perception that a mother's employment has more benefits than costs for children. From these findings it appears that to the extent that women invest highly in their careers, motherhood schemas contain expectations that allow for the integration of work and child-rearing.

The traditionality of one's career choice also is expected to relate to undergraduate women's motherhood expectations. Traditionality refers to the historical tendency for women to be concentrated in careers that involve a support or caregiving role (e.g., nursing, teaching), and it has been operationalized as the relative concentration of women to men in a given occupation (O'Brien & Fassinger, 1993; Weisgram, Dinella, & Fulcher, 2011). The traditionality of career choice is relevant to the study of women's career development because careers that women tend to enter also tend to be low in pay and prestige, as well as undervalued compared to the careers that men tend to enter in higher concentrations. Among full-time workers in the United States, occupations with a high concentration of women (i.e., 80% or more within the occupation are women) have

a median weekly income that is only 76% of what employees make in occupations employing a high concentration of men (U.S. Department of Labor, 2014a, b). Moreover, when ranking occupations by median weekly income, female-concentrated occupations that require a graduate education rank among male-concentrated occupations that require less than a college education. For example, in median weekly income, elementary/middle school teacher (81.4% women; \$942) ranks at number 87, just above heavy vehicle/mobile equipment operator (99% men; \$941), and several positions below postal service mail carriers (72.3% men, \$990); social worker (80.6% women; \$847) ranks just above bus/truck mechanic (99.5% men; \$843) and just below automated teller/office machine repairer (89.3% men; \$854).

These statistics, along with the wage gap—wherein women make 81 cents for every dollar men make in the same occupation (U.S. Department of Labor, 2013)—imply that women in the workforce still tend to be viewed as less valuable than men or less in need of a wage or position that can support a family. Thus it is important to understand the process through which women select traditional versus non-traditional careers.

Some research suggested that the selection of a more traditional career was related to motherhood expectations that involve being available for one's children. For example, among undergraduate women (N=177, 77% White), the selection of a traditional career was associated with lower anticipation that work would interfere with the time one could spend with her family (Savelle & O'Brien, in press). In other words, selecting a traditional career occurs along with a desire to minimize potential work-family conflict concerning the relative amount of time one expects to spend at home with her children. Additionally, in a longitudinal study following women from their senior year of high school through

their first seven years of emerging adulthood (Frome et al., 2006), 86% of women who desired a non-traditional career switched to a more traditional or gender-neutral career after graduating from high school. The number one predictor of switching was the desire for a family-flexible career. Taken together, these studies suggested that when young women's motherhood schemas contain expectations that they will be available for their families, their career selections tended to be more traditional.

### **Summary**

To summarize, given the tendency for women to take on disproportionate responsibility in the family sphere while also remaining economically disadvantaged relative to men, more research is needed on the role motherhood schemas play in women's career development. Research and counseling interventions that address young women's motherhood schemas in light of their future career goals have the potential for promoting schemas that are adaptive for making the career and family investments they most desire. To advance this research, the purpose of this study was to test the stability of the factor structure and the psychometric properties of a measure of motherhood schemas among undergraduate women.

## Appendix B

### Meaning of Motherhood Scale (MOMS)

Directions: Please indicate the extent to which you agree with each of the following. We are interested in your opinions. There are no right or wrong answers.

*The rating scale is as follows:*

- 1 = Strongly disagree
- 2 = Disagree
- 3 = Slightly disagree
- 4 = Slightly agree
- 5 = Agree
- 6 = Strongly agree

#### A good mother should:

- |  |   |   |   |   |   |   |
|--|---|---|---|---|---|---|
| 1. Plan parties for child  | 1 | 2 | 3 | 4 | 5 | 6 |
| 2. Show a lot of physical affection toward her child                           | 1 | 2 | 3 | 4 | 5 | 6 |
| 3. Stay home with her child when her child is young                            | 1 | 2 | 3 | 4 | 5 | 6 |
| 4. Encourage her child to read every day                                       | 1 | 2 | 3 | 4 | 5 | 6 |
| 5. Always keep the home clean  | 1 | 2 | 3 | 4 | 5 | 6 |
| 6. Stay in close contact with her child if they are apart for an extended time | 1 | 2 | 3 | 4 | 5 | 6 |
| 7. Meet her child's emotional needs better than anyone else                    | 1 | 2 | 3 | 4 | 5 | 6 |
| 8. Model a healthy romantic relationship with her partner                      | 1 | 2 | 3 | 4 | 5 | 6 |
| 9. Not spend a lot of money on herself   | 1 | 2 | 3 | 4 | 5 | 6 |
| 10. Always consider her child's point of view                                  | 1 | 2 | 3 | 4 | 5 | 6 |
| 11. Know where her child is at all times                                       | 1 | 2 | 3 | 4 | 5 | 6 |
| 12. Ensure that her child becomes independent                                  | 1 | 2 | 3 | 4 | 5 | 6 |
| 13. Be attractive  | 1 | 2 | 3 | 4 | 5 | 6 |
| 14. Spend quality time each day with her child                                 | 1 | 2 | 3 | 4 | 5 | 6 |

