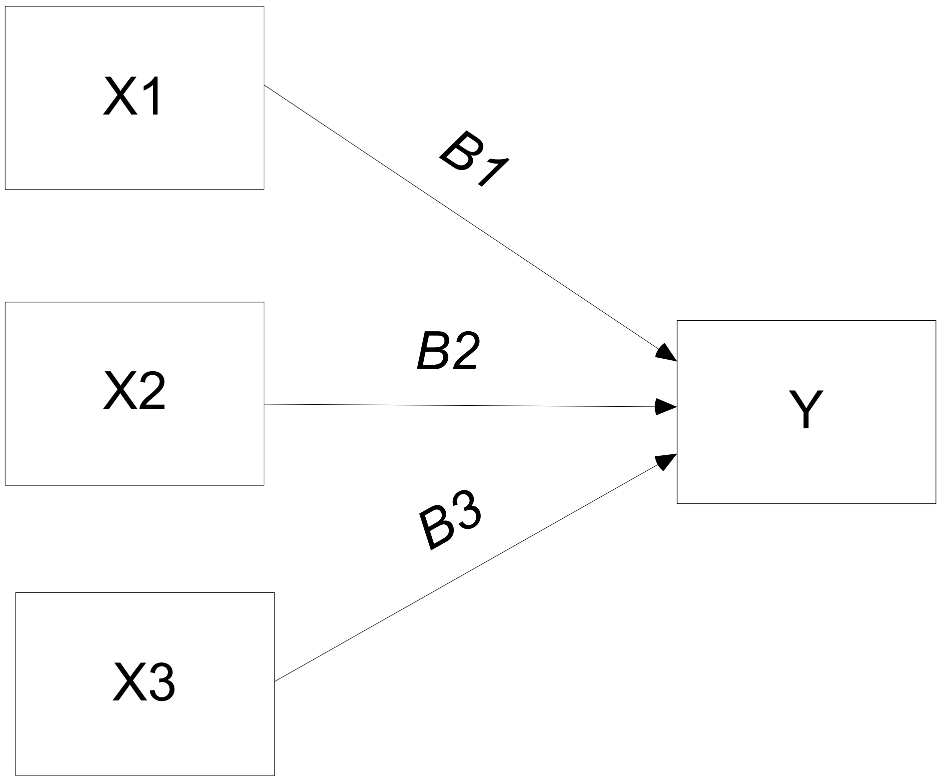
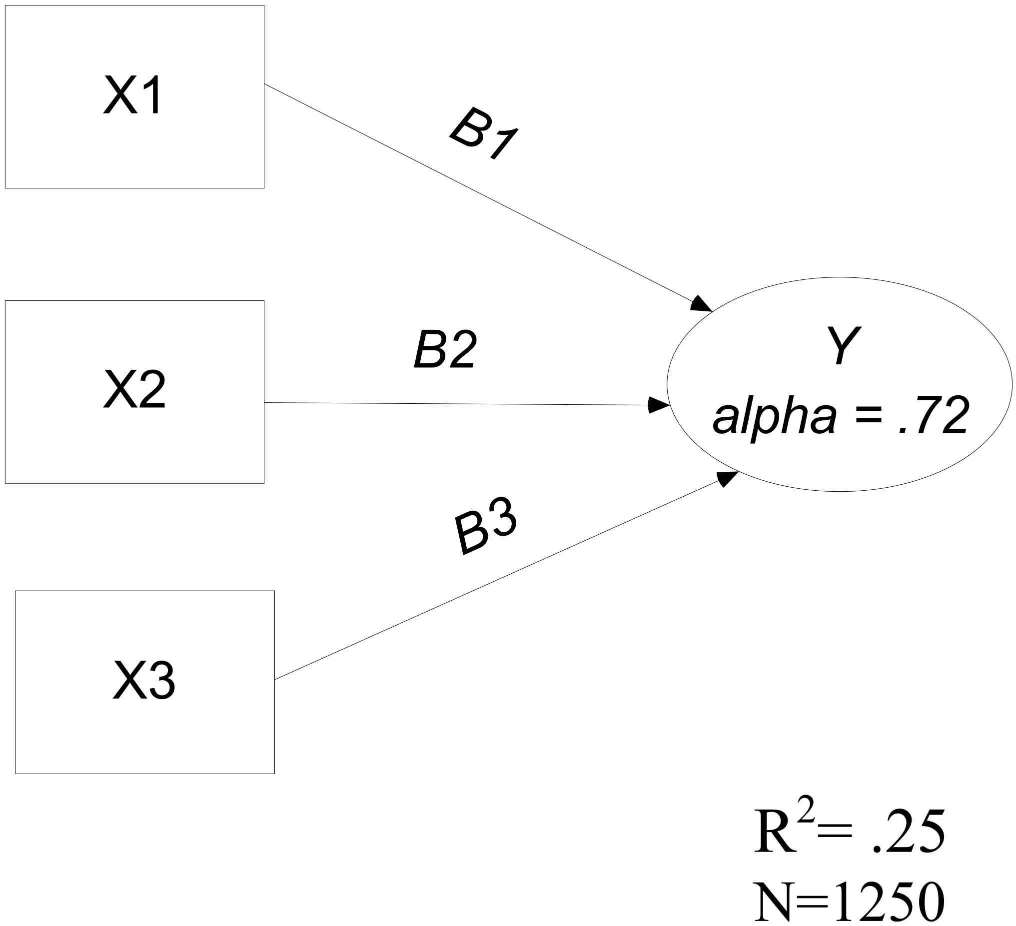
$y = a + bx_1 + bx_2 + bx_3 \ldots$

```
regression variables = DepVar IndVar1 IndVar2 IndVar3 ...
  /statistics coeff r tol
  /descriptive = n
  /dependent = DepVar
  /method = enter.
```



