Load and set up the data

```
basedir = '/Users/yoni/Dropbox/empathy for pain/analyses';
cd(basedir);

mcal = readtable('mcallaster_stim_data.xlsx');
```

```
Warning: Variable names were modified to make them valid MATLAB identifiers. The original
names are saved in the VariableDescriptions property.
```

```
mcal.gender_code = grp2idx(categorical(mcal.gender))
```

```
mcal =
          videoClips         targetID    gender    AFF_0_16_    OPR_0_5_    SEN_0_16_    VAS_0_10_    PSPI_pe
    _________________    _________    ______    _________    ________    _________    _________    _______

    'll042t1aaaff'          42         'Fe'          7           3           10            6           6
    'll042t1aaunaff'        42         'Fe'          1           0            2            1           0
    'll042t1aeunaff'        42         'Fe'          2           0            2            2           0
    'll042t1afaff'          42         'Fe'          5           3            8            5           3
    'll042t1afunaff'        42         'Fe'          1           0            3            2           0
    'll042t1aiaff'          42         'Fe'         11           4           12            8           8
    'll042t1aiunaff'        42         'Fe'          1           0            3            1           0
    'll042t2afaff'          42         'Fe'          3           1            6            4           0
    'jh043t1aeaff'          43         'Fe'         13           2           12            6           4
    'jh043t1afaff'          43         'Fe'          4           1            3            2           0
    'jh043t2aaaff'          43         'Fe'          5           1            5            3           0
    'jh043t2aaunaff'        43         'Fe'          1           0            1            0           0
    'jh043t2aeaff'          43         'Fe'          4           3            3            4           5
    'jh043t2aeunaff'        43         'Fe'          1           0            1            0           0
    'jh043t2afaff'          43         'Fe'          4           0            3            4           0
    'jh043t2afunaff'        43         'Fe'          1           0            1            1           0
    'jh043t2aiunaff'        43         'Fe'          1           0            1            0           0
    'jl047t1aaaff'          47         'Fe'          7           3            9            7           3
    'jl047t1aaunaff'        47         'Fe'          1           0            1            0           0
    'jl047t1afunaff'        47         'Fe'          1           0            1            0           0
    'jl047t1aiaff'          47         'Fe'          1           4            2            2           4
    'jl047t1aiunaff'        47         'Fe'          1           0            1            0           0
    'jl047t2aeunaff'        47         'Fe'          4           1            5            2           0
    'jl047t2afaff'          47         'Fe'          4           2            8            4           0
    'aa048t2aaunaff'        48         'Ma'          1           0            1            0           0
    'aa048t2aeaff'          48         'Ma'          2           3            2            2           1
    'aa048t2aeunaff'        48         'Ma'          1           0            1            0           0
    'aa048t2afaff'          48         'Ma'          2           0            2            1           0
    'aa048t2afunaff'        48         'Ma'          1           0            1            0           0
    'aa048t2aiaff'          48         'Ma'          1           0            2            1           1
    'aa048t2aiunaff'        48         'Ma'          1           0            1            0           0
    'bm049t1aaaff'          49         'Fe'          4           3            6            3           2
    'bm049t1afaff'          49         'Fe'          4           0            6            3           0
    'bm049t2aaaff'          49         'Fe'          4           3            6            3           2
    'bm049t2aaunaff'        49         'Fe'          4           1            6            4           0
    'bm049t2aeaff'          49         'Fe'          3           0            4            3           1
    'bm049t2aeunaff'        49         'Fe'          5           3            7            4           0
    'bm049t2afaff'          49         'Fe'          2           3            6            3           4
