



The Second Shift Reflected in the Second Generation: Do Parents' Gender Roles at Home Predict Children's Aspirations?

Journal:	<i>Psychological Science</i>
Manuscript ID:	PSCI-13-1163.R2
Manuscript Type:	Research article
Date Submitted by the Author:	15-Mar-2014
Complete List of Authors:	Croft, Alyssa; University of British Columbia, Psychology Schmader, Toni; University of British Columbia, Psychology Block, Katharina; University of British Columbia, Psychology Baron, Andrew; University of British Columbia, Psychology
Keywords:	Childhood Development, Sex Role Attitudes, Role Taking, Social Cognition

SCHOLARONE™
Manuscripts

Only

Running head: DOMESTIC GENDER ROLES

The Second Shift Reflected in the Second Generation:

Do Parents' Gender Roles at Home Predict Children's Aspirations?

Alyssa Croft, Toni Schmader, Katharina Block & Andrew Scott Baron

University of British Columbia

Word count: 4283 main text + 133 notes; 147 abstract; 28 references

Corresponding author: Alyssa Croft at acroft@psych.ub.ca or 2136 West Mall, Vancouver, BC,

V6T 1Z4, CANADA.

For Review Only

Abstract

Gender inequality at home continues to constrain gender equality at work. How does the observation of gender disparities in domestic labor between parents predict their children's vision for their future roles? The present research examined how parents' behaviors and implicit associations concerning domestic roles, over and above their explicit beliefs, predict their children's future aspirations. Data from 326 children aged 7 to 13 revealed that mothers' explicit gender role beliefs about domestic roles predicted those same beliefs held by their children. Importantly, when fathers enacted or espoused a more egalitarian distribution of household labor, their daughters in particular expressed a greater interest in working outside the home and having a less stereotypic occupation. Fathers' implicit gender role associations also uniquely predicted daughters' (but not sons') occupational preferences. Findings suggest that a more balanced division of household labor among parents might promote greater workforce equality in future generations.

Keywords: Child development; sex role attitudes; role taking; social cognition

The Second Shift Reflected in the Second Generation:

Do Parents' Gender Roles at Home Predict Children's Aspirations?

Despite progress toward gender equality, women still lag behind men in career advancement, a disparity that becomes most pronounced once women become mothers (Stone, 2007). One factor that blocks women's achievement in the paid labor force is inequality in unpaid domestic labor. Even in heterosexual families where both partners work full-time, wives report doing twice as much housework and childcare as their husbands (e.g., Coltrane, 2000), a phenomenon known as the *second shift* (Hochschild & Machung, 2012). Not only does this discrepancy at home pose a barrier to women's professional advancement, it can also model gender roles to children. The present research tested whether children's professional and family aspirations are predicted by the domestic roles they see their parents enact, as distinct from the explicit beliefs and implicit gender role associations endorsed by their parents.

Role models have been shown to be effective at enabling young women to envision themselves in counterstereotypic roles in leadership (Beaman, Duflo, Pande & Topalova, 2012) and science (Stout, Dasgupta, Hunsinger & McManus, 2011). Moreover, parents provide the earliest models of appropriate behavior for their offspring (Bandura & Bussey, 2004). Indeed, mothers' employment outside of the home predicts their children's attitudes and aspirations (Barak, Feldman, & Noy, 1991; Fulcher & Coyle, 2011; Goldberg, Prause, Lucas-Thompson, & Himsel, 2008; Riggio & Desrochers, 2006). But even if mothers are role models for their daughters' perceptions of women at work, children can more directly observe the tasks parents perform in the home. Consequently, efforts to model women's success at work might have limited effectiveness in changing young girls' aspirations if they still observe and come to assume inequality at home. Although fathers presumably also serve as gender role models, less is

Domestic Gender Roles

4

1
2
3 known about whether fathers' contribution to or attitudes about domestic labor also predicts their
4 children's aspirations (but see Fulcher, Sutfin & Patterson, 2008).
5
6

7
8 Much of the research documenting the transmission of gender role beliefs from parents to
9 children has used self-reported measures, revealing a moderate but significant relationship
10 between the beliefs of parents and children (Tenenbaum & Leaper, 2002). However, parents'
11 explicitly reported gender role beliefs are only weakly predictive of children's self-views and
12 aspirations (Tenenbaum & Leaper, 2002, Fulcher et al., 2008; Fulcher, 2011). One reason for
13 these relatively weak effects could be that children receive conflicting information about gender
14 roles. Given evidence that normative pressures and egalitarian values can lead to self-reported
15 beliefs about gender equality that are distinct from implicit associations and actual behavior
16 (Devos, Blanco, Rico & Dunn, 2008; Nosek, 2005; Rudman, Greenwald & McGhee, 2001),
17 parents might report more egalitarian beliefs about domestic labor than their actual behavior or
18 implicit associations support. For example, even couples who are motivated to divide domestic
19 labor equally still report a traditionally-gendered distribution of household tasks (Doucet, 2001;
20 Wiesmann, Boeije, van Doorne-Huiskes & den Dulk, 2008).
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37

38 Furthermore, research on implicit cognition has revealed that implicit stereotypic
39 associations between social groups can predict biased behavior even among egalitarian-minded
40 individuals (Greenwald, Poehlman, Uhlmann & Banaji, 2009). For example, undergraduates'
41 implicit associations of "dad" with "work" and "mom" with "home" predict how they expect to
42 resolve work-family conflict (Park, Smith & Correll, 2010). Based on such findings, we
43 hypothesized that parents' implicit gender role associations and observable behaviors would
44 independently predict children's developing aspirations, irrespective of parents' explicit gender
45 beliefs.
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

1
2
3 To test these hypotheses, we measured parents' explicit beliefs and implicit associations
4 about gender roles, their implicit and explicit self-stereotypes, and their self-reported work and
5 domestic contributions. We tested these as predictors of their children's beliefs about domestic
6 gender roles, self-stereotyping, and self-reported occupational aspirations. Replicating past
7 findings (Tenenbaum & Leaper, 2002), we expected children's gender role beliefs to be
8 predicted by their parents' explicit gender role beliefs. In contrast, we expected that children's
9 future aspirations would be predicted by parents' implicit gender role associations, self-
10 stereotyping, and contribution to domestic labor, independently of parents' work hours and
11 explicit gender role beliefs.
12
13
14
15
16
17
18
19
20
21
22
23

24 We also tested child gender as a moderator of how mother and father variables predict
25 their children's outcomes. Although we had no clear *a priori* hypothesis based on the current
26 literature, we considered several theoretically derived alternatives. For example, if children
27 model themselves after their same-sex parent, we might observe a higher correspondence of
28 beliefs between mothers and daughters and between fathers and sons (Bandura, Ross & Ross,
29 1961; Fulcher & Coyle, 2011). Alternatively, if women are the power brokers at home (Williams
30 & Chen, 2013), then women's beliefs and behaviors might best predict both sons' and daughters'
31 beliefs when it comes to domestic stereotypes. A third prediction, however, is that men's higher
32 status in society (e.g., Conway, Pizzamiglio & Mount, 1996; Ridgeway, 1991) gives fathers a
33 gatekeeping role whereby their beliefs, implicit associations, and behaviors could be uniquely
34 powerful in shaping their daughter's aspirations.
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50