$R^2 = .25$
N=1250


X1
X2
X3
B1
B2
B3
Y
alpha = .72
R2= .25
N=1250

```
Regression variables = DepVar IndVar1 IndVar2 IndVar3 …
   /statistics coeff r tol
   /descriptive = n
   /dependent = DepVar
   /method = enter.
```

```
Regression variables = DepVar IndVar1 IndVar2 IndVar3 …
   /statistics coeff r tol
   /descriptive = n
   /dependent = DepVar
   /method = enter IndVar1
   /method = enter IndVar1 IndVar2 IndVar3.
```

Exhibit 10.1: Two Models Involving Income and Sex

Dependent Variable: Respondent's Income in $1000's

Independent Variable	Model 1	Model 2
Sex (M=0, F=1)	-16.48***	-11.67***
Hours Worked	---	.74***
Constant	51.47	19.06
R^2	.05	.15
n	983	983

*** p<.001 (two-tailed test)
Source: GSS 2012 data.

Exhibit 10.13: Explaining Support for Same-Sex Parenting: Three Models

Dependent Variable: Respondent's Score on Same-Sex Parenting Index

Independent Variable	Model 1	Model 2	Model 3
Sex (M=0, F=1)	0.75***	0.13	0.34**
Support for Non-Trad.	---	0.58***	0.51***
# of times attend per month	---	---	-0.26***
Constant	3.53	0.41	1.20
	R^2 = .02	R^2 = .33	R^2 = .38
	n = 1175	n = 1175	n = 1175

** p<.01, *** p<.001 (two-tailed test)
Source: GSS 2012 data.

Exhibit 10.15 Race's Effect on Grades

Dependent Variable: Student Grades (ranges from 0 (mostly below D's) to 7 (mostly A's))

Independent Variable	Model 1	Model 2	Model 3	Model 4
Race Variable:				
W=0, B=1	-0.17***	-0.09**	+0.02	-0.13***
Social Class Variables:				
Family income	---	+0.02***	+0.01***	+0.01**
Parental prestige	---	+0.10***	+0.06***	+0.04***
Parental education	---	+0.18***	+0.08***	+0.07***
Skills and Habits:				
Effort (acc. to teachers)	---	---	+0.28***	+0.21***
In trouble	---	---	-0.05***	-0.03***
Homework	---	---	+0.05***	+0.03***
Attitudes:				
Treatment by teachers	---	---	---	+0.02**
OK to break rules	---	---	---	+0.01*
OK to cheat	---	---	---	-0.01
R^2	0.04	0.08	0.36	0.44

p<0.05, ** p<0.01, *** p<0.001 (two-tailed test)