    'bm049t2afunaff'        49         'Fe'          4           2            7            4           0
    'dr052t1aeaff'          52         'Ma'          3           3            3            1           2
    'dr052t1aeunaff'        52         'Ma'          1           0            1            0           0
    'dr052t1afaff'          52         'Ma'          1           0            3            2           0
    'dr052t1afunaff'        52         'Ma'          1           0            1            0           0
    'dr052t1aiaff'          52         'Ma'          4           5            8            4           8
    'dr052t1aiunaff'        52         'Ma'          1           0            1            0           0
    'dr052t2aaaff'          52         'Ma'          3           0            4            2           0
    'dr052t2aeaff'          52         'Ma'          4           1            5            3           1
    'dr052t2aeunaff'        52         'Ma'          1           0            1            1           0
```

```
    'dr052t2aiaff'      52        'Ma'       4          4           5           3           2
    'fn059t2afunaff'    59        'Fe'       1          3           1           1           0
    'fn059t2aiaff'      59        'Fe'       7          4           8           6          11
    'ak064t1aaaff'      64        'Ma'      14          5          14          10          12
    'ak064t1aeunaff'    64        'Ma'       3          3           5           3           3
    'ak064t1afaff'      64        'Ma'       2          4           5           2           6
    'ak064t1afunaff'    64        'Ma'       1          0           1           1           0
    'ak064t1aiaff'      64        'Ma'       8          5          11           8          10
    'ak064t1aiunaff'    64        'Ma'       1          0           1           1           0
    'mg066t1aaaff'      66        'Fe'       4          3           5           4           3
    'mg066t1aeaff'      66        'Fe'       2          2           3           2           4
    'mg066t1afaff'      66        'Fe'       3          3           4           4           5
    'mg066t1afunaff'    66        'Fe'       1          1           1           0           0
    'mg066t2aaunaff'    66        'Fe'       1          0           1           1           0
    'mg066t2aeaff'      66        'Fe'       4          2           7           4           3
    'mg066t2aeunaff'    66        'Fe'       1          0           1           0           0
    'mg066t2afaff'      66        'Fe'       2          1           3           2           1
    'bn080t1aaaff'      80        'Fe'      11          2          12           8           2
    'bn080t1aaunaff'    80        'Fe'       7          3           8           3           4
    'bn080t1aeaff'      80        'Fe'       7          1           8           5           3
    'bn080t1aeunaff'    80        'Fe'       8          3           9           6           3
    'bn080t1afaff'      80        'Fe'      10          3          11           8           4
    'bn080t1afunaff'    80        'Fe'       4          0           5           1           1
    'bn080t1aiunaff'    80        'Fe'       4          0           5           2           1
    'ch092t1aiaff'      92        'Fe'       7          2          11           1           2
    'ch092t2aaaff'      92        'Fe'       1          1           1           1           0
    'ch092t2aeaff'      92        'Fe'       1          0           3           1           0
    'ch092t2afaff'      92        'Fe'       1          0           2           1           2
    'ch092t2aiaff'      92        'Fe'       3          3           9           7           5
```

```
% 1 = female, 2 = male

%% break up data, placing each subject in one cell
subj_ids = unique(mcal.targetID);

[observed_pain, self_reported_pain, facial_pain] = deal({});
gender = [];

for i=1:length(subj_ids)
    subj_inds = mcal.targetID == subj_ids(i);

    observed_pain{i} = mcal.OPR_0_5_(subj_inds);
    self_reported_pain{i} = mcal.VAS_0_10_(subj_inds);
    facial_pain{i} = mcal.PSPI_peak(subj_inds);
    self_and_facial{i} = [mcal.VAS_0_10_(subj_inds) mcal.PSPI_peak(subj_inds)];

    a = find(subj_inds);
    gender(i) = mcal.gender_code(a(1));
end

fprintf('We have %d targets, of whom %d are female\n', length(subj_ids), sum(gender==1));
```

```
We have 25 targets, of whom 13 are female
```

```
gender = zscore(gender);
```

