1 Satisfying housework division? Gender role beliefs and religion as moderators of housework

2 division and satisfaction

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⁵ Satisfying housework division? Gender role beliefs and religion as moderators of housework

⁶   division and satisfaction

⁷   **Results**

⁸ **Analysis Strategy**

⁹   To test our hypotheses that gender role beliefs and religion moderate the relationship

¹⁰ between housework distribution and satisfaction, we used multilevel modeling and the

¹¹ Actor-Partner Interdependence Model (APIM; Kenny, Kashy, & Cook, 2006). The APIM

¹² measures the effect of the explanatory variables for both members in a dyad at the same

¹³ time, so actor as well as partner effects could be considered in our analysis. This way, it is

¹⁴ possible to see how one partner's housework distribution effects both their own satisfaction

¹⁵ with the housework distribution (actor effect) and their partner's satisfaction with the

¹⁶ housework distribution (partner effect). In this analysis, we will further look at the

¹⁷ moderating effect of each partner's gender role beliefs on the two actor effects (shown in

¹⁸ figure 1) as well as on the partner effects. (THIS FOLLOWING SENTENCE CONFUSES

¹⁹ ME!) The APIM measures proportion of variance in satisfaction that occurs between dyads

²⁰ vs. the total variation present. In other words, the model considers how much of the

²¹ variation in satisfaction is caused by the dyad. This allows to estimate satisfaction with the

²² distribution of housework as a function of both housework distribution and the the random

²³ errors at both the individual and dyad level. This accounts for the non-independent data.

²⁴ **Main Results**

²⁵   **Gender Role Beliefs as a mediator.**   The summary table above is just of the

²⁶ actor partner effects with no moderation. The only relationship that is statistically

²⁷ significant is the one between the wife's satisfaction level and her average housework. We

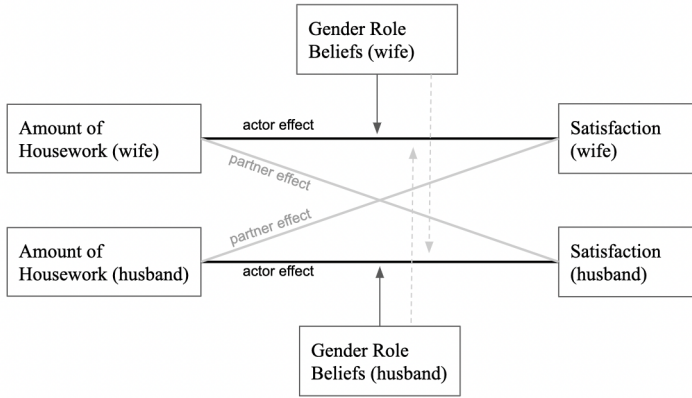²⁸ know this because the p-value for `as.factor(genderE_A)1:Cavg_housework_female_A` is

Figure 1. Actor Partner Effects in the APIM.

29 0.0041, which is less than 0.05. Since the value for this relationship is -0.029132, it signifies

30 that as the wife's average housework increases, her satisfaction level decreases.

31   as.factor(genderE__A)0:Cavg__housework__female__A:Cavg__grbs__P = For men,

32 keeping their average female-typed housework tasks constant, for every one unit increase in

33 avg grbs, their housework satisfaction increases by 0.02.

34   For women, gender role beliefs significantly moderated the relationship between her

35 own housework distribution and her satisfaction with the housework distribution. The

36 moderation effect was 0.07 ($p = 0.00$, $se = 0.02$). For every one unit increase in her gender

37 role beliefs, her satisfaction increases by 0.07 while keeping housework distribution

38 constant. Again for women, her partners gender role beliefs significantly moderated the

39 relationship between her own housework distribution and her satisfaction with the

40 housework distribution. The moderation effect was -0.06 ($p = 0.01$, se = 0.02). For every

41 one unit increase in her partners gender role beliefs, her own satisfaction increased by -0.06

42 while keeping housework distribution constant.

