

## Program Code Pursuant to Question 5

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*-----*
| Participants Breakdown, Section 3.1 |
*-----*
TITLE'Participants Breakdown, Section 3.1';
  title2'number of partners';  proc means data=fulldatafinal n;  var
subject;  where pro = 1 AND Jobtitle in
('Director','Partner','partner','retired','retired partner','Retired
Partner','retired ptr'); run;
  title2'number of managers';  proc means data=fulldatafinal n;  var
subject;  where pro = 1 AND Jobtitle in ('Manager','Senior Manager','Sr.
Manager'); run;
  title2'number of SENIORS';  proc means data=fulldatafinal n;  var
subject;  where pro = 1 AND Jobtitle in ('Senior','senior'); run;
  title2'number of STAFF';  proc means data=fulldatafinal n;  var
subject;  where pro = 1 AND Jobtitle in ('Staff','staff'); run;
  title2'CPAs';  proc sort data=fulldatafinal; by subject; run; data
fordescriptives; set fulldatafinal; if lag(subject) = subject then
delete;run; proc means data=fordescriptives n; var subject;  where pro =
1 AND Certifications notin: ('CPA','cpa'); run;
TITLE;

*-----*
| F-SCORE, Section 3.2 |
*-----*
TITLE'F-SCORE, Section 3.2';
  data temp3343; set fulldatafinal; run; proc sort data=temp3343; by
company subject; run; data temp3343; set temp3343; if subject=. then delete;
if lag(company) = company then delete;  run;
  proc means data=temp3343 mean median; class decep_firm; var fscore;
run;
TITLE;

*-----*
| Descriptive Statistics, Section 4.1.1 |
*-----*
TITLE'Descriptives Statistics, Section 4.1.1';
  title2'31 Subjects';  proc means data=fordescriptives mean n; var pro ;
WHERE pro=1;  run;
  title2'121 total after eliminating 3';  proc means data=fulldatafinal
n;  var subject;  where pro = 1; run;
  proc means data=fulldatafinal n; var subject;  where fam_decep=1
and pro=1;run;
  proc means data=fulldatafinal n; var subject;  where fam_decep=0
and pro=1;run;
  proc means data=fordescriptives n; var subject;  where
fam_decep=0 and pro=1;run;
  title2'means for experience, length of conf. call, fscore and fraud
firms';  proc means data=fulldatafinal; var aud_exp audio_time fscore
decep_firm ; WHERE FAM_DECEP = 0 and pro=1;  run;
  title2'Difference in audit experience by Instruction';  proc means
data=fordescriptives mean median; class cdmanipulation; var aud_exp; where
fam_decep=0 AND pro=1; run;
  proc glmix data=fordescriptives ;  class cdmanipulation;
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        model aud_exp = cdmanipulation / s chisq; random _residual_ /
subject=Subject type=cs;      lsmeans cdmanipulation / diff;      WHERE
FAM_DECEP = 0 AND pro=1;      *ods select tests3;      run;
        title2'Difference in conf. call time by Instruction';      proc means
data=fulldatafinal ; class cdmanipulation; var audio_time; where fam_decep=0
AND pro=1; run;
        proc glimmix data=fulldatafinal ; class cdmanipulation pro;
        model audio_time = cdmanipulation / s chisq; random _residual_
/ subject=Subject type=cs;      lsmeans cdmanipulation / diff;      WHERE
FAM_DECEP = 0 AND pro=1;      *ods select tests3;      run;
        title2'Difference in F-Score time by Instruction';      proc means
data=fulldatafinal ; class cdmanipulation; var fscore; where fam_decep=0 AND
pro=1; run;
        proc glimmix data=fulldatafinal ; class cdmanipulation pro;
        model fscore = cdmanipulation / s chisq;      random _residual_
/ subject=Subject type=cs;      lsmeans cdmanipulation / diff;      WHERE
FAM_DECEP = 0 AND pro=1;      *ods select tests3;      run;
        title2'Difference in Company Type time by Instruction';      proc means
data=fulldatafinal ; class cdmanipulation; var decep_firm; where fam_decep=0
AND pro=1; run;
        proc glimmix data=fulldatafinal ;
        class cdmanipulation pro;      model decep_firm (descending)=
cdmanipulation / s dist=binary link=logit chisq;      random _residual_ /
subject=Subject type=cs;      lsmeans cdmanipulation / diff;      WHERE
FAM_DECEP = 0 AND pro=1;      *ods select tests3;      run;