Theoretical standpoint

X -> M -> Y

pain experience (self report) --> facial expression --> observer rating

Are any of these paths moderated by gender, controlling for self-reported pain?

Analyses below use only the data already provided by the McAllister database, not with any of the data we collected. They provided observed pain ratings (though only from one observer) for all stimuli (video clips). Each "target" (i.e., person w/ shoulder pain) was featured in several video clips. At the first level, videos-within-target are a random effect. At the 2nd level, the target's gender is the random effect. We can also use the observed pain ratings data we collected and model observer as a random effect with a mixed effects model, though we only have data for a subset of the stimuli. I haven't done this yet.

PATH A: Do women and men differently facial express the same amount of self-reported pain? (i.e., do women "exagerrate" / do men "suppress" ?).

Conduct ml glm testing effect of self-reported pain on facial expression of pain, w/ 2nd level for gender. Test for difference in slope or intercept

```
glmfit_multilevel(facial_pain, self_reported_pain, gender', 'names', {'L1-Intcpt' 'self-report
```

```
Warning: Warning: you might be overparameterized!  Seems like you have more predictors than
observations
```

```
Analysis description: Second Level of Multilevel Model
GLS analysis

Observations:  24, Predictors:   2
Outcome names: L1-Intcpt self-report
Weighting option: unweighted
Inference option: t-test

Other Options:
 Plots: No
 Robust: no
 Save: No
 Output file: glmfit_general_output.txt
 Total time: 0.06 s

________________________________________

Second Level of Multilevel Model
 Outcome variables:
 L1-Intcpt self-report
Adj. mean -0.81 0.74

L2-Intcpt
 L1-Intcpt self-report
Coeff -0.81 0.74
STE 0.76 0.17
t -1.06 4.31
Z -0.52 3.45
p 0.3001 0.0003


gender
 L1-Intcpt self-report
Coeff -0.84 0.06
STE 0.78 0.18
t -1.09 0.32
```

```
Z -0.56 0.68
p 0.2889 0.7513

________________________________________
```

There is a numerical effect of men overall facially expressing less pain controlling for self-reported pain, but n.s. (intercept p = .29)

PATH B (but not controlling for X): for similar facial expressions of pain, are women and men perceived to be in different levels of pain?

```
glmfit_multilevel(observed_pain, facial_pain, gender', 'names', {'L1-Intcpt' 'facial-pain'},'b
```

```
Warning: some columns of X have no variance.  Do not enter intercept in X; it will be added automaticall
Analysis description: Second Level of Multilevel Model
GLS analysis

Observations:  24, Predictors:   2
Outcome names: L1-Intcpt facial-pain
Weighting option: unweighted
Inference option: t-test

Other Options:
 Plots: No
 Robust: no
 Save: No
 Output file: glmfit_general_output.txt
 Total time: 0.05 s

________________________________________

Second Level of Multilevel Model
 Outcome variables:
 L1-Intcpt facial-pain
Adj. mean 0.55 0.57

L2-Intcpt
 L1-Intcpt facial-pain
Coeff 0.55 0.57
STE 0.11 0.06
t 4.88 10.06
Z 3.81 5.99
p 0.0001 0.0000


gender
 L1-Intcpt facial-pain
Coeff 0.08 0.06
STE 0.12 0.06
t 0.72 0.97
Z 0.05 0.41
p 0.4813 0.3412

________________________________________
```

No sig. moderation by gender.

PATH C (total effect): Are women and men perceived to be in the same amount of pain when matched on self-reported pain? In other words, does target gender moderate the relationship between reported and observed pain?

```
glmfit_multilevel(observed_pain, self_reported_pain, gender', 'names', {'L1-Intcpt' 'self-repo
```

```
Warning: Warning: you might be overparameterized!  Seems like you have more predictors than
observations
```

```
Analysis description: Second Level of Multilevel Model
GLS analysis

Observations:  24, Predictors:   2
Outcome names: L1-Intcpt self-report
Weighting option: unweighted
Inference option: t-test

Other Options:
 Plots: No
 Robust: no
 Save: No
 Output file: glmfit_general_output.txt
 Total time: 0.05 s

________________________________________

Second Level of Multilevel Model
 Outcome variables:
 L1-Intcpt self-report
Adj. mean -0.08 0.50

L2-Intcpt
 L1-Intcpt self-report
Coeff -0.08 0.50
STE 0.21 0.05
t -0.41 9.68
Z -0.49 5.87
p 0.6869 0.0000


gender
 L1-Intcpt self-report
Coeff -0.36 0.07
STE 0.21 0.05
t -1.69 1.41
Z -1.25 0.94
p 0.1047 0.1726

________________________________________
```

