ppolsage is the predicted value from OLS regression with agetrma as predictor
pplogage is the predicted value from logistic regression with agetrma as predictor
ppolsage2 is the predicted value from OLS regression with agetrma as predictor
pplogage2 is the predicted value from logistic regression with agetrma as predictor
pgrA is the predicted group membership from logistic regression with agetrma as predictor
pgrA2 is the predicted group membership from logistic regression with agetrma2 as predictor
pplogvio is the predicted value from logistic regression with viotrma as predictor
pgrV is the predicted group membership from logistic regression with viotrma as predictor

COMPUTE loglike0=(ptsd*(LN(.25)) + ((1-ptsd)*(LN(1-.25))).
COMPUTE loglikea=(ptsd*(LN(pplogage))) + ((1-ptsd)*(LN(1-pplogage))).
COMPUTE loglikea2=(ptsd*(LN(pplogage2))) + ((1-ptsd)*(LN((1-pplogage2)))).
COMPUTE loglikev=(ptsd*(LN(pplogvio))) + ((1-ptsd)*(LN((1-pplogvio))).

EXECUTE.
Regression

Model Summary

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.769a</td>
<td>.591</td>
<td>.568</td>
<td>.29</td>
</tr>
</tbody>
</table>

a Predictors: (Constant), AGETRMA
b Dependent Variable: PTSD

Coefficients

<table>
<thead>
<tr>
<th></th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>95% Confidence Interval for B</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
</tr>
<tr>
<td>1 (Constant)</td>
<td>1.326</td>
<td>.221</td>
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<tr>
<td>AGETRMA</td>
<td>-.0479</td>
<td>.009</td>
<td>-.769</td>
</tr>
</tbody>
</table>

a Dependent Variable: PTSD

Logistic Regression

Step 0: Beginning Block

Classification Table

<table>
<thead>
<tr>
<th>Observed</th>
<th>Predicted PTSD</th>
<th>Percentage Correct</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>15</td>
<td>0</td>
</tr>
<tr>
<td>1</td>
<td>5</td>
<td>0</td>
</tr>
</tbody>
</table>

Overall Percentage 75.0

Variables in the Equation

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>S.E.</th>
<th>Wald</th>
<th>df</th>
<th>Sig.</th>
<th>Exp(B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 0</td>
<td>Constant</td>
<td>-1.099</td>
<td>.516</td>
<td>4.526</td>
<td>1</td>
<td>.033</td>
</tr>
</tbody>
</table>

Step 1: Method = Enter

Omnibus Tests of Model Coefficients

<table>
<thead>
<tr>
<th>Step 1</th>
<th>Chi-Square</th>
<th>df</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step</td>
<td>22.493</td>
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<td>.000</td>
</tr>
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<td>Block</td>
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</tr>
<tr>
<td>Model</td>
<td>22.493</td>
<td>1</td>
<td>.000</td>
</tr>
</tbody>
</table>

Classification Table

<table>
<thead>
<tr>
<th>Observed</th>
<th>Predicted PTSD</th>
<th>Percentage Correct</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>15</td>
<td>0</td>
</tr>
<tr>
<td>1</td>
<td>0</td>
<td>5</td>
</tr>
</tbody>
</table>

Overall Percentage 100.0

Variables in the Equation

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>S.E.</th>
<th>Wald</th>
<th>df</th>
<th>Sig.</th>
<th>Exp(B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
<td>AGETRMA</td>
<td>-29.397</td>
<td>2199.054</td>
<td>.000</td>
<td>1</td>
<td>.989</td>
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<tr>
<td></td>
<td>Constant</td>
<td>485.058</td>
<td>36314.748</td>
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<td>1</td>
<td>.989</td>
</tr>
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</table>

Odds Ratio for AGETRMA are infinitely small, basically.

ANOVA

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Regression</td>
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<td>1</td>
<td>2.217</td>
<td>26.024</td>
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</tr>
<tr>
<td>Residual</td>
<td>1.533</td>
<td>18</td>
<td>.085</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>3.750</td>
<td>19</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a Predictors: (Constant), AGETRMA
b Dependent Variable: PTSD

Omnibus Tests of Model Coefficients

<table>
<thead>
<tr>
<th>Step 1</th>
<th>-2 Log Likelihood</th>
<th>Cox &amp; Snell R Square</th>
<th>Nagelkerke R Square</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.000</td>
<td>.675</td>
<td>1.000</td>
</tr>
</tbody>
</table>

