

CHI² DIFFERENCE TEST

More Tests for Construct Validity

- Chi² difference test for pairs of constructs.
 - Estimate model with correlation between latent constructs free to estimate.
 - Estimate model with correlation between latent constructs fixed to 1.
 - Perform a chi² difference test.
 - If the free model has a significantly lower chi² you have discriminant validity.

Bagozzi, Richard P., and Lynn W. Phillips (1982). "Representing and Testing Organizational Theories: A Holistic Construal." *Administrative Science Quarterly* 27 (3): 459-490.

! Exclamation mark
suspends line so program
doesn't read it

Syntax to fix
correlation

```
Chi2 difference

Chi2 Difference test BUYER

OBSERVED VARIABLES:
q1 q2 q3 q9 q10 q28 q29 q33 q34 q35 q39 q40 q44 q47 q48

Correlation matrix from file buyflex.pm
Asymptotic covariance Matrix from file buyflex.acp

SAMPLE SIZE = 303

LATENT VARIABLES: goals coord flex uncert perform

RELATIONSHIPS:
q1 = 1 * goals
q2 q3 = goals

!q28 = 1 * coord
!q29 = coord

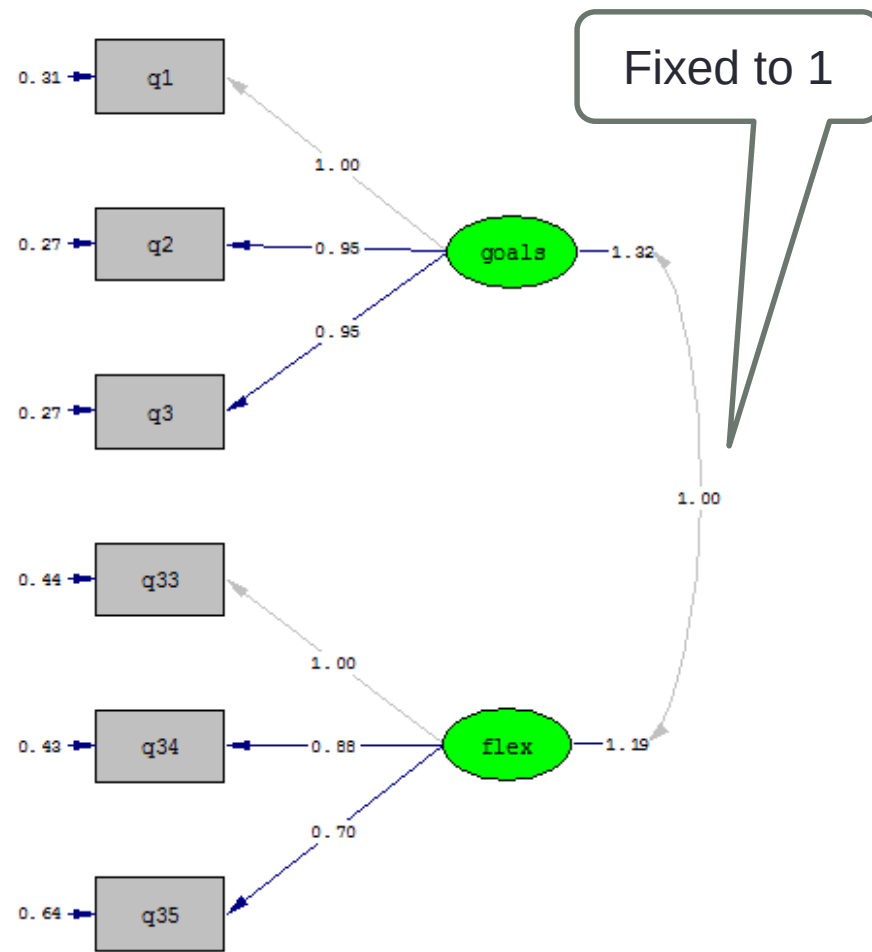
q33 = 1 * flex
q34 q35 = flex

!q39 = 1 * uncert
!q40 = uncert

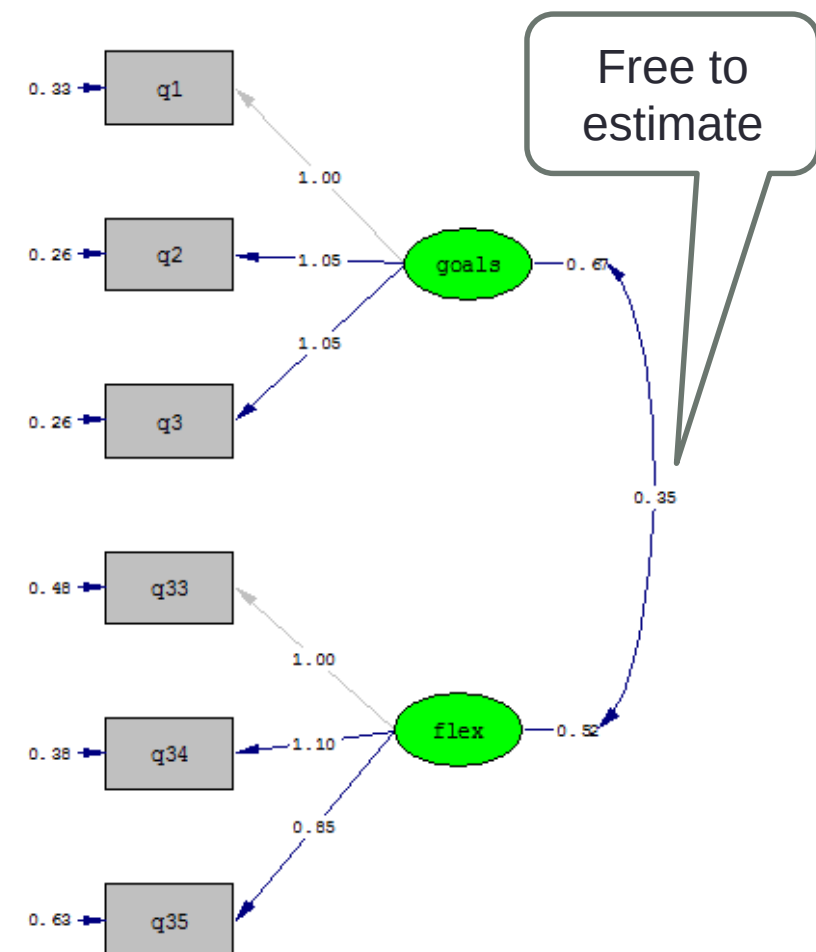
!q44 = 1 * perform
!q47 q48 = perform

Set correlation between goals and flex to 1|

OPTIONS: EF AD=OFF
Lisrel output
Path Diagram
End of Problem
```



Chi-Square=60.66, df=9, P-value=0.00000, RMSEA=



Chi-Square=14.00, df=8, P-value=0.08167, RMSE

Df: $9 - 8 = 1$; critical value: 3.84 at 5%

Chi²: $60.66 - 14.00 = 46.66$

$46.66 > 3.84$ so the unconstrained model has a significantly lower chi², and we have discriminant validity.