*-----*
| Descriptive Statistics, Section 4.1.2 |
*-----*;
TITLE'Descriptives Statistics, Section 4.1.2';
        /* "Using a simple t-test adjusted for repeated measures, we observe
that the overall accuracy rate of 63% for uninstructed auditors is
statistically greater than chance levels of 50% (p = 0.03)."*/

reg acc_demean if cdmanipulation==0, robust cluster(Subject)

        /* "Consistent with our theory, though, the overall 63% accuracy rate
for uninstructed auditors is driven by accuracy on non-fraud companies.
Their accuracy rates on non-fraud companies (83%) are far better than chance
(p < 0.01) while their accuracy rates on fraud companies (43%) does not
statistically differ from chance (p = 0.43)."
reg acc_demean if DECEP_FIRM==0 & cdmanipulation==0, robust cluster(Subject)
reg acc_demean if DECEP_FIRM==1 & cdmanipulation==0, robust cluster(Subject)
*/
TITLE;

*-----*
| H1, Table 1, Figure 1, Footnote 12, Section 4.2 |
*-----*;
TITLE'H1, Table 1, & Figure 1';
        title2'means';
        title3 'overall';      proc means data=fulldatafinal; var accuracy;
        WHERE FAM_DECEP = 0 AND pro=1 ;run;
        title3 'by cdmanipulation';      proc means data=fulldatafinal;
        class cdmanipulation;      var accuracy;
        WHERE FAM_DECEP = 0 AND pro=1 ;run;

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        title3 'by decep_firm ';          proc means data=fulldatafinal;
            class decep_firm ;              var accuracy;
            WHERE FAM_DECEP = 0 AND pro=1 ;run;
        title3 'by decep_firm cdmanipulation';    proc means
data=fulldatafinal;
            class decep_firm cdmanipulation;      var accuracy;
            WHERE FAM_DECEP = 0 AND pro=1 ;run;
        title2'Analysis';
            proc glimmix data=fulldatafinal ;
            class cdmanipulation DECEP_FIRM pro;
            model accuracy (descending) = cdmanipulation|DECEP_FIRM / s
dist=binary link=logit chisq;random _residual_ / subject=Subject type=cs;
            contrast '1/1/-3/1' cdmanipulation -2 2 DECEP_FIRM 2 -2
cdmanipulation*decep_firm 1 -3 1 1 / CHISQ e;
            contrast '2/2/-3/-1' cdmanipulation -1 1 DECEP_FIRM 4 -4
cdmanipulation*DECEP_FIRM 2 -3 2 -1 / CHISQ e;
            contrast 'H1b-Company give No Instruction' cdmanipulation 0 0
DECEP_FIRM 1 -1 cdmanipulation*DECEP_FIRM 1 -1 0 0 / CHISQ e;
            contrast 'H1c-Instruction given Fraud' cdmanipulation -1 1
DECEP_FIRM 0 0 cdmanipulation*DECEP_FIRM 0 -1 0 1 / CHISQ e;
            contrast 'Instruction given Non-Fraud' cdmanipulation -1 1
DECEP_FIRM 0 0 cdmanipulation*DECEP_FIRM -1 0 1 0 / CHISQ e;
            contrast 'Company given Instruction' cdmanipulation 0 0
DECEP_FIRM -1 1 cdmanipulation*DECEP_FIRM 0 0 -1 1 / CHISQ e;
            WHERE FAM_DECEP = 0 and pro=1;          run;