43   Looking at the summary table above, these are the relationships that are statistically

44 significant: as.factor(genderE__A)1:Cavg__housework__female__A:Cavg__grbs__P,

45 8.742833e-03 as.factor(genderE__A)1:Cavg__housework__female__A:Cavg__grbs__A,
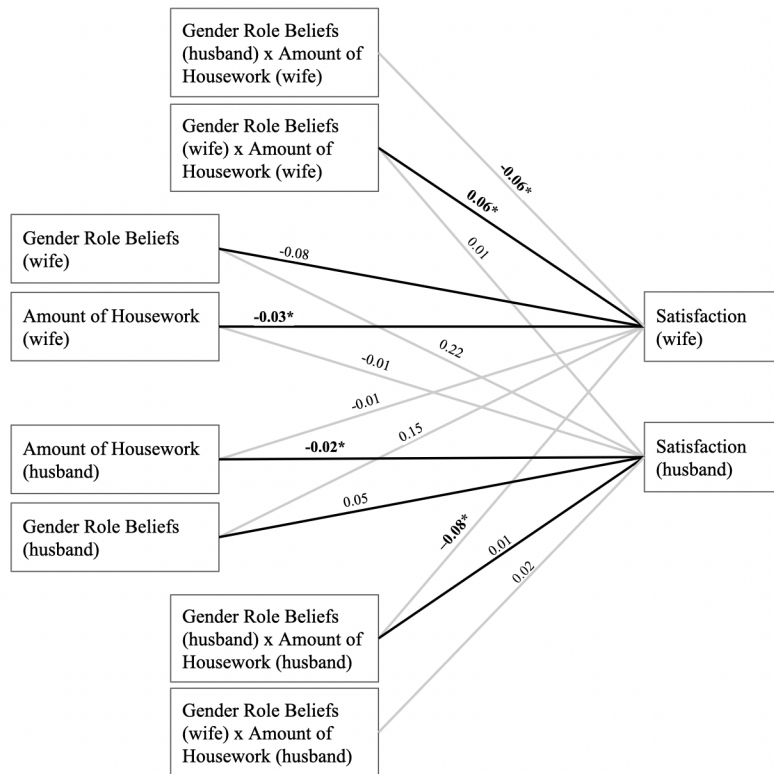
Figure 2. Moderation effects in the APIM.

46 8.408625e-04 as.factor(genderE_A)0:Cavg_housework_female_A, 2.259373e-02

47   Only looking at the three way interactions with gender we found two significant

48 gender differences in the moderation effects. The interaction between actors housework

49 distribution and their own gender role beliefs was significantly different for husbands and

50 wives with an estimate of 0.06 ($p=0.03, se=0.03$). The moderation effect of ones own

51 gender role beliefs was 0.06 units higher for women than men meaning the moderation

52 effect of gender role beliefs had a significantly larger positive effect on satisfaction for wives

53 than for husbands.

54   In addition the interaction between actors housework distribution and their partners

55 gender role beliefs was significantly different for husbands and wives with an estimate of

56 -0.08($p=0.01, se = 0.03$).The moderation effect of ones partners gender role beliefs was

57 -0.08 units lower for women than men meaning the moderation effect of her husbands

58 gender role beliefs had a significantly larger negative effect on satisfaction compared to how

59 her gender role beliefs effected the relationship between housework distribution and

60 satisfaction for her husband.

```
61 wife_plot<- ggplot(wives,aes(

62                   x = avg_housework_female_A,

63                   y = housework_satisfied_A,

64                   color = grbs_hl_A,  na.rm = TRUE)

65                   )+

66   geom_point(na.rm = TRUE)+

67   geom_smooth(method = "lm")+

68   labs(x = "Housework distribution", y = "Satisfaction", title ="Relationship of wive's
```

```
69 ## $title

70 ## [1] "Relationship of wive's housework distribution and gender role beliefs"

71 ##

72 ## attr(,"class")

73 ## [1] "labels"
```

74   As the housework distribution increases for wives with low gender role beliefs, their

75 satisfaction decreases. This makes sense because wives with low gender role beliefs would

76 believe in an equal housework distribution where she wasn't doing majority of the

77 housework tasks. As the housework distribution increases for wives with high gender role

78 beliefs, their satisfaction has a very slight decrease, but it stays more or less the same.