A trend toward a gender bias — women are perceived to be in more pain, controlling for self-reported pain (p = .1)

PATH B (M->Y controlling for X) and something similar to PATH C': When you add facial pain to the model, does the effect go away that? (ml-glm)

```
wh = true(1,25); wh(15) = 0; % drop subj w/ no PSPI variability
glmfit_multilevel(observed_pain(wh), self_and_facial(wh), gender(wh)', 'names', {'L1-Intcpt' '
```

```
Warning: Warning: you might be overparameterized!  Seems like you have more predictors than observations
Warning: Warning: you might be overparameterized!  Seems like you have more predictors than observations
Warning: Warning: you might be overparameterized!  Seems like you have more predictors than observations
```

```
Analysis description: Second Level of Multilevel Model
GLS analysis

Observations:  21, Predictors:   2
Outcome names: L1-Intcpt self-report facial pain
Weighting option: unweighted
Inference option: t-test

Other Options:
 Plots: No
 Robust: no
 Save: No
 Output file: glmfit_general_output.txt
 Total time: 0.01 s

________________________________________

Second Level of Multilevel Model
 Outcome variables:
 L1-Intcpt self-report facial pain
Adj. mean -0.16 0.35 0.36

L2-Intcpt
 L1-Intcpt self-report facial pain
Coeff -0.16 0.35 0.36
STE 0.27 0.10 0.07
t -0.59 3.38 5.43
Z -0.15 2.73 4.01
p 0.5606 0.0031 0.0000


gender
 L1-Intcpt self-report facial pain
Coeff 0.27 -0.08 0.00
STE 0.28 0.11 0.07
t 0.96 -0.72 0.07
Z 0.39 -0.05 1.58
p 0.3480 0.4793 0.9433


________________________________________
```

yes it does. the statistical trend observed above (that women are perceived to be in more pain than men) is n.s. when controlling for facial expression of pain.