/*"++ , +, ns Indicates statistically different from chance level of 50% in a
simple, two-sided t-test at p < 0.01 and p < 0.05 and not statistically
different at p < 0.10 , respectively, adjusted for repeated measures.  "*/
reg acc_demean, robust cluster(Subject)
reg acc_demean if DECEP_FIRM==1, robust cluster(Subject)
reg acc_demean if DECEP_FIRM==0, robust cluster(Subject)
reg acc_demean if cdmanipulation==0, robust cluster(Subject)
reg acc_demean if cdmanipulation==1, robust cluster(Subject)
reg acc_demean if cdmanipulation==0 & DECEP_FIRM==0 , robust
cluster(Subject)
reg acc_demean if cdmanipulation==1 & DECEP_FIRM==0, robust cluster(Subject)
reg acc_demean if cdmanipulation==0 & DECEP_FIRM==1 , robust
cluster(Subject)
reg acc_demean if cdmanipulation==1 & DECEP_FIRM==1, robust cluster(Subject)

TITLE;

*-----*
| Table 2, Section 4.3.1 |
*-----*;
TITLE'Table 2, Section 4.3.1';
        title2'means';
            proc means data=fulldatafinal;
            var FLAGCHARS;
            WHERE FAM_DECEP = 0 AND pro=1;
            run;
            proc means data=fulldatafinal;
            class cdmanipulation ;
            var FLAGCHARS;
            WHERE FAM_DECEP = 0 AND pro=1;
            run;

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proc means data=fulldatafinal;
class decep_firm ;
var FLAGCHARS;
    WHERE FAM_DECEP = 0 AND pro=1;
run;
proc means data=fulldatafinal ;
class decep_firm cdmanipulation ;
var FLAGCHARS;
    WHERE FAM_DECEP = 0 AND pro=1;
run;
title2'Analysis';
proc glimmix data=fulldatafinal ; class pro cdmanipulation
DECEP_FIRM ;
model FLAGCHARS = cdmanipulation|decep_firm / s ; random
_residual_ / subject=Subject type=cs;
contrast '-1/-1/-1/3' cdmanipulation -2 2 DECEP_FIRM -2 2
cdmanipulation*DECEP_FIRM -1 -1 -1 3 / e;
contrast 'Instruction given Non-Fraud' cdmanipulation -1 1
DECEP_FIRM 0 0 cdmanipulation*DECEP_FIRM -1 0 1 0 / e;
contrast 'Instruction given Fraud' cdmanipulation -1 1 DECEP_FIRM
0 0 cdmanipulation*DECEP_FIRM 0 -1 0 1 / e;
contrast 'Company give No Instruction' cdmanipulation 0 0
DECEP_FIRM 1 -1 cdmanipulation*DECEP_FIRM 1 -1 0 0 / e;
contrast 'Company given Instruction' cdmanipulation 0 0
DECEP_FIRM -1 1 cdmanipulation*DECEP_FIRM 0 0 -1 1 / e;
    WHERE FAM_DECEP = 0 AND pro=1; run;

*-----*
| Table 3, Figure 2, Footnote 16 & 17, Section 4.3.2 |
*-----*
TITLE'Table 3, Section 4.3.2';
title2'how many fraud sentences';
data temp3s343; set CmpnySentFraudFinal; run;
proc sort data=temp3s343; by company subject; run;
data temp3s343; set temp3s343;
    if company = 'MRVC' and subject ne 18 then delete;
    if company = 'TLEO' and subject ne 18 then delete;
    if company = 'WCG' and subject ne 43 then delete;
    if company = 'NEXC' and subject ne 96 then delete;
    if company = 'NSIT' and subject ne 101 then delete; run;
proc means data=temp3s343 mean sum; class company; var
discussfraudplaus; run;
title2'RFAccuracy-means';
proc means data=CmpnySentFraudFinal;
var accuracyflags;
    WHERE FAM_DECEP = 0 AND pro=1;
run;
proc means data=CmpnySentFraudFinal;
class cdmanipulation ;
var accuracyflags;
    WHERE FAM_DECEP = 0 AND pro=1;
run;
proc means data=CmpnySentFraudFinal;
class DiscussFraudPlaus;
var accuracyflags;
    WHERE FAM_DECEP = 0 AND pro=1;
run;