51 Method

52 Participants and Procedure

53
54
55
56
57
58
59
60

Domestic Gender Roles

6

1
2
3 We recruited 326 children ages 7 to 13 (172 boys, 154 girls, $M_{age} = 9.34$, $SD_{age} = 1.72$)
4
5 and at least one of their parents (204 mothers, $M_{age} = 42.30$, $SD_{age} = 11.17$, 52% Caucasian; 140
6
7 fathers, $M_{age} = 43.64$, $SD_{age} = 5.97$, 66% Caucasian) at a local science center. Our initial goal
8
9 was to collect usable data from 300 to 400 children. Data collection took place December,
10
11 2011 through August, 2012 and was stopped when our sample was within that range and a
12
13 turnover in research staff during the summer would have required substantial training of new
14
15 staff. Degrees of freedom for some analyses are reduced due to missing data on one or more
16
17 parent or child measures. In addition, data from 38 additional children were excluded from
18
19 analyses because neither parent participated in the study. Because we had data from both parents
20
21 for only 27% of the children ($n = 87$), data were analyzed as two distinct samples of parent-child
22
23 dyads: a sample of 140 fathers with 170 children (83 daughters, 87 sons) and a sample of 204
24
25 mothers with 243 children (115 daughters, 128 sons). Note that distinguishability tests (Kenny,
26
27 Kashy, & Cook, 2006) confirmed assumptions that predictor variables had significantly distinct
28
29 patterns of covariation among male and female parents, justifying our approach to divide our
30
31 parent sample based on gender. Also, each sample included some children who were siblings of
32
33 each other: 35% in the father sample and 32% in the mother sample. See Table 1 for sample
34
35 information and supplementary online materials for additional analyses suggesting that these
36
37 sibling dependencies in the data do not affect any of the conclusions of the study.
38
39
40
41
42
43
44
45
46

47 Families were recruited from a free-play area and brought to a sound-proof testing room.
48
49 After obtaining consent, a research assistant described all tasks to the child participant
50
51 individually to ensure comprehension. Parents completed computerized measures in an adjacent
52
53 room or online at home. The measures relevant to the focal hypotheses are summarized below;
54
55 an expanded method section is provided in supplementary online materials.
56
57
58
59
60

Measures

Explicit gender role beliefs. Both parents and children answered five items asking which person in a heterosexual couple would do more of a given household task (dishes, cleaning, childcare, cooking, and laundry). For each item, participants heard (child) or read (parent) about a couple and the specific household task and indicated their response by sliding a scale toward either the person on the left (-100) or the right (+100), where zero represented 50/50 sharing between the couple. Participants' scores were averaged and recoded so that positive numbers indicated a belief that women do more housework than men.

Parents' explicit self-stereotypes. On two items, parents rated their relative similarity to two targets, matched to their own gender (see Appendix for screenshots). Both items contrasted a person who works full-time against someone who stays home caring for their children. For each item, participants rated, "Who are you more similar to?" using the same slider scale as above. Scores on the two items were averaged ($r = .56, p < .001$) and recoded so that higher numbers reflect greater self-stereotyping (i.e., greater work-orientation in males; greater family-orientation in females).

Parents' implicit gender role associations and self-stereotypes. Two Implicit Association Tests (IAT; Greenwald, McGhee, & Schwartz, 1998) were used to assess parents' automatic associations of gender categories (*gender-role IAT*) and the self (*self-stereotype IAT*) with work vs. home roles. In the *gender-role IAT*, the target categories (male or female) included pictures of male and female faces (see Stout et al., 2011), and the attribute categories ("home" or "work") included pictures of household (e.g., laundry basket) and office-related items (e.g., office desk).

Domestic Gender Roles

8

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

In the *self-stereotype IAT*, the target categories were represented by the words, “self” (e.g., Me) or “other” (e.g., They), while the attribute categories were “work” (e.g., person giving a business presentation) or “home” images (e.g., person doing laundry). The self-stereotyping stimuli were always gender-matched to participants. Participants completed 20 stereotype-congruent (e.g., female = home) and 20 stereotype-incongruent (e.g., male = home) trials, and data were coded following standard procedures (Greenwald, Nosek, and Banaji, 2003). Higher scores on these measures represent more stereotypic gender role associations (women = home/men = work) and self-stereotypes (self = home among women; self = work among men).

Parents’ work and domestic labor. Parents reported the number of paid hours they work per week and indicated their relative contribution to housework and childcare tasks on scales from -100 (spouse does it all) to +100 (I do it all). Responses to housework and childcare items were converted to a 0-100% scale and combined ($r = .58, p < .001$) to form a measure of parents’ *domestic contribution* ($M = 57.57\%$, $SD = 20.04\%$, $range = 3.25 - 100\%$).

Children’s aspirations. We assessed children’s aspirations in two ways. First, each child completed the same two-item *explicit self-stereotyping* measure completed by their parents. Importantly, children were asked which of the two adults (matched to the child’s gender) they believed they would be more like when they grow up. The questions used the same slider scales ranging from -100 (more like the career-focused adult) to +100 (more like the family-focused adult), $r = .25; p < .001$. In addition, children were asked what they wanted to be when they grow up (*occupational aspirations*). Children’s free-response to this question was coded as being stereotypically feminine (a rating of 1), gender-neutral (2), or stereotypically masculine (3) based on ratings by two independent coders (*Krippendorff’s* $\alpha = .70$). Both measures were recoded

such that higher numbers indicated more stereotypic aspirations given the child's gender.

Children's self-stereotypes and future occupations were uncorrelated, $r = -.01$.

Results

Descriptive Statistics

Parent data. Parents exhibited a traditional division of domestic labor (see Table 2). Fathers reported twice as many hours of paid work as did mothers, $t(341) = 12.07, p < .001$, *Cohen's d* = 1.31, while mothers reported doing significantly more domestic labor than did fathers, $t(342) = -15.36, p < .001$, *Cohen's d* = 1.66; a difference that was significant even when controlling for gender differences in paid work, $F(1, 341) = 97.81, p < .001$, *Cohen's d* = 1.06. Additionally, mothers exhibited stronger explicit gender role beliefs than did fathers, indicating that they assume that women do more of the domestic workload, $t(334) = -4.70, p < .001$, *Cohen's d* = .51, although implicit gender role associations were not different by gender, $F = 0$. Furthermore, whereas there were no overall gender differences in parents' tendency to explicitly self-stereotype, women implicitly self-stereotyped more strongly than did men, meaning that they automatically associated self with home more strongly than men automatically associated self with work, $t(293) = -7.08, p < .001$, *Cohen's d* = .83.¹ These patterns were largely similar among parents who participated in dyads vs. alone (see Table 2 of supplementary online materials).

Finally, correlations among parent variables pointed to the convergent and divergent validity of the measures (see Table 2). For example, parents' self-reported behaviors correlated positively with their explicit gender-role beliefs (among moms) and self-stereotypes (among

Domestic Gender Roles

10

1
2
3 moms and dads) in intuitive ways. Additionally, parents' implicit gender-role associations were
4
5 significantly correlated with their implicit self-stereotypes, and fathers' implicit self-stereotypes
6
7 correlated with their reported number of work hours.
8
9

10
11 **Child data.** Descriptive data for children is provided in Table 3. Similar to their parents,
12
13 girls showed more stereotypical gender role beliefs, meaning they were more likely than boys to
14
15 believe that women do more domestic work, $t(315) = -3.86, p < .001, \text{Cohen's } d = .43$, and girls
16
17 self-stereotyped more than boys, reporting greater similarity to a family-focused female than
18
19 boys did to a work-focused male, $t(315) = -3.04, p = .003, \text{Cohen's } d = .34$. However, when it
20
21 came to nominating a future occupation, boys' responses were more male-stereotypic than girls'
22
23 responses were female-stereotypic, $t(283) = 5.84, p < .001, \text{Cohen's } d = .69$. Note that among
24
25 children, measures of gender role beliefs, self-stereotypes, and future occupations were not
26
27 correlated with one another, suggesting that each might operate independently from the others.²
28
29
30
31
32
33