Source: Ainsworth-Darnell and Downey (1998)

Parent → lower RawMJ3
Female → lower RawMJ3

Perhaps:
~parent → liberal → RawMJ3
parent → ~liberal →~ RawMJ3

~female → liberal → RawMJ3
female → ~liberal →~ RawMJ3

```
regression variables=RawMJ3 female parent liberal5
  /statistics anova coeff r tol
  /descriptives = n
  /dependent = RawMJ3
  /method = enter female parent
  /method = enter liberal5.
```

Model		b	Std. Error	Beta	t	Sig.	Tol
1	(Constant)	1.762	.058		30.237	.000	
	female	-.366	.073	-.159	-5.000	.000	1.000
	parent	-.128	.077	-.053	-1.665	.096	1.000
2	(Constant)	1.058	.078		13.518	.000	
	female	-.363	.068	-.157	-5.337	.000	1.000
	parent	-.128	.071	-.053	-1.800	.072	1.000
	liberal5	1.376	.110	.367	12.456	.000	1.000

Predicting Attitudes toward Recreational Marijuana (Unstandardized coefficients)

		Model 1	Model 2
	(Constant)	1.762	1.058
	female	-.366***	-.363***
	parent	-.128*	-.128*
	Liberal5		1.376***
Adj R^2		.003	.136
N =		(967)	(967)

	Model 1		Model 2
(Constant)	1.762		1.058
age	-.710***		-.528***
Liberal5			1.227***
Adj R^2	.040		.153
N =	(972)		(972)

	Model 1	Model 2	Model 3
(Constant)	1.762	2.208	1.440
female	-.358***	-.332***	-.335***
parent	-.134*	-.248***	-.220***
age		-.760***	.572***
Liberal5			1.286***
Adj R^2	.025	.069	.184
N =	(963)	(963)	(963)

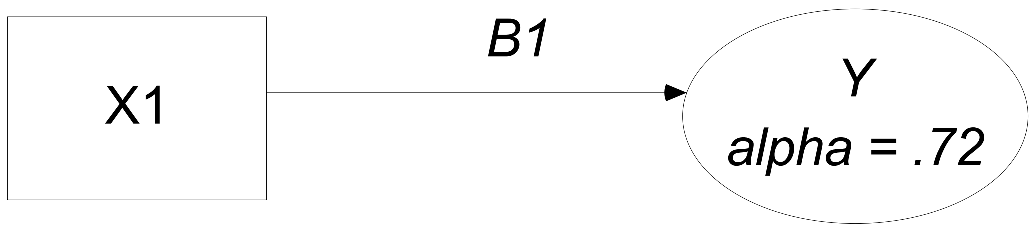
Model		b	Std. Error	Beta	t	Sig.	Tol
1	(Constant)	1.764	.058		30.288	.000	
	female	-.358	.073	-.156	-4.889	.000	1.000
	parent	-.134	.077	-.055	-1.742	.082	1.000
2	(Constant)	2.208	.087		25.420	.000	
	female	-.332	.072	-.144	-4.624	.000	.997
	parent	-.248	.077	-.103	-3.223	.001	.952
	age	-.760	.112	-.216	-6.773	.000	.949
3	(Constant)	1.440	.105		13.777	.000	
	female	-.335	.067	-.146	-4.994	.000	.997
	parent	-.220	.072	-.091	-3.056	.002	.951
	age	-.572	.106	-.163	-5.385	.000	.928
	liberal5	1.286	.110	.344	11.685	.000	.977