- |  |             |
|--|-------------|
| 15. Know who her child is with at all times  | 1 2 3 4 5 6 |
| 16. Always make time for herself when needed   | 1 2 3 4 5 6 |
| 17. Be stylish   | 1 2 3 4 5 6 |
| 18. Be someone her child can talk to about everything  | 1 2 3 4 5 6 |
| 19. Be responsible for her child's well-being even when the<br>child is under another's care | 1 2 3 4 5 6 |
| 20. Provide a home in safe neighborhood  | 1 2 3 4 5 6 |
| 21. Make sure her child is well-dressed  | 1 2 3 4 5 6 |
| 22. Teach her child how to respond to discrimination (e.g., racism, sexism)                  | 1 2 3 4 5 6 |
| 23. Make work sacrifices for her child   | 1 2 3 4 5 6 |
| 24. Have interests of her own  | 1 2 3 4 5 6 |
| 25. Be able to manage all of her responsibilities without making mistakes                    | 1 2 3 4 5 6 |
| 26. Develop shared rituals with her child (e.g., bedtime stories)                            | 1 2 3 4 5 6 |
| 27. Not work too many hours per week   | 1 2 3 4 5 6 |
| 28. Exercise regularly   | 1 2 3 4 5 6 |
| 29. Never have negative thoughts about her child   | 1 2 3 4 5 6 |
| 30. Always forgive her child   | 1 2 3 4 5 6 |
| 31. Be there when her child gets home from school every day                                  | 1 2 3 4 5 6 |
| 32. Teach her child about sex  | 1 2 3 4 5 6 |
| 33. Do all the grocery shopping for her family   | 1 2 3 4 5 6 |
| 34. Say "I love you" to her child every day  | 1 2 3 4 5 6 |
| 35. Not have multiple sexual partners  | 1 2 3 4 5 6 |
| 36. Ensure that her child develops interests and talents                                     | 1 2 3 4 5 6 |

37. Do laundry every week 1 2 3 4 5 6
38. Raise a child who cares deeply about others 1 2 3 4 5 6
39. Prioritize her child over work 1 2 3 4 5 6
40. Encourage her child to be physically active 1 2 3 4 5 6

Traditional-Ideal Mother FACTOR 1 – 1, 5, 9, 13, 17, 21, 25, 29, 33, 37,  
 Loving-Caring Mother FACTOR 2 – 2, 6, 10, 14, 18, 22, 26, 30, 34, 38  
 Ever-Present/Self-Sacrificing Mother FACTOR 3 – 3,7, 11, 15, 19, 23, 27, 31, 35, 39,  
 Encouraging Health/Independence Mother FACTOR 4 – 4,8, 12, 16, 20, 24, 28, 32, 36,  
 40

As you were answering the previous questions about “good” mothers,

- 1 = Not at all  
 2 = Very Little  
 3 = Somewhat  
 4 = To a great extent

To what extent were you thinking about yourself as a mother (in the future)? 1 2 3 4  
 To what extent were you thinking about your own mother? 1 2 3 4  
 To what extent were you thinking about “mothers” in general? 1 2 3 4



## Appendix C

### Traditional Egalitarian Sex Role Ideology Scale (Larsen & Long, 1988)

The items below inquire about your attitudes toward gender roles. There are no right or wrong answers. Please provide your responses on a scale from 1 to 5, with (1) Strongly disagree, (2) Disagree, (3) Neither agree nor disagree, (4) Agree, (5) Strongly Agree. If you are unsure how to respond to an item, respond the closest to the way you feel.

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
<b>Strongly disagree</b>	<b>Disagree</b>	<b>Neither agree nor disagree</b>	<b>Agree</b>	<b>Strongly agree</b>

- \_\_\_1. It is just as important to educate daughters as it is to educate sons.
- \_\_\_2. Women should be more concerned with clothing and appearance than men.\*
- \_\_\_3. Women should have as much sexual freedom as men.
- \_\_\_4. The man should be more responsible for the economic support of the family than the woman.\*
- \_\_\_5. The belief that women cannot make as good supervisors or executives as men is a myth.
- \_\_\_6. The word "obey" should be removed from wedding vows.
- \_\_\_7. Ultimately a woman should submit to her husband's decision.\*
- \_\_\_8. Some equality in marriage is good, but by and large the husband ought to have the main say-so in family matters.\*
- \_\_\_9. Having a job is just as important for a wife as it is for her husband.
- \_\_\_10. In groups that have both male and female members, it is more appropriate that leadership positions be held by males.\*
- \_\_\_11. I would not allow my son to play with dolls.\*
- \_\_\_12. Having a challenging job or career is as important as being a wife and a mother.

\_\_\_13. Men make better leaders.\*

\_\_\_14. Almost any woman is better off in her home than in a job or profession.\*

\_\_\_15. A woman's place is in the home.\*

\_\_\_16. The role of teaching in the elementary schools belongs to women.\*

\_\_\_17. The changing of diapers is the responsibility of both parents.

\_\_\_18. Men who cry have weak character.\*

\_\_\_19. A man who has chosen to stay at home and be a house-husband is not less masculine.

\_\_\_20. As head of the household, the father should have the final authority over the children.\*

\*Reverse weights for these items

## Appendix D

### The Planning for Career and Family Scale

(Ganginis Del Pino, O'Brien, Mereish, & Miller, 2013)

The following are a number of statements that reflect the extent to which you think about your future family when deciding on a career. Rate the degree to which you agree or disagree with each statement using the following scale.