χ² = 2[LL(A)-LL(0)] T&F p.526
= 2[0-(11.247)] = 22.493
This is a test for how much adding AGETRMA improves the fit over the Marginal (Mean PTSD) Model
### Regression

#### Model Summary

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.719a</td>
<td>.517</td>
<td>.490</td>
<td>.317</td>
</tr>
</tbody>
</table>

- a: Predictors: (Constant), AGETRMA2
- b: Dependent Variable: PTSD

#### Coefficients

<table>
<thead>
<tr>
<th></th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>95% Confidence Interval for B</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
</tr>
<tr>
<td>1 (Constant)</td>
<td>1.256</td>
<td>.240</td>
<td></td>
</tr>
<tr>
<td>AGETRMA2</td>
<td>-0.0448</td>
<td>.010</td>
<td>-0.719</td>
</tr>
</tbody>
</table>

- a: Dependent Variable: PTSD

### Logistic Regression

#### Step 0: Beginning Block

#### Classification Table

<table>
<thead>
<tr>
<th>Observed</th>
<th>Predicted PTSD</th>
<th>Percentage Correct</th>
</tr>
</thead>
<tbody>
<tr>
<td>PTSD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>100.0</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>0.0</td>
</tr>
</tbody>
</table>

Overall Percentage: 75.0

- a: Constant included in the model.
- b: The cut value is .500

#### Variables in the Equation

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>S.E.</th>
<th>Wald</th>
<th>df</th>
<th>Sig.</th>
<th>Exp(B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 0</td>
<td>-1.099</td>
<td>.516</td>
<td>4.526</td>
<td>1</td>
<td>.033</td>
<td>.333</td>
</tr>
</tbody>
</table>

#### Step 1: Method = Enter

#### Omnibus Tests of Model Coefficients

<table>
<thead>
<tr>
<th>Step</th>
<th>Chi-Square</th>
<th>df</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
<td>14.657</td>
<td>1</td>
<td>.000</td>
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</tbody>
</table>

#### Classification Table

<table>
<thead>
<tr>
<th>Observed</th>
<th>Predicted PTSD</th>
<th>Percentage Correct</th>
</tr>
</thead>
<tbody>
<tr>
<td>PTSD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>14</td>
<td>93.3</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>80.0</td>
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</table>

Overall Percentage: 90.0

- a: The cut value is .500

#### Variables in the Equation

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>S.E.</th>
<th>Wald</th>
<th>df</th>
<th>Sig.</th>
<th>Exp(B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1a</td>
<td>-0.638</td>
<td>0.343</td>
<td>3.450</td>
<td>1</td>
<td>.063</td>
<td>.528</td>
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<tr>
<td>Constant</td>
<td>10.500</td>
<td>5.784</td>
<td>3.295</td>
<td>1</td>
<td>.069</td>
<td>36299.763</td>
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</tbody>
</table>

### ANOVA

#### Model

<table>
<thead>
<tr>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Regression</td>
<td>1</td>
<td>1.939</td>
<td>19.262</td>
<td>.000a</td>
</tr>
<tr>
<td>Residual</td>
<td>18</td>
<td>.101</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>19</td>
<td>3.750</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- a: Predictors: (Constant), AGETRMA2
- b: Dependent Variable: PTSD

### Odds Ratio

- Odds Ratio = .333 = .25/.75
- Sample is .333 times as likely to have PTSD.
- By taking the reciprocal, Odds Ratio .75/ .25 = 3
- Sample is 3 times more likely to NOT have PTSD.

- $\chi^2 = 2[-LL(A)-LL(0)]$ T&F p.526
- $\chi^2 = 2[-3.9183-(11.247)] = 14.657$
- This is a test for how much adding AGETRMA improves the fit over the Marginal (Mean PTSD) Model

### Variables

- For every year younger a victim is, they are 1.89 more likely to develop PTSD.
PTSD * VIOTRMA Crosstabulation

<table>
<thead>
<tr>
<th></th>
<th>VIOTRMA</th>
<th></th>
<th></th>
<th></th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>PTSD</td>
<td></td>
<td></td>
<td>---</td>
<td>-----</td>
<td>-------</td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Count</td>
<td>9</td>
<td>6</td>
<td></td>
<td></td>
<td>15</td>
</tr>
<tr>
<td>Expected Count</td>
<td>7.5</td>
<td>7.5</td>
<td></td>
<td></td>
<td>15.0</td>
</tr>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Count</td>
<td>1</td>
<td>4</td>
<td></td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Expected Count</td>
<td>2.5</td>
<td>2.5</td>
<td></td>
<td></td>
<td>5.0</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Count</td>
<td>10</td>
<td>10</td>
<td></td>
<td></td>
<td>20</td>
</tr>
</tbody>
</table>