Primary Analyses

34
35
36
37 **Analytic strategy.** Our primary objective was to test whether parents' implicit
38
39 associations and behaviors predicted children's gender role beliefs and aspirations, above and
40
41 beyond any predictive effects of parents' explicit gender role beliefs. Thus, in a series of
42
43 hierarchical regression analyses controlling for child gender, we tested parents' explicit gender
44
45 role beliefs and self-stereotypes (on Step 1), implicit gender role associations and self-
46
47 stereotypes (on Step 2), and reported work hours and domestic contribution (on Step 3) as
48
49 predictors of three outcomes: a) children's explicit gender role beliefs, b) children's explicit
50
51 self-stereotypes, and c) stereotypicality of children's occupational aspirations. Additional
52
53 analyses tested whether any individual predictor was moderated by child's gender (i.e.,
54
55
56
57
58
59
60

1
2
3 predictor-gender interactions tested on Step 4). Significant interactions were followed by simple
4
5 slopes analyses. One set of analyses examined mothers' variables as predictors and a second set
6
7 of analyses examined fathers' variables as predictors. Results are summarized in Tables 4 – 6,
8
9 and significant effects are described below.
10
11

12
13
14 **Children's gender role beliefs.** In the first set of analyses, children's gender role beliefs
15
16 were predicted only by child gender and mothers' explicit gender role beliefs. Mothers' implicit
17
18 gender role beliefs and behaviors were not significant predictors of children's gender role beliefs
19
20 and no effects were significantly moderated by child gender (see Table 4). In contrast, fathers'
21
22 explicit gender role beliefs did not predict children's explicit gender role beliefs. However, the
23
24 more fathers explicitly self-stereotyped (i.e., identified as work-oriented), the stronger their
25
26 children's gender role beliefs. No other predictors for fathers were significant. In sum, when
27
28 mothers explicitly believed that women are more likely than men to handle domestic tasks, and
29
30 when fathers explicitly self-stereotyped as work-oriented, boys and girls both reported
31
32 stereotypic beliefs about the gender distribution of domestic labor. These findings replicate
33
34 existing evidence of stereotype transmission from parents to children (Tenenbaum & Leaper,
35
36 2002), but are the first to focus on domestic gender role beliefs.
37
38
39
40
41
42

43
44 **Children's self-stereotypes.** Analyses of children's tendency to self-stereotype yielded
45
46 evidence that parents' gender role beliefs and behaviors independently predicted how children
47
48 (especially daughters) envision their futures (see Table 5). When asked to choose who they
49
50 would be more similar to when they grow up, children were more likely to select the gender-
51
52 typical exemplar (for daughters, the adult female who is the primary caregiver) to the degree that
53
54 their mothers reported doing more domestic tasks. This effect of mothers' domestic behavior was
55
56
57
58
59
60

Domestic Gender Roles

12

1
2
3 not moderated by child gender. In addition, a significant mothers' explicit self-stereotyping by
4
5 child gender interaction (see Figure 1) suggested that mothers' self-stereotyping was marginally
6
7 positively related to self-stereotyping for girls, $\beta = .25, p = .089$, but not for boys, $\beta = -.06, p =$
8
9 $.62$. Examined differently, when mothers explicitly self-stereotype as more family-oriented (1
10
11 SD above the mean), girls tended to self-stereotype more than boys did ($\beta = .18, p = .081$). But
12
13 when mothers were low in self-stereotyping (1 SD below the mean), this gender difference was
14
15 not significant, ($\beta = -.10, p = .30$). No other main effects or interactions were significant, all $ps >$
16
17 $.12$.

21
22
23 In addition to the effects of mothers, analyses of the father sample revealed a significant
24
25 interaction between fathers' explicit gender role beliefs and child gender (see Figure 2). Simple
26
27 slopes analyses revealed that daughters self-stereotyped as more family-oriented and less work-
28
29 oriented to the degree that their fathers had more traditional gender role beliefs ($\beta = .30, p =$
30
31 $.046$). Similar to the effect with mothers, fathers' explicit gender role beliefs did not predict
32
33 boys' self-stereotyping ($\beta = -.07, p = .56$). Examined differently, when fathers reported more
34
35 traditional gender role beliefs (1 SD above the mean), daughters were significantly more likely
36
37 than sons to self-stereotype ($\beta = .38, p = .01$). In contrast, when fathers reported less traditional
38
39 gender role beliefs (1 SD below the mean), daughters and sons were equally and relatively
40
41 unlikely to self-stereotype ($\beta = -.01, p = .94$).
42
43
44
45
46
47

48
49 In sum, the more mothers enacted and identified with traditional roles at home, the more
50
51 their children (especially daughters) envisioned themselves fulfilling gender-stereotypical roles
52
53 in the future. In addition, fathers with more egalitarian gender role beliefs had daughters and
54
55 sons who were equally likely to imagine balancing work and family in the future (i.e., child self-
56
57
58
59
60

1
2
3 stereotyping means near zero). In contrast, fathers with more traditional beliefs about women's
4
5 domestic responsibilities had daughters who imagined a future focused more on family than
6
7 work. This is some of the first evidence suggesting that mothers and fathers' domestic labor
8
9 beliefs and behaviors predict how stereotypically children envision their own futures.
10
11

12
13
14 **Children's occupational aspirations.** Distinct from children's tendency to identify with
15
16 work or family is their tendency to aspire to a given career. In both the mother-child and the
17
18 father-child analyses, boys nominated more gender-stereotypic careers than did girls, both $ps <$
19
20 $.001$ (see Table 6). Although no other effects were significant in the mother-child analysis,
21
22 $.001$ (see Table 6). Although no other effects were significant in the mother-child analysis,
23
24 within the father-child analysis several effects pointed to the unique role that fathers might play
25
26 in predicting daughters' occupational aspirations. Specifically, child gender interacted
27
28 significantly with fathers' explicit gender role beliefs (see Figure 3), fathers' implicit gender role
29
30 associations (see Figure 4), and fathers' domestic contribution (see Figure 5).
31
32
33

34
35 In each case, only daughters' and not sons' aspirations were predicted by their fathers'
36
37 variables. Daughters reported aspiring toward more stereotypic future occupations to the degree
38
39 that their fathers: a) explicitly endorsed a traditional division of household tasks, $\beta = .43, p =$
40
41 $.003$, b) had stronger implicit associations of women with home and men with work, $\beta = .30, p =$
42
43 $.016$, and c) reported contributing less to household tasks and childcare, $\beta = -.41, p = .017$.
44
45 Supplemental analyses revealed that when all three interaction terms were tested simultaneously,
46
47 the interactions between child gender and fathers' implicit gender role associations, $\beta_{interaction} =$
48
49 $.30, p = .017$, and fathers' domestic contribution, $\beta_{interaction} = -.24, p = .040$, remained significant
50
51 in predicting more stereotypic occupational aspirations for girls but not for boys. The interaction
52
53 between child gender and fathers' explicit gender role beliefs decreased in magnitude and
54
55
56
57
58
59
60

1
2
3 became nonsignificant, $\beta_{interaction} = .12, p = .33$, suggesting that fathers' implicit associations and
4 behaviors directly predicted daughters' preferences, over and above their explicitly held gender
5 role beliefs. These findings present the first evidence that fathers' behaviors and implicit
6 associations about domestic tasks play a unique role in predicting their daughter's emerging
7 aspirations.³

16 Discussion

18 This study examined how children's developing gender role beliefs and occupational
19 aspirations are predicted by their parents' own beliefs, implicit associations, and reported
20 contribution to domestic labor. Several notable findings emerged. Extending previous research
21 (Tenebaum & Leaper, 2002), children's explicit beliefs about gender differences in domestic
22 labor were predicted by the same beliefs held by their mothers, as well as by their fathers'
23 tendency to self-stereotype as more work-oriented. But for daughters, in particular, a tendency to
24 self-stereotype as more family- than work-oriented in the future was uniquely predicted by their
25 parents' beliefs and behaviors. Specifically, girls were more likely to envision themselves as
26 working outside the home when their fathers reported more gender egalitarian beliefs about
27 domestic labor, but also when their mothers reported doing relatively less domestic work and
28 self-stereotyped as more work-oriented.