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proc means data=CmpnySentFraudFinal;
class cdmanipulation DiscussFraudPlaus;
var accuracyflags;
    WHERE FAM_DECEP = 0 AND pro=1;
run;
title'RFAccuracy-regression';
proc glimmix data=CmpnySentFraudFinal ;
class cdmanipulation DiscussFraudPlaus ;
model accuracyflags (descending) =
cdmanipulation|DiscussFraudPlaus / s dist=binary link=logit chisq;random
_residual_ / subject=Subject type=cs;
    contrast '1/1/-3/1' cdmanipulation -2 2 DiscussFraudPlaus 2 -2
cdmanipulation*DiscussFraudPlaus 1 -3 1 1 / CHISQ e;
    contrast '2/2/-3/-1' cdmanipulation -1 1 DiscussFraudPlaus 4 -4
cdmanipulation*DiscussFraudPlaus 2 -3 2 -1 / CHISQ e;
    contrast 'Instruction given nonfraud' cdmanipulation -1 1
DiscussFraudPlaus 0 0 cdmanipulation*DiscussFraudPlaus -1 0 1 0 / CHISQ e;
    contrast 'Instruction given fraud' cdmanipulation -1 1
DiscussFraudPlaus 0 0 cdmanipulation*DiscussFraudPlaus 0 -1 0 1 / CHISQ e;
    WHERE FAM_DECEP = 0 AND pro=1; run;
TITLE;

*-----*
| 50/50 Fraud rate, Section 4.4.1 |
*-----*
TITLE'50/50 Fraud rate, Section 4.4.1';
title2'Company level-Means';
proc means data=fulldatafinal; class cdmanipulation; var
decep_judg; WHERE FAM_DECEP = 0 AND pro=1; run;
proc means data=fulldatafinal; class decep_firm cdmanipulation;
var decep_judg; WHERE FAM_DECEP = 0 AND pro=1; run;
title2'Company level-analysis';
*for Uninstructed auditors judge just 31% of companies to be
deceptive, which is significantly less than the 50% rate of instructed
auditors use main effect for cdmanipulation;
*for between instructed and uninstructed auditors judging non-
fraud companies use contrast;
proc glimmix data=fulldatafinal ;
class cdmanipulation pro DECEP_FIRM ;
model decep_judg(descending) = cdmanipulation|DECEP_FIRM / s
dist=binary link=logit chisq;random _residual_ / subject=Subject type=cs;
    contrast 'Instruction given nonfraud' cdmanipulation -1 1
DECEP_FIRM 0 0 cdmanipulation*DECEP_FIRM -1 0 1 0 / CHISQ e;
    WHERE FAM_DECEP = 0 AND pro=1; run;
title2'Company level-corr';
proc corr data=fulldatafinal;
var avgACCURACY avgDECEP_JUDG;
    WHERE FAM_DECEP = 0 and pro=1 and cdmanipulation=1; run;
title2'Sentence Level-Means';
proc means data=CmpnySentFraudFinal; class cdmanipulation
DiscussFraudPlaus; var count2; WHERE FAM_DECEP = 0 AND pro=1;
run;
title2'Sentence Level-Anlalysis';
proc glimmix data=CmpnySentFraudFinal ;
class cdmanipulation DiscussFraudPlaus ;
model count2 (descending) = cdmanipulation|DiscussFraudPlaus / s
dist=binary link=logit chisq;random _residual_ / subject=Subject type=cs;

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        contrast 'Instruction given nonfraud' cdmanipulation -1 1
DiscussFraudPlaus 0 0 cdmanipulation*DiscussFraudPlaus -1 0 1 0 / CHISQ e;
        contrast 'Company given uninstructed' cdmanipulation 0 0
DiscussFraudPlaus -1 1 cdmanipulation*DiscussFraudPlaus -1 1 0 0 / CHISQ e;
        contrast 'Company given instructed' cdmanipulation 0 0
DiscussFraudPlaus -1 1 cdmanipulation*DiscussFraudPlaus 0 0 -1 1 / CHISQ e;
        contrast 'instructed auditors increase to a greater extent'
cdmanipulation -1 1 DiscussFraudPlaus -4 4 cdmanipulation*DiscussFraudPlaus -
2 1 -2 3 / CHISQ e;
        WHERE FAM_DECEP = 0 AND pro=1;
run;

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TITLE;

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*-----*
| Medium, Section 4.4.2 |
*-----*