1 of the 10 patients who experienced Violent Trauma were diagnosed with PTSD, a 1:9 ratio. 4 of the 10 patients who experienced Violent Trauma were diagnosed with PTSD, a 4:6 ratio. The Odds Ratio ((4/6)/(1/9)) = 6. Patients who experienced Violent Trauma were 6 times more likely to be diagnosed with PTSD.

Regression

Model Summary

Model | R | R Square | Adjusted R Square | Std. Error | 95% Confidence Interval for B
|-----|----|----------|------------------|------------|------------------------|
1    | .346a | .120 | .071 | .43 |

a Predictors: (Constant), VIOTRMA
b Dependent Variable: PTSD

The predicted probability when VIOTRMA=0 is .10 which is equal to 1/10. The predicted probability when VIOTRMA=1 is .10 + .30 = .40 which is equal to 4/10.

Logistic Regression

Step 0: Beginning Block Results are the Same as the Previous Analysis with AGETRMA

Step 1: Method = Enter

Omnibus Tests of Model Coefficients

<table>
<thead>
<tr>
<th>Step</th>
<th>Chi-Square</th>
<th>df</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step</td>
<td>2.532</td>
<td>1</td>
<td>.112</td>
</tr>
<tr>
<td>Block</td>
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</tr>
<tr>
<td>Model</td>
<td>2.532</td>
<td>1</td>
<td>.112</td>
</tr>
</tbody>
</table>

Classification Table

<table>
<thead>
<tr>
<th>Observed</th>
<th>Predicted PTSD</th>
<th>Percentage Correct</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>PTSD</td>
<td>0</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Overall Percentage</td>
<td>75.0</td>
<td></td>
</tr>
</tbody>
</table>

a The cut value is .500

Variables in the Equation

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>S.E.</th>
<th>Wald</th>
<th>df</th>
<th>Sig.</th>
<th>Exp(B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1a</td>
<td>VIOTRMA</td>
<td>1.792</td>
<td>1.236</td>
<td>2.101</td>
<td>1</td>
<td>.147</td>
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<tr>
<td></td>
<td>Constant</td>
<td>-2.197</td>
<td>1.054</td>
<td>4.345</td>
<td>1</td>
<td>.037</td>
</tr>
</tbody>
</table>

Odds Ratio when VIOTRMA=0 is 1.111 = 1/9

Odds Ratio when VIOTRMA=1 is 6. e(1.792) = 6.

\( \chi^2 = \frac{2[(LL(A)-LL(0))]}{T&F\text{ p.526}} = \frac{2[-9.981-(-11.247)]}{2.532} = 2.532 \)

This is a test for how much adding VIOTRMA improves the fit over the Marginal (Mean PTSD) Model

\( \chi^2 = \frac{2[(LL(A)-LL(0))]}{T&F\text{ p.526}} = \frac{2[-9.981-(-11.247)]}{2.532} = 2.532 \)
### Descriptive Statistics

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Finish (Y)</td>
<td>50</td>
<td>.50</td>
<td>.51</td>
</tr>
<tr>
<td>GRE - Composite (X1)</td>
<td>50</td>
<td>1317.0</td>
<td>113.3</td>
</tr>
<tr>
<td>GPA (X2)</td>
<td>50</td>
<td>3.51</td>
<td>.27</td>
</tr>
<tr>
<td>Gender Female=0</td>
<td>50</td>
<td>.36</td>
<td>.48</td>
</tr>
<tr>
<td>Male=1 (X3)</td>
<td>50</td>
<td>7.82</td>
<td>.96</td>
</tr>
</tbody>
</table>

