ERROR REVIEW

A Meta-Analysis of Work-Family Conflict and Social Support

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Overview and Set up

Overview

This is an error review of the article entitled *A Meta-Analysis of Work-Family Conflict and Social Support* by French, Dumani, Allen, and Shockley published in Psychological Bulletin. In this review I will try to reproduce the meta-analytic results from the raw data provided to me by Dr. Kimberly French as well as reproduce the effect size coding for a random sample of 10 studies in the meta-analysis. Everything in this document is made to be as transparent and reproducible as possible so I try to show all the code and calculations as well as screenshots of tables from the primary studies where I got the data from. A quick summary of all the results can be found in the table below:

Study or Topic	Error Review Result
Studies	
Crimaldi (2007)	**Reproducible, but reliability estimates for composite variables are innappropriate**

Study or Topic	Error Review Result
Hsu (2011)	**Reproducible, but reliability estimates for composite variables are innappropriate**
Crain et al. (2014)	**Reproducible and accurate, but sample size is incorrect**
Liberman (2013)	**Reproducible and accurate**
Brown (2013)	**Reproducible, but innaccurate. Correlations not coded properly.**
Lawrence et al (2013)	**Reprodudicible and accurate**
Ryan (2008)	**Reprodudicible, but reliability estimates for composite variables are innappropriate.**
Allard, Haas, and Hwang (2011)	**Reprodudicible, but reliability estimates for composite variables are innappropriate.**
Beutell (2010)	**Reprodudicible, but reliability estimates for composite variables are innappropriate.**
Shafiro (2004)	**Reprodudicible, but reliability estimates for composite variables are innappropriate. Also I am a bit unclear on what to code.**
Overall Results	
Composite Effect size estimation	**Reproducible and accurate**
Composite Reliability estimation	**Reproducible, but innapropriate method**
WIF Meta-Analytic Results	**Fully reproducible**
FIW Meta-Analytic Results	**Fully reproducible**

Literature

The literature database in the supplementary materials (`NIHMS896695-supplement-2.xlsx`) of French et al.s' article is very well-documented and It was easy to reproduce the overall search statistics: 2390 articles identified, 177 studies eligible, 1021 effect sizes.

Load in R libraries

```
library(readxl)
library(tidyverse)
library(metafor)
library(tinytable)
library(psychmeta)
```

Study randomization (10 studies)

Reproducing effect size extraction from a Random sample of 10 studies from the 177 studies in the meta-analysis. Randomization of studies began with the seed 1.

```
data_sheet <-
  read_xlsx(
    "/Users/mattjane/Desktop/Main Vault/Error Detection/French et al., 2018/database.xlsx",
    sheet = "Support Meta Eligibility")
```

```r
dat <- data_sheet %>%
  select(Author, Year, StudyNum, Eligibility, Title,
         `Correct Direction Number`,
         `WF N`,`HS WF r`, `WF RXX`, `WF RYY`, # domain
         `Sup Domain From Number Correct...152`,
         `BehPer N`,`HS BehPer r`, `BehPer RXX`, `BehPer RYY`, # form
         `Support Behavior vs. Global Perception CORRECT`,
         `Source N`,`HS Source r`, `Source RXX`, `Source RYY`, # source
         `Specific Source (with General vs. Supervisor/Coworker) Correct Number`,
         `Type N`,`HS Type r`, `Type RXX`, `Type RYY`, # type
         `Inst or Emot Number Correct`) %>%
  rename(author = Author, year = Year, study_num = StudyNum,
         wif_fiw = `Correct Direction Number`,
         eligibility = Eligibility, study = Title,
         domain_n = `WF N`,domain_r = `HS WF r`,
         domain_rxx = `WF RXX`,domain_ryy = `WF RYY`, # domain
         domain = `Sup Domain From Number Correct...152`,
         form_n = `BehPer N`, form_r = `HS BehPer r`,
         form_rxx = `BehPer RXX`, form_ryy = `BehPer RYY`, # form
         form = `Support Behavior vs. Global Perception CORRECT`,
         source_n = `Source N`,source_r = `HS Source r`,
         source_rxx = `Source RXX`, source_ryy = `Source RYY`, # source
         source = `Specific Source (with General vs. Supervisor/Coworker) Correct Number`,
         type_n = `Type N`,type_r = `HS Type r`,
         type_rxx = `Type RXX`, type_ryy = `Type RYY`, # type
         type = `Inst or Emot Number Correct`) %>%
  drop_na(study) %>%
  filter(eligibility == 0)

dat$wif_fiw <- recode(dat$wif_fiw, `1` = "WIF", `2` = "FIW")
```

Table 2: Random sample of studies to reproduce

study	author	year
Organizational policies, organizational social support, and work-family conflict: The mediating role of motivation orientation	Crimaldi	2007a
Work-family conflict and job satisfaction in stressful working environments: The moderating roles of perceived supervisor support and internal locus of control	Ru Hsu	2011
Work-family conflict, family-supportive supervisor behaviors (FSSB), and sleep outcomes	Crain, Hammer, Bodner, Kossek, Moen, et al.	2014
The mediating role of family-work conflict on the relationship between family and work domain variables and employment trade-offs	Liberman	2013
THE WORK-ELDERCARE INTERFACE: WORKPLACE CHARACTERISTICS, WORK-FAMILY CONFLICT, AND WELL-BEING AMONG CAREGIVERS OF OLDER ADULTS	Brown	2013
The Influence of Workplace Injuries on Work-Faily Conflict: Job and Financial Insecurity as Mechanisms	Lawrence et al.,	2013

study	author	year
COACHING AND FAMILY: THE BENEFICIAL EFFECTS OF MULTIPLE ROLE MEMBERSHIP	Ryan	2008
Family-Supportive Organizational Culture and Fathers' Experiences of Work–family Conflict in Sweden	Allard, Haas, & Hwang	2011
HEALTH, SUPERVISORY SUPPORT, AND WORKPLACE CULTURE IN RELATION TO WORK-FAMILY CONFLICT AND SYNERGY	Beutell	2010
The effects of allocentrism, iodiocentrism, social support, and big five personaity dimensions on work-family conflict	Shafiro	2004

Composite correlation formula

As discussed by French et al., when multiple measures of the same construct are reported (e.g., as sub-facets or time-points), scores across those measurements are effectively aggregated (i.e., sum-score of z-scores). Since raw data typically isn't available we can not aggregate scores, but instead when the correlation matrix is available we can compute the correlation between those aggregate (composite) scores. We can calculate the composite correlation via the following formula from Hunter and Schmidt (2015),

$$\rho_{XY} = \frac{\mathbf{1}_x^\top \Sigma_{xy} \mathbf{1}_y}{\sqrt{\mathbf{1}_x^\top \Sigma_{xx} \mathbf{1}_x} \sqrt{\mathbf{1}_Y^\top \Sigma_{yy} \mathbf{1}_y}}$$

Where $\mathbf{1}_X$ and $\mathbf{1}_Y$ are vector of 1s with the length of the vector corresponding to the number of X and Y variables, respectively. The correlation matrix Σ between all measures is split up into three parts: 1) the inter-correlations between measures of X and Y, Σ_{xy} 2) the intra-correlations between measures of X, Σ_{xx} 3) the intra-correlations between measures of Σ_{yy}. I will compute this in R by using the `compute_r_matrix()` function in the `psychmeta` package.

Reliability of composite scores is computed by Mosier's reliability formula also described in Hunter and Schmidt (2015):

$$\rho_{XX'} = \frac{\mathbf{1}_x^\top \left(\Sigma_{xx} - \mathbf{I} + \mathbf{R}_x\right) \mathbf{1}_x}{\mathbf{1}_x^\top \mathbf{R}_x \mathbf{1}_x} \tag{1}$$

Where $\mathbf{I}$ is a square identity matrix with 1's on the diagonal and 0's on the off-diagonal the same size of the intra-correlation matrix Σ_{xx}. The vector $\mathbf{R}_X$ is a vector of reliability coefficients for each measure. However, I found a pretty major flaw with the calculation of composite reliabilities in French et al.'s meta-analysis.

Flaw in composite reliability calculations French et al.'s methods section discussed very briefly how they computed reliability coefficients:

> Reliability composites were also computed in accordance with Schmidt and Hunter (2015) formulas

However, there are two formulas that Schmidt and Hunter discuss. The first formula is Spearman-Brown's prophecy formula,

$$\rho_{XX'} = \frac{k\bar{\rho}_{xx}}{1 + (k-1)\bar{\rho}_{xx}} \tag{2}$$

Where k is the number of items and $\bar{\rho}_{xx}$ is the average inter-measure correlation. The issue with this formula is that it assumes that any variance that is independent between the measures is random. This is discussed in Schmidt and Hunter (2015, page 446):

> Use of Spearman-Brown or alpha reliabilities assumes that the specific factors measured by each component measure in the composite are unrelated to the construct measured by the other variable and can be treated as random error.

In the case of the current meta-analysis many of the composites are constructed using measures that clearly have specific factors (i.e., composite of supervisor support + spouse support). The major issue here is that when a composite is made up of two reliable measures that share a common factor *and* specific factors you can get somewhat paradoxical results. You would expect that a composite of multiple measures would be more reliable than either measure by itself, however when measures reflect specific and common factors this is not the case in Spearman-Brown's composite reliability estimate. Imagine we had a supervisor support and a coworker support measure that correlated at .40 and each support measure had a reliability of .90. The Spearman-Brown formula would give us a reliability of $\rho_{XX'} = \frac{2\times.50}{1+(2-1)\times.50} = .57$ which is substantially less reliable than both measures. It is clear from Equation 2 that the Spearman-Brown method does not incorporate the reliabilities of each measure in the calculation of the composite reliability and therefore does not capture the measure-specific true variance. This may be reasonable for unidimensional scales (i.e., the measures are items comprising a single coworker support scale), but definitely not reasonable across scales that, for instance, measure different support sources.

The second formula is Mosier's (1943) formula which I have written in Equation 1. This formula appropriately takes into account the measure-specific true variances (i.e., the reliabilities of each measure) and so the composite will be more reliable than the individual measures. Using the same example described earlier, where we had a supervisor and coworker support measure that correlated at .40 and both had a reliability of .90. If we use Equation 1, then the reliability of the composite of supervisor + coworker support is .93 which aligns better with our expectations.

Now the problem now comes with the reliability correction. Since Spearman-Brown's formula will greatly under-estimate the reliability for many of these studies the corrected correlation will be *over*-corrected. I would suggest re-running the meta-analysis with Mosier's (1943) reliability formula (Equation 1) for all composite reliabilities that were calculated.

Reproducing Studies

Reproducing by four meta-analytic relationships

French et al.'s meta-analysis was broken up into four sub-meta-analyses that investigates different relationships between variables. These are coded separately by French and colleagues so that the aggregation of correlations across measures only aggregates across the measures that are not of interest. For example, if the domain of support is the moderator of interest (i.e., work or family) than correlations will be aggregated across measures of support sources (i.e., organizational, supervisor, coworker, spouse, mixed). The fours types of relationships/moderators are:

1. Support Domain: Work (1) or Family (2)
2. Support Form: Support Behavior, Support Perception, and Mixed Behavior/Perception
3. Support Source: Organizational, Supervisor, Coworker, Spouse, and Mixed supervisor/coworker

4. Support Type: Instrumental, Emotional, and Mixed Instrumental and Emotional

All meta-analyses are conducted separately for Work-to-Family conflict (WIF; coded as 1) and Family-to-Work conflict (FIW; coded as 2).