	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Agree</b>	<b>Strongly Agree</b>
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
1. Any career that I will select must enable me to be home when my children come home from school.	1	2	3	4
2. Any relationship that I am in will need to realize that my career plans come first.	1	2	3	4
3. I will have a career with flexible hours so that I can be home for the children I plan to have.	1	2	3	4
4. I will make my career plans independently of what my partner might need.	1	2	3	4
5. I will select a career that can be put on hold when my children are young.	1	2	3	4
6. I will give up some of my career goals for my relationship.	1	2	3	4
7. Having quality time for raising children will be the most important consideration in my career choice.	1	2	3	4
8. I will never change my career plans for a relationship.	1	2	3	4
9. When considering a future career, I will look for a job that will allow me the flexibility of being able to stay at home when my children are sick or out of school.	1	2	3	4
10. I will take a job that I find less satisfying if it means having more time for my partner.	1	2	3	4
11. My future career will allow me to have time off in the summer so I can be with my children.	1	2	3	4
12. When selecting a career, I will take a lesser paying job if it means	1	2	3	4

I am able to prioritize my relationship.	1	2	3	4
13. When planning for my career, I will think about how much energy I will have for my children.	1	2	3	4
14. Taking a less demanding job to have more energy for my partner will not be an option.	1	2	3	4
15. I will find a career where I do not have to work full-time after I have children.	1	2	3	4
16. My career choice will be based on my goals, not on my ability to balance work and love.	1	2	3	4
17. Future parenting responsibilities will be an important factor in making my career plans.	1	2	3	4
18. The wishes of my partner will not figure into my career plans.	1	2	3	4
19. I will select a career that allows me to slow down after I have children.	1	2	3	4
20. Having a fulfilling career will be very important to me, even at the expense of future responsibilities to my partner.	1	2	3	4
21. I will not plan my career around future parenting responsibilities.	1	2	3	4
22. When selecting a career, I will consider the needs of my partner.	1	2	3	4
23. When choosing a career, I will think about whether the work load will hinder my ability to care for my children.	1	2	3	4
24. Having a satisfying relationship is not as important as picking a career I love.	1	2	3	4

Reverse score items (items 2, 4, 8, 14, 16, 18, 20, 21, 24).

Odd numbered items: Sum responses to each item to get Considering Children Scale.

Higher score represents considering your future children when making career plans.

Even numbered items: Sum responses to each item to get Considering Partner Scale.

Higher score represents considering your future partner when making career plans.

## Appendix E

### Career Aspiration Scale – Revised (Gregor & O'Brien, 2015)

In the space next to the statements below please circle a number from “0” (not at all true of me) to “4” (very true of me). If the statement does not apply, circle “0”. Please be completely honest. Your answers are entirely confidential and will be useful only if they accurately describe you.

**0 = Not at all true of me**  
**1 = Slightly true of me**  
**2 = Moderately true of me**  
**3 = Quite a bit true of me**  
**4 = Very true of me**

- |  |   |   |   |   |   |
|--|---|---|---|---|---|
| 1. I hope to become a leader in my career field.   | 0 | 1 | 2 | 3 | 4 |
| 2. I do not plan to devote energy to getting promoted to a leadership position in the organization or business in which I am working.* | 0 | 1 | 2 | 3 | 4 |
| 3. I want to be among the very best in my field.   | 0 | 1 | 2 | 3 | 4 |
| 4. Becoming a leader in my job is not at all important to me.*   | 0 | 1 | 2 | 3 | 4 |
| 5. When I am established in my career, I would like to manage other employees.   | 0 | 1 | 2 | 3 | 4 |
| 6. I plan to reach the highest level of education in my field.   | 0 | 1 | 2 | 3 | 4 |
| 7. I want to have responsibility for the future direction of my organization or business.  | 0 | 1 | 2 | 3 | 4 |
| 8. I want my work to have a lasting impact on my field.  | 0 | 1 | 2 | 3 | 4 |
| 9. I aspire to have my contributions at work recognized by my employer.  | 0 | 1 | 2 | 3 | 4 |
| 10. I will pursue additional training in my occupational area of interest.   | 0 | 1 | 2 | 3 | 4 |
| 11. I will always be knowledgeable about recent advances in my field.  | 0 | 1 | 2 | 3 | 4 |

12. Attaining leadership status in my career is not that important to me.*	0	1	2	3	4
13. Being outstanding at what I do at work is very important to me.	0	1	2	3	4
14. I know I will work to remain current regarding knowledge in my field.	0	1	2	3	4
15. I hope to move up to a leadership position in my organization or business.	0	1	2	3	4
16. I will attend conferences annually to advance my knowledge.	0	1	2	3	4
17. I know that I will be recognized for my accomplishments in my field.	0	1	2	3	4
18. Even if not required, I would take continuing education courses to become more knowledgeable.	0	1	2	3	4
19. I would pursue an advanced education program to gain specialized knowledge in my field.	0	1	2	3	4
20. Achieving in my career is not at all important to me.*	0	1	2	3	4
21. I plan to obtain many promotions in my organization or business.	0	1	2	3	4
22. Being one of the best in my field is not important to me.*	0	1	2	3	4
23. Every year, I will prioritize involvement in continuing education to advance my career.	0	1	2	3	4
24. I plan to rise to the top leadership position of my organization or business.	0	1	2	3	4

Reverse scored items: 2, 4, 12, 20, 22

## Appendix F

### Career Choice Traditionality

1) Have you decided on a career?