### Correlations

<table>
<thead>
<tr>
<th></th>
<th>Finish (Y)</th>
<th>GRE - Comp (X1)</th>
<th>GPA (X2)</th>
<th>Gender F=0 M=1 (X3)</th>
<th>Motivation (X4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Correlation</td>
<td>1.00</td>
<td>.448**</td>
<td>.452**</td>
<td>-.250</td>
<td>.567**</td>
</tr>
<tr>
<td>Correlation (Y)</td>
<td>.448**</td>
<td>1.00</td>
<td>.321*</td>
<td>-.058</td>
<td>.341*</td>
</tr>
<tr>
<td>GRE - Comp (X1)</td>
<td>.452**</td>
<td>.321*</td>
<td>1.00</td>
<td>-.008</td>
<td>.164</td>
</tr>
<tr>
<td>GPA (X2)</td>
<td>-.250</td>
<td>-.058</td>
<td>-.008</td>
<td>1.000</td>
<td>-.208</td>
</tr>
<tr>
<td>Gender F=0 M=1 (X3)</td>
<td>.567**</td>
<td>.341*</td>
<td>.164</td>
<td>-2.08</td>
<td>1.000</td>
</tr>
</tbody>
</table>

* Correlation is significant at the 0.05 level (1-tailed).
** Correlation is significant at the 0.01 level (1-tailed).

### Model Summary

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.711a</td>
<td>.506</td>
<td>.462</td>
<td>.37</td>
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</tbody>
</table>

a Predictors: (Constant), GRE-Comp (X1), GPA (X2), Gender F=0 M=1 (X3), Motivation (X4)

### ANOVA

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>6.321</td>
<td>4</td>
<td>1.580</td>
<td>11.507</td>
<td>.000a</td>
</tr>
<tr>
<td></td>
<td>6.179</td>
<td>45</td>
<td>.137</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>12.500</td>
<td>49</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a Predictors: (Constant), GRE-Comp (X1), GPA (X2), Gender F=0 M=1 (X3), Motivation (X4)

### Coefficients

<table>
<thead>
<tr>
<th></th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
<th>95% Confidence Interval for B</th>
<th>Correlations</th>
<th>Collinearity Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
<td>Lower Bound</td>
<td>Upper Bound</td>
<td>Zero-order</td>
</tr>
<tr>
<td>(Constant)</td>
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<td>-5.242</td>
<td>.000</td>
<td>-6.123</td>
<td>-2.724</td>
<td></td>
</tr>
<tr>
<td>GRE - Comp (X1)</td>
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<td>.001</td>
<td>.194</td>
<td>1.664</td>
<td>.000</td>
<td>.002</td>
<td>.448</td>
</tr>
<tr>
<td>GPA (X2)</td>
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<td>.321</td>
<td>2.894</td>
<td>.006</td>
<td>.185</td>
<td>1.030</td>
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<tr>
<td>Gender F=0 M=1 (X3)</td>
<td>-.1560</td>
<td>.112</td>
<td>-.149</td>
<td>-1.394</td>
<td>.170</td>
<td>-.381</td>
<td>.069</td>
</tr>
<tr>
<td>Motivation (X4)</td>
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<td>.060</td>
<td>.417</td>
<td>3.657</td>
<td>.001</td>
<td>.098</td>
<td>.340</td>
</tr>
</tbody>
</table>

a Dependent Variable: Finish (Y),
### Discriminant Analysis

#### Group Statistics

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Valid N (listwise)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Did Not Finish Y=0</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GRE - Comp (X1)</td>
<td>1266.800</td>
<td>110.217</td>
<td>25</td>
</tr>
<tr>
<td>GPA (X2)</td>
<td>3.390</td>
<td>.291</td>
<td>25</td>
</tr>
<tr>
<td>Gender F=0 M=1 (X3)</td>
<td>.480</td>
<td>.510</td>
<td>25</td>
</tr>
<tr>
<td>Motivation (X4)</td>
<td>7.280</td>
<td>.792</td>
<td>25</td>
</tr>
<tr>
<td><strong>Finished Y=1</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GRE - Comp (X1)</td>
<td>1367.200</td>
<td>93.8758</td>
<td>25</td>
</tr>
<tr>
<td>GPA (X2)</td>
<td>3.630</td>
<td>.177</td>
<td>25</td>
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<tr>
<td>Gender F=0 M=1 (X3)</td>
<td>.240</td>
<td>.436</td>
<td>25</td>
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<tr>
<td>Motivation (X4)</td>
<td>8.360</td>
<td>.810</td>
<td>25</td>
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<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GRE - Comp (X1)</td>
<td>1317.000</td>
<td>113.304</td>
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</tr>
<tr>
<td>GPA (X2)</td>
<td>3.510</td>
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<td>50</td>
</tr>
<tr>
<td>Gender F=0 M=1 (X3)</td>
<td>1.360</td>
<td>.485</td>
<td>50</td>
</tr>
<tr>
<td>Motivation (X4)</td>
<td>7.820</td>
<td>.962</td>
<td>50</td>
</tr>
</tbody>
</table>