Crimaldi (2007)

Correlation matrix extraction Crimaldi (2007) is a masters thesis. Here is an image of the relevant correlation matrix found in Crimaldi (2007):

Table 3. Gender Bivariate Correlations (Male/ Female)

	Supervisor Support	Coworker Support	Programs Offered	Programs Used	Autonomy	Competence	Intrinsic Motivation	Extrinsic Motivation	Work-Family Conflict	Family-Work Conflict
Supervisor Support	X	X	X	X	X	X	X	X	X	X
Coworker Support	.37*/.38*	X	X	X	X	X	X	X	X	X
Programs Offered	.22*/.19*	.04/.10	X	X	X	X	X	X	X	X
Programs Used	.18/.07	.15/-.05	.28*/.30*	X	X	X	X	X	X	X
Autonomy	.45*/.42*	.15/.21*	.14/.21*	.15/.07	X	X	X	X	X	X
Competence	.02/.19*	.01/.17*	-.01/.12	-.02/.04	.18/.20*	X	X	X	X	X
Intrinsic Motivation	.26*/.13	.15/.05	.04/.03	.17/-.10	.37*/.30*	.41*/.23*	X	X	X	X
Extrinsic Motivation	-.04/-.13	-.12/-.08	-.04/-.03	-.02/-.14	-.03/-.09	.04/.10	-.09/.10	X	X	X
Work-Family Conflict	-.31*/-.40*	-.17/-.30*	.08/-.12	.02/-.14	-.09/-.15	-.13/-.09	-.19*/-.02	.21*/.15	X	X
Family-Work Conflict	.14/-.35*	.01/-.11	.23*/-.13	.13/-.04	-.01/-.06	-.36*/-.12	.02/.09	.13/.08	.32*/.47*	X

p < 0.05

Figure 1: Correlation matrix found in Crimaldi 2007

Notice there are a two samples in this correlation matrix male correlations on the left side of the "/" and female correlations on the right side. We will construct a two correlation matrices in R that contains the relevant correlations for males and females separately:

```
# correlations in male sample
corr_mat_male <- reshape_vec2mat(cov = c(.37, -.31,  .14,
                                              -.17, .01,
                                                    .32),
                                 var_names = c("Supervisor Support",
                                              "Coworker Support",
                                              "Work-Family Conflict",
                                              "Family-Work Conflict"))

# correlations in female sample
corr_mat_female <- reshape_vec2mat(cov = c(.38, -.40,  -.35,
                                                -.30,  .11,
                                                       .47),
                                   var_names = c("Supervisor Support",
                                                "Coworker Support",
                                                "Work-Family Conflict",
                                                "Family-Work Conflict"))
```

```
corr_mat_male
```

```
                     Supervisor Support Coworker Support Work-Family Conflict
Supervisor Support                 1.00             0.37                -0.31
Coworker Support                   0.37             1.00                -0.17
Work-Family Conflict              -0.31            -0.17                 1.00
Family-Work Conflict               0.14             0.01                 0.32
                     Family-Work Conflict
Supervisor Support                   0.14
Coworker Support                     0.01
Work-Family Conflict                 0.32
Family-Work Conflict                 1.00
```

```
corr_mat_female
```

```
                     Supervisor Support Coworker Support Work-Family Conflict
Supervisor Support                 1.00             0.38                -0.40
Coworker Support                   0.38             1.00                -0.30
Work-Family Conflict              -0.40            -0.30                 1.00
Family-Work Conflict              -0.35             0.11                 0.47
                     Family-Work Conflict
Supervisor Support                  -0.35
Coworker Support                     0.11
Work-Family Conflict                 0.47
Family-Work Conflict                 1.00
```

Reproducing Reliabilities Reliability coefficents were reported based on the full sample and not disaggregated by male and female. Therefore, I will treat the male and female reliabilities both equal to the full sample reliability. The reliability coefficients each measure reported by Crimaldi (2007) are located in Table 2 their paper:

Table 2. Reliability Coefficients for Each Scale

Scale	Reliability Coefficient
Programs Offered	n/a
Programs Used	n/a
Manager/Supervisor Support	0.77
Coworker Support	0.86
Autonomy	0.83
Competence	0.82
Intrinsic Motivation	0.80
Extrinsic Motivation	0.71
Work-Family Conflict	0.92
Family-Work Conflict	0.87

To calculate the composite reliabilities, we can use the correlation matrix and the reliabilities. The only composite reliability is for Supervisor support + Coworker support.

Work-family and family-work conflict are kept separate for French et al.'s meta-analysis. Thus, we can calculate the reliability of the support composite with Equation 1:

```
# construct vector of reliabilities
reliability <- c(`Supervisor Support` = .77,
                 `Coworker Support` = .86,
                 `Work-Family Conflict` = .92,
                 `Family-Work Conflict` = .87)

# display reliability vector
reliability
```

```
  Supervisor Support     Coworker Support Work-Family Conflict
                0.77                 0.86                 0.92
Family-Work Conflict
                0.87
```

```
# calculate reliability of composite
composite_rel_matrix(rel_vec = reliability,
                     r_mat = corr_mat_female,
                     sd_vec = c(1,1,1,1),
                     wt_vec = c(1,1,0,0))
```

```
[1] 0.865942
```

Although I was able to extract the same reliabilities as French et al. for every measure, but we run into the problem of innapropriately using the Spearman-Brown estimator of the reliability of the composite. French et al., found a reliability of .5401 for the male sample and .5507 for the female sample. I was able to reproduce this by using Spearman-Brown's prophecy formula (for two measures, the formula reduces to $\rho_{YY'} = 2r_{y_1y_2}/(1 + r_{y_1y_2})$).

```
# Spearman-Brown for male sample
r_male <- corr_mat_male["Supervisor Support", "Coworker Support"]
rXX_male <- 2 * r_male / (1 + r_male)
rXX_male
```

```
[1] 0.540146
```

```
# Spearman-Brown for female sample
r_female <- corr_mat_female["Supervisor Support", "Coworker Support"]
rXX_female <- 2 * r_female / (1 + r_female)
rXX_female
```

```
[1] 0.5507246
```

As discussed previously, this is not an appropriate approach to calculating the composite reliability in this case, see Equation 1.

Reproducing Support Domain Here is the subset of the dataset for Crimaldi (2007) as coded by French and colleagues for the support **domain**:

Table 3: Support Domain Relationships

wif_fiw	domain	n	r	rxx	ryy
WIF	1	108	-0.28997860	0.92	0.54014598540145986
FIW	1	108	0.09061831	0.87	0.54014598540145986
WIF	1	126	-0.42135049	0.92	0.55072463768115942
FIW	1	126	-0.27688746	0.87	0.55072463768115942

The correlations will be aggregated supervisor and coworker correlations since both are "Work" domains.

```
# WIF male
composite_r_matrix(r_mat = corr_mat_male,
                   x_col = "Work-Family Conflict",
                   y_col = c("Supervisor Support",
                             "Coworker Support"))
```

```
[1] -0.2899786
```

```
# FIW male
composite_r_matrix(r_mat = corr_mat_male,
                   x_col = "Family-Work Conflict",
                   y_col = c("Supervisor Support",
                             "Coworker Support"))
```

```
[1] 0.09061831
```

```
# WIF female
composite_r_matrix(r_mat = corr_mat_female,
                   x_col = "Work-Family Conflict",
                   y_col = c("Supervisor Support",
                             "Coworker Support"))
```

```
[1] -0.4213505
```

```
# FIW female
composite_r_matrix(r_mat = corr_mat_female,
                   x_col = "Family-Work Conflict",
                   y_col = c("Supervisor Support",
                             "Coworker Support"))
```

```
[1] -0.144463
```

All correlations match French et al.'s Database.

Reproducing Support Source Here is the subset of the dataset for Crimaldi (2007) as coded by French and colleagues for the support **source**:

Table 4: Support Source Relationships

wif_fiw	source	n	r	rxx	ryy
WIF	2	108	-0.31	0.92	0.77
WIF	3	108	-0.17	0.92	0.86
FIW	2	108	0.14	0.87	0.77
FIW	3	108	0.01	0.87	0.86
WIF	2	126	-0.40	0.92	0.77
WIF	3	126	-0.30	0.92	0.86
FIW	2	126	-0.35	0.87	0.77
FIW	3	126	-0.11	0.87	0.86

All correlations match the correlation matrix extracted from the paper.

Reproducing Support Form Here is the subset of the dataset for Crimaldi (2007) as coded by French and colleagues for the support **form**:

Table 5: Support Form Relationships

wif_fiw	form	n	r	rxx	ryy
WIF	1	108	-0.31	0.92	0.77
WIF	2	108	-0.17	0.92	0.86
FIW	1	108	0.14	0.87	0.77
FIW	2	108	0.01	0.87	0.86
WIF	1	126	-0.40	0.92	0.77
WIF	2	126	-0.30	0.92	0.86
FIW	1	126	-0.35	0.87	0.77
FIW	2	126	-0.11	0.87	0.86

All correlations match the correlation matrix extracted from the paper.

Reproducing Support Type Here is the subset of the dataset for Crimaldi (2007) as coded by French and colleagues for the support **type**:

Table 6: Support Type Relationships

wif_fiw	type	n	r	rxx	ryy
WIF	3	108	-0.28997860	0.92	0.54014598540145986
FIW	3	108	0.09061831	0.87	0.54014598540145986
WIF	3	126	-0.42135049	0.92	0.55072463768115942
FIW	3	126	-0.27688746	0.87	0.55072463768115942

All composite correlations are the same as the support domain and therefore I will not recalculate them again.

Hsu (2011)

Here is an image of the relevant correlation matrix and reliability coefficients found in Hsu (2007):

Variables	Mean	SD	1	2	3	4	5	6	7	8	9
1. Gender	0.81	0.39	1.0								
2. Marital status	0.64	0.48	0.37**	1.0							
3. Age	2.28	0.74	0.15**	0.46**	1.0						
4. Work shift	0.58	0.49	0.16**	−0.03	−0.15**	1.0					
5. Perceived supervisor support	3.40	0.69	−0.13**	−0.13**	0.01	−0.14**	(0.91)				
6. Internal *locus* of control	3.48	0.45	−0.11**	0.06	0.09	−0.05	0.40**	(0.87)			
7. Self-efficacy	3.78	0.36	−0.05	0.06	0.06	−0.06	0.21**	0.44**	(0.88)		
8. Work-family conflict	3.50	0.80	−0.05	−0.10*	−0.10*	−0.01	−0.09*	−0.17**	−0.13**	(0.84)	
9. Job satisfaction	3.23	0.63	−0.11*	−0.09	0.05	−0.08	0.59**	0.38**	0.18**	−0.10*	(0.89)

Notes: $n = 518$; $^{*}p < 0.05$; $^{**}p < 0.01$, all two-tailed tests; reliability estimates appear in parentheses along the diagonal

Figure 2: Correlation matrix found in Hsu (2007). Yellow highlights denote relevant correlations and reliabilities (reliabilities in parentheses).

There is only one correlation of interest and therefore we will check to ensure that the correlation and the associated reliabilities in the French et al. data set match. Here is the French et al. data set:

Table 7: French et al. coded values for Hsu (2011)

wif_fiw	n	r	rxx	ryy
WIF	518	-0.09	0.84	0.91

The correlation and reliabilities in the data set match Hsu (2011).