Test mediation models

First test without accounting for gender

X -> M -> Y

self report --> face --> observer rating

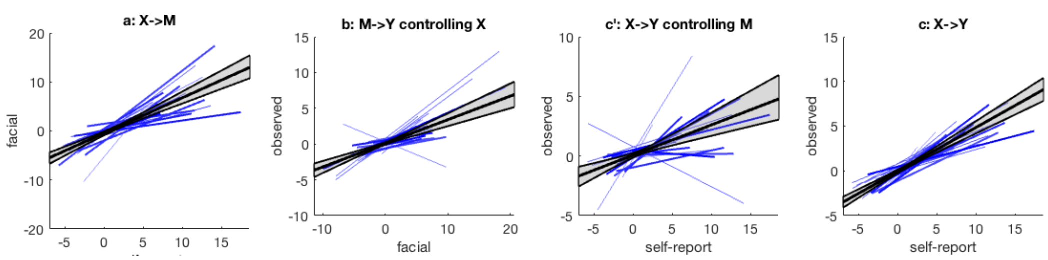
```
wh = true(25,1);
```

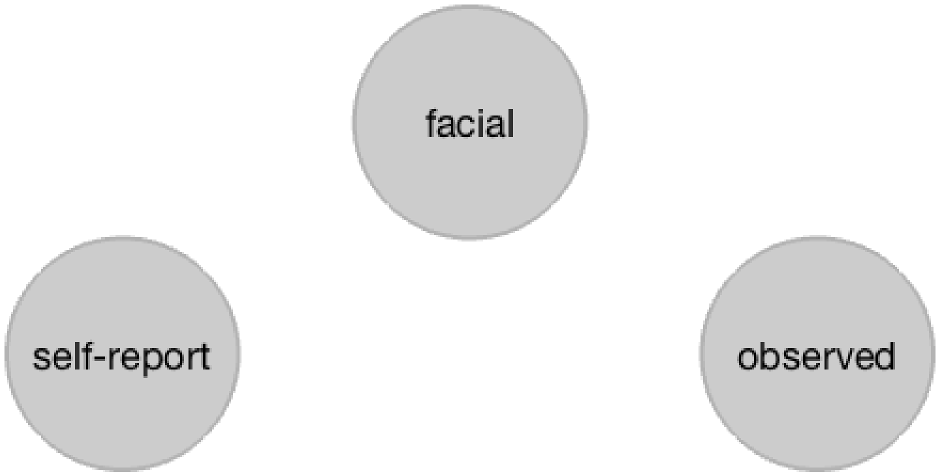
```
wh([ 5 7 12  23 ]) = 0; % 7,12, 13 crash code.  5 is an outlier on path a
mediation(self_reported_pain(wh), observed_pain(wh), facial_pain(wh), 'plots', 'names', {'self
```

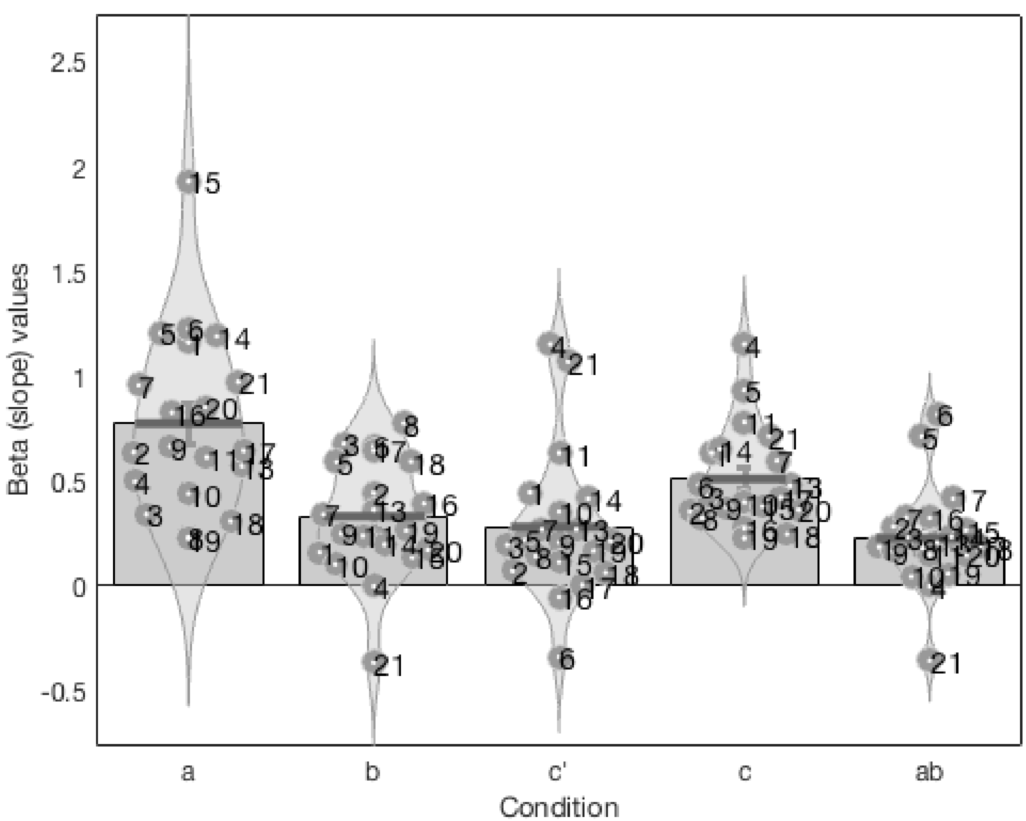
```
No second-level covariates; omitting 2nd level scatterplots.
Cannot find ebayes_bstar field in stats output, so cannot create cov(a,b) scatterplot
Error in mediation_path_diagram
Warning: Some NaNs in Column   1!
Warning: Some NaNs in Column   2!
Warning: Some NaNs in Column   3!
Warning: Some NaNs in Column   4!
Warning: Some NaNs in Column   5!
Column   1: Column   2: Column   3: Column   4: Column   5:
---------------------------------------------
Tests of column means against zero
---------------------------------------------
      Name       Mean_Value    Std_Error      T            P         Cohens_d
    _________    __________    _________    ______    __________    ________

    'Col   1'      0.7765      0.095024     8.1716     1.221e-07     1.8272
    'Col   2'     0.33349      0.062018     5.3773    3.4466e-05     1.2024
    'Col   3'     0.28212      0.077813     3.6256     0.0018005     0.8107
    'Col   4'      0.5122      0.053811     9.5185    1.1583e-08     2.1284
    'Col   5'     0.23008      0.054336     4.2344    0.00044867    0.94685
ans =

    1.1635    0.1614    0.4471    0.6349    0.1877
    0.6391    0.4446    0.0739    0.3580    0.2841
    0.3427    0.6801    0.1970    0.4301    0.2330
    0.5000   -0.0000    1.1538    1.1538   -0.0000
    1.2065    0.5918    0.2208    0.9348    0.7140
    1.2272    0.6682   -0.3367    0.4833    0.8200
    0.9581    0.3421    0.2710    0.5988    0.3278
    0.2349    0.7776    0.1426    0.3253    0.1827
    0.6667    0.2500    0.2083    0.3750    0.1667
    0.4418    0.1038    0.3544    0.4002    0.0458
```