#### Tests of Equality of Group Means

<table>
<thead>
<tr>
<th></th>
<th>Wilks' Lambda</th>
<th>F</th>
<th>df1</th>
<th>df2</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>GRE - Comp (X1)</td>
<td>.800</td>
<td>12.023</td>
<td>1</td>
<td>48</td>
<td>.001</td>
</tr>
<tr>
<td>GPA (X2)</td>
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<td>12.356</td>
<td>1</td>
<td>48</td>
<td>.001</td>
</tr>
<tr>
<td>Gender F=0 M=1 (X3)</td>
<td>.938</td>
<td>3.200</td>
<td>1</td>
<td>48</td>
<td>.080</td>
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<tr>
<td>Motivation (X4)</td>
<td>.679</td>
<td>22.722</td>
<td>1</td>
<td>48</td>
<td>.000</td>
</tr>
</tbody>
</table>

#### Summary of Canonical Discriminant Functions

<table>
<thead>
<tr>
<th>Function</th>
<th>Eigenvvalue</th>
<th>% of Variance</th>
<th>Cumulative %</th>
<th>Canonical Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1.023</td>
<td>100.0</td>
<td>100.0</td>
<td>.771</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Function</th>
<th>Wilks' Lambda</th>
<th>Test of Function(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.494</td>
<td>Chi-Square</td>
</tr>
<tr>
<td></td>
<td></td>
<td>32.407</td>
</tr>
</tbody>
</table>

In the 2-group situation, Wilks' Lambda ($\Lambda$) is functionally related to the correlation coefficient ($r$).

\[ r = \sqrt{1 - \Lambda} = \sqrt{1 - .795} = .452 \]

In the 2-group situation, Wilks' Lambda ($\Lambda$) is functionally related to the Multiple correlation coefficient ($R$).

\[ R = \sqrt{1 - \Lambda} = \sqrt{1 - .494} = .771 \]

Which is also identical to the Canonical Correlation coefficient.
### Standardized Canonical Discriminant Function Coefficients

<table>
<thead>
<tr>
<th>Variable</th>
<th>Function 1</th>
<th>Function 2</th>
<th>Function 3</th>
<th>Function 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>GRE - Comp (X1)</td>
<td>.346</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GPA (X2)</td>
<td>.572</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender F=0 M=1 (X3)</td>
<td>-.289</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Motivation (X4)</td>
<td>.687</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Standardize Coefficients used to evaluate the Relative Contribution of each variable to the Discriminant Function that separate the groups.

### Structure Matrix

<table>
<thead>
<tr>
<th>Variable</th>
<th>Function 1</th>
<th>Function 2</th>
<th>Function 3</th>
<th>Function 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>GRE - Comp (X1)</td>
<td>.495</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GPA (X2)</td>
<td>.502</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender F=0 M=1 (X3)</td>
<td>-.255</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Motivation (X4)</td>
<td>.680</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Pooled within-group correlations between discriminating variables and standardized canonical discriminant functions.

### Canonical Discriminant Function Coefficients

<table>
<thead>
<tr>
<th>Variable</th>
<th>Function 1</th>
<th>Function 2</th>
<th>Function 3</th>
<th>Function 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>GRE - Comp (X1)</td>
<td>.003</td>
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</tr>
<tr>
<td>GPA (X2)</td>
<td>2.379</td>
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<tr>
<td>Gender F=0 M=1 (X3)</td>
<td>-.610</td>
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<td></td>
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<tr>
<td>Motivation (X4) (Constant)</td>
<td>-18.686</td>
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</tbody>
</table>

Unstandardized coefficients.

### Functions at Group Centroids

<table>
<thead>
<tr>
<th>Group</th>
<th>Function 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Did Not Finish</td>
<td>-.991</td>
</tr>
<tr>
<td>Finished</td>
<td>.991</td>
</tr>
</tbody>
</table>

### FINISH * Predicted Group Crosstabulation

<table>
<thead>
<tr>
<th>Group</th>
<th>Count</th>
<th>Expected Count</th>
<th>% within FINISH</th>
</tr>
</thead>
<tbody>
<tr>
<td>FINISH Did Not Finish</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Count</td>
<td>20</td>
<td>11.5</td>
<td>80.0%</td>
</tr>
<tr>
<td>Finished</td>
<td>3</td>
<td>11.5</td>
<td>12.0%</td>
</tr>
<tr>
<td>Total</td>
<td>23</td>
<td>23.0</td>
<td>46.0%</td>
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</tbody>
</table>