If YES, please indicate the career you would *most* like to pursue\_\_\_\_\_.

If NO, please indicate the career you are most seriously considering \_\_\_\_\_.

2) If your first choice of career does not work out, what is a “backup” career you are considering?

---

## Appendix G

### Demographic Questionnaire:

Age: \_\_\_\_\_

**Gender:**

\_\_\_\_\_ Female

\_\_\_\_\_ Male

\_\_\_\_\_ Other

**Status in School:**

\_\_\_\_\_ First year

\_\_\_\_\_ Sophomore

\_\_\_\_\_ Junior

\_\_\_\_\_ Senior or beyond

**Relationship Status:**

\_\_\_\_\_ Single (never-married)

\_\_\_\_\_ Single (divorced)

\_\_\_\_\_ Single (widowed)

\_\_\_\_\_ In a relationship (not living with partner)

\_\_\_\_\_ In a relationship (living with partner)

\_\_\_\_\_ Married

\_\_\_\_\_ Married (separated)

**Race/Ethnicity:**

\_\_\_\_\_ African American

\_\_\_\_\_ Asian/Asian American

\_\_\_\_\_ American Indian

\_\_\_\_\_ Biracial/Multiracial

\_\_\_\_\_ Hispanic, Latina

\_\_\_\_\_ White, non-Hispanic

\_\_\_\_\_ Other (Please Specify)

**Sexual Identity:**

\_\_\_\_\_ Bisexual

\_\_\_\_\_ Gay/Lesbian

\_\_\_\_\_ Queer

\_\_\_\_\_ Straight



**If Single: Do you plan to get married/be in a committed relationship?**

\_\_\_\_\_Yes      \_\_\_\_\_No

**Do you plan on having children?**    0 1 2 3 4

4 Yes

3 Most Likely

2 Maybe

1 Most Likely Not

0 No

**If yes, how many children do you plan on having?** \_\_\_\_\_

**At what age would you ideally want to start having children?** \_\_\_\_\_

**If you were to be married/in a committed relationship and have children, how do you foresee the occupational status of you and your partner:**

You:

\_\_\_\_\_ Full-time work (outside the home)

\_\_\_\_\_ Full time work (within the home)

\_\_\_\_\_ Part-time work (outside the home)

\_\_\_\_\_ Part-time work (within the home)

\_\_\_\_\_ Homemaker

\_\_\_\_\_ Unemployed

Your partner:

\_\_\_\_\_ Full-time work (outside the home)

\_\_\_\_\_ Full time work (within the home)

\_\_\_\_\_ Part-time work (outside the home)

\_\_\_\_\_ Part-time work (within the home)

\_\_\_\_\_ Homemaker

\_\_\_\_\_ Unemployed

**Have you chosen a major?**    \_\_\_\_\_Yes    \_\_\_\_\_No

If **YES**, what major have you chosen? \_\_\_\_\_

If **NO**, what majors are you considering?

1. \_\_\_\_\_

2. \_\_\_\_\_

**What is your overall GPA?** \_\_\_\_\_

**What are your educational plans?**

\_\_\_\_\_ Undergraduate degree

\_\_\_\_\_ M.S./M.A. degree

\_\_\_\_\_ Ph.D. degree

\_\_\_\_\_ Medical degree

\_\_\_\_\_ Law degree

\_\_\_\_\_ Other (please specify)

**What are the occupations of your parents?**

Mother: \_\_\_\_\_

Father: \_\_\_\_\_

**Please indicate the occupational status that best describes each of your parents when you were growing up (age 0 to 17):**

Mother:

- My mother stayed at home for a while but eventually returned to work part-time.  
Please indicate your age when your mother returned to work \_\_\_\_.
- My mother stayed at home for a while but eventually returned to work full-time  
Please indicate your age when your mother returned to work \_\_\_\_.
- My mother stayed at home throughout my entire childhood.
- My mother worked part-time throughout my entire childhood.
- My mother worked full-time throughout my entire childhood.
- Not applicable.

Father:

- My father stayed at home for a while but eventually returned to work part-time.  
Please indicate your age when your mother returned to work \_\_\_\_.
- My father stayed at home for a while but eventually returned to work full-time  
Please indicate your age when your mother returned to work \_\_\_\_.
- My father stayed at home throughout my entire childhood.
- My father worked part-time throughout my entire childhood.
- My father worked full-time throughout my entire childhood.
- Not applicable.

**What is your parents' highest education?**

Mother:

- Some High School
- High School/GED
- Associates degree or Trade/Technical School
- Some College
- Undergraduate degree (B.A./B.S.)
- M.S./M.A. degree
- Ph.D. degree
- Medical degree
- Law degree
- Not Applicable
- Other (please specify)

Father:

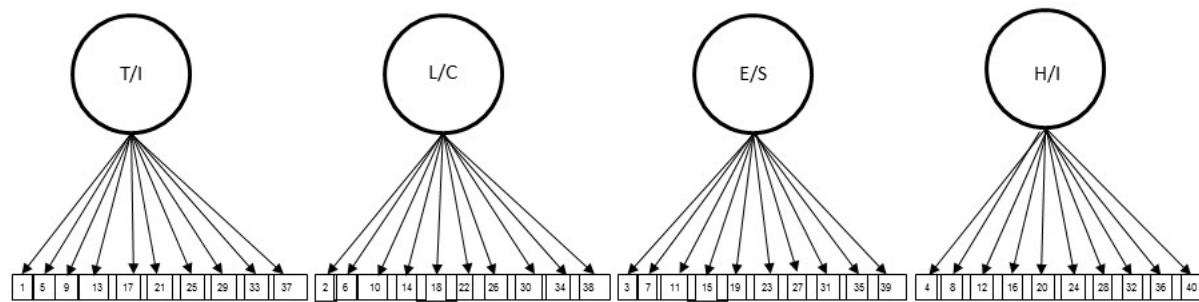
- Some High School
- High School/GED
- Associates degree or Trade/Technical School
- Some College
- Undergraduate degree (B.A./B.S.)
- M.S./M.A. degree
- Ph.D. degree
- Medical degree
- Law degree
- Not Applicable
- Other (please specify)

**Appendix H**  
Meaning of Motherhood Scale Categories  
(Salahuddin et al., n.d.)

A good mother should:

1. Be available for her child
2. Ensure her child is fed
3. Provide discipline and structure
4. Be responsible for the child's education and development
5. Be a good role model
6. Provide nurturing and emotional care
7. Have positive interactions with her child
8. Be responsible for housework
9. Manage finances
10. Take care of herself
11. Ensure her child's health
12. Keep her child safe
13. Maintain traditions/culture/spirituality
14. Have a healthy romantic relationship
15. Engage in extensive mothering
16. Be able to manage work and family
17. Support her child's social development
18. Have positive attitudes about being a mom
19. Raise healthy, well-behaved, successful children
20. Be attractive and stylish
21. Other

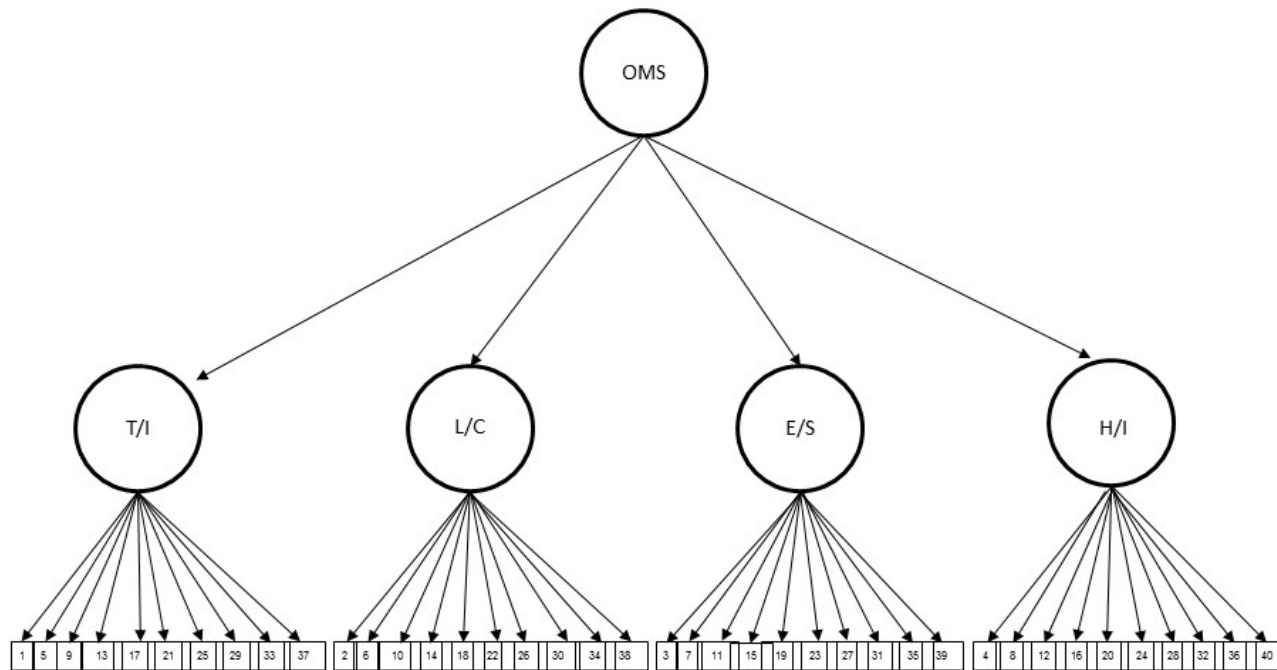
Figure 1. Four Factor Model and Correlations among Factors in Study 1



	T/I	L/C	E/S	H/I
T/I	1	--	--	--
L/C	.30	1	--	--
E/S	.78	.70	1	--
H/I	.27	.85	.52	1

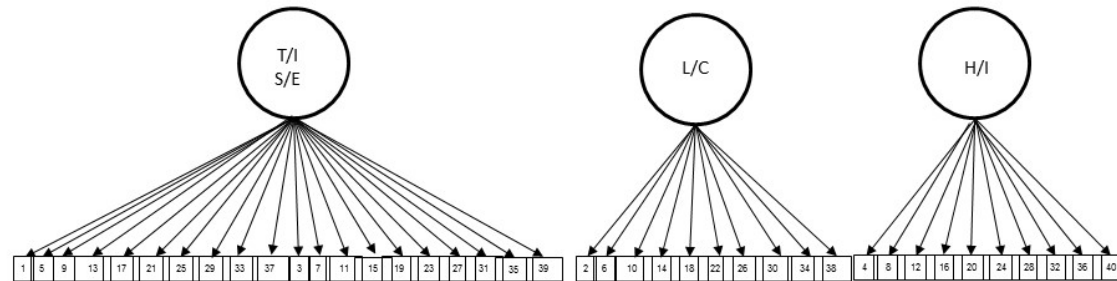
Note. T/I=Traditional/Ideal, L/C=Loving/Caring, E/S=Ever-Present/Self-Sacrificing, H/I=Promoting Health/Independence

Figure 2. Higher Order Model.