Crain, Hammer, Bodner, Kossek, Moen, et al. (2014)

Here is an image of the relevant correlation matrix and reliability coefficients found in Crain et al. (2014):

Correlations Between Study Variables

Variable	*M*	*SD*	1	2	3	4	5	6	7	8	9	10	11
1. Race	.52	.50	–										
2. Gender	.31	.46	.20	–									
3. Number of Children	.99	1.08	−.10	−.07	–								
4. Work Schedule	.62	.49	.32	.27	.08	–							
5. WTFC	3.06	.94	.06	.08	.05	−.17	.92						
6. FTWC	2.12	.63	.00	−.03	.15	−.03	.37	.83					
7. FSSB	3.76	1.23	−.01	−.06	−.01	.01	−.38	−.15	.88				
8. Sleep Insufficiency	2.81	.90	.01	.06	.10	−.04	.28	.15	−.12	–			
9. Insomnia	2.70	.77	.10	.12	−.05	−.05	.18	.04	−.06	.28	–		
10. Act. WASO	44.12	16.83	−.20	−.01	−.09	−.01	−.03	−.07	.01	.00	.12	–	
11. Sleep Duration	7.28	.95	.05	.07	−.11	.12	−.15	−.09	.06	−.18	.10	.13	–
12. Act. Total Sleep Time	433.70	55.60	.19	.22	−.09	.08	−.07	−.05	−.03	−.07	.12	.10	.41

Note. WTFC = Work-to-Family Conflict; FTWC = Family-to-Work Conflict; FSSB = Family-Supportive Supervisor Behavior; Act. W
Actigraphic Total Sleep Time. Race (1 = White, 0 = Other); Gender (0 = Male, 1 = Female); Work Schedule (0 = Other, 1 = Daytime);
Insufficiency (scale: 1-5); Insomnia (scale: 1-4).

Figure 3: Correlation matrix found in Crain et al. (2014). Yellow highlights denote relevant correlations and reliabilities (reliabilities on diagonal).

There is only one correlation of interest and therefore we will check to ensure that the correlation and the associated reliabilities in the French et al. data set match. Here is the French et al. data set:

Table 8: Support Domain Relationships

wif_fiw	n	r	rxx	ryy
WIF	823	-0.38	0.92	0.88
FIW	823	-0.15	0.83	0.88

Sample size is off by exactly 200 participants. The sample size reported by Crain et al. is n = 623.

Liberman (2013)

Here is an image of the relevant correlation matrix and reliability coefficients found in Liberman (2013):

Table 5 (continued)

Means, Standard Deviations, and Intercorrelations of Study Variables

Variable	11	12	13	14	15	16	17	18	19	20
11. Executive-Legislative Branch	---									
12. Executive-Judicial Branch	**.83**	---								
13. Region	**.05**	**.03**	---							
14. Family-Work Conflict	.02	.02	-.01	---						
15. Type of Dependent Care [e]	-.01	-.01	-.01	-.02	---					
16. Number of Dependents	-.01	-.01	**-.04**	**.04**	**.47**	---				
17. Type of Care Responsibilities [f]	-.00	-.01	-.02	**.16**	**.10**	**.10**	---			
18. Supervisory Support	.02	.02	-.02	**-.08**	**-.05**	-.02	.01	---		
19. Job Schedule Flexibility	.02	.01	**.05**	**-.21**	.02	**-.05**	**-.04**	**.61**	---	
20. Childcare Arrangement Satisfaction	.00	.01	.01	**-.12**	.01	.01	**-.05**	**.06**	**.12**	---
21. Childcare Quality	.01	.01	**-.05**	**-.32**	**.05**	-.00	**-.13**	**.19**	**.28**	**.31**
22. Childcare Costs	.02	.00	-.01	**.14**	**-.09**	.02	.00	**.08**	-.01	-.02
23. Employment Trade-Offs	-.02	-.02	**-.03**	**.35**	**.03**	**.06**	**.10**	**-.03**	**-.14**	**-.07**
24. Workplace Withdrawal Behaviors	**.03**	.02	**.07**	**.56**	**-.04**	**.05**	**.20**	**.04**	**-.10**	**-.11**
25. Family-Friendly Benefit Utilization	**.03**	.02	.01	**.36**	**-.06**	.02	**.11**	**.18**	**.12**	**-.05**
26. Department Turnover Intentions	-.02	-.02	-.01	**.24**	**.04**	**.05**	**.05**	**-.19**	**-.23**	**-.08**
27. Agency Turnover Intentions	-.01	-.01	.01	**.28**	-.00	.00	**.04**	**-.25**	**-.27**	**-.09**
28. Public Sector Turnover Intentions	-.01	-.01	-.01	**.25**	.01	**.04**	.01	**-.21**	**-.26**	**-.09**

Note. All items in boldface are significant (p < .05); [a] 0= Male, 1 = Female; [b] 0 = Single, 1 = Married/living with a partner; [c] 0 = Full-time, 1 = Part-time; [d] 0 = Combination of Northeast, Midwest, and West regions, 1 = South; [e] 0 = Employees with only one type of dependent care demand (either child or adult dependent), 1 = Both child and adult dependent care demands; [f] 0 = Typical Care Responsibilities, 1 = Exceptional Care Responsibilities.

Figure 4: Correlation matrix found in Liberman (2013). Yellow highlights denote relevant correlations.

There is only one correlation of interest and therefore we will check to ensure that the correlation and the associated reliabilities in the French et al. data set match. Here is the French et al. data set:

Table 9: Support Domain Relationships

wif_fiw	n	r	rxx	ryy
FIW	8646	-0.08	Single Item	Single Item

The correlation and sample sizes match what I found in Liberman (2013). Also I can confirm that both support and conflict measures are single-item scales.

Brown (2013)

Here is an image of the relevant correlation matrix and reliability coefficients found in Brown (2013):

Table 1

Mean, standard deviations, and correlations of variables (N=439)[1]

Variable	M(SD)	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Work-Family conflict	2.66(.87)														
2. Female	.60	.01													
3. Age	47.53 (10.10)	-.09	.05												
4. White	.85	-.06	-.07	.12*											
5. Child<18	.35	.03	-.01	-.31***	-.04										
6. Excellent/good health	.80	-.22***	-.12*	.07	.18**	.04									
7. Married	.65	-.11*	-.13**	.14**	.10*	.18**	.13**								
8. Weekly care	.40	.07	.06	.07	-.05	-.02	-.10*	-.09							
9. Supervisor support	3.29(.75)	-.37***	-.02	.07	.07	-.01	.13**	.07	-.05						
10. Work hours	41.97 (13.12)	.28***	-.26***	.03	-.04	.03	.01	-.04	.01	-.08					
11. Work overload	3.45(1.07)	.42***	.06	-.05	.06	-.02	-.02	-.04	.07	-.21***	.23***				
12. Have flex (SA)	.48	-.38***	-.04	.004	.02	.07	.07	.001	-.01	.32***	-.11*	-.23***			
13. Have flex (SLA)	.30	-.07	-.02	.02	.08	-.04	.04	.13**	-.04	.01	.01	.03	-.62***		
14. Supp. env. (SA)	.29	-.23***	.11*	-.01	.06	.02	.01	.02	.04	.14**	-.06	-.16**	.23***	-.14**	
15. Supp. env. (SLA)	.30	-.06	-.06	.03	.05	-.03	.12*	.10*	-.10*	.06	-.01	.01	-.04	.12**	-.42***

[1]Untransformed values for all study variables are reported

Note: SA(strongly agree); SLA(slightly agree)

*p<.05; **p<.01; ***p<.001

Figure 5: Correlation matrix found in Liberman (2013). Yellow highlights denote relevant correlations.

Incorrectly calculated correlation This study is especially odd because two of the variables here were dichotomized by creating dummy variables for different levels of a 4-point Likert item related to "Perceptions of a family supportive work environment". In page 36 of Brown (2013) they state:

> Responses were dummy-coded using the following categories: strongly agree, slightly agree, and slightly/strongly disagree (reference group). Again, 'slightly disagreed' and 'strongly disagreed' categories were combined due to limited power to detect a significant effect at p<.05.

So it appears that for variable 14 in the correlation matrix (Supp. env. SA) which means that the Likert item was dummy-coded as follows:

1. Strongly Disagree (0)
2. Slightly Disagree (0)
3. Slightly Agree (0)
4. Strongly Agree (1)

whereas variable 15 (Supp. env. SLA) was dummy-coded as,

1. Strongly Disagree (0)
2. Slightly Disagree (0)
3. Slightly Agree (1)
4. Strongly Agree (0)

The problem with variable 15 is that the coding is non-monotonic since strongly disagree is coded as zero just like disagree is. Therefore, it does not make sense to look at the correlation of this variable with anything else if we want to know the linear relationship between them. Instead we should only use variable 14 since it is at least dichotomized monotonically. On top of this, we should not take the correlation with a dichotomized variable (i.e., variable 14) at face value, instead we should correct for artificial dichotomization as Schmidt and Hunter suggest. To correct for dichotomization we just need to know the proportion of people who responded with Strongly Agree, in Brown (2013) they report the proportion as .29 (i.e., the mean of the dummy-coded variable). In R, we can correct the correlation between the dichotomized support measure and WIF with the `correct_r_dich()` function in the `psychmeta` package,

```
px <- .29
r <- -.23 # correlation with WIF

correct_r_dich(r = -.23,
               px = .29)
```

```
[1] -0.3048905
```

It seems that French et al created a composite correlation consisting of both variable 14 and 15 which will produce incorrect results. Instead I recommend just using the dichotomization corrected correlation of -.3049 between WIF and support. I am able to at least reproduce the results by French et al if I reverse the correlation between the two support measures (Note: the reversal of the correlation between the two measures seems to also be an error).

Table 10: French et al.'s coded values

wif_fiw	source	n	r	rxx	ryy
WIF	1.1	439	-0.1720833	0.86	0.59154929577464788

```
# correlation matrix
corr_mat <- reshape_vec2mat(cov = c(-.37, -.23,  -.06,
                                         .14, .06,
                                              .42), # reversed this correlation
                            var_names = c("Work-Family Conflict",
                                          "Supervisor Support",
                                          "Supp. env. SA",
                                          "Supp. env. SLA"))

# calculate composite correlation
composite_r_matrix(r_mat = corr_mat,
                   x_col = "Work-Family Conflict",
                   y_col = c("Supp. env. SA",
                             "Supp. env. SLA"))
```

```
[1] -0.1720833
```

Again, the correlation of -.172 should be changed to be -.305 for the reasons discussed before.

Missing Measure from database Another issue is that French et al seemed to have missed the "Supervisor Support" (variable 9 in correlation matrix) measure for some reason. I do not see a good reason to exclude it as it seems relevant. For any of the relationship dimensions that require aggregating Supervisor support + Perceptions of a family supportive work environment then here is the appropriate composite correlation with WIF incorporating the new measure and the dichotomization correction.

```
# correlation matrix
corr_mat <- reshape_vec2mat(cov = c(-.37, correct_r_dich(-.23,.29),
                                          correct_r_dich(.14,.29)),
                            var_names = c("Work-Family Conflict",
                                          "Supervisor Support",
                                          "Supp. env. SA"))

# calculate composite correlation
composite_r_matrix(r_mat = corr_mat,
                   x_col = "Work-Family Conflict",
                   y_col = c("Supervisor Support",
                             "Supp. env. SA"))
```

```
[1] -0.4382802
```

the correlation of -.438 between WIF and composite social support is substantially larger than the current -.172 estimate found in French et al's database.