29 Over and above explicit gender role beliefs, however, fathers' actual division of labor and
30 implicit gender role associations played a key role in predicting daughters' occupational
31 aspirations. Girls nominated less stereotypic occupations to the extent that their a) fathers
32 reported more egalitarian gender role beliefs about domestic labor, b) had a weaker implicit
33 association of women with home, and c) performed more domestic tasks at home. Importantly,
34 when testing these relationships simultaneously, fathers' implicit associations and reported
35

Domestic Gender Roles

15

1
2
3 domestic contribution significantly predicted daughters' occupational aspirations over and above
4 the role played by fathers' explicit beliefs. Such findings suggest that, even when parents
5 explicitly endorse gender equality at home, a traditional division of labor in daily life and
6 implicitly held stereotypical attitudes can send a less egalitarian message to young girls.
7
8
9

10
11
12 It is noteworthy that mothers and fathers both appear to convey stereotype-relevant
13 information to their sons and daughters. We considered several hypotheses regarding the ways in
14 which gender could moderate the transmission of gender roles. Children could model their
15 aspirations on the behavior of their same-sex parent (Bandura, Ross & Ross, 1961; Fulcher &
16 Coyle, 2011) or on the behavior of their primary caregivers, with whom they have most contact.
17
18 Our data suggest neither of these possibilities can explain the entire process of gender-role
19 transmission. First, although sons' gender role beliefs were predicted by their fathers' tendency
20 to self-stereotype, there was little evidence that boys develop a personal interest in a more
21 family-oriented future from their fathers' domestic beliefs and behaviors. Instead, we observed
22 that fathers' gender role beliefs, self-stereotypes, and domestic behaviors were particularly
23 predictive of their daughters' occupational aspirations, despite fathers being of a different gender
24 and mothers more often serving as the primary caregiver and having control over the domestic
25 sphere (Williams & Chen, 2013). There are several possible explanations for these findings
26 between fathers and their daughters. Fathers could be modeling future potential mates, signaling
27 to their daughters that they can expect men to help at home, thereby allowing women more time
28 for work. Alternatively, those fathers who contribute more at home might have more
29 opportunities to suggest masculine pursuits that their daughters then adopt. This enables them to
30 be gatekeepers to their daughters' interest in counter-stereotypic roles.
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

Domestic Gender Roles

16

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35

One open question is why boys' self-identification with gendered roles and career aspirations were not similarly predicted by parents' beliefs or behaviors. More specifically, when fathers enact and espouse more egalitarian gender roles at home, why don't their sons internalize these roles? One possibility is that, by being more attuned to social information (Blakemore, Berenbaum, & Liben, 2009), girls are simply more likely to internalize any social norm cues. Alternatively, boys' gender roles might be less malleable than girls'. Because stereotypes governing men's behavior are more rigid than those for women (Eagly, Wood & Diekmann, 2000), boys' occupational options might simply be more constrained. Efforts to encourage girls to enter into traditionally male-dominated careers have not been matched by similar efforts to encourage boys to enter female-dominated careers. As a result, boys' occupational aspirations in particular might be less flexible. In our data, for example, the stereotypicality ratings for boys' occupations were nearly at ceiling. Future research could examine this possibility by investigating whether parents may exert an influence on boys much earlier in development than in the present sample.

36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

We acknowledge that these data are correlational, and although our analyses have assumed a causal model whereby parents shape their children's gender cognitions, it is possible that parents adapt some of their own beliefs to the preferences their children exhibit. Another plausible alternative is the existence of third variables, such as one's surrounding community or social class, which could underlie the observed associations between parents and children. Furthermore, although we have reason to believe that mean levels of education and income in our sample are representative of national averages (based on SES measured in other research samples from the same site), the recruitment from a science center could lead to some restriction

Domestic Gender Roles

17

1
2
3 of range in these variables and in gender stereotypic biases that could plausibly reduce our
4
5 estimates of true effect sizes.
6
7

8 Finally, it's worth mentioning that the most relevant third variable explanation for the
9
10 relationships observed among dads and their daughters are the beliefs and behaviors of mothers
11
12 in these families. For example, dads who engage in more household work may be married to
13
14 women who work more outside the home or who endorse more counter-stereotypical beliefs
15
16 about gender roles. Although we were unable to collect enough data from both parents to
17
18 properly examine these possibilities, analysis of the subsample of 68 parent dyads in our dataset,
19
20 revealed only modest covariation among gender role variables (see supplementary online
21
22 materials) and mothers' variables did not strongly predict daughters' occupational aspirations.
23
24 While future research is surely needed, these aspects of our data speak against the possibility that
25
26 the findings among our father sample are better explained by the beliefs or behaviors of their
27
28 wives.
29
30
31
32
33

34 In conclusion, the present findings suggest that even in our current, progressive society
35
36 where explicit (verbal) messages of gender equality are encouraged, young girls' developing
37
38 beliefs about gender roles may very well be shaped by more subtle and indirect cues from their
39
40 mothers and fathers' behaviors. Although research often considers how women and girls are
41
42 constrained by gender stereotypes about women and work, the present study reveals the
43
44 importance of considering gender stereotypes regarding domestic tasks. If our assumed causal
45
46 model is accurate, fathers likely play an important role in modeling a more egalitarian future for
47
48 their daughters by their contributions at home. Our results suggest that when fathers espouse and
49
50 enact a more equal distribution of domestic work, their daughters more easily envision balancing
51
52 work with family and having a less gender-stereotypic career.
53
54
55
56
57
58
59
60

References

- Bandura, A., & Bussey, K. (2004). On Broadening the Cognitive, Motivational, and Sociostuctural Scope of Theorizing About Gender Development and Functioning: Comment on Martin, Ruble, and Szkrybalo (2002). *Psychological Bulletin*, *130*, 691-701. doi:10.1037/0033-2909.130.5.691
- Bandura, A. A., Ross, D., & Ross, S. A. (1961). Transmission of aggression through imitation of aggressive models. *The Journal Of Abnormal And Social Psychology*, *63*, 575-582. doi:10.1037/h0045925
- Barak, A., Feldman, S., & Noy, A. (1991). Traditionality of children's interests as related to their parents' gender stereotypes and traditionality of occupations. *Sex Roles*, *24*, 511-524. doi:10.1007/BF00289336
- Beaman, L., Duflo, E., Pande, R., & Topalova, P. (2012). Female leadership raises aspirations and educational attainment for girls: A policy experiment in India. *Science*, *335*(6068), 582-586. doi:10.1126/science.1212382
- Blakemore, J., Berenbaum, S. A., & Liben, L. S. (2009). *Gender development*. New York, NY US: Psychology Press.
- Coltrane, S. (2000). Research on household labor: Modeling and measuring the social embeddedness of routine family work. *Journal Of Marriage And The Family*, *62*, 1208-1233. doi:10.1111/j.1741-3737.2000.01208.x
- Conway, M., Pizzamiglio, M., & Mount, L. (1996). Status, communality, and agency: Implications for stereotypes of gender and other groups. *Journal Of Personality And Social Psychology*, *71*, 25-38. doi:10.1037/0022-3514.71.1.25