79   As the housework distribution increases for wives whose husbands have low gender

80 role beliefs, their satisfaction remains constant. As the housework distribution increases for

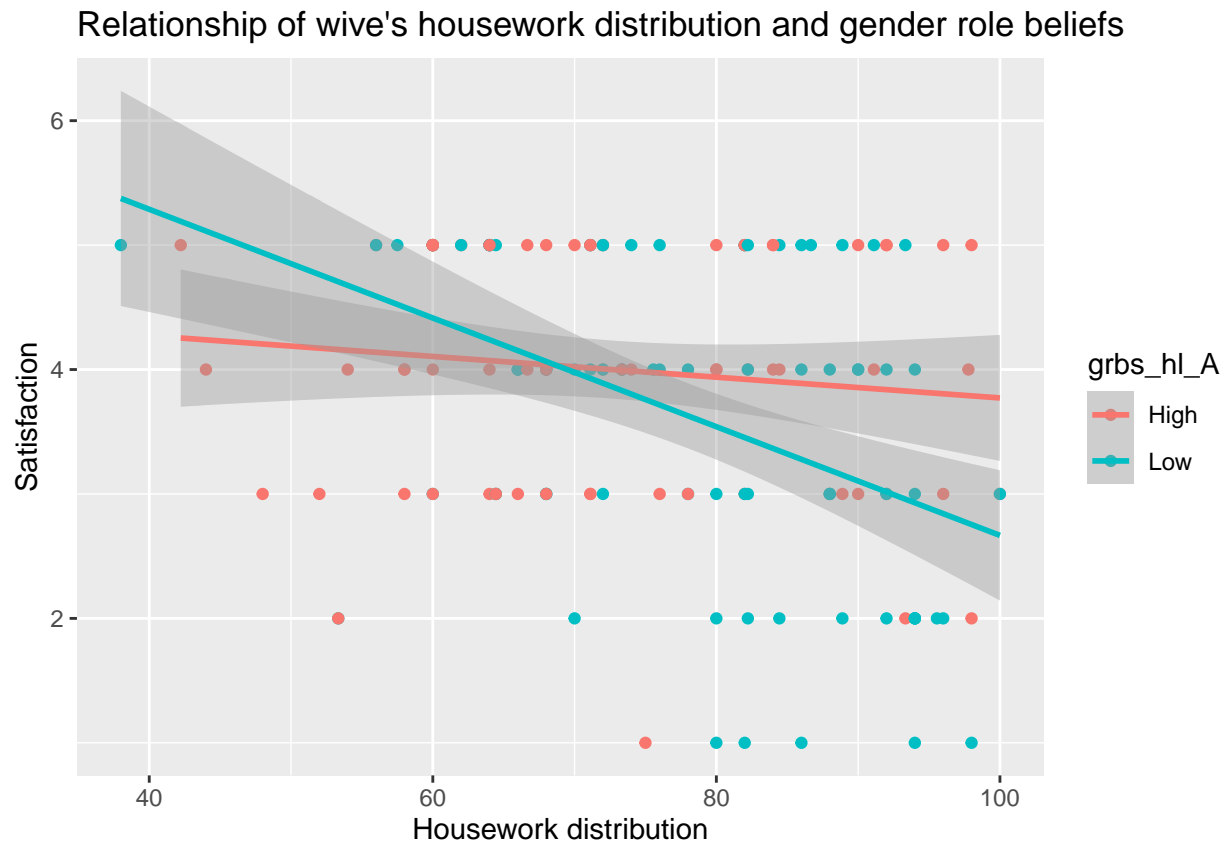81 wives whose husbands have high gender role beliefs, their satisfaction decreases.

Figure 3. caption for graph

Religion. The two intercept model gives us the two coefficients for men and women.

None of the interactions between actors housework distribution and their religion was significantly different for husbands or wives. ($p>=0.19$, $se=0.08$). None of the results illustrate that the average female-typed tasks completed by the actor or partner from the husband and wife's perspective was related to their religion.