Reliability estimate The last issue in the coded values of French et al.'s database is the reliability of the new composite scales. The "Supp. env. SA" measure is a single item scale so there is no reliability estimate. The Supervisor support scale has a reliability of .88 (see page 34-35 of Brown, 2013). To approximate the reliability of the composite measure which requires the reliability coefficient of both measures, I would first use Spearman-Brown's prophecy formula to compute the reliability of the single item measure from the 5-item Supervisor support measure (essentially assuming that the single item test has the same reliability as the supervisor support measure if it also had 5 items).

```
# construct vector of reliabilities
reliability <- c(`Work-Family Conflict` = .86,
                 `Supervisor Support` = .88,
                 `Supp. env. SA` = .2*.88/(1 + (.2 - 1)*.88) ) # spearman brown prophecy est

# display reliability vector
reliability
```

```
Work-Family Conflict   Supervisor Support        Supp. env. SA
           0.8600000            0.8800000            0.5945946
```

```
# calculate reliability of composite
composite_rel_matrix(rel_vec = reliability,
                     r_mat = corr_mat,
                     sd_vec = c(1,1,1),
                     wt_vec = c(0,1,1))
```

```
[1] 0.7784194
```

Therefore the reliability of the composite of the single-item measure and the

Lawrence (2013)

Here is the relevant correlation matrix extracted from Lawrence et al (2013).

Table 2

Descriptive Statistics and Intercorrelations Among Study Variables

	M	*SD*	1	2	3	4	5	6	7	8	9
1. Time since last injury (days)	69.16	41.08	—								
2. Time missed from injury (days)	5.72	2.63	.02	—							
4. Job insecurity	3.01	0.95	−.03	.25**	(.87)						
5. Financial insecurity	3.87	1.61	−.01	.31**	.65**	(.86)					
6. Supervisor support	3.14	0.84	.05	−.14*	−.30**	−.17*	(.90)				
7. Work–family conflict	3.01	1.02	−.04	.20**	.52**	.48**	−.39**	(.97)			
8. Spouse financial insecurity	3.55	1.29	.03	.25**	.39**	.51**	−.10	.26**	(.90)		
9. Spouse work–family conflict	3.09	0.98	.06	.29**	.37**	.32**	−.25**	.49**	.37**	(.94)	

Note. $N = 194$ ($n = 85$ for spouse variables). Internal consistency estimates (Cronbach's alpha) appear in parentheses along the diagonal.
$^{*}p < .05$. $^{**}p < .01$.

Figure 6: Correlation matrix found in Lawrence et al (2013). Yellow highlights denote relevant correlations and reliabilities (in parentheses on diagonal).

Although the correlation matrix in the study is actually labelled wrong (notice that variable 3 is skipped on the rows and not in the columns), French et al I think extracted the correct correlation and reliability coefficients. The data extracted by French et al is below:

Table 11: French et al.'s coded values

wif_fiw	n	r	rxx	ryy
WIF	194	-0.39	0.97	0.9

Therefore, I was able to reproduce this perfectly fine.

Ryan (2008)

Below is the relevant correlation matrix extracted from Ryan (2008),

Table 1

Descriptive statistics, correlations, and reliability estimates of all variables used in analysis (N= 628)

Variable	1	2	3	4	5	6	7	8
1. Work-family conflict	(.84)							
2. Family-work conflict	.53**	(.79)						
3. Work-family enrichment	-.10*	-.10*	(.72)					
4. Family-work enrichment	-.22**	-.28**	.33**	(.70)				
5. Supervisory support	-.26**	-.15**	.20**	.17**	(.94)			
6. Autonomy	-.16**	-.15**	.17**	.13**	.37**	(.86)		
7. Coach working hours	.14**	-.09*	.05	-.01	-.07	.03		
8. Children at home	-.03	.14**	.03	.02	.12**	.06	.02	
9. Spouse working hours	.03	-.07	.03	.04	-.01	-.04	.10*	-.27**
10. Spousal sport support	-.17**	-.24**	.21**	.52**	.14**	.11*	.11*	.02
11. Child sport attendance	-.10	-.11	.02	.24**	.03	.08	.14*	.06
12. Child sport participation	-.13*	-.18**	.14*	.20**	-.03	.03	.11	.03
13. Spouse career type	-.03	-.06	.03	.13**	.04	.05	.06	-.18**
14. Age	-.03	.02	-.04	.02	.00	.16**	-.12**	.06
15. Sex	.12**	.00	.03	.09*	-.08*	-.05	-.02	-.28**
Mean	3.46	2.41	3.81	4.03	4.04	4.36	4.93	.76
Standard deviation	.87	.79	.71	.75	.98	.73	1.78	1.16

Notes. * $p < .05$. ** $p < .01$. Reliability estimates, when applicable, given in diagonal. For sex, males = 1, females = 2.

Table 1 (continued)

Variable	9	10	11	12	13	14	15
9. Spouse working hours							
10. Spousal sport support	-.01	(.87)					
11. Child sport attendance	.01	.40*	(.71)				
12. Child sport participation	-.02	.36**	.40**	(.75)			
13. Spouse career type	.79**	.03	.02	-.03	(.81)		
14. Age	-.09	-.06	-.07	.05	-.06		
15. Sex	.25**	.15**	.07	.05	.19**	-.28**	
Mean	4.64	4.22	2.89	4.02	3.73	36.85	1.35
Standard deviation	1.64	.85	.90	.80	1.69	10.38	.33

Notes. * $p < .05$. ** $p < .01$. Reliability estimates, when applicable, given in diagonal. For sex, males = 1, females = 2

The data extracted by French et al is below:

Table 12: French et al.’s coded values

wif_fiw	domain	n	r	rxx	ryy
WIF	1	628	-0.26	0.84	0.94
WIF	2	628	-0.17	0.84	0.88
FIW	1	628	-0.15	0.79	0.94
FIW	2	628	-0.24	0.79	0.88

The reliability spousal support (5) is .87 not .88. Otherwise everything else was successfully reproduced.

Allard, Haas, and Hwang (2011)

Below is the relevant correlation matrix extracted from Allard, Haas, and Hwang (2011),

Table 1 (continued)

Variable	9	10	11	12	13	14	15
9. Spouse working hours							
10. Spousal sport support	-.01	(.87)					
11. Child sport attendance	.01	.40*	(.71)				
12. Child sport participation	-.02	.36**	.40**	(.75)			
13. Spouse career type	.79**	.03	.02	-.03	(.81)		
14. Age	-.09	-.06	-.07	.05	-.06		
15. Sex	.25**	.15**	.07	.05	.19**	-.28**	
Mean	4.64	4.22	2.89	4.02	3.73	36.85	1.35
Standard deviation	1.64	.85	.90	.80	1.69	10.38	.33

Notes. * $p < .05$. ** $p < .01$. Reliability estimates, when applicable, given in diagonal. For sex, males = 1, females = 2

Figure 7: Other part of correlation matrix found in Allard, Haas, and Hwang (2011). Yellow highlights denote relevant correlations.

The values coded independently by French et al are as follows:

Table 13: French et al.’s coded values for each support measure

wif_fiw	n	r	rxx	ryy
WIF	377	-0.15	0.81	0.78
WIF	377	-0.08	0.81	0.81
WIF	377	-0.16	0.81	0.52
FIW	377	-0.09	0.76	0.78
FIW	377	-0.04	0.76	0.81
FIW	377	-0.10	0.76	0.52

All these values can be found in the extracted correlation matrix so they look good. Now we can look at the composite values aggregated across support measures are as follows:

Table 14: French et al.'s coded values aggregated across support measures

wif_fiw	n	r	rxx	ryy
WIF	377	-0.1726949	0.81	0.61764705882352944
FIW	377	-0.1018457	0.76	0.61764705882352944

The composite reliability is likely innappropriate as we have discussed.

```
# correlations
corr_mat <- reshape_vec2mat(cov = c(.32, -.15,  -.08, -.16,
                                          -.09, -.04, -.10,
                                                   .45, .24,
                                                        .35),
                            var_names = c("Work-Family Conflict",
                                          "Family-Work Conflict",
                                          "Managers Support",
                                          "Supervisors Support",
                                          "Coworker Support"))


# WIF composite
composite_r_matrix(r_mat = corr_mat,
                   x_col = "Work-Family Conflict",
                   y_col = c("Supervisors Support",
                             "Coworker Support",
                             "Managers Support"))
```

```
[1] -0.1730345
```

```
# FIW composite
composite_r_matrix(r_mat = corr_mat,
                   x_col = "Family-Work Conflict",
                   y_col = c("Supervisors Support",
                             "Coworker Support",
                             "Managers Support"))
```

```
[1] -0.102046
```

The composite correlations were successfully reproduced. Now we can calculate the reliabilities of the composite correlations.

```
# construct reliability vector
reliability <- c(`Work-Family Conflict` = .81,
                  `Family-Work Conflict` = .76,
                  `Managers Support` = .78,
                  `Supervisors Support` = .81,
                  `Coworker Support` = .52)
```

```
# calculate reliability of composite
composite_rel_matrix(rel_vec = reliability,
                     r_mat = corr_mat,
                     sd_vec = c(1,1,1,1,1),
                     wt_vec = c(0,0,1,1,1))
```

```
[1] 0.8248031
```

The reliability is substantially larger than the one calculated by French et al due to their use of Spearman-Brown's formula. As mentioned, the composite reliability using Mosier's formula is much more appropriate for these measures.

Beutell (2010)

In the screenshot below is the relevant correlation matrix extracted from Beutell (2010),

TABLE 1

MEANS, STANDARD DEVIATIONS, PEARSON INTERCORRELATIONS,* AND ALPHA COEFFICIENTS ON DIAGONAL FOR STUDY VARIABLES

	M	*SD*	1	2	3	4	5	6	7
1. Work interfering with family	2.47	.89	.87						
2. Family interfering with work	2.08	.69	.57	.82					
3. Work-family synergy	3.02	.79	−.13	.03	.65				
4. Mental Health Index	.00	1.00	.47	.47	−.17	.78			
5. Self-rated health	3.18	.72	−.16	−.16	.14	−.36			
6. Supervisor support	3.36	.63	−.34	−.11	.22	−.25	.15	.90	
7. Career concerns	3.02	.75	−.32	−.16	.14	−.26	.17	.48	.74

Note.—Self-rated health was measured using a 1-item scale, so a reliability estimate could not be computed. *All correlations significant at $p < .01$ except value of .03.

Figure 8: Other part of correlation matrix found in Beutell (2010). Yellow highlights denote relevant correlations and reliabilities (on diagonal).