Domestic Gender Roles

19

- 1
2
3 Devos, T., Blanco, K., Rico, F., & Dunn, R. (2008). The role of parenthood and college
4 education in the self-concept of college students: Explicit and implicit assessments of
5 gendered aspirations. *Sex Roles, 59*, 214-228. doi:10.1007/s11199-008-9430-6
6
7
8
9
10 Doucet, A. (2001). 'You see the need perhaps more clearly than I have': Exploring gendered
11 processes of domestic responsibility. *Journal Of Family Issues, 22*, 328-357.
12
13 doi:10.1177/019251301022003004
14
15
16
17 Eagly, A. H., Wood, W., & Diekmann, A. B. (2000). Social role theory of sex differences and
18 similarities: A current appraisal. In T. Eckes, H. M. Trautner (Eds.), *The developmental*
19 *social psychology of gender* (pp. 123-174). Mahwah, NJ US: Lawrence Erlbaum
20 Associates Publishers.
21
22
23
24
25
26
27 Fulcher, M. (2011). Individual differences in children's occupational aspirations as a function of
28 parental traditionality. *Sex Roles, 64*, 117-131. doi:10.1007/s11199-010-9854-7
29
30
31
32 Fulcher, M., & Coyle, E. F. (2011). Breadwinner and caregiver: A cross-sectional analysis of
33 children's and emerging adults' visions of their future family roles. *British Journal Of*
34 *Developmental Psychology, 29*, 330-346. doi:10.1111/j.2044-835X.2011.02026.x
35
36
37
38
39 Fulcher, M., Sutfin, E. L., & Patterson, C. J. (2008). Individual differences in gender
40 development: Associations with parental sexual orientation, attitudes, and division of
41 labor. *Sex Roles, 58*, 330-341. doi:10.1007/s11199-007-9348-4
42
43
44
45
46 Goldberg, W. A., Prause, J., Lucas-Thompson, R., & Himsel, A. (2008). Maternal employment
47 and children's achievement in context: A meta-analysis of four decades of research.
48
49 *Psychological Bulletin, 134*, 77-108. doi:10.1037/0033-2909.134.1.77
50
51
52
53
54
55
56
57
58
59
60

Domestic Gender Roles

20

- 1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
- Greenwald, A. G., McGhee, D. E., & Schwartz, J. K. (1998). Measuring individual differences in implicit cognition: The implicit association test. *Journal Of Personality And Social Psychology*, *74*, 1464-1480. doi:10.1037/0022-3514.74.6.1464
- Greenwald, A. G., Nosek, B. A., & Banaji, M. R. (2003). Understanding and using the Implicit Association Test: I. An improved scoring algorithm. *Journal Of Personality And Social Psychology*, *85*, 197-216. doi:10.1037/0022-3514.85.2.197
- Greenwald, A. G., Poehlman, T., Uhlmann, E., & Banaji, M. R. (2009). Understanding and using the Implicit Association Test: III. Meta-analysis of predictive validity. *Journal Of Personality And Social Psychology*, *97*, 17-41. doi:10.1037/a0015575
- Hochschild, A. R. & Machung, A. (2012). *Revised edition: The second shift: Working parents and the revolution at home*. London, England: Penguin Books.
- Kenny, D. A., Kashy, D. A., & Cook, W. L. (2006). *Dyadic data analysis*. Guilford Press.
- Nosek, B. A. (2005). Moderators of the Relationship Between Implicit and Explicit Evaluation. *Journal Of Experimental Psychology: General*, *134*, 565-584. doi:10.1037/0096-3445.134.4.565
- Park, B., Smith, J., & Correll, J. (2010). The persistence of implicit behavioral associations for moms and dads. *Journal Of Experimental Social Psychology*, *46*, 809-815. doi:10.1016/j.jesp.2010.04.009
- Ridgeway, C. (1991). The social construction of status value: Gender and other nominal characteristics. *Social Forces*, *70*, 367-386. doi:10.2307/2580244
- Riggio, H. R., & Desrochers, S. J. (2006). Maternal Employment: Relations With Young Adults' Work and Family Expectations and Self-Efficacy. *American Behavioral Scientist*, *49*, 1328-1353. doi:10.1177/0002764206286558

Domestic Gender Roles

21

- 1
2
3 Rudman, L. A., Greenwald, A. G., & McGhee, D. E. (2001). Implicit self-concept and evaluative
4
5 implicit gender stereotypes: Self and ingroup share desirable traits. *Personality And*
6
7 *Social Psychology Bulletin*, 27, 1164-1178. doi:10.1177/0146167201279009
8
9
- 10 Stone, P. (2007) *Opting Out?: Why Women Really Quit Careers and Head Home*. Berkley, CA:
11
12 University of California Press.
13
14
- 15 Stout, J. G., Dasgupta, N., Hunsinger, M., & McManus, M. A. (2011). STEMing the tide: Using
16
17 ingroup experts to inoculate women's self-concept in science, technology, engineering,
18
19 and mathematics (STEM). *Journal Of Personality And Social Psychology*, 100, 255-270.
20
21 doi:10.1037/a0021385
22
23
- 24 Tenenbaum, H. R., & Leaper, C. (2002). Are parents' gender schemas related to their children's
25
26 gender-related cognitions? A meta-analysis. *Developmental Psychology*, 38, 615-630.
27
28 doi:10.1037/0012-1649.38.4.615
29
30
- 31 Wiesmann, S., Boeije, H., van Doorne-Huiskes, A., den Dulk, A. (2008) Not worth mentioning:
32
33 The implicit and explicit nature of decision-making about the division of paid and
34
35 domestic work. *Community, Work & Family*, 11, 341-363. doi:
36
37 10.1080/13668800802361781
38
39
- 40 Williams, M. J., & Chen, S. (in press). When "mom's the boss": Control over domestic decision
41
42 making reduces women's interest in workplace power. *Group Processes and Intergroup*
43
44 *Relations*.
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

Footnotes

1. Degrees of freedom vary due to missing data on some measures (e.g., the implicit tasks).
2. Additional analyses confirmed mean levels on all variables (for both parents and children) were unaffected by whether data collection occurred with one or both parents present, all $ps > .20$. The only exception was that parents who participated alone reported doing more domestic work ($M = 14.38$) than those who participated with their spouse ($M = 5.05$), $F(1, 344) = 7.32, p < .01$.
3. In the supplementary online materials, analyses were repeated using multilevel modeling nesting participants within families (to control for dependencies of sibling data). Notably, the effects remain largely unchanged across all analyses, with the exception that the main effect of fathers' explicit self-views on children's explicit gender role beliefs becomes non-significant.

Domestic Gender Roles

23

Table 1. Raw cell counts (*ns*) of child participants by sibling status, parent participation and child sex.