Note. OMS=Overall Motherhood Schemas, T/I=Traditional/Ideal, L/C=Loving/Caring, E/S=Ever-Present/Self-Sacrificing, H/I=Promoting Health/Independence

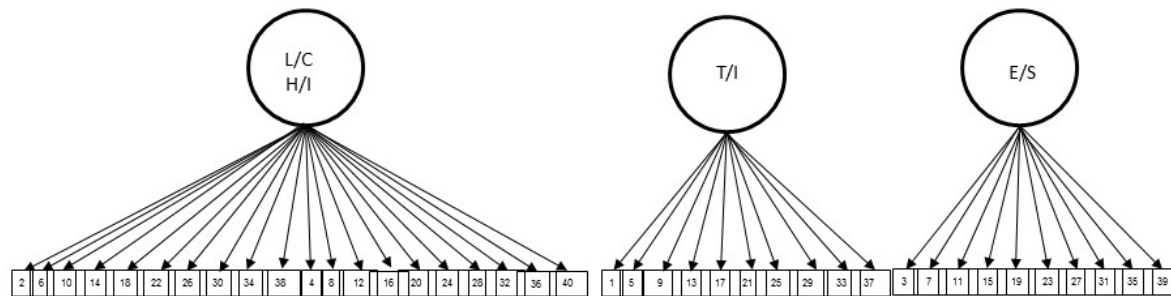
Figure 3. Three Factor Model A and Correlations among Factors in Study 1



	T/I – S/E	L/C	H/I
T/I-S/E	1	--	--
L/C	.55	1	--
H/I	.44	.83	1

Note. T/I=Traditional/Ideal E/S=Ever-Present/Self-Sacrificing, L/C=Loving/Caring, H/I=Promoting Health/Independence