### Symmetric Measures

<table>
<thead>
<tr>
<th>Measure of Agreement</th>
<th>Value</th>
<th>Asymp. Std. Error</th>
<th>Approx. T</th>
<th>Approx. Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kappa</td>
<td>.680</td>
<td>.103</td>
<td>4.824</td>
<td>.000</td>
</tr>
<tr>
<td>N of Valid Cases</td>
<td>50</td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>
Logistic Regression

Step 0: Beginning Block

### Classification Table\(^a,b\)

<table>
<thead>
<tr>
<th>Observed</th>
<th>Predicted</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>FINISH</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Did Not Finish</td>
<td>Finished</td>
</tr>
<tr>
<td>Step 0 FINISH Did Not Finish</td>
<td>0</td>
<td>25</td>
</tr>
<tr>
<td>Finished</td>
<td>0</td>
<td>25</td>
</tr>
<tr>
<td>Overall Percentage</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\(^a\) Constant included in the model.
\(^b\) B. The cut value is .500

### Variables in the Equation

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>S.E.</th>
<th>Wald</th>
<th>df</th>
<th>Sig.</th>
<th>Exp(B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 0 Constant</td>
<td>.000</td>
<td>.283</td>
<td>.000</td>
<td>1</td>
<td>1.000</td>
<td>1.000</td>
</tr>
</tbody>
</table>

Step 1: Method = Enter

### Omnibus Tests of Model Coefficients

<table>
<thead>
<tr>
<th>Step</th>
<th>Omnibus Tests of Model Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Chi-Square</td>
</tr>
<tr>
<td>Step 1</td>
<td>31.901</td>
</tr>
<tr>
<td>Block</td>
<td>31.901</td>
</tr>
<tr>
<td>Model</td>
<td>31.901</td>
</tr>
</tbody>
</table>

### Omnibus Tests of Model Coefficients

<table>
<thead>
<tr>
<th>Step</th>
<th>-2 Log Likelihood</th>
<th>Cox &amp; Snell R Square</th>
<th>Nagelkerke R Square</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>37.414</td>
<td>.472</td>
<td>.629</td>
</tr>
</tbody>
</table>

### Classification Table\(^a\)

<table>
<thead>
<tr>
<th>Observed</th>
<th>Predicted</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>FINISH</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Did Not Finish</td>
<td>Finished</td>
</tr>
<tr>
<td>Step 1 FINISH Did Not Finish</td>
<td>21</td>
<td>4</td>
</tr>
<tr>
<td>Finished</td>
<td>3</td>
<td>22</td>
</tr>
<tr>
<td>Overall Percentage</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\(^a\) The cut value is .500

### Variables in the Equation

<table>
<thead>
<tr>
<th>Step 1(^a)</th>
<th>B</th>
<th>S.E.</th>
<th>Wald</th>
<th>df</th>
<th>Sig.</th>
<th>Exp(B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>GRE-Comp ((X1))</td>
<td>.007</td>
<td>.005</td>
<td>2.220</td>
<td>1</td>
<td>.136</td>
<td>1.007</td>
</tr>
<tr>
<td>GPA ((X2))</td>
<td>4.122</td>
<td>1.880</td>
<td>4.807</td>
<td>1</td>
<td>.028</td>
<td>61.682</td>
</tr>
<tr>
<td>Gender (F=0\ (M=1) ((X3))</td>
<td>.919</td>
<td>.861</td>
<td>1.137</td>
<td>1</td>
<td>.286</td>
<td>2.506</td>
</tr>
<tr>
<td>Motivation ((X4))</td>
<td>1.462</td>
<td>.560</td>
<td>6.807</td>
<td>1</td>
<td>.009</td>
<td>4.313</td>
</tr>
<tr>
<td>Constant</td>
<td>-35.598</td>
<td>10.136</td>
<td>12.334</td>
<td>1</td>
<td>.000</td>
<td>0.000</td>
</tr>
</tbody>
</table>
### Logistic Regression

**Step 0: Beginning Block**

<table>
<thead>
<tr>
<th>Observed</th>
<th>Predicted</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>FINISH</td>
<td>Did Not Finish</td>
<td>Finished</td>
</tr>
<tr>
<td>Did Not Finish</td>
<td>0</td>
<td>25</td>
</tr>
<tr>
<td>Finished</td>
<td>0</td>
<td>25</td>
</tr>
</tbody>
</table>