	Fathers Only		Mothers Only		Both Parents		Total:
	Sons	Daughters	Sons	Daughters	Sons	Daughters	
Solo child	32	31	65	53	21	26	228
First Sibling	6	4	10	9	11	9	49
Second Sibling	5	4	10	9	10	7	45
Third Sibling	1	0	0	0	1	2	4
Total:	44	39	85	71	43	44	326
<u>% of sample:</u>	13%	12%	26%	22%	13%	13%	

Running head: DOMESTIC GENDER ROLES

Table 2. Means (SDs) and correlations between main variables measured among parents

	EGB	IGA	ESS	ISS	Domestic	Workhours
<i>Correlations</i>						
EGB	.35**	-.01	.30**	.08	.45***	-.17*
IGA	.09	.18	.11	.27***	.09	-.12†
ESS	.09	.00	-.05	.10	.45***	-.74***
ISS	.13	.24**	.08	-.08	.12	-.05
Domestic	-.25**	.03	-.29**	-.02	-.31*	-.40***
Workhours	-.05	-.04	.40**	.26**	-.26**	-.12
<i>Means (SDs)</i>						
Mothers	27.10 _a (31.87)	.42 _a (.45)	29.49 _a (63.89)	.35 _a (.50)	68.21 _a (15.69)	21.45 _a (17.35)
Fathers	11.39 _b (27.17)	.42 _a (.54)	20.33 _a (53.42)	-.07 _b (.50)	42.16 _b (15.08)	42.01 _b (12.32)

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

Notes: Bivariate correlations for mothers above diagonal, fathers below diagonal, and between the subsample of married mothers and fathers along the diagonal. In the bottom portion of the table, means in the same column with different subscripts are significantly different from each other at $p < .05$. EGB: explicit gender role beliefs; IGA: implicit gender role associations; ESS: explicit self-stereotypes; ISS: implicit self-stereotypes.

Running head: DOMESTIC GENDER ROLES

Table 3. Means (SDs) and correlations between main variables for children

	EGB	ESS	Occupation
EGS		.02	.09
ESS	.10		.05
Occupation	-.06	.08	

<i>Means (SDs)</i>			
Girls	29.96 _a (27.73)	16.95 _a (48.01)	2.33 _a (.60)
Boys	18.28 _b (26.17)	1.53 _b (42.25)	2.72 _b (.50)

† p < .1, *p > .05, ** p < .01

Notes: Bivariate correlations for girls above diagonal, boys below diagonal; means in the same column with different subscripts are significantly different from each other. EGS: explicit gender role beliefs; ESS: explicit self-stereotypes.

Running head: DOMESTIC GENDER ROLES

Table 4. Summary of regression analyses predicting children's explicit gender role beliefs from parent variables.

	Mothers' Variables					Fathers' Variables				
	β	t	p	ΔR^2	df	β	t	p	ΔR^2	df
Block 1										
Child gender	.19	2.78	.006	.07	192	.24	2.86	.005	.10	126
Parent EGB	.18	2.44	.015			.09	1.04	.30		
Parent ESS	.01	.10	.92			.19	2.28	.024		
Block 2										
Parent IGA	.09	1.21	.23	.01	190	-.10	-1.09	.28	.01	124
Parent ISS	.04	.58	.56			-.03	-.30	.77		
Block 3										
Parent domestic	.06	.72	.47	.003	188	-.04	-.37	.71	.02	122
Parent work hours	-.02	-.14	.89			.15	1.54	.13		
Block 4										
Parent EGB X child gender	-.10	-1.03	.30	.01	187	.07	.63	.53	.003	121
Block 4										
Parent ESS X child gender	.12	1.19	.24	.01	187	-.21	-1.64	.11	.02	121
Block 4										
Parent IGA X child gender	.21	1.81	.069	.02	187	.17	1.35	.18	.01	121
Block 4										
Parent ISS X child gender	-.01	-.10	.92	< .001	187	.11	.92	.36	.01	121
Block 4										
Parent domestic X child gender	-.07	-.70	.48	.002	187	.02	.18	.86	< .001	121
Block 4										
Parent work hours X child gender	-.08	-.77	.44	.003	187	-.01	-.10	.92	< .001	121

Note. To conserve degrees of freedom, each interaction term was tested in a separate model where only that term was entered on Block 4. Results are similar when all interaction terms are included together in the same model.

Domestic Gender Roles

27

Table 5. Summary of regression analyses predicting children's explicit self-stereotypes from parent variables.

	Mothers' Variables					Fathers' Variables				
	β	t	p	ΔR^2	df	B	t	p	ΔR^2	df
Block 1										
Child gender	.05	.72	.47	.01	192	.15	1.75	.083	.04	126
Parent EGB	-.04	-.47	.64			.07	.85	.40		
Parent ESS	.06	.84	.41			.09	1.01	.32		
Block 2										
Parent IGA	.05	.62	.54	.004	190	.01	.09	.93	.01	124
Parent ISS	-.06	-.75	.46			-.08	-.84	.40		
Block 3										
Parent domestic	.17	1.97	.051	.02	188	-.02	-.24	.81	.001	122
Parent work hours	.07	.66	.51			-.02	-.21	.83		
Block 4										
Parent EGB X child gender	-.05	-.54	.59	.001	187	.24	1.99	.049	.03	121
Block 4										
Parent ESS X child gender	.21	2.11	.036	.02	187	.08	.60	.55	.003	121
Block 4										
Parent IGA X child gender	.08	.70	.49	.003	187	.14	1.12	.27	.01	121
Block 4										
Parent ISS X child gender	-.05	-.49	.63	.001	187	-.18	-1.45	.15	.02	121
Block 4										
Parent domestic X child gender	.03	.30	.77	< .001	187	.15	1.39	.17	.02	121
Block 4										
Parent work hours X child gender	-.17	-1.64	.10	.01	187	-.15	-1.06	.29	.01	121

Note. To conserve degrees of freedom, each interaction term was tested in a separate model where only that term was entered on Block 4. Results are similar when all interaction terms are included together in the same model.

Domestic Gender Roles

28

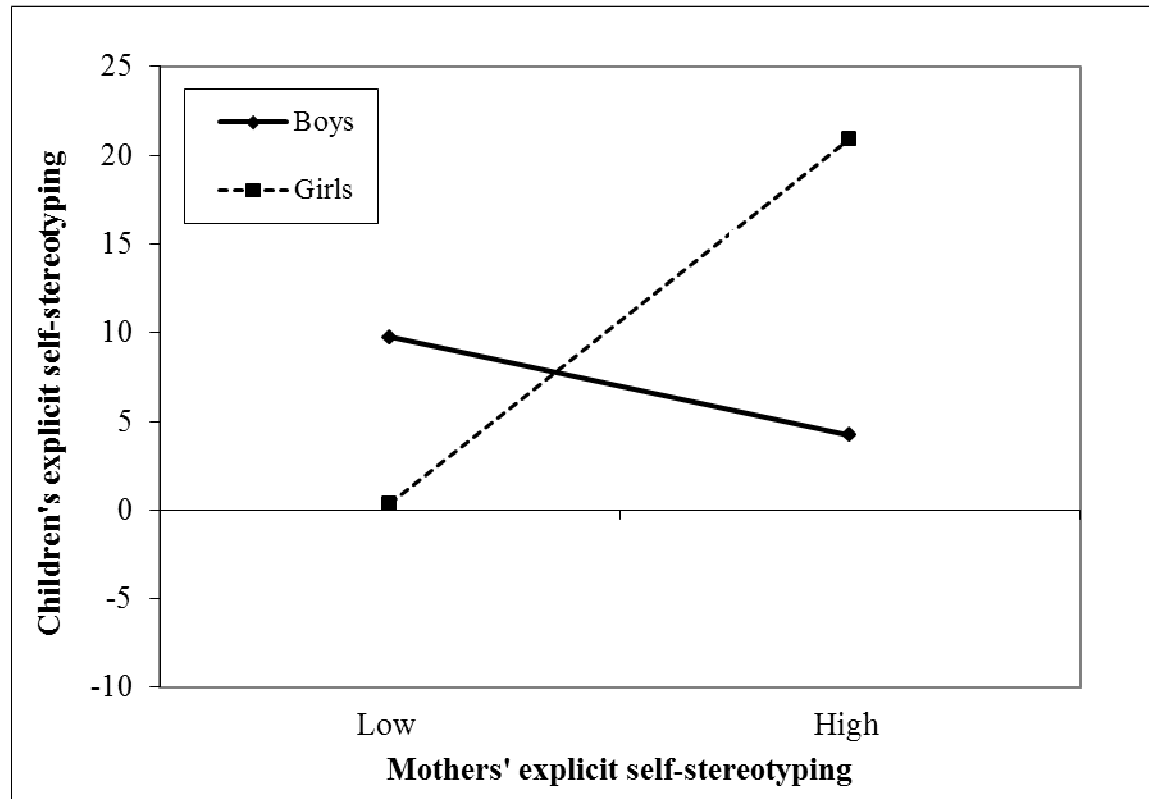
Table 6. Summary of regression analyses predicting children's occupational aspirations from parent variables.