Exploratory Results

Mediation is a way for researchers to explain the process of one variable affecting another variable. It is essentially a possible explanation for the relationship between the two variables. Mediation assesses whether the effects of the X variable (the independent variable) are significant on the Y variable (the dependent variable), through a third
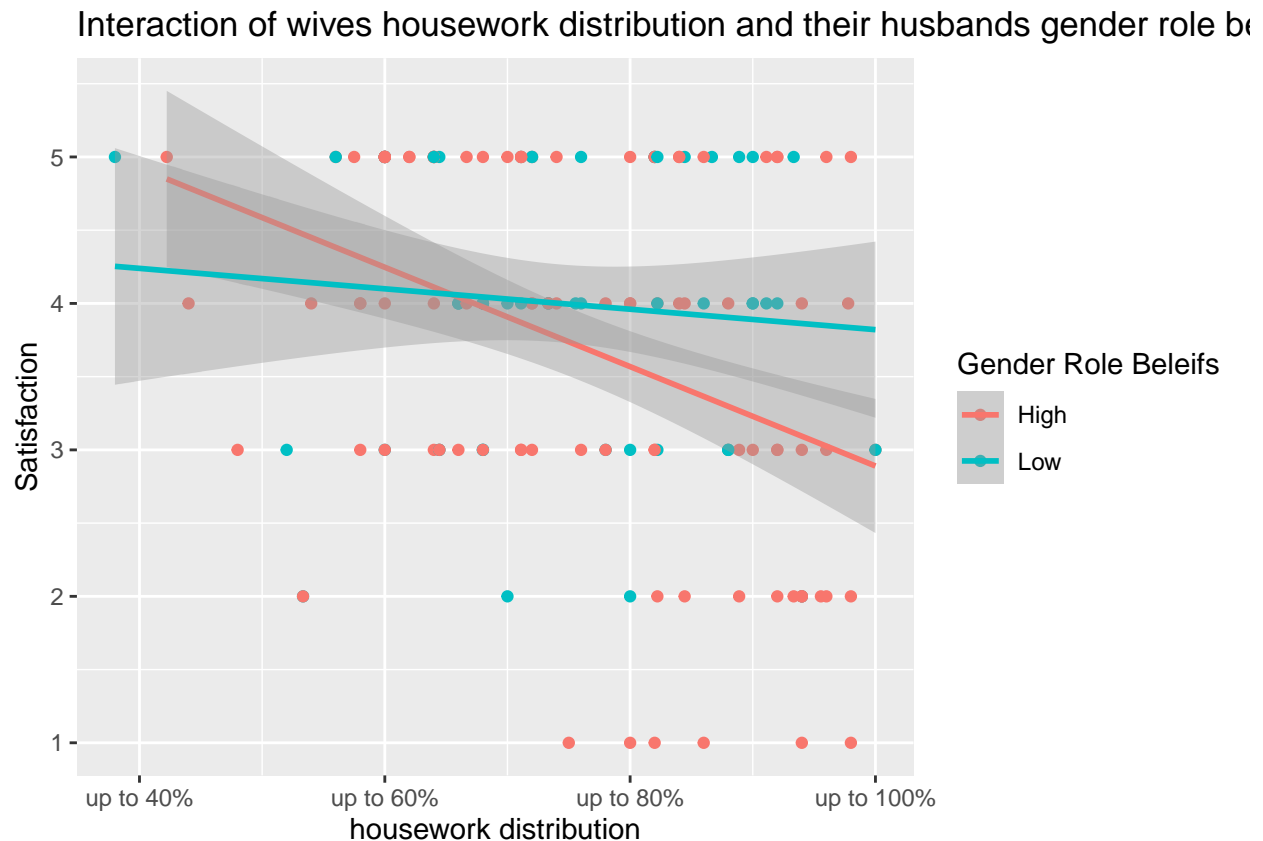
Figure 4. caption for graph

variable called M (the mediator).

Based on our primary analysis so far, we are interested in further exploring how to concept of gatekeeping fits into our research. We want to explore whether gatekeeping is a mediator variable in our relationship between the partners' gender role beliefs and housework tasks. Are women with higher gender role beliefs more likely to gatekeep housework tasks?

Interpretation: All four paths are positive and statistically significant: Seeing your partner positively leads you and your partner to be more satisfied. All four of these paths could potentially be mediated.

###Step 2: Testing the effects of the grbs (X) on the mediators of Wife and Husband gatekeeping (M).

¹⁰³ ***Interpretation:*** All four paths of the "a" paths are negative and statistically

¹⁰⁴ significant: Seeing your partner positively leads you and your partner to have lower levels

¹⁰⁵ of tension.

¹⁰⁶ **Steps 3 and 4: Testing the effects of the Tension (M) and Other Positivity**

¹⁰⁷ **(X) on the Satisfaction (Y)..**

¹⁰⁸ ***I didn't change anything from here on yet!***

¹⁰⁹ ***Interpretation:*** **Step 3**: All four "b" paths from Tension to Satisfaction are

¹¹⁰ negative and three are statistically significant: Seeing more tension in the relationship

¹¹¹ leads to less satisfaction for you and your partner, even after controlling for how positively

¹¹² you and your partner see each other. The one effect that is not statistically significant is

¹¹³ the effect of male's level of tension on his wife's level of satisfaction.