Figure 4. Three Factor Model B

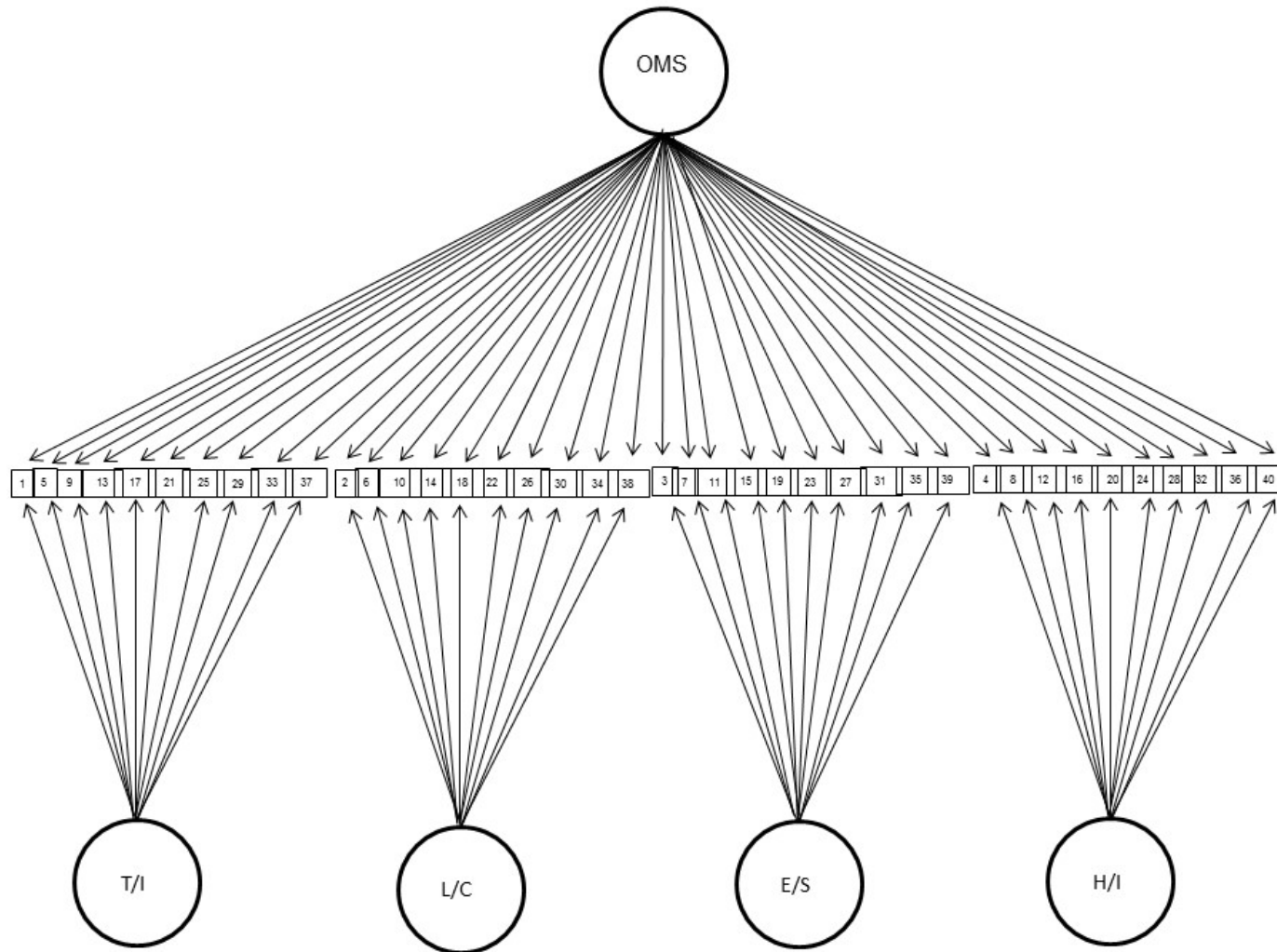


	L/C-H/I	T/I	E/S
L/C-H/I	1	--	--
T/I	.67	1	--
E/S	.29	.65	1

Note. T/I= L/C=Loving/Caring H/I=Promoting Health/Independence, Traditional/Ideal E/S=Ever-Present/Self-Sacrificing

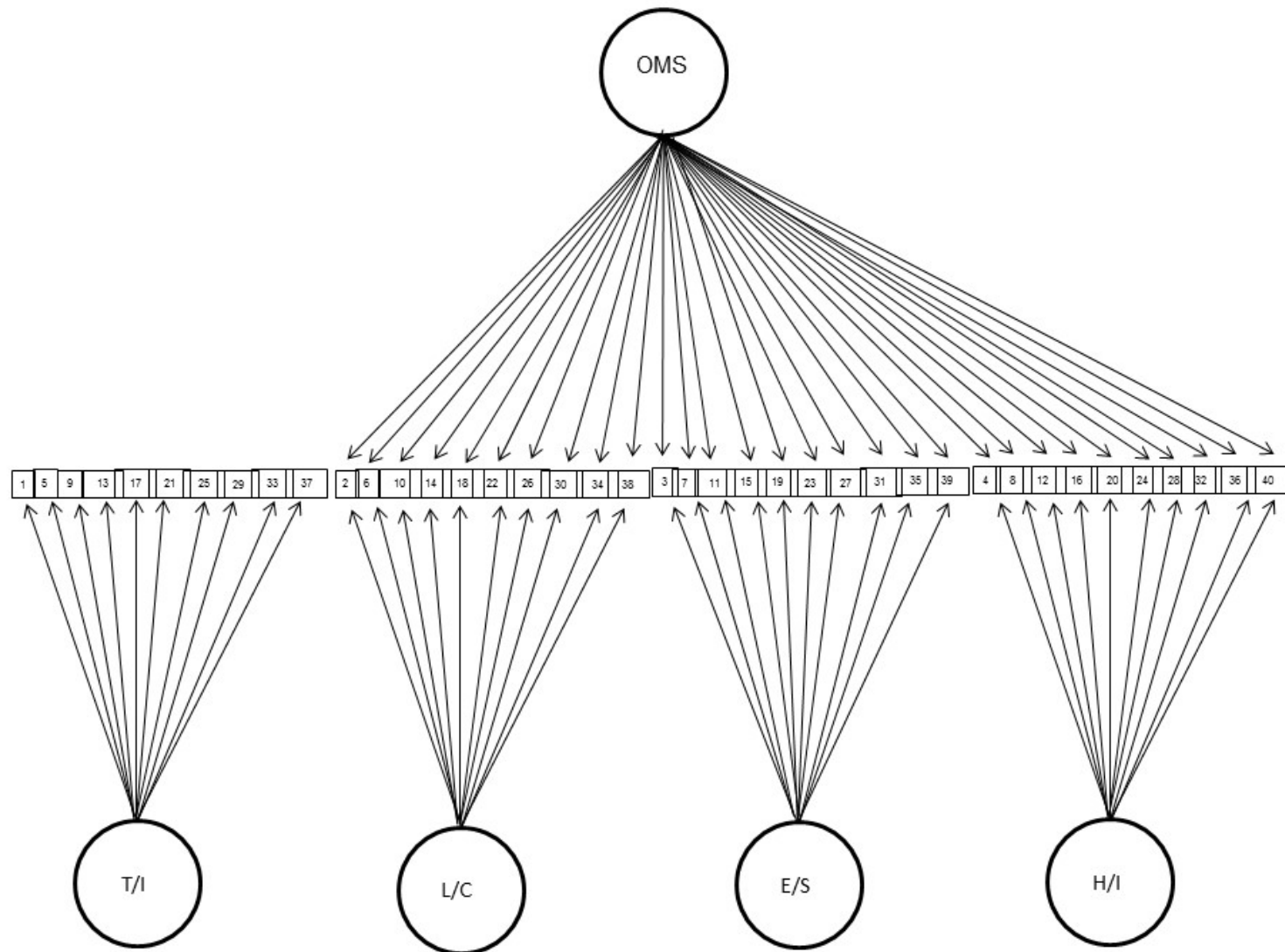


Figure 5. Bifactor Model A



Note. OMS=Overall Motherhood Schemas, T/I=Traditional/Ideal, L/C=Loving/Caring, E/S=Ever-Present/Self-Sacrificing, H/I=Promoting Health/Independence