The values coded independently by French et al are as follows:

Table 15: French et al.'s coded values for each support measure

wif_fiw	n	r	rxx	ryy
WIF	2796	-0.34	0.87	0.9
WIF	2796	-0.32	0.87	0.74
FIW	2796	-0.11	0.82	0.9
FIW	2796	-0.16	0.82	0.74

All these values can be found in the extracted correlation matrix so they look good. Now we can look at the composite values aggregated across support measures are as follows:

Table 16: French et al.'s coded values aggregated across support measures

wif_fiw	n	r	rxx	ryy
WIF	2796	-0.3836172	0.87	0.64864864864864868
FIW	2796	-0.1569343	0.82	0.64864864864864868

The composite reliability is likely innappropriate as we have discussed.

```
# correlation matrix
corr_mat <- reshape_vec2mat(cov = c(.57, -.34,  -.32,
                                         -.11, -.16,
                                                .48),
                            var_names = c("Work-Family Conflict",
                                          "Family-Work Conflict",
                                          "Supervisors Support",
                                          "Career Concerns"))


# WIF composite
composite_r_matrix(r_mat = corr_mat,
                   x_col = "Work-Family Conflict",
                   y_col = c("Supervisors Support",
                             "Career Concerns"))
```

```
[1] -0.3836172
```

```
# FIW composite
composite_r_matrix(r_mat = corr_mat,
                   x_col = "Family-Work Conflict",
                   y_col = c("Supervisors Support",
                             "Career Concerns"))
```

```
[1] -0.1569343
```

The composite correlations were successfully reproduced. Now we can calculate the reliabilities of the composite correlations.

```
# construct reliability vector
reliability <- c(`Work-Family Conflict` = .87,
                  `Family-Work Conflict` = .82,
                  `Supervisors Support` = .90,
                  `Career Concerns` = .74)

# calculate reliability of composite
composite_rel_matrix(rel_vec = reliability,
                     r_mat = corr_mat,
                     sd_vec = c(1,1,1,1),
                     wt_vec = c(0,0,1,1))
```

```
[1] 0.8783784
```

The reliability is substantially larger than the one calculated by French et al due to their use of Spearman-Brown's formula. As mentioned, the composite reliability using Mosier's formula is much more appropriate for these measures.

Shafiro (2004)

In the screenshot below is the relevant correlation matrix extracted from Shafiro (2004),

Table 2

Means, Standard Deviations, and Intercorrelations Among Variables

	Mean	SD	1	2	3	4	5	6	7	8	9	10	11
1. Time-based WFC	3.27	1.23											
2. Time-based FWC	2.77	1.04	.28**										
3. Strain-based WFC	3.08	1.22	.42**	.32**									
4. Strain-based FWC	2.28	1.02	.21**	.48**	.34**								
5. Behavior-based WFC	2.99	1.28	.14*	.35**	.39**	.46**							
6. Behavior-based FWC	2.85	1.19	.10	.36**	.37**	.42**	.80**						
7. Allocentrism at home	5.40	.45	.08	-.07	-.05	-.08	-.19**	-.23**					
8. Allocentrism at work	4.66	.59	-.13*	-.18**	-.04	-.10	-.25**	-.25**	.47**				
9. Idiocentrism at home	4.41	.94	-.19*	-.08	.03	.02	.03	.01	-.05	.28**			
10. Idiocentrism at work	4.66	.78	-.14*	.06	-.02	.05	.02	.02	.09	.14*	.72**		
11. Social support (partner)	3.57	.88	-.08	-.10	-.14*	-.25**	-.19**	-.22**	.21**	.02	-.23**	-.08	
12. Social support (supervisor)	2.95	.85	-.15*	-.15**	-.20**	-.11	-.14*	-.14*	.09	.15**	.09	.05	.03
13. Extraversion	3.61	.98	-.01	-.12*	-.03	.07	.02	.03	.12*	.18**	-.04	-.01	.02
14. Agreeableness	4.38	.71	-.14*	-.09	-.11	-.11*	-.25**	-.29**	.32**	.50**	.10	.05	.10*
15. Conscientiousness	4.58	.71	-.13*	-.26**	-.10	-.24**	-.29**	-.30**	.14*	.19**	.16**	.11*	.03
16. Neuroticism	3.20	.72	.09	.05	.20**	.20**	.06	.12**	.12*	.01	.02	.16**	-.09
17. Openness to experience	4.20	.64	.09	.12*	.05	-.04	-.08	-.11	.11*	.02	.01	.12*	-.03

Figure 9: Other part of correlation matrix found in Shafiro (2010). Yellow highlights denote relevant correlations.

The values coded independently by French et al are as follows:

Table 17: French et al.'s coded values for each support measure

wif_fiw	n	r	rxx	ryy
WIF	316	-0.1852191	0.58163265306122458	0.94
WIF	316	-0.2213594	0.58163265306122458	0.87
FIW	316	-0.2426081	0.68478260869565222	0.94
FIW	316	-0.1702513	0.68478260869565222	0.87

I am a bit unsure about how this study should be coded considering it has multiple measures of Work-Family conflict and Family-work conflict. I am unsure if I should make them into a composite first or if only one type of conflict should be chosen. My lack of substantive knowledge is making it difficult for me to know which I am supposed to do. I am sure however that the reliability calculation for the composite variables is innappropriate since that is common to all the studies so far.

Instead I will at least check to ensure that the correlations in the supplementary data table (pre-aggregated correlations) at least match up with the correlations in the correlation matrix. The correlations in the data table are

Shafiro	2004	U.S.	WIF	F	P	Sp	MIE	316	-.08	.81	.94	4.25	4.17	4.55	5.9	46366.58
Shafiro	2004	U.S.	WIF	W	P	S	MIE	316	-.15	.81	.87	4.25	4.17	4.55	5.9	46366.58
Shafiro	2004	U.S.	WIF	F	P	Sp	MIE	316	-.14	.84	.94	4.25	4.17	4.55	5.9	46366.58
Shafiro	2004	U.S.	WIF	W	P	S	MIE	316	-.20	.84	.87	4.25	4.17	4.55	5.9	46366.58
Shafiro	2004	U.S.	WIF	F	P	Sp	MIE	316	-.19	.90	.94	4.25	4.17	4.55	5.9	46366.58
Shafiro	2004	U.S.	WIF	W	P	S	MIE	316	-.14	.90	.87	4.25	4.17	4.55	5.9	46366.58
Shafiro	2004	U.S.	FIW	F	P	Sp	MIE	316	-.10	.78	.94	4.25	4.17	4.55	5.9	46366.58
Shafiro	2004	U.S.	FIW	W	P	S	MIE	316	-.15	.78	.87	4.25	4.17	4.55	5.9	46366.58
Shafiro	2004	U.S.	FIW	F	P	Sp	MIE	316	-.25	.89	.94	4.25	4.17	4.55	5.9	46366.58
Shafiro	2004	U.S.	FIW	W	P	S	MIE	316	-.11	.89	.87	4.25	4.17	4.55	5.9	46366.58
Shafiro	2004	U.S.	FIW	F	P	Sp	MIE	316	-.22	.92	.94	4.25	4.17	4.55	5.9	46366.58
Shafiro	2004	U.S.	FIW	W	P	S	MIE	316	-.14	.92	.87	4.25	4.17	4.55	5.9	46366.58

Figure 10: Other part of correlation matrix found in Shafiro (2010). Yellow highlights denote relevant correlations.

The correlations do match up with the correlation matrix from the study.

Reproducing Full Meta-Analysis

We are going to replicate the two meta-analytic tables corresponding to the correlations between support and WIF (Table 3 from French et al.) and FIW (Table 4 from French et al.):

Table 3

Hypothesized Main Effects Results for WIF and Support

						Central Tendency Indicators					Random Effects Variability Indicators			
	N	k_e	k_s	k_c	% k_e U.S.	r	SE	95% CI_r	ρ	95% CI_ρ	80% CrI	SD_{rc}	SD_ρ	Q
Combined Work Support	104171	214	162	45	44.65%	**−.25**	.01	[−.27, −.23]	**−.33**	[−.36, −.30]	[−.58, −.09]	.16	.19	3031*
Organizational Support	36726	90	64	31	51.11%	**−.31**	.02	[−.35, −.27]	**−.38**	[−.44, −.34]	[−.69, −.08]	.20	.24	1847*
Supervisor Support	66703	128	95	36	46.09%	**−.22**	.01	[−.25, −.20]	**−.26**	[−.29, −.23]	[−.45, −.08]	.13	.15	1301*
Coworker Support	33799	55	40	24	34.54%	**−.14**	.01	[−17, −.12]	**−.18**	[−.21, −.15]	[−.31, −.04]	.10	.10	320*
Mixed Supervisor/Coworker Support	16873	33	26	14	33.33%	**−.26**	.03	[−.32, −.19]	**−.32**	[−.40, −.24]	[−.60,−.03]	.19	.22	670*
Instrumental Support	3233	10	10	3	80.00%	**−.14**	.07	[−.29, −.01]	**−.18**	[−.36, .00]	[−.52, .16]	.23	.27	173*
Emotional Support	10163	22	21	10	47.48%	**−.21**	.03	[−.28, −.15]	**−.26**	[−.34, −.18]	[−.49, −.04]	.15	.18	266*
Mixed Instrumental/Emotional Support	86506	182	133	45	43.72%	**−.25**	.01	[−.27, −.23]	**−.32**	[−.35, −.29]	[−.57, −.08]	.16	.25	2552*
Support Behaviors	23609	67	40	31	40.30%	**−.23**	.02	[−.27, −.20]	**−.29**	[−.34, −.24]	[−.51, −.07]	.15	.17	589*
Support Perceptions	55239	139	98	44	47.48%	**−.28**	.01	[−.31, −.25]	**−.35**	[−.39, −.31]	[−.60, −.10]	.17	.20	1858*
Mixed Support Behavior/Perception	31358	43	38	17	41.86%	**−.19**	.02	[−22, −.14]	**−.22**	[−.27, −.17]	[−.45, −.00]	.15	.17	760*
Combined Family Support	38688	74	66	20	52.70%	**−.12**	.01	[−.15, −.09]	**−.15**	[−.18, −.12]	[−.33, .02]	.12	.14	549*
General Family Support	14459	42	40	12	54.76%	**−.12**	.02	[−.17, −.08]	**−.15**	[−.21, −.09]	[−.36, .07]	.15	.17	332*
Spouse Support	26500	36	30	15	50.00%	**−.11**	.02	[−.15, −.07]	**−.14**	[−.19, −.09]	[−.32, .04]	.12	.14	368*
Instrumental Support	8478	22	18	12	40.91%	−.02	.04	[−.09, .05]	−.03	[−.14, .08]	[−.29, .23]	.17	.20	249*
Emotional Support	8375	24	21	10	50.00%	**−.12**	.03	[−.19, −.06]	**−.14**	[−.21, −.07]	[−.38, .09]	.16	.18	222*
Mixed Instrumental/Emotional Support	23136	40	38	15	52.50%	**−.14**	.01	[−.16, −.12]	**−.17**	[−.20, −.14]	[−.24, −.09]	.07	.06	104*
Support Behaviors	20708	22	19	9	59.09%	**−.10**	.02	[−.14, −.05]	**−.11**	[−.16, −.06]	[−.27, .05]	.11	.13	273*
Support Perceptions	8559	22	22	9	59.09%	**−.14**	.04	[−.22, −.06]	**−.18**	[−.29, −.07]	[−.49, .13]	.20	.24	347*
Mixed Support Behavior/Perception	8929	27	23	14	44.44%	**−.15**	.02	[−.18, −.11]	**−.19**	[−.23, −.15]	[−.30, −.07]	.09	.09	79*

Note. Bolded coefficients indicate statistical significance at $p < .05$. N = Total sample size. k_c = Number of countries. k_s = Number of studies. k_e = Number of effect sizes. % k_e U. S. = Percentage of effect sizes from the United States. r = uncorrected meta-analytic correlation. SE = Standard error of r. 95% CI_r = 95% confidence interval of r. ρ = meta-analytic correlation corrected for sampling error and measurement error. 95% CI_ρ = 95% confidence interval of ρ. 80% CrI = 80% credibility interval. SD_{rc} = Standard deviation of r corrected for sampling error. Higher values indicate more random effects variance. SD_ρ = Standard deviation of ρ. Higher values indicate more random effects variance. Q = Q statistic; a significant value indicates significant heterogeneity in the true effect size.