¹¹⁴ **Step 4**: All paths from Other Positivity to Satisfaction, the direct of c', are positive

¹¹⁵ and statistically significant: Seeing your partner positively leads you and your partner to

¹¹⁶ have higher levels of satisfaction, even after controlling for yours and your partner's tension.

¹¹⁷ **Testing Indirect Effects Using Multilevel Modeling**

¹¹⁸ • Sobel Test

¹¹⁹   – Save effect estimates and standard errors.

¹²⁰   – Compute Z test.

¹²¹   – Low power.

¹²² • Separately Test a and b

¹²³   – Old fashioned.

¹²⁴   – But may be making a comeback.

¹²⁵ • Bootstrapping

¹²⁶   – Difficult currently

127   – See Pituch & Stapleton (Multivariate Behavioral Research, 2008) for a

128   discussion of how to bootstrap in MLM.

129   – Option available in some MLM programs. Only for effects but not indirect

130   effects.

131   • Monte Carlo Method

132   – Appears to be the method of choice for MLMeM

133 **Sobel Test**

134 **MCMAM Selig & Preacher, 2008**

```
135 # Function that returns mcmc CI.

136 # mcmamCI <- function(aval, bval, varA, varB, n){

137

138 # code (Selig & Preacher, 2008).

139   #require(MASS)

140

141   a=aval

142   b=bval

143   rep=n

144   conf=95

145   pest=c(a,b)

146   acov <- matrix(c(varA, 0, 0, varB),2,2)

147

148   mcmc <- mvrnorm(rep,pest,acov,empirical=FALSE)

149

150   ab <- mcmc[,1]*mcmc[,2]

151
```

```
152    low=(1-conf/100)/2

153    upp=((1-conf/100)/2)+(conf/100)

154

155    LL=quantile(ab,low)

156    UL=quantile(ab,upp)

157    LL=format(LL,digits=3)

158    UL=format(UL,digits=3)

159

160    CI <- cbind.data.frame(LL, UL)

161    return(CI)

162
```

For example, we can find the MCMC 95% CI for the **Actor-Actor: Husband** indirect effect like this.

act_H_a <- coef(summary(apim_stp2))[3,1] act_H_a_se <- coef(summary(apim_stp2))[3,2] act_H_b <- coef(summary(apim_stp3))[7,1] act_H_b_se <- coef(summary(apim_stp3))[7,2]

mcmamCI(act_H_a, act_H_b, act_H_a_se^2, act_H_b_se^2, 3000) #confidence intervals > does it include 0?

" '

Summary of Indirect Effects

Name	Indirect Effects	Estim.	p	95% CI[a] Lower	Upper
Actor-Actor: W	Xw -> Mw -> Yw	0.165	<.001	0.086	0.257
Actor-Actor: H	Xh -> Mh -> Yh	0.099	<.001	0.042	0.172
Partner-Partner: W	Xw -> Mh -> Yw	0.027	.090	-0.003	0.070

Name	Indirect Effects	Estim.	p	95% CI[a] Lower	Upper
Partner-Partner: H	Xh -> Mw -> Yh	0.034	.024	0.003	0.079
Actor-Partner: W	Xh -> Mh -> Yw	0.038	.086	-0.005	0.092
Actor-Partner: H	Xw -> Mw -> Yh	0.060	.004	0.017	0.115
Partner-Actor: W	Xh -> Mw -> Yw	0.094	.023	0.013	0.186
Partner-Actor: H	Xw -> Mh -> Yh	0.072	.003	0.023	0.134

172 [a]Bootstrapped CI using MCM (The above table was produced by an Excel

173 spreadsheet: IndirectEffects.xls.)

174 **Summary Direct and Total Effects**

Name	Direct Effects	Direct	p	Total[a]	% Mediated
Actor: Wife	Xw -> Yw	0.185	.007	0.378	50.9
Actor: Husband	Xh -> Yh	0.291	<.001	0.424	31.5
Partner: Wife	Xh -> Yw	0.190	.010	0.321	40.9
Partner: Husband	Xw -> Yh	0.129	.028	0.262	50.8

175 [a]Computed as `ab + c'` and `c` with results agreeing.

176 Note that `% Mediated` equals `ab/c` or equivalently `1 - c'/c`. This value can be

177 larger than one or negative. First, make sure that `c` is substantial. If it is, then if `%`

178 `Mediated` is greater than 100 or negative, you have "inconsistent mediation": the direct

179 and indirect effects are of opposite signs.