facial
self-report
observed


Beta (slope) values
2.5
2
1.5
1
0.5
0
-0.5
a
b
c'
c
ab
Condition

Yes, we have significant partial mediation (tho had to drop 4 Ss). There is both a direct effect of self-report on observed pain and an indirect effect through facial pain, ps < .001.

Mediation with gender as L2 moderator

note: the moderation of path a is n.s. in ml-glm conducted above (p = .29), but w/ bootstrapping may be sig?

```
warning off
mediation(self_reported_pain(wh), observed_pain(wh), facial_pain(wh), 'names', {'self-report',
```

```
Mediation analysis

Observations:   1, Replications:  21
Predictor (X): self-report, Outcome (Y): observed: Mediator (M): facial

Covariates: No

Multi-level analysis.
Options:
 Multilevel weights: Yes
 Plots: No
 Bootstrap: No
 Sign perm: No
 Robust: No
 Logistic(Y): No
 Bootstrap 1st level: Yes

Getting estimates for replications: 000001
Bootstrapping:
 Min p-value is 0.050000. Adding   0 samples
 Done in   1 (s)
002
Bootstrapping:
 Min p-value is 0.122000. Adding   0 samples
 Done in   0 (s)
003
Bootstrapping:
 Min p-value is 0.138000. Adding   0 samples
 Done in   0 (s)
004
Bootstrapping:
 Min p-value is 0.168000. Adding   0 samples
 Done in   1 (s)
005
Bootstrapping:
 Min p-value is 0.006000. Adding 3881 samples
  Adding 3881 samples
 Done adding in   1 s
Done in   1 (s)
006
Bootstrapping:
 Min p-value is 0.002000. Adding 4867 samples
  Adding 4867 samples
 Done adding in   1 s
Done in   1 (s)
007
Bootstrapping:
 Min p-value is 0.006000. Adding 3881 samples
```

```
  Adding 3881 samples
 Done adding in   1 s
Done in   1 (s)
008
Bootstrapping:
 Min p-value is 0.182000. Adding   0 samples
 Done in   0 (s)
009
Bootstrapping:
 Min p-value is 0.001000. Adding 4867 samples
  Adding 4867 samples
 Done adding in   1 s
Done in   2 (s)
010
Bootstrapping:
 Min p-value is 0.076000. Adding   0 samples
 Done in   0 (s)
011
Bootstrapping:
 Min p-value is 0.001000. Adding 4867 samples
  Adding 4867 samples
 Done adding in   1 s
Done in   1 (s)
012
013
Bootstrapping:  Min p-value is 0.001000. Adding 4867 samples
  Adding 4867 samples
 Done adding in   1 s
Done in   1 (s)
014
Bootstrapping:
 Min p-value is 0.012000. Adding 1417 samples
  Adding 1417 samples
 Done adding in   0 s
Done in   0 (s)
015
Bootstrapping:
 Min p-value is 0.002000. Adding 4867 samples
  Adding 4867 samples
 Done adding in   1 s
Done in   1 (s)
016
Bootstrapping:
 Min p-value is 0.008000. Adding 2648 samples
  Adding 2648 samples
 Done adding in   0 s
Done in   0 (s)
017
Bootstrapping:
 Min p-value is 0.028000. Adding  13 samples
  Adding  13 samples
 Done adding in   0 s
Done in   0 (s)
018
Bootstrapping:
 Min p-value is 0.428000. Adding   0 samples
 Done in   0 (s)
019
Bootstrapping:
 Min p-value is 0.006000. Adding 3881 samples
  Adding 3881 samples
```

```
 Done adding in   1 s
Done in   1 (s)
020
Bootstrapping:
 Min p-value is 0.001000. Adding 4867 samples
  Adding 4867 samples
 Done adding in   3 s
Done in   3 (s)
021
Bootstrapping:
 Min p-value is 0.006000. Adding 3881 samples
  Adding 3881 samples
 Done adding in   1 s
Done in   1 (s)
 Done.
________________________________________

Multi-level model
 a b c' c ab
Coeff 0.68 0.33 0.23 0.48 0.20
STE 0.08 0.06 0.06 0.05 0.04
t (~N) 8.30 5.21 3.64 10.41 5.11
Z 5.12 3.64 3.04 5.72 3.81
p 0.0000 0.0003 0.0024 0.0000 0.0001

________________________________________

________________________________________
Second Level Moderator
Multi-level model
 a b c' c ab
Coeff -0.11 0.02 0.01 -0.02 -0.04
STE 0.08 0.06 0.06 0.05 0.04
t (~N) -1.26 0.30 0.21 -0.48 -0.91
Z -1.21 0.29 0.20 -0.47 -0.88
p 0.2247 0.7705 0.8401 0.6407 0.3782

________________________________________
Total time:  17 s
ans =

    1.1635    0.1614    0.4471    0.6349    0.1877
    0.6391    0.4446    0.0739    0.3580    0.2841
    0.3427    0.6801    0.1970    0.4301    0.2330
    0.5000   -0.0000    1.1538    1.1538   -0.0000
    1.2065    0.5918    0.2208    0.9348    0.7140
    1.2272    0.6682   -0.3367    0.4833    0.8200
    0.9581    0.3421    0.2710    0.5988    0.3278
    0.2349    0.7776    0.1426    0.3253    0.1827
    0.6667    0.2500    0.2083    0.3750    0.1667
    0.4418    0.1038    0.3544    0.4002    0.0458
```

Gender does not moderate any of the paths of the mediation. BUT, I believe we only tested for sig. different SLOPES between groups (right?), while the effect of interest may be on the intercept.

Summary of results

1. Controlling for self-reported pain intensity, women are perceived to be in greater pain (p = .1 for 2nd level intercept in ml-glm). When controlling for facial expressed pain, this statistical trend becomes entirely n.s..
2. Controlling for self-reported pain intensity, women do not facially express more pain (p = .29). Note that effect is in expected direction of women facially expressing more pain, but n.s.
3. There is strong support for the general mediational model of self-reported pain -> facial expression -> observed pain
4. Gender does not moderate any paths of that mediatin. BUT, I believe we only tested for sig. different SLOPES between groups (right?), while the effect of interest may be on the intercept.