Figure 11: Meta-analytic results for support correlations with WIF.

Table 4

Hypothesized Main Effects Results for FIW and Support

						Central Tendency Indicators				Random Effects Variability Indicators			
	N	k_e	k_s	*kc*	*% k_e U.S.*	*r*	*SE*	*95% CI_r*	*ρ*	*95% CI_ρ*	*80% CrI*	SD_{rc}	SD_ρ	*Q*
Combined Work Support	82218	148	111	39	45.95%	**−.14**	.01	[−16,−12]	**−.19**	[−21,−17]	[−.35, −.03]	.10	.12	930 *
Organizational Support	25233	71	45	31	45.07%	**−.19**	.01	[−22, −.17]	**−.24**	[−27, −.21]	[−.25, −.02]	.11	.11	275 *
Supervisor Support	61771	99	70	34	47.47%	**−.11**	.01	[−.12, −.09]	**−.13**	[−.15, −.11]	[−.29, −.08]	.08	.09	448 *
Coworker Support	23955	28	26	10	50.00%	**−.15**	.01	[−.18, −.12]	**−.19**	[−.23, −.15]	[−.35, −.03]	.08	.08	141 *
Mixed Supervisor/Coworker Support	11789	23	17	11	30.43%	**−.11**	.02	[−.16, −.07]	**−.14**	[−.20, −.08]	[−.30, .02]	.11	.12	144 *
Instrumental Support	2829	8	8	3	75.00%	−.00	.06	[−.13, .12]	−.01	[−.16, .15]	[−.27, .26]	.18	.21	90 *
Emotional Support	7256	14	14	8	42.86%	**−.10**	.04	[−.17, −.02]	**−.12**	[−.21, −.03]	[−.33, .09]	.14	.16	142 *
Mixed Instrumental/Emotional Support	70631	127	92	39	44.88%	**−.14**	.01	[−.15, −.12]	**−.18**	[−.20, −.16]	[−.31, −.05]	.09	.10	618 *
Support Behaviors	18499	55	28	30	38.18%	**−.11**	.02	[−.14, −.08]	**−.14**	[−.18, −.10]	[−.32, .04]	.12	.14	277 *
Support Perceptions	42647	94	66	35	46.81%	**−.14**	.01	[−.16, −.12]	**−.18**	[−.21, −.15]	[−.34, −.02]	.11	.13	544 *
Mixed Support Behavior/Perception	27726	34	30	14	41.18%	**−.14**	.02	[−.17, −.11]	**−.17**	[−.21, −.13]	[−.31, −.04]	.09	.11	249 *
Combined Family Support	33017	60	53	16	55.00%	**−.17**	.01	[−.20, −.14]	**−.22**	[−.26, −.18]	[−.39, −.06]	.11	.13	462 *
General Family Support	12260	37	35	10	54.05%	**−.15**	.03	[−.21, −.10]	**−.19**	[−.26, −.12]	[−.45, .07]	.17	.20	373 *
Spouse Support	21626	26	21	11	53.84%	**−.18**	.01	[−.20, −.15]	**−.23**	[−.26, −.20]	[−29, −.17]	.06	.05	94 *
Instrumental Support	6727	15	12	8	40.00%	**−.13**	.05	[−.22, −.03]	**−.16**	[−.28, −.15]	[−.46, .14]	.19	.23	258 *
Emotional Support	4718	17	14	7	52.94%	**−.15**	.05	[−.25, −.06]	**−.18**	[−.29, −.02]	[−.48, .11]	.20	.23	196 *
Mixed Instrumental/Emotional Support	22094	36	34	13	55.56%	**−.19**	.01	[−.21, −.16]	**−.23**	[−.26, −.21]	[−.34, −.12]	.08	.08	150 *
Support Behaviors	18882	17	14	7	64.71%	**−.17**	.03	[−22, −.11]	**−.21**	[−27, −.19]	[−.37, −.04]	.11	.13	229 *
Support Perceptions	5374	18	18	8	61.11%	**−.10**	.05	[−.19, −.01]	**−.13**	[−.24, −.10]	[−.43, .17]	.19	.23	204 *
Mixed Support Behavior/Perception	7170	22	19	11	45.45%	**−.21**	.03	[−.26, −.17]	**−.27**	[−.33, −.05]	[−.44, −.10]	.12	.13	111 *

Note. Bolded coefficients indicate statistical significance at $p < .05$. N = Total sample size. k_c = Number of countries. k_s = Number of studies. k_e = Number of effect sizes. % k_e U. S. = Percentage of effect sizes from the United States. *r* = uncorrected meta-analytic correlation. SE = Standard error of r. 95% CI_r = 95% confidence interval of r. ρ = meta-analytic correlation corrected for sampling error and measurement error. 95% CI_ρ = 95% confidence interval of ρ. 80% CrI = 80% credibility interval. SD_{rc} = Standard deviation of r corrected for sampling error. Higher values indicate more random effects variance. SD_ρ = Standard deviation of ρ. Higher values indicate more random effects variance. Q = Q statistic; a significant value indicates significant heterogeneity in the true effect size.

Figure 12: Meta-analytic results for support correlations with FIW.

The next four sub-sections will show the code and reproduced results for each row of the tables. Within each sub-section, separate code blocks will contain the meta-analysis code for the WIF and FIW correlations. The code comments immediately before the R output will label which row the output corresponds too.

Combined Work/Family Support

The two rows "Combined Work Support" and "Combined Family Support" of each table will be reproduced here.

1. For WIF

```
dat_wif <- dat %>% filter(wif_fiw == "WIF")

ad_x <- create_ad(ad_type = "tsa",
                  rxxi = as.numeric(dat_wif$domain_rxx))
ad_y <- create_ad(ad_type = "tsa",
                  rxxi = as.numeric(dat_wif$domain_ryy))


mdl_bb <- ma_r(data = dat_wif %>% filter(!is.na(domain_r)),
               rxyi = domain_r,
               n = domain_n,
               moderators = domain)
```

```
**** Running ma_r: Meta-analysis of correlations ****
```

```r
mdl <- ma_r_ad(ma_obj = mdl_bb,
               ad_obj_x = ad_x,
               ad_obj_y = ad_y)


# Combined Work Support Results
as.data.frame(mdl$meta_tables$`analysis_id: 2`$artifact_distribution$true_score) %>%
  select(N,k,mean_r,se_r,mean_rho,CI_LL_95,CI_UL_95,CR_LL_80,CR_UL_80,sd_r_c,sd_rho)
```

```
         N   k     mean_r       se_r  mean_rho  CI_LL_95  CI_UL_95   CR_LL_80
1 104171.2 214 -0.2485911 0.01094614 -0.325281 -0.353514 -0.297048 -0.5736551
     CR_UL_80     sd_r_c    sd_rho
1 -0.07690698 0.2095275 0.1932062
```

```r
# Combined Family Support Results
as.data.frame(mdl$meta_tables$`analysis_id: 3`$artifact_distribution$true_score) %>%
  select(N,k,mean_r,se_r,mean_rho,CI_LL_95,CI_UL_95,CR_LL_80,CR_UL_80,sd_r_c,sd_rho)
```

```
        N  k     mean_r       se_r   mean_rho   CI_LL_95   CI_UL_95   CR_LL_80
1 38688.5 74 -0.1204186 0.01378555 -0.1575675 -0.1935179 -0.1216171 -0.3407773
    CR_UL_80    sd_r_c    sd_rho
1 0.02564231 0.1551719 0.1416655
```

2. For FIW

```r
dat_fiw <- dat %>% filter(wif_fiw == "FIW")

ad_x <- create_ad(ad_type = "tsa",
                  rxxi = as.numeric(dat_wif$domain_rxx))
ad_y <- create_ad(ad_type = "tsa",
                  rxxi = as.numeric(dat_wif$domain_ryy))


mdl_bb <- ma_r(data = dat_fiw %>% filter(!is.na(domain_r)),
               rxyi = domain_r,
               n = domain_n,
               moderators = domain)
```

```
 **** Running ma_r: Meta-analysis of correlations ****
```

```r
mdl <- ma_r_ad(ma_obj = mdl_bb,
               ad_obj_x = ad_x,
               ad_obj_y = ad_y)


# Combined Work Support Results
as.data.frame(mdl$meta_tables$`analysis_id: 2`$artifact_distribution$true_score) %>%
  select(N,k,mean_r,se_r,mean_rho,CI_LL_95,CI_UL_95,CR_LL_80,CR_UL_80,sd_r_c,sd_rho)
```

```
         N   k      mean_r         se_r   mean_rho    CI_LL_95    CI_UL_95
1 82217.75 148 -0.1406062 0.008627026 -0.1839829 -0.2062915 -0.1616743
    CR_LL_80     CR_UL_80     sd_r_c     sd_rho
1 -0.3404702 -0.02749561 0.1373299 0.1215589
```

```
# Combined Family Support Results
as.data.frame(mdl$meta_tables$`analysis_id: 3`$artifact_distribution$true_score) %>%
  select(N,k,mean_r,se_r,mean_rho,CI_LL_95,CI_UL_95,CR_LL_80,CR_UL_80,sd_r_c,sd_rho)
```

```
         N  k      mean_r        se_r  mean_rho    CI_LL_95    CI_UL_95    CR_LL_80
1 33017.25 60 -0.1720239 0.01500005 -0.225093 -0.2643676 -0.1858184 -0.4014284
    CR_UL_80     sd_r_c     sd_rho
1 -0.0487575 0.1520342 0.1360544
```

The statistics match up with French et al.'s tables to at least the hundredth place.

Support Source specific relationships

The rows for Organizational Support, Supervisor Support, Coworker Support, Mixed Supervisor/Coworker Support, General Family Support, and Spouse Support for each table will be reproduced here.