Figure 6. Bifactor Model B



Note. OMS=Overall Motherhood Schemas, T/I=Traditional/Ideal, L/C=Loving/Caring, E/S=Ever-Present/Self-Sacrificing, H/I=Promoting Health/Independence

Table 1. *Final Items Retained on MOMS for Study 1*

Item	Original Factor	Factor Loadings		
		1	2	3
<i>SUBSCALE 1: INVOLVEMENT</i>				
11. Know where her child is at all times	3	<b>.744</b>	-.053	.019
15. Know who her child is with at all times	3	<b>.702</b>	-.030	.027
6. Stay in close contact with her child if they are apart for an extended time	2	<b>.586</b>	.075	-.075
14. Spend quality time each day with her child.	2	<b>.575</b>	.139	.028
7. Meet her child's emotional needs better than anyone else	3	<b>.416</b>	.113	.180
34. Say "I love you" to her child every day	2	<b>.414</b>	.256	.094
<i>SUBSCALE 2: FLOURISHING</i>				
24. Have interests of her own	4	-.161	<b>.657</b>	-.081
36. Ensure that her child develops interests and talents	4	.037	<b>.621</b>	.075
12. Ensure that her child becomes independent	4	.167	<b>.563</b>	-.043
22. Teach her child how to respond to discrimination (e.g., racism, sexism)	2	-.003	<b>.554</b>	-.021
40. Encourage her child to be physically active	4	-.012	<b>.490</b>	.119
38. Raise a child who cares deeply about others	2	.234	<b>.464</b>	.025
4. Encourage her child to read every day	4	.195	<b>.456</b>	.028
16. Always make time for herself when needed	4	-.077	<b>.429</b>	-.068
26. Develop shared rituals with her child (e.g., bedtime stories)	2	.245	<b>.418</b>	.055
8. Model a healthy romantic relationship with her partner	4	.219	<b>.401</b>	.045
<i>SUBSCALE 3: TRADITIONAL</i>				
13. Be attractive	1	-.194	.030	<b>.867</b>
17. Be stylish	1	-.216	.143	<b>.807</b>
33. Do all the grocery shopping for her family	1	.039	-.268	<b>.687</b>

25. Be able to manage all of her responsibilities without making mistakes	1	.016	-.143	<b>.597</b>
21. Make sure her child is well-dressed	1	-.104	.194	<b>.558</b>
37. Do laundry every week	1	.140	.038	<b>.507</b>
27. Not work too many hours per week	3	.180	-.050	<b>.491</b>
29. Never have negative thoughts about her child	1	.215	-.132	<b>.488</b>
31. Be there when her child gets home from school every day	3	.281	-.024	<b>.448</b>
35. Not have multiple sexual partners	1	.109	.101	<b>.416</b>

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Table 2. *Descriptive Statistics and Correlations for Study 1*

	1	2	3	4	5	6	7	8	9	10
1. Involvement	1									
2. Flourishing	.44*	1								
3. Traditional	.37*	.15*	1							
4. Gender Role Attitudes	-.12	.27*	-.51*	1						
5. PLAN-Children	.38*	.20*	.37*	-.28*	1					
6. PLAN-Partner	.07	.04	.14*	-.17*	.43*	1				
7. Traditionality of Career Choice	.05	.07	.04	-.01	.20*	.10	1			
8. Leadership Aspirations	.09	.15*	-.09	.18*	-.07	-.09	-.08	1		
9. Achievement Aspirations	.13*	.25*	-.05	.24*	-.06	-.11	-.08	.76*	1	
10. Education Aspirations	.10	.25*	-.08	.23*	-.13*	-.22*	.01	.52*	.62*	1
Mean	4.93	5.26	3.18	4.36	2.57	2.43	56.49	2.77	3.06	2.77
Standard Deviation	.69	.45	.82	.49	.53	.43	22.97	.79	.64	.77
Actual Range	3-6	4-6	1-6	3-5	1-4	1-4	2.7-98.6	0-4	1-4	1-4
Possible Range	1-6	1-6	1-6	1-5	1-4	1-4	0-100	0-4	0-4	0-4
Cronbach's Alpha	.79	.80	.85	.89	.91	.84	n/a	.84	.79	.88

Note. PLAN=Planning for Career and Family

\*  $p < .01$

Table 3. *Descriptive Statistics and Correlations for Study 2*

	1	2	3	4	5	6
1. Involvement T1	1		.			
2. Flourishing T1	--	1				
3. Traditional T1	--	--	1			
4. Involvement T2	.76*	--	--	1		
5. Flourishing T2	--	.75*	--	--	1	
6. Traditional T2	--	--	.84*	--	--	1
Mean	4.60	5.20	2.64	4.66	5.19	2.81
Standard Deviation	.77	.44	.73	.71	.55	.82
Actual Range	3-6	4-6	1-4	2-6	3-6	1-5
Possible Range	1-6	1-6	1-6	1-6	1-6	1-6
Cronbach's Alpha	.73	.75	.83	.74	.84	.87

*Note.* T1=Time 1, T2=Time 2 (two weeks after Time 1)

\*  $p < .01$

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