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TITLE'Medium, Section 4.4.2';

title2'3-way interaction';

```

proc glimmix data=fulldatafinal ;
class cdmanipulation pro DECEP_FIRM audio ;
model accuracy (descending) = cdmanipulation|DECEP_FIRM|Audio /
s dist=binary link=logit chisq;random _residual_ / subject=Subject type=cs;
contrast '1/1/-3/1' cdmanipulation -2 2 DECEP_FIRM 2 -2
cdmanipulation*decep_firm 1 -3 1 1 / CHISQ e;
contrast '2/2/-3/-1' cdmanipulation -1 1 DECEP_FIRM 4 -4
cdmanipulation*DECEP_FIRM 2 -3 2 -1 / CHISQ e;
contrast 'H1b-Company give No Instruction' cdmanipulation 0 0
DECEP_FIRM 1 -1 cdmanipulation*DECEP_FIRM 1 -1 0 0 / CHISQ e;
contrast 'H1c-Instruction given Fraud' cdmanipulation -1 1
DECEP_FIRM 0 0 cdmanipulation*DECEP_FIRM 0 -1 0 1 / CHISQ e;
contrast 'Instruction given Non-Fraud' cdmanipulation -1 1
DECEP_FIRM 0 0 cdmanipulation*DECEP_FIRM -1 0 1 0 / CHISQ e;
contrast 'Company given Instruction' cdmanipulation 0 0
DECEP_FIRM -1 1 cdmanipulation*DECEP_FIRM 0 0 -1 1 / CHISQ e;
        WHERE FAM_DECEP = 0 AND pro=1;
run;

```

title2'Covariate';

```

proc glimmix data=fulldatafinal ;
class cdmanipulation pro DECEP_FIRM audio ;
model accuracy (descending) = cdmanipulation|DECEP_FIRM Audio /
s dist=binary link=logit chisq;random _residual_ / subject=Subject type=cs;
contrast '1/1/-3/1' cdmanipulation -2 2 DECEP_FIRM 2 -2
cdmanipulation*decep_firm 1 -3 1 1 / CHISQ e;
contrast '2/2/-3/-1' cdmanipulation -1 1 DECEP_FIRM 4 -4
cdmanipulation*DECEP_FIRM 2 -3 2 -1 / CHISQ e;
contrast 'H1b-Company give No Instruction' cdmanipulation 0 0
DECEP_FIRM 1 -1 cdmanipulation*DECEP_FIRM 1 -1 0 0 / CHISQ e;
contrast 'H1c-Instruction given Fraud' cdmanipulation -1 1
DECEP_FIRM 0 0 cdmanipulation*DECEP_FIRM 0 -1 0 1 / CHISQ e;
contrast 'Instruction given Non-Fraud' cdmanipulation -1 1
DECEP_FIRM 0 0 cdmanipulation*DECEP_FIRM -1 0 1 0 / CHISQ e;
contrast 'Company given Instruction' cdmanipulation 0 0
DECEP_FIRM -1 1 cdmanipulation*DECEP_FIRM 0 0 -1 1 / CHISQ e;
        WHERE FAM_DECEP = 0 AND pro=1;
run;

```

TITLE;

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*-----*
| Footnote 3, Section 3.1 |
*-----*

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```

TITLE'Footnote 3, Section 3.1';
  proc glimmix data=fulldatafinal ;
  class cdmanipulation DECEP_FIRM pro;
  model accuracy (descending) = cdmanipulation|DECEP_FIRM / s
dist=binary link=logit chisq;random _residual_ / subject=Subject type=cs;
  contrast '1/1/-3/1' cdmanipulation -2 2 DECEP_FIRM 2 -2
cdmanipulation*decep_firm 1 -3 1 1 / CHISQ e;
  contrast '2/2/-3/-1' cdmanipulation -1 1 DECEP_FIRM 4 -4
cdmanipulation*DECEP_FIRM 2 -3 2 -1 / CHISQ e;
  contrast 'H1b-Company give No Instruction' cdmanipulation 0 0
DECEP_FIRM 1 -1 cdmanipulation*DECEP_FIRM 1 -1 0 0 / CHISQ e;
  contrast 'H1c-Instruction given Fraud' cdmanipulation -1 1 DECEP_FIRM 0
0 cdmanipulation*DECEP_FIRM 0 -1 0 1 / CHISQ e;
  contrast 'Instruction given Non-Fraud' cdmanipulation -1 1 DECEP_FIRM 0
0 cdmanipulation*DECEP_FIRM -1 0 1 0 / CHISQ e;
  contrast 'Company given Instruction' cdmanipulation 0 0 DECEP_FIRM -1 1
cdmanipulation*DECEP_FIRM 0 0 -1 1 / CHISQ e;
  WHERE FAM_DECEP = 0 and pro=1 and Jobtitle notin
('Staff','staff','Senior','senior') AND subject notin
(210,237,245,248,249,251,276); run;
TITLE;