**Overall Percentage**

- 50.0

*a. Constant included in the model.*

*b. The cut value is .500*

### Variables in the Equation

<table>
<thead>
<tr>
<th>B</th>
<th>S.E.</th>
<th>Wald</th>
<th>df</th>
<th>Sig.</th>
<th>Exp(B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 0</td>
<td>.000</td>
<td>.283</td>
<td>.000</td>
<td>1.000</td>
<td>1.000</td>
</tr>
</tbody>
</table>

**Step 1: Method = Enter**

### Omnibus Tests of Model Coefficients

<table>
<thead>
<tr>
<th>Chi-Square</th>
<th>df</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
<td>31.901</td>
<td>4</td>
</tr>
<tr>
<td>Block</td>
<td>31.901</td>
<td>4</td>
</tr>
<tr>
<td>Model</td>
<td>31.901</td>
<td>4</td>
</tr>
</tbody>
</table>

### Omnibus Tests of Model Coefficients

<table>
<thead>
<tr>
<th>Step</th>
<th>-2 Log Likelihood</th>
<th>Cox &amp; Snell R Square</th>
<th>Nagelkerke R Square</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>37.414</td>
<td>.472</td>
<td>.629</td>
</tr>
</tbody>
</table>

### Classification Table

<table>
<thead>
<tr>
<th>Observed</th>
<th>Predicted</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>FINISH</td>
<td>Did Not Finish</td>
<td>Finished</td>
</tr>
<tr>
<td>Did Not Finish</td>
<td>21</td>
<td>4</td>
</tr>
<tr>
<td>Finished</td>
<td>3</td>
<td>22</td>
</tr>
</tbody>
</table>

**Overall Percentage**

- 86.0

*a. The cut value is .500*

### Variables in the Equation

<table>
<thead>
<tr>
<th>B</th>
<th>S.E.</th>
<th>Wald</th>
<th>df</th>
<th>Sig.</th>
<th>Exp(B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1*</td>
<td>.768</td>
<td>.005</td>
<td>2.220</td>
<td>1</td>
<td>.136</td>
</tr>
<tr>
<td>ZGRE-Comp (Z1)</td>
<td>1.101</td>
<td>1.880</td>
<td>4.807</td>
<td>1</td>
<td>.028</td>
</tr>
<tr>
<td>ZGPA (Z2)</td>
<td>-.445</td>
<td>.861</td>
<td>1.137</td>
<td>1</td>
<td>.286</td>
</tr>
<tr>
<td>ZGender (Z3)</td>
<td>1.407</td>
<td>.560</td>
<td>6.807</td>
<td>1</td>
<td>.009</td>
</tr>
<tr>
<td>ZMotivation (Z4)</td>
<td>-.180</td>
<td>10.13</td>
<td>12.334</td>
<td>1</td>
<td>.000</td>
</tr>
</tbody>
</table>
## Report

<table>
<thead>
<tr>
<th>FINISH</th>
<th>OLS LPM Regression Predicted Value</th>
<th>Logistic Regression Predicted Probability</th>
<th>Logistic Regression Predicted Group</th>
<th>Discriminant Analysis Predicted Group</th>
<th>Discriminant Scores from Function 1</th>
<th>Probability of Membership Group 0</th>
<th>Probability of Membership Group 0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Did Not Finish Y=0</td>
<td>Mean</td>
<td>.2472</td>
<td>.2245</td>
<td>.1600</td>
<td>.2000</td>
<td>-.9909</td>
<td>.7695</td>
</tr>
<tr>
<td></td>
<td>Std. Dev.</td>
<td>.2764</td>
<td>.2581</td>
<td>.3700</td>
<td>.4100</td>
<td>1.0835</td>
<td>.2787</td>
</tr>
<tr>
<td></td>
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<td>.0070</td>
<td>0</td>
<td>0</td>
<td>-2.7974</td>
<td>.0707</td>
</tr>
<tr>
<td></td>
<td>Maximum</td>
<td>.8316</td>
<td>.8948</td>
<td>1</td>
<td>1</td>
<td>1.2997</td>
<td>.9961</td>
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<tr>
<td>Finished Y=1</td>
<td>Mean</td>
<td>.7528</td>
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<td>.8800</td>
<td>.9909</td>
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<tr>
<td></td>
<td>N</td>
<td>25</td>
<td>25</td>
<td>24</td>
<td>24</td>
<td>25</td>
<td>25</td>
</tr>
<tr>
<td></td>
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<td>.3300</td>
<td>.3300</td>
<td>.9089</td>
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<td>0</td>
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<tr>
<td></td>
<td>Maximum</td>
<td>1.0176</td>
<td>.9611</td>
<td>1</td>
<td>1</td>
<td>2.0286</td>
<td>.9830</td>
</tr>
<tr>
<td>Total</td>
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<td>.5000</td>
<td>.5200</td>
<td>.5400</td>
<td>0</td>
<td>.4794</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td>Std. Deviation</td>
<td>.3592</td>
<td>.3689</td>
<td>.5000</td>
<td>.5000</td>
<td>1.4708</td>
<td>.3887</td>
</tr>
<tr>
<td></td>
<td>Minimum</td>
<td>-.2137</td>
<td>.0070</td>
<td>0</td>
<td>0</td>
<td>-2.7974</td>
<td>.0176</td>
</tr>
<tr>
<td></td>
<td>Maximum</td>
<td>1.0176</td>
<td>.9611</td>
<td>1</td>
<td>1</td>
<td>2.0286</td>
<td>.9961</td>
</tr>
</tbody>
</table>