	Mothers' Variables					Fathers' Variables				
	β	t	p	ΔR^2	df	β	t	p	ΔR^2	df
Block 1										
Child gender	-.36	-5.09	< .001	.13	176	-.42	-4.89	< .001	.19	113
Parent EGB	-.08	-1.07	.28			.17	1.96	.053		
Parent ESS	.08	1.04	.30			-.06	-.70	.49		
Block 2										
Parent IGA	.09	1.19	.24	.02	174	.08	.98	.33	.03	111
Parent ISS	.08	1.02	.31			.14	1.66	.10		
Block 3										
Parent domestic	.05	.54	.59	.002	172	-.06	-.59	.56	.02	109
Parent work hours	.03	.30	.76			.12	1.22	.23		
Block 4										
Parent EGB X child gender	.09	.95	.35	.004	171	.28	2.55	.012	.04	108
Block 4										
Parent ESS X child gender	.11	1.11	.27	.01	171	.07	.57	.57	.002	108
Block 4										
Parent IGA X child gender	.02	.15	.88	< .001	171	.29	2.34	.021	.04	108
Block 4										
Parent ISS X child gender	-.11	-1.11	.27	.01	171	.10	.80	.43	.004	108
Block 4										
Parent domestic X child gender	.18	1.76	.081	.02	171	-.26	-2.51	.014	.04	108
Block 4										
Parent work hours X child gender	-.12	-1.17	.24	.01	171	.06	.47	.64	.002	108

Note. To conserve degrees of freedom, each interaction term was tested in a separate model where only that term was entered on Block 4. Results are similar when all interaction terms are included together in the same model.

Running head: DOMESTIC GENDER ROLES

Figure 1. Interaction between mothers' explicit self-stereotypes and child gender child self-stereotypes (positive numbers indicate greater identification with a gender stereotypic same-sex adult).



Only

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

Domestic Gender Roles

30

Figure 2. Interaction between fathers' explicit gender role beliefs and child gender predicting child self-stereotypes (positive numbers indicate greater identification with a gender stereotypic same-sex adult).

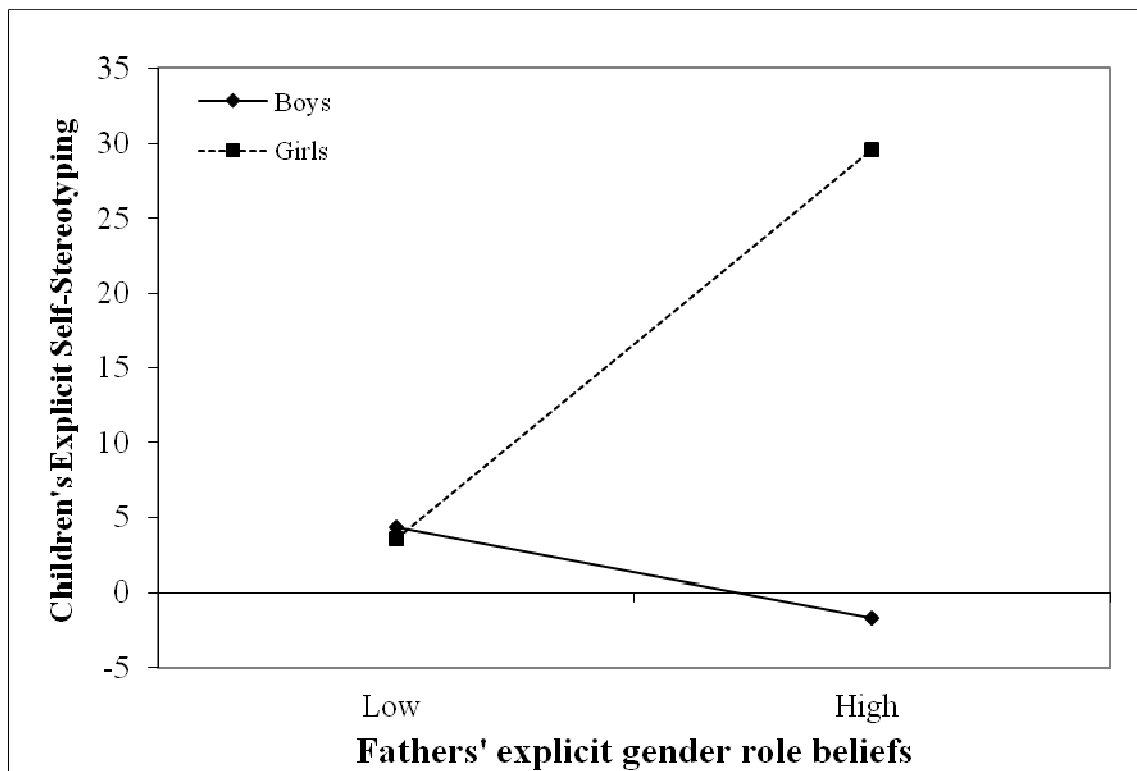
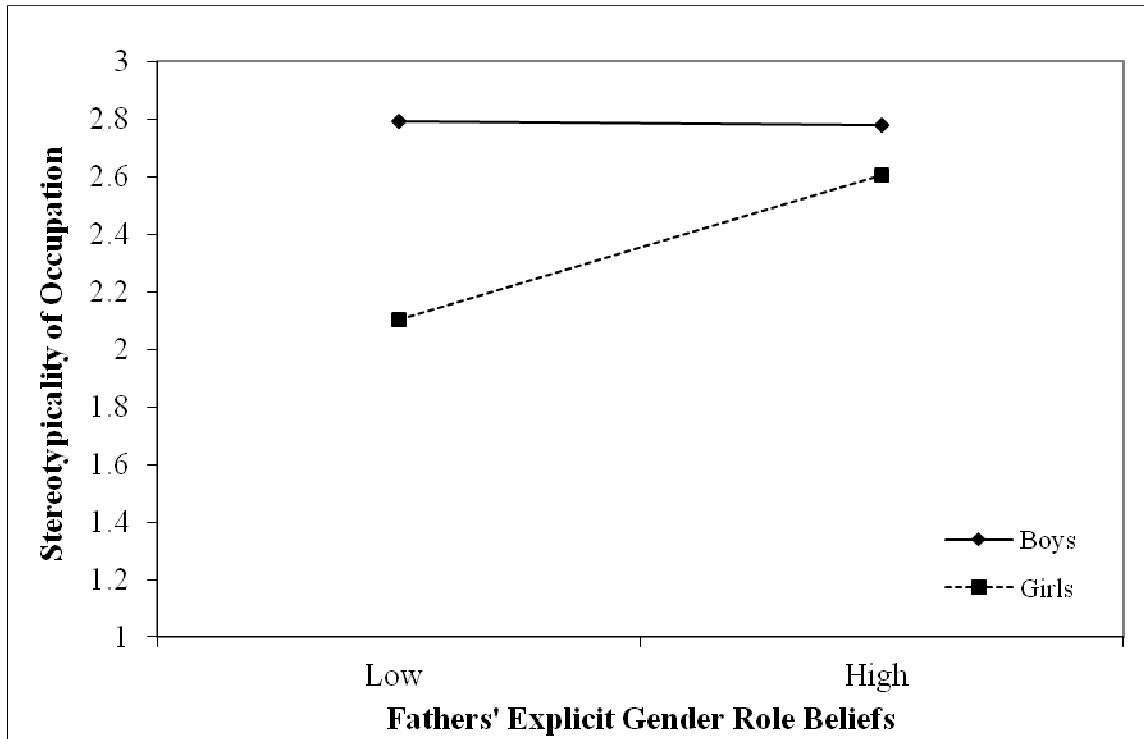


Figure 3. Interaction between fathers' explicit gender role beliefs and child gender predicting children's occupational aspirations (3 = stereotypical of own gender, 2 = stereotype neutral, 1 = stereotypical of other gender).