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*-----*
| Footnote 5, Section 3.2 |
*-----*

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TITLE'Footnote 5, Section 3.2';
  proc glimmix data=fulldatafinal ;
  class cdmanipulation DECEP_FIRM pro;
  model accuracy (descending) = cdmanipulation|DECEP_FIRM / s
dist=binary link=logit chisq;random _residual_ / subject=Subject type=cs;
  contrast '1/1/-3/1' cdmanipulation -2 2 DECEP_FIRM 2 -2
cdmanipulation*decep_firm 1 -3 1 1 / CHISQ e;
  contrast '2/2/-3/-1' cdmanipulation -1 1 DECEP_FIRM 4 -4
cdmanipulation*DECEP_FIRM 2 -3 2 -1 / CHISQ e;
  contrast 'H1b-Company give No Instruction' cdmanipulation 0 0
DECEP_FIRM 1 -1 cdmanipulation*DECEP_FIRM 1 -1 0 0 / CHISQ e;
  contrast 'H1c-Instruction given Fraud' cdmanipulation -1 1 DECEP_FIRM 0
0 cdmanipulation*DECEP_FIRM 0 -1 0 1 / CHISQ e;
  contrast 'Instruction given Non-Fraud' cdmanipulation -1 1 DECEP_FIRM 0
0 cdmanipulation*DECEP_FIRM -1 0 1 0 / CHISQ e;
  contrast 'Company given Instruction' cdmanipulation 0 0 DECEP_FIRM -1 1
cdmanipulation*DECEP_FIRM 0 0 -1 1 / CHISQ e;
  WHERE FAM_DECEP = 0 AND pro=1 AND order < 3; run;
TITLE;

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*-----*
| Footnote 6, Section 3.2 |
*-----*

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```

TITLE'Footnote 6, Section 3.2';
  proc glimmix data=fulldatafinal ;
  class cdmanipulation DECEP_FIRM pro;
  model accuracy (descending) = cdmanipulation|DECEP_FIRM NAFF / s
dist=binary link=logit chisq;random _residual_ / subject=Subject type=cs;
  contrast '1/1/-3/1' cdmanipulation -2 2 DECEP_FIRM 2 -2
cdmanipulation*decep_firm 1 -3 1 1 / CHISQ e;
  contrast '2/2/-3/-1' cdmanipulation -1 1 DECEP_FIRM 4 -4
cdmanipulation*DECEP_FIRM 2 -3 2 -1 / CHISQ e;

```