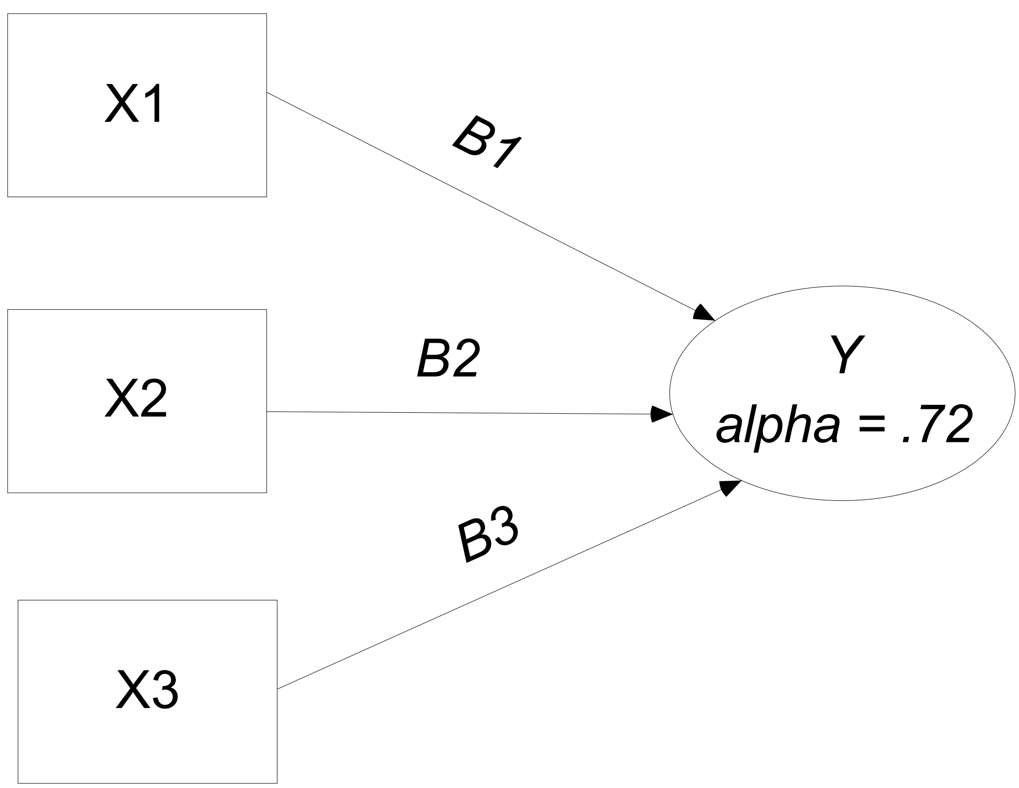
```
Regression variables = DepVar IndVar1 IndVar2 IndVar3 …
   /statistics coeff r tol
   /descriptive = n
   /dependent = DepVar
   /method = enter.
```

```
Regression variables = DepVar IndVar1 IndVar2 IndVar3 …
   /statistics coeff r tol
   /descriptive = n
   /dependent = DepVar
   /method = enter IndVar1
   /method = enter IndVar1 IndVar2 IndVar3.
```

Traditional Labels	Psychological Labels
1. replication	
2. specification	moderation
3a explanation	\spurious
3b interpretation	mediation /
3. suppression	
5. distortion	