1. For WIF

```
dat_wif <- dat %>% filter(wif_fiw == "WIF")

ad_x <- create_ad(ad_type = "tsa",
                      rxxi = as.numeric(dat_wif$source_rxx))
ad_y <- create_ad(ad_type = "tsa",
                      rxxi = as.numeric(dat_wif$source_ryy))


mdl_bb <- ma_r(data = dat_wif %>% filter(!is.na(source_r)),
               rxyi = source_r,
               n = source_n,
               moderators = "source",
               cat_moderators = TRUE)
```

```
 **** Running ma_r: Meta-analysis of correlations ****
```

```
mdl <- ma_r_ad(ma_obj = mdl_bb,
               ad_obj_x = ad_x,
               ad_obj_y = ad_y)


# Organizational Support
as.data.frame(mdl$meta_tables$`analysis_id: 2`$artifact_distribution$true_score) %>%
  select(N,k,mean_r,se_r,mean_rho,CI_LL_95,CI_UL_95,CR_LL_80,CR_UL_80,sd_r_c,sd_rho)
```

```
        N  k     mean_r       se_r   mean_rho   CI_LL_95   CI_UL_95   CR_LL_80
1 36726.5 90 -0.3119834 0.02139676 -0.3792903 -0.4309773 -0.3276032 -0.6851856
     CR_UL_80    sd_r_c    sd_rho
1 -0.07339496 0.2467798 0.2369195
```

```
# Supervisor Support
as.data.frame(mdl$meta_tables$`analysis_id: 4`$artifact_distribution$true_score) %>%
  select(N,k,mean_r,se_r,mean_rho,CI_LL_95,CI_UL_95,CR_LL_80,CR_UL_80,sd_r_c,sd_rho)
```

```
        N   k     mean_r       se_r   mean_rho   CI_LL_95   CI_UL_95  CR_LL_80
1 66703.5 128 -0.2241685 0.01179892 -0.2725303 -0.3009153 -0.2441453 -0.467207
     CR_UL_80    sd_r_c    sd_rho
1 -0.07785371 0.1622884 0.1511168
```

```
# Coworker Support
as.data.frame(mdl$meta_tables$`analysis_id: 5`$artifact_distribution$true_score) %>%
  select(N,k,mean_r,se_r,mean_rho,CI_LL_95,CI_UL_95,CR_LL_80,CR_UL_80,sd_r_c,sd_rho)
```

```
         N  k     mean_r       se_r   mean_rho   CI_LL_95   CI_UL_95   CR_LL_80
1 33799.25 55 -0.1427791 0.01302275 -0.1735821 -0.2053239 -0.1418403 -0.3102084
     CR_UL_80    sd_r_c    sd_rho
1 -0.03695574 0.1174152 0.1053057
```

```
# Mixed Coworker/Supervisor Support
as.data.frame(mdl$meta_tables$`analysis_id: 3`$artifact_distribution$true_score) %>%
  select(N,k,mean_r,se_r,mean_rho,CI_LL_95,CI_UL_95,CR_LL_80,CR_UL_80,sd_r_c,sd_rho)
```

```
      N  k     mean_r       se_r   mean_rho   CI_LL_95   CI_UL_95   CR_LL_80
1 16873 33 -0.2558984 0.03302971 -0.3111056 -0.3928997 -0.2293115 -0.6021289
     CR_UL_80    sd_r_c    sd_rho
1 -0.02008221 0.2306758 0.2223975
```

```
# General Family Support
as.data.frame(mdl$meta_tables$`analysis_id: 6`$artifact_distribution$true_score) %>%
  select(N,k,mean_r,se_r,mean_rho,CI_LL_95,CI_UL_95,CR_LL_80,CR_UL_80,sd_r_c,sd_rho)
```

```
        N  k     mean_r     se_r   mean_rho   CI_LL_95    CI_UL_95   CR_LL_80
1 14459.5 42 -0.1215069 0.023423 -0.1477207 -0.2052296 -0.09021173 -0.3717941
    CR_UL_80    sd_r_c    sd_rho
1 0.07635272 0.1845472 0.1720276
```

```
# Spouse Support
as.data.frame(mdl$meta_tables$`analysis_id: 7`$artifact_distribution$true_score) %>%
  select(N,k,mean_r,se_r,mean_rho,CI_LL_95,CI_UL_95,CR_LL_80,CR_UL_80,sd_r_c,sd_rho)
```

```
      N  k     mean_r       se_r   mean_rho   CI_LL_95    CI_UL_95   CR_LL_80
1 26500 36 -0.1113848 0.01970481 -0.1354148 -0.1840478 -0.08678171 -0.3129022
    CR_UL_80    sd_r_c    sd_rho
1 0.04207262 0.1437354 0.1358795
```

2. For FIW

```
dat_fiw <- dat %>% filter(wif_fiw == "FIW")

ad_x <- create_ad(ad_type = "tsa",
                  rxxi = as.numeric(dat_fiw$source_rxx))
ad_y <- create_ad(ad_type = "tsa",
                  rxxi = as.numeric(dat_fiw$source_ryy))


mdl_bb <- ma_r(data = dat_fiw %>% filter(!is.na(source_r)),
               rxyi = source_r,
               n = source_n,
               moderators = "source",
               cat_moderators = TRUE)
```

```
**** Running ma_r: Meta-analysis of correlations ****
```

```
mdl <- ma_r_ad(ma_obj = mdl_bb,
               ad_obj_x = ad_x,
               ad_obj_y = ad_y)


# Organizational Support
as.data.frame(mdl$meta_tables$`analysis_id: 2`$artifact_distribution$true_score) %>%
  select(N,k,mean_r,se_r,mean_rho,CI_LL_95,CI_UL_95,CR_LL_80,CR_UL_80,sd_r_c,sd_rho)
```

```
        N  k     mean_r       se_r   mean_rho   CI_LL_95   CI_UL_95  CR_LL_80
1 25233.5 71 -0.1919402 0.01207511 -0.2377628 -0.2675953 -0.2079303 -0.375388
    CR_UL_80    sd_r_c    sd_rho
1 -0.1001376 0.1260371 0.1063759
```

```
# Supervisor Support
as.data.frame(mdl$meta_tables$`analysis_id: 4`$artifact_distribution$true_score) %>%
  select(N,k,mean_r,se_r,mean_rho,CI_LL_95,CI_UL_95,CR_LL_80,CR_UL_80,sd_r_c,sd_rho)
```

```
      N  k     mean_r        se_r   mean_rho   CI_LL_95   CI_UL_95   CR_LL_80
1 61771 99 -0.1079073 0.008533261 -0.1336684 -0.1546451 -0.1126917 -0.2524621
     CR_UL_80    sd_r_c    sd_rho
1 -0.01487471 0.1051745 0.0920703
```

```
# Coworker Support
as.data.frame(mdl$meta_tables$`analysis_id: 5`$artifact_distribution$true_score) %>%
  select(N,k,mean_r,se_r,mean_rho,CI_LL_95,CI_UL_95,CR_LL_80,CR_UL_80,sd_r_c,sd_rho)
```

```
         N  k     mean_r       se_r   mean_rho   CI_LL_95   CI_UL_95   CR_LL_80
1 23955.25 28 -0.1497659 0.01448546 -0.1855201 -0.2223374 -0.1487028 -0.2951267
     CR_UL_80     sd_r_c     sd_rho
1 -0.07591338 0.09494877 0.08343339
```

```r
# Mixed Coworker/Supervisor Support
as.data.frame(mdl$meta_tables$`analysis_id: 3`$artifact_distribution$true_score) %>%
  select(N,k,mean_r,se_r,mean_rho,CI_LL_95,CI_UL_95,CR_LL_80,CR_UL_80,sd_r_c,sd_rho)
```

```
        N  k     mean_r       se_r   mean_rho   CI_LL_95   CI_UL_95   CR_LL_80
1 11789.5 23 -0.1131801 0.02331465 -0.1402001 -0.2000949 -0.0803053 -0.3076525
    CR_UL_80    sd_r_c    sd_rho
1 0.02725232 0.1385067 0.1267391
```

```r
# General Family Support
as.data.frame(mdl$meta_tables$`analysis_id: 6`$artifact_distribution$true_score) %>%
  select(N,k,mean_r,se_r,mean_rho,CI_LL_95,CI_UL_95,CR_LL_80,CR_UL_80,sd_r_c,sd_rho)
```

```
         N  k     mean_r       se_r   mean_rho   CI_LL_95   CI_UL_95   CR_LL_80
1 12259.75 37 -0.1525591 0.02849742 -0.1889801 -0.2605733 -0.1173869 -0.4543572
    CR_UL_80    sd_r_c    sd_rho
1 0.07639706 0.2147259 0.2032741
```

```r
# Spouse Support
as.data.frame(mdl$meta_tables$`analysis_id: 7`$artifact_distribution$true_score) %>%
  select(N,k,mean_r,se_r,mean_rho,CI_LL_95,CI_UL_95,CR_LL_80,CR_UL_80,sd_r_c,sd_rho)
```

```
        N  k     mean_r       se_r   mean_rho   CI_LL_95   CI_UL_95   CR_LL_80
1 21626.5 26 -0.1795762 0.01276908 -0.2224471 -0.2550238 -0.1898703 -0.3086947
    CR_UL_80     sd_r_c     sd_rho
1 -0.1361994 0.08065372 0.06552053
```

The statistics match up with French et al.'s tables to at least the hundredth place.

Support Type specific relationships

The rows for Instrumental Support, Emotional Support, and Mixed Instrumental/Emotional Support for each table will be reproduced here.

1. For WIF

```r
dat_wif <- dat %>% filter(wif_fiw == "WIF")

ad_x <- create_ad(ad_type = "tsa",
                      rxxi = as.numeric(dat_wif$type_rxx))
ad_y <- create_ad(ad_type = "tsa",
                      rxxi = as.numeric(dat_wif$type_ryy))


mdl_bb <- ma_r(data = dat_wif %>% filter(!is.na(type_r)),
               rxyi = type_r,
               n = type_n,
               moderators = c("type","domain"),
               moderator_type = "hierarchical",
```

```r
                cat_moderators = TRUE)
```

```
**** Running ma_r: Meta-analysis of correlations ****
```

```r
mdl <- ma_r_ad(ma_obj = mdl_bb,
               ad_obj_x = ad_x,
               ad_obj_y = ad_y)


# Work - Instrumental
as.data.frame(mdl$meta_tables$`analysis_id: 8`$artifact_distribution$true_score) %>%
  select(N,k,mean_r,se_r,mean_rho,CI_LL_95,CI_UL_95,CR_LL_80,CR_UL_80,sd_r_c,sd_rho)
```

```
     N  k     mean_r       se_r   mean_rho   CI_LL_95   CI_UL_95   CR_LL_80
1 3233 10 -0.1465924 0.07572906 -0.1840312 -0.3990941 0.03103163 -0.5872098
   CR_UL_80    sd_r_c    sd_rho
1 0.2191473 0.3006372 0.2915186
```

```r
# Work - Emotional
as.data.frame(mdl$meta_tables$`analysis_id: 10`$artifact_distribution$true_score) %>%
  select(N,k,mean_r,se_r,mean_rho,CI_LL_95,CI_UL_95,CR_LL_80,CR_UL_80,sd_r_c,sd_rho)
```

```
      N  k     mean_r       se_r   mean_rho   CI_LL_95   CI_UL_95   CR_LL_80
1 10163 22 -0.2145574 0.03377067 -0.2693541 -0.3575204 -0.1811879 -0.5165485
     CR_UL_80    sd_r_c    sd_rho
1 -0.02215976 0.1988525 0.1868173
```

```r
# Work - Mixed
as.data.frame(mdl$meta_tables$`analysis_id: 12`$artifact_distribution$true_score) %>%
  select(N,k,mean_r,se_r,mean_rho,CI_LL_95,CI_UL_95,CR_LL_80,CR_UL_80,sd_r_c,sd_rho)
```

```
         N   k     mean_r       se_r  mean_rho   CI_LL_95   CI_UL_95   CR_LL_80
1 86506.25 182 -0.2489672 0.01194581 -0.312552 -0.3421428 -0.2829611 -0.5564234
     CR_UL_80    sd_r_c    sd_rho
1 -0.06868062 0.2023165 0.1895993
```

```r
# Family - Instrumental
as.data.frame(mdl$meta_tables$`analysis_id: 9`$artifact_distribution$true_score) %>%
  select(N,k,mean_r,se_r,mean_rho,CI_LL_95,CI_UL_95,CR_LL_80,CR_UL_80,sd_r_c,sd_rho)
```

```
     N  k      mean_r       se_r    mean_rho   CI_LL_95   CI_UL_95   CR_LL_80
1 8478 22 -0.02275831 0.03751286 -0.02857065 -0.1265068 0.06936548 -0.3082309
   CR_UL_80    sd_r_c    sd_rho
1 0.2510896 0.2208877 0.2113534
```

```r
# Family - Emotional
as.data.frame(mdl$meta_tables$`analysis_id: 11`$artifact_distribution$true_score) %>%
  select(N,k,mean_r,se_r,mean_rho,CI_LL_95,CI_UL_95,CR_LL_80,CR_UL_80,sd_r_c,sd_rho)
```

```
       N  k     mean_r       se_r   mean_rho   CI_LL_95   CI_UL_95   CR_LL_80
1 8375.5 24 -0.1214481 0.03353929 -0.1524652 -0.2395661 -0.0653643 -0.4085063
   CR_UL_80    sd_r_c    sd_rho
1 0.1035759 0.2062717 0.1940499
```

```r
# Family - Mixed
as.data.frame(mdl$meta_tables$`analysis_id: 13`$artifact_distribution$true_score) %>%
  select(N,k,mean_r,se_r,mean_rho,CI_LL_95,CI_UL_95,CR_LL_80,CR_UL_80,sd_r_c,sd_rho)
```

```
         N  k     mean_r       se_r  mean_rho   CI_LL_95   CI_UL_95   CR_LL_80
1 23135.75 40 -0.1377703 0.01060767 -0.172956 -0.1998918 -0.1460203 -0.2536063
     CR_UL_80     sd_r_c     sd_rho
1 -0.09230583 0.08422287 0.06186547
```