Multi-level models -- May 19th 2017

read in and set up the data

```
data_ml = readtable(fullfile(basedir, 'trial-wise data.csv'));
```

```
Warning: Variable names were modified to make them valid MATLAB identifiers. The original
names are saved in the VariableDescriptions property.
```

```
data_ml.tarGender( data_ml.tarGender==1 ) = 1;
data_ml.tarGender( data_ml.tarGender==2 ) = -1;

subs = unique(data_ml.x___SubID);
n=length(subs)
```

```
n = 49
```

```
for i=1:n;
    inds = data_ml.x___SubID==subs(i);

    % X
    tarVAS{i} = data_ml.tarVAS(inds);
    PSPI{i} = data_ml.PSPI(inds);
    tarGen{i} = data_ml.tarGender(inds);

    tarGen_PSPI{i} = [tarGen{i} PSPI{i}];
    tarGen_PSPI_tarVAS{i} = [tarGen{i} PSPI{i} tarVAS{i}];

    % Y
    subVAS{i} = data_ml.subVAS(inds);

    % gender
    tmp = find(inds);
    subjGen(i) = data_ml.subGender(tmp(1));
end

subjGen(subjGen==2) = -1;
subjGen(subjGen==1) = 1;
```

run a ml glm. Y = observed pain. X = tarGen, PSPI, maybe tarVAS

-1 = female, 1 = male.

```
stats = glmfit_multilevel(subVAS, tarGen_PSPI_tarVAS, [], 'names', {'Intcpt', 'targ Gen' 'PSPI
```

```
Analysis description: Second Level of Multilevel Model
GLS analysis

Observations:  49, Predictors:   1
Outcome names: Intcpt targ Gen PSPI tar VAS
Weighting option: unweighted
Inference option: t-test

Other Options:
 Plots: No
 Robust: no
 Save: No
 Output file: glmfit_general_output.txt
 Total time: 0.07 s

________________________________________

Second Level of Multilevel Model
 Outcome variables:
 Intcpt targ Gen PSPI tar VAS
Adj. mean 11.61 0.95 2.50 2.12

2nd-level B01
 Intcpt targ Gen PSPI tar VAS
Coeff 11.61 0.95 2.50 2.12
STE 1.42 0.38 0.14 0.15
t 8.15 2.46 17.75 14.56
Z 6.32 2.11 8.13 8.13
p 0.0000 0.0175 0.0000 0.0000

________________________________________
```

females are perceived to be in less pain, controlling for facial expression and for self-report of pain, p = .02.

does subject gender moderate?

```
stats = glmfit_multilevel(subVAS, tarGen_PSPI_tarVAS, subjGen', 'names', {'Intcpt', 'targ Gen'
```

```
Analysis description: Second Level of Multilevel Model
GLS analysis

Observations:  49, Predictors:   2
Outcome names: Intcpt targ Gen PSPI tar VAS
Weighting option: unweighted
Inference option: t-test

Other Options:
 Plots: No
 Robust: no
 Save: No
 Output file: glmfit_general_output.txt
 Total time: 0.02 s

________________________________________

Second Level of Multilevel Model
```

```
 Outcome variables:
 Intcpt targ Gen PSPI tar VAS
Adj. mean 11.80 0.94 2.49 2.13

2nd-level B01
 Intcpt targ Gen PSPI tar VAS
Coeff 11.80 0.94 2.49 2.13
STE 1.42 0.39 0.14 0.15
t 8.31 2.40 17.46 14.37
Z 6.38 2.04 8.13 8.13
p 0.0000 0.0205 0.0000 0.0000


2nd-level B02
 Intcpt targ Gen PSPI tar VAS
Coeff 1.87 -0.10 -0.05 0.04
STE 1.42 0.39 0.14 0.15
t 1.32 -0.27 -0.36 0.28
Z 0.87 -0.80 -0.59 0.78
p 0.1934 0.7894 0.7218 0.7822

________________________________________
```

no evidence for moderation by subject gender.