1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

ew Only

Figure 4. Interaction between fathers' implicit gender role associations and child gender predicting children's occupational aspirations (3 = stereotypic of own gender, 2 = stereotype neutral, 1 = stereotypical of other gender).

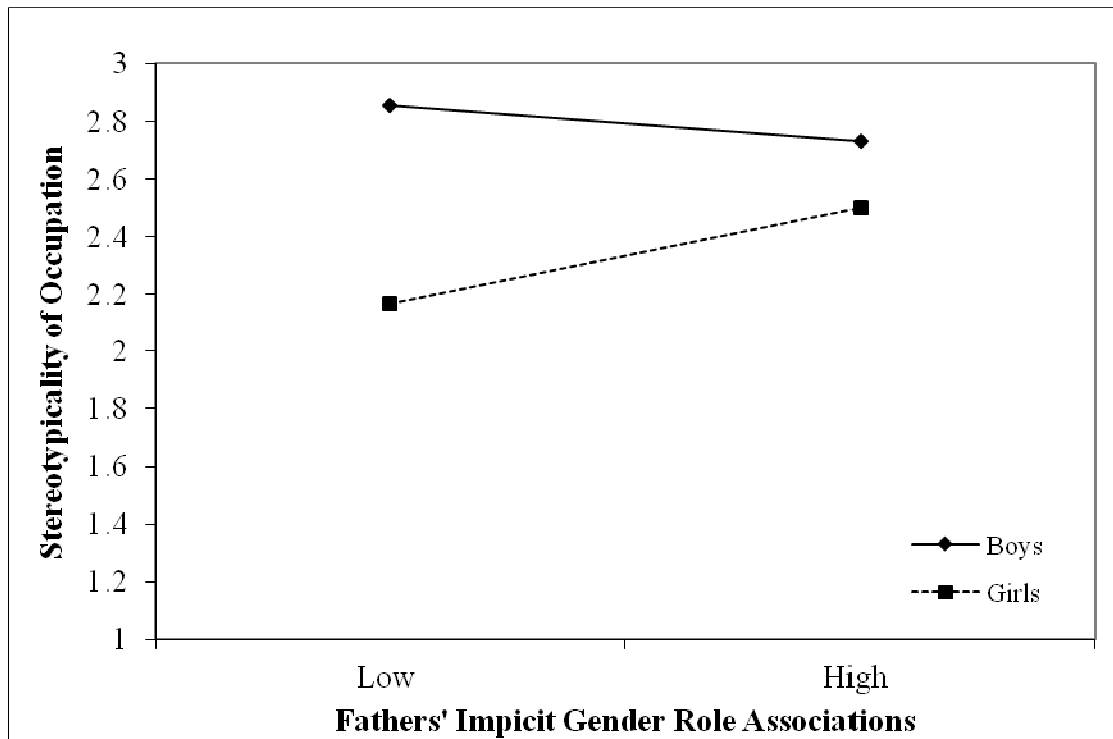
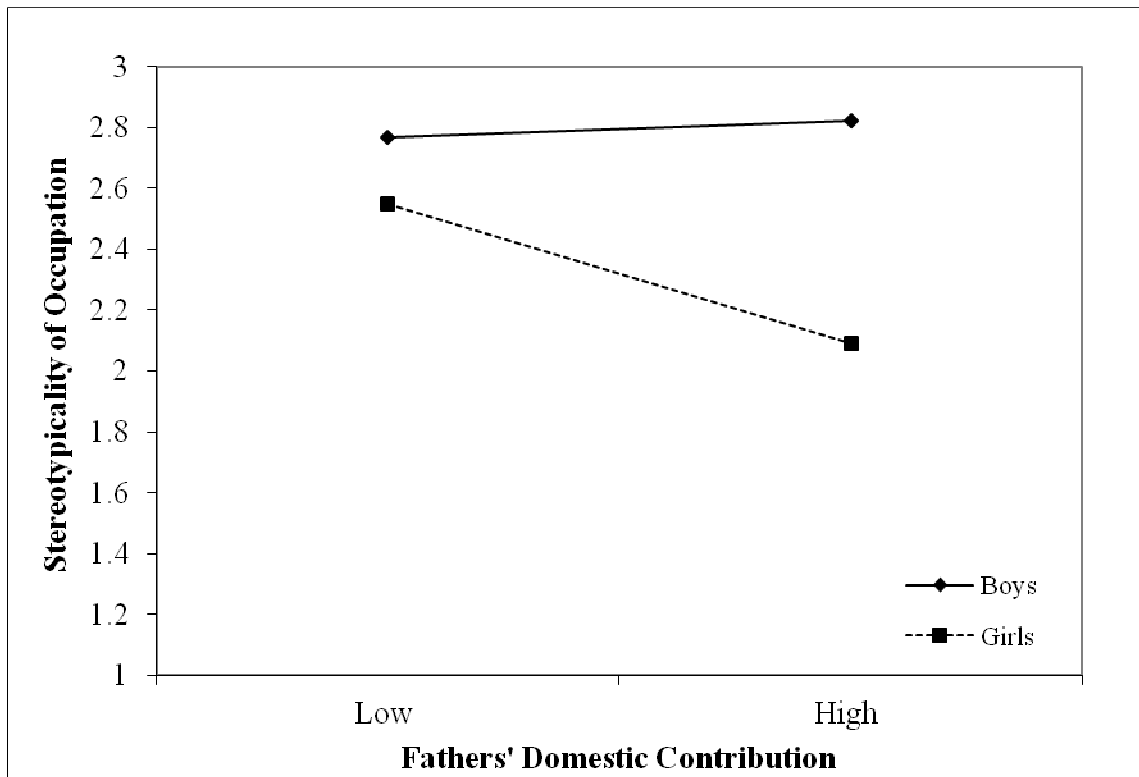


Figure 5. Interaction between fathers' domestic contribution and child gender predicting children's occupational aspirations (3 = stereotypic of own gender, 2 = stereotype neutral, 1 = stereotypical of other gender).



www.Only

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

Appendix

Screenshots of slider scales measuring explicit self-identification with gendered roles. Note, that target stimuli were always matched in sex to the participant.

Here are **Tom** and **Mike**. When they were young, they played a lot together. Now they are adults. Now, **Tom** has job at a marketing company. He likes his job, although, he often has to stay there late and can't look after his kids. **Mike** used to work long hours too but now he only works 3 days a week so he can spend time with his family.

Who are you more similar to?



Tom _____ Mike

Finish

Here are **Clara** and **Carina**. When they were your age they were neighbours, so they saw each other a lot. Now they are all grown up. **Clara** has one child, who goes to daycare during the day so that she can go to her office job. **Carina** now has 2 children and stays at home to take care of them and the house.

One day you will also be all grown up!

When you are grown up, who do you think you will be more like?



Clara _____ Carina

Finish

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60