### Correlations

Linear Regression and Discriminant Analysis are IDENTICAL

- **FINISH**
  - Pearson Correlation
    - OLS LPM Regression Predicted Value: 1.000
    - Logistic Regression Predicted Probability: 0.711
    - Logistic Regression Predicted Group: 0.754
    - Discriminant Analysis Predicted Group: 0.721
    - Discriminant Scores from Function 1: 0.682
    - Probability of Membership Group 0: 0.711
    - Probability of Membership Group 0: -0.754

- **OLS LPM Regression Predicted Value**
  - Pearson Correlation: 1.000
    - Logistic Regression Predicted Probability: 0.974
    - Logistic Regression Predicted Group: 0.870
    - Discriminant Analysis Predicted Group: 0.874
    - Discriminant Scores from Function 1: 1.000
    - Probability of Membership Group 0: -0.969
    - Probability of Membership Group 0: 0.969

- **Logistic Regression Predicted Probability**
  - Pearson Correlation: 1.000
    - Logistic Regression Predicted Group: 0.934
    - Discriminant Analysis Predicted Group: 0.933
    - Discriminant Scores from Function 1: 0.974
    - Probability of Membership Group 0: -0.998
    - Probability of Membership Group 0: 0.998

- **Logistic Regression Predicted Group**
  - Pearson Correlation: 1.000
    - Discriminant Analysis Predicted Group: 0.961
    - Discriminant Scores from Function 1: 0.870
    - Probability of Membership Group 0: -0.941
    - Probability of Membership Group 0: 0.941

- **Discriminant Analysis Predicted Group**
  - Pearson Correlation: 1.000
    - Discriminant Scores from Function 1: 0.874
    - Probability of Membership Group 0: -0.945
    - Probability of Membership Group 0: 0.945

- **Discriminant Scores from Function 1**
  - Pearson Correlation: 1.000
    - Probability of Membership Group 0: 0.969
    - Probability of Membership Group 0: -1.000

- **Probability of Membership Group 0**
  - Pearson Correlation: 1.000
    - Probability of Membership Group 1: 1.000
Predicted Values (OLS Regression - Discriminant Analysis)

Logistic Regression * Discriminant Analysis Predicted Group Crosstabulation

<table>
<thead>
<tr>
<th></th>
<th>Predicted Group for Discriminant Analysis</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Did Not Finish</td>
<td>Finished</td>
</tr>
<tr>
<td>Predicted Group for Did not Finish</td>
<td>Count</td>
<td>23</td>
</tr>
<tr>
<td></td>
<td>Expected Count</td>
<td>11.0</td>
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<tr>
<td></td>
<td>% within pgr_2</td>
<td>95.8%</td>
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<td>Count</td>
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<tr>
<td></td>
<td>Expected Count</td>
<td>14.0</td>
</tr>
<tr>
<td></td>
<td>% within pgr_2</td>
<td>.0%</td>
</tr>
<tr>
<td>Total</td>
<td>Count</td>
<td>23</td>
</tr>
<tr>
<td></td>
<td>Expected Count</td>
<td>23.0</td>
</tr>
<tr>
<td></td>
<td>% within pgr_2</td>
<td>46.0%</td>
</tr>
</tbody>
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