```

        contrast 'H1b-Company give No Instruction' cdmanipulation 0 0
DECEP_FIRM 1 -1 cdmanipulation*DECEP_FIRM 1 -1 0 0 / CHISQ e;
        contrast 'H1c-Instruction given Fraud' cdmanipulation -1 1 DECEP_FIRM 0
0 cdmanipulation*DECEP_FIRM 0 -1 0 1 / CHISQ e;
        contrast 'Instruction given Non-Fraud' cdmanipulation -1 1 DECEP_FIRM 0
0 cdmanipulation*DECEP_FIRM -1 0 1 0 / CHISQ e;
        contrast 'Company given Instruction' cdmanipulation 0 0 DECEP_FIRM -1 1
cdmanipulation*DECEP_FIRM 0 0 -1 1 / CHISQ e;
        WHERE FAM_DECEP = 0 AND pro=1 ; run;
TITLE;

```

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*-----*
| Footnote 7, Section 3.4 |
*-----*

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```

TITLE'Footnote 7, Section 3.4';
proc mixed data=Disfluencies_firm ; class decep_firm;
model DisflPerCharacter = decep_firm/ s ;
lsmeans decep_firm / diff cl;
run;
TITLE;

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*-----*
| Footnote 8, Section 3.4 |
*-----*

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```

TITLE'Footnote 8, Section 3.4';
proc glimmix data=fulldatafinal ;
class cdmanipulation DECEP_FIRM pro;
model accuracy (descending) = cdmanipulation|DECEP_FIRM / s
dist=binary link=logit chisq;random _residual_ / subject=Subject type=cs;
contrast '1/1/-3/1' cdmanipulation -2 2 DECEP_FIRM 2 -2
cdmanipulation*decep_firm 1 -3 1 1 / CHISQ e;
contrast '2/2/-3/-1' cdmanipulation -1 1 DECEP_FIRM 4 -4
cdmanipulation*DECEP_FIRM 2 -3 2 -1 / CHISQ e;
contrast 'H1b-Company give No Instruction' cdmanipulation 0 0
DECEP_FIRM 1 -1 cdmanipulation*DECEP_FIRM 1 -1 0 0 / CHISQ e;
contrast 'H1c-Instruction given Fraud' cdmanipulation -1 1 DECEP_FIRM 0
0 cdmanipulation*DECEP_FIRM 0 -1 0 1 / CHISQ e;
contrast 'Instruction given Non-Fraud' cdmanipulation -1 1 DECEP_FIRM 0
0 cdmanipulation*DECEP_FIRM -1 0 1 0 / CHISQ e;
contrast 'Company given Instruction' cdmanipulation 0 0 DECEP_FIRM -1 1
cdmanipulation*DECEP_FIRM 0 0 -1 1 / CHISQ e;
WHERE FAM_DECEP =0 AND pro=1 AND company notin ('c1','c2','c3');
run;
TITLE;

```

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*-----*
| Footnote 10, Section 4.1.1 |
*-----*

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```

TITLE'Footnote 10, Section 4.1.1';
proc print data=fulldatafinal; var subject company; where fam_decep=1
and pro=1;run;
TITLE;

```

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*-----*
| Footnote 14, Section 4.3.1 |
*-----*

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```

TITLE'Footnote 14, Section 4.3.1';
  title2'problemssum';
  proc glimmix data=fulldatafinal ; class pro cdmanipulation
DECEP_FIRM company ;
  model problemssum = cdmanipulation|decep_firm / s ; random
_residual_ / subject=Subject type=cs;
  lsmeans cdmanipulation|decep_firm / diff ;
  WHERE FAM_DECEP = 0 AND pro=1; run;
  title2'problem accuracy';
  proc glimmix data=fulldatafinal ;
  class cdmanipulation decep_judg pro;
  model accurateproblems3 = cdmanipulation|decep_judg / s
chisq;random _residual_ / subject=Subject type=cs;
  lsmeans cdmanipulation|DECEP_judg / diff chisq cl;
  WHERE FAM_DECEP = 0 and pro=1 AND decep_firm=1; run;
TITLE;

*-----*
| Footnote 15, Section 4.3.1 |
*-----*
TITLE'Footnote 15, Section 4.3.1';
  proc corr data=fulldatafinal;
  var NumRFsListed FLAGCHARS;
  WHERE FAM_DECEP = 0 and pro=1 ; run;
TITLE;

*-----*
| Footnote 19, Section 5 |
*-----*
TITLE'Footnote 19, Section 5';
  proc means data=fulldatafinal;
  class cdmanipulation; var accuracy;
  WHERE FAM_DECEP = 0 AND pro=0 AND decep_firm=1 ;run;

  /* "neither instructed (47%) nor uninstructed (50%) audit students
perform better than chance at detecting fraud companies (repeated measures t-
test p-values of the hypothesis that accuracy was equal to chance levels of
50% were 0.40 and 0.87, respectively)"/
reg acc_demean if cdmanipulation == 1 & DECEP_FIRM ==1, robust
cluster(Subject)
reg acc_demean if cdmanipulation == 0 & DECEP_FIRM ==1, robust
cluster(Subject)
TITLE;

```