2. For FIW

```r
dat_fiw <- dat %>% filter(wif_fiw == "FIW")

ad_x <- create_ad(ad_type = "tsa",
                      rxxi = as.numeric(dat_fiw$type_rxx))
ad_y <- create_ad(ad_type = "tsa",
                      rxxi = as.numeric(dat_fiw$type_ryy))


mdl_bb <- ma_r(data = dat_fiw %>% filter(!is.na(type_r)),
               rxyi = type_r,
               n = type_n,
               moderators = c("type","domain"),
               moderator_type = "hierarchical",
               cat_moderators = TRUE)
```

```
**** Running ma_r: Meta-analysis of correlations ****
```

```r
mdl <- ma_r_ad(ma_obj = mdl_bb,
               ad_obj_x = ad_x,
               ad_obj_y = ad_y)


# Work - Instrumental
as.data.frame(mdl$meta_tables$`analysis_id: 8`$artifact_distribution$true_score) %>%
  select(N,k,mean_r,se_r,mean_rho,CI_LL_95,CI_UL_95,CR_LL_80,CR_UL_80,sd_r_c,sd_rho)
```

```
     N k       mean_r       se_r     mean_rho   CI_LL_95  CI_UL_95   CR_LL_80
1 2829 8 -0.003810024 0.06775134 -0.004803229 -0.2067726 0.1971662 -0.3331514
  CR_UL_80    sd_r_c    sd_rho
1 0.323545 0.2415842 0.2320607
```

```r
# Work - Emotional
as.data.frame(mdl$meta_tables$`analysis_id: 10`$artifact_distribution$true_score) %>%
  select(N,k,mean_r,se_r,mean_rho,CI_LL_95,CI_UL_95,CR_LL_80,CR_UL_80,sd_r_c,sd_rho)
```

```
     N  k     mean_r       se_r   mean_rho  CI_LL_95    CI_UL_95   CR_LL_80
1 7256 14 -0.0951589 0.03850611 -0.1199651 -0.224838 -0.01509225 -0.3529518
   CR_UL_80    sd_r_c    sd_rho
1 0.1130216 0.1816349 0.1725608
```

```r
# Work - Mixed
as.data.frame(mdl$meta_tables$`analysis_id: 12`$artifact_distribution$true_score) %>%
  select(N,k,mean_r,se_r,mean_rho,CI_LL_95,CI_UL_95,CR_LL_80,CR_UL_80,sd_r_c,sd_rho)
```

```
         N   k     mean_r        se_r   mean_rho   CI_LL_95   CI_UL_95
1 70630.75 127 -0.1381021 0.008204785 -0.1741028 -0.1945726 -0.1536331
    CR_LL_80     CR_UL_80     sd_r_c     sd_rho
1 -0.3056032 -0.04260245 0.1165667 0.1020723
```

```r
# Family - Instrumental
as.data.frame(mdl$meta_tables$`analysis_id: 9`$artifact_distribution$true_score) %>%
  select(N,k,mean_r,se_r,mean_rho,CI_LL_95,CI_UL_95,CR_LL_80,CR_UL_80,sd_r_c,sd_rho)
```

```
     N  k     mean_r       se_r   mean_rho   CI_LL_95   CI_UL_95   CR_LL_80
1 6727 15 -0.1265758 0.05171082 -0.1595718 -0.2993924 -0.0197512 -0.4889296
  CR_UL_80    sd_r_c    sd_rho
1 0.169786 0.2524833 0.2448701
```

```r
# Family - Emotional
as.data.frame(mdl$meta_tables$`analysis_id: 11`$artifact_distribution$true_score) %>%
  select(N,k,mean_r,se_r,mean_rho,CI_LL_95,CI_UL_95,CR_LL_80,CR_UL_80,sd_r_c,sd_rho)
```

```
       N  k     mean_r       se_r   mean_rho   CI_LL_95    CI_UL_95   CR_LL_80
1 4718.5 17 -0.1528877 0.04994454 -0.1927428 -0.3262209 -0.05926468 -0.5240072
   CR_UL_80   sd_r_c    sd_rho
1 0.1385216 0.259608 0.2478119
```

```r
# Family - Mixed
as.data.frame(mdl$meta_tables$`analysis_id: 13`$artifact_distribution$true_score) %>%
  select(N,k,mean_r,se_r,mean_rho,CI_LL_95,CI_UL_95,CR_LL_80,CR_UL_80,sd_r_c,sd_rho)
```

```
         N  k     mean_r       se_r   mean_rho   CI_LL_95  CI_UL_95   CR_LL_80
1 22093.75 36 -0.1875954 0.01352787 -0.2364982 -0.2711204 -0.201876 -0.3480685
    CR_UL_80    sd_r_c    sd_rho
1 -0.1249278 0.1023261 0.0854152
```

Support Type specific relationship

The rows for Support Behaviors, Support Perceptions, and Mixed Support Behavior/Perception for each table will be reproduced here.

1. For WIF

```
dat_wif <- dat %>% filter(wif_fiw == "WIF")

ad_x <- create_ad(ad_type = "tsa",
                  rxxi = as.numeric(dat_wif$form_rxx))
ad_y <- create_ad(ad_type = "tsa",
                  rxxi = as.numeric(dat_wif$form_ryy))


mdl_bb <- ma_r(data = dat_wif %>% filter(!is.na(form_r)),
               rxyi = form_r,
               n = form_n,
               moderators = c("form","domain"),
               moderator_type = "hierarchical",
               cat_moderators = TRUE)
```

```
**** Running ma_r: Meta-analysis of correlations ****
```

```
mdl <- ma_r_ad(ma_obj = mdl_bb,
               ad_obj_x = ad_x,
               ad_obj_y = ad_y)


# Work - Behaviors
as.data.frame(mdl$meta_tables$`analysis_id: 9`$artifact_distribution$true_score) %>%
  select(N,k,mean_r,se_r,mean_rho,CI_LL_95,CI_UL_95,CR_LL_80,CR_UL_80,sd_r_c,sd_rho)
```

```
        N  k     mean_r       se_r   mean_rho   CI_LL_95   CI_UL_95   CR_LL_80
1 23609.5 67 -0.2315085 0.01845389 -0.2882669 -0.3341443 -0.2423894 -0.5125761
     CR_UL_80    sd_r_c    sd_rho
1 -0.06395759 0.1880846 0.1732773
```

```
# Work - Perceptions
as.data.frame(mdl$meta_tables$`analysis_id: 11`$artifact_distribution$true_score) %>%
  select(N,k,mean_r,se_r,mean_rho,CI_LL_95,CI_UL_95,CR_LL_80,CR_UL_80,sd_r_c,sd_rho)
```

```
      N   k     mean_r       se_r  mean_rho   CI_LL_95   CI_UL_95   CR_LL_80
1 55239 139 -0.2760375 0.01437643 -0.343713 -0.3791088 -0.3083172 -0.5987323
     CR_UL_80    sd_r_c  sd_rho
1 -0.08869367 0.2110504 0.19804
```

```
# Work - Mixed
as.data.frame(mdl$meta_tables$`analysis_id: 13`$artifact_distribution$true_score) %>%
  select(N,k,mean_r,se_r,mean_rho,CI_LL_95,CI_UL_95,CR_LL_80,CR_UL_80,sd_r_c,sd_rho)
```

```
      N  k    mean_r       se_r   mean_rho   CI_LL_95  CI_UL_95   CR_LL_80
1 31358 43 -0.187522 0.02326258 -0.2334963 -0.2919517 -0.175041 -0.4706594
     CR_UL_80     sd_r_c     sd_rho
1 0.003666709 0.1899415 0.1821479
```

```
# Family - Behaviors
as.data.frame(mdl$meta_tables$`analysis_id: 10`$artifact_distribution$true_score) %>%
  select(N,k,mean_r,se_r,mean_rho,CI_LL_95,CI_UL_95,CR_LL_80,CR_UL_80,sd_r_c,sd_rho)
```

```
        N  k      mean_r       se_r   mean_rho  CI_LL_95    CI_UL_95   CR_LL_80
1 20708.5 22 -0.09528745 0.02486153 -0.1186488 -0.183027 -0.05427071 -0.3021036
    CR_UL_80    sd_r_c    sd_rho
1 0.06480596 0.1452001 0.1386461
```

```
# Family - Perceptions
as.data.frame(mdl$meta_tables$`analysis_id: 12`$artifact_distribution$true_score) %>%
  select(N,k,mean_r,se_r,mean_rho,CI_LL_95,CI_UL_95,CR_LL_80,CR_UL_80,sd_r_c,sd_rho)
```

```
       N  k     mean_r       se_r  mean_rho   CI_LL_95    CI_UL_95   CR_LL_80
1 8559.5 22 -0.1402068 0.04315922 -0.174581 -0.2863404 -0.06282155 -0.4964542
   CR_UL_80    sd_r_c    sd_rho
1 0.1472922 0.2520651 0.2432559
```

```
# Family - Mixed
as.data.frame(mdl$meta_tables$`analysis_id: 14`$artifact_distribution$true_score) %>%
  select(N,k,mean_r,se_r,mean_rho,CI_LL_95,CI_UL_95,CR_LL_80,CR_UL_80,sd_r_c,sd_rho)
```

```
        N  k     mean_r       se_r   mean_rho   CI_LL_95  CI_UL_95   CR_LL_80
1 8929.25 27 -0.1494724 0.01811896 -0.1861181 -0.2324932 -0.139743 -0.3085101
     CR_UL_80     sd_r_c      sd_rho
1 -0.06372616 0.1172311 0.09307574
```