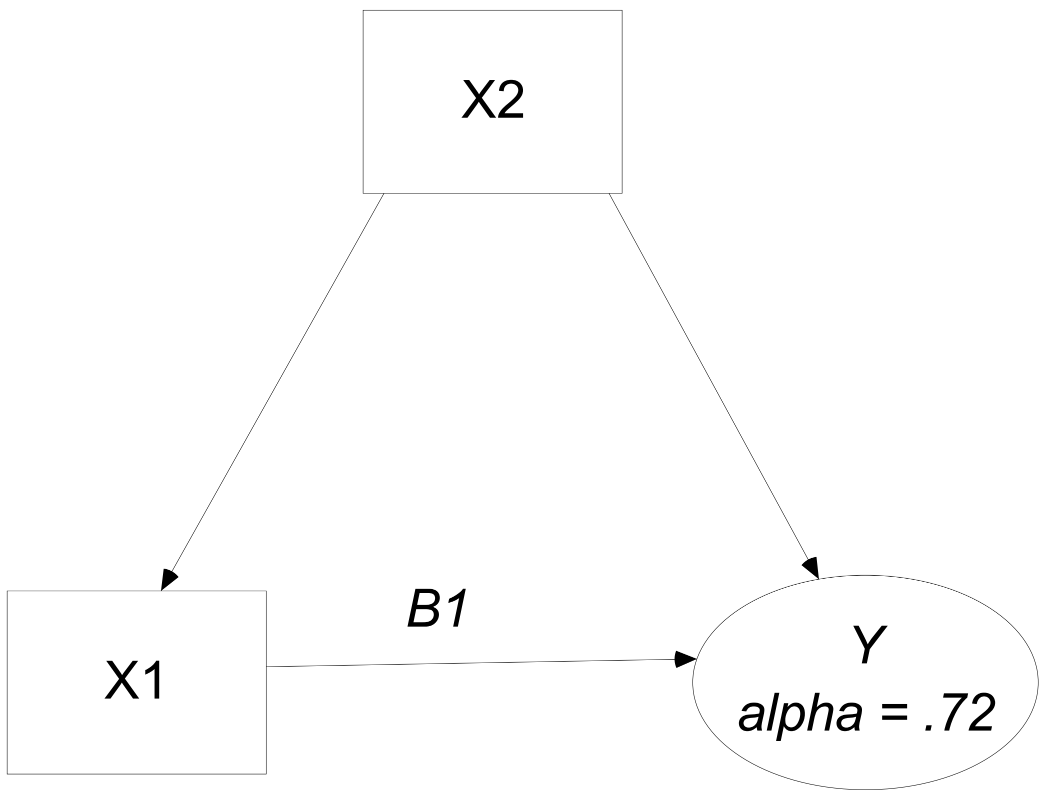
```
Regression variables = DepVar IndVar1 IndVar2 IndVar3 …
   /statistics coeff r tol
   /descriptive = n
   /dependent = DepVar
   /method = Enter IndVar1
   /method = Enter IndVar1 IndVar2 IndVar3.
```

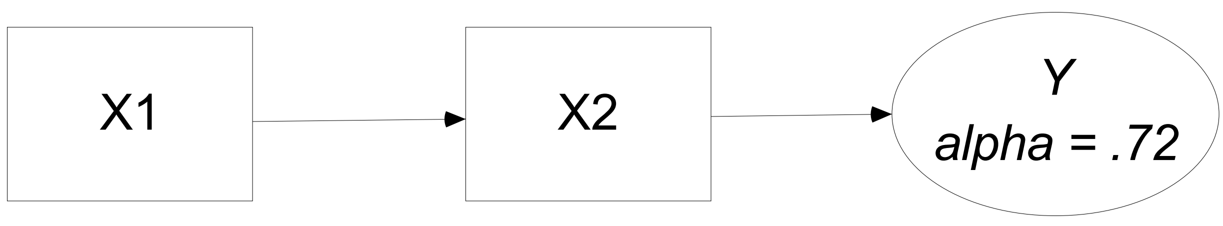

X1
B1
Y
alpha = .72

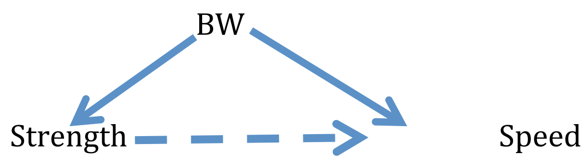

X1
B1
X2
B2
X3
B3
Y
alpha = .72

y = a +bx1 + bx2 + bx3…

RawMJ3 = constant + PartyID + finances + Female…








```
regression variables=AVGSPEED STRENGTH WEIGHT
  /dependent=AVGSPEED
  /method= enter squat
  /method= enter weight.
```

Equation Number 1   Dependent Variable..   AVGSPEED

Variable(s) Entered on Step Number
   1..   Strength

Multiple R	.00065
R Square	.00000
Adjusted R Square	-.09091
Standard Error	2.41797

F =   .00000   Signif F = .9983

------------------ Variables in the Equation ------------------

Variable	B	SE B	Beta	T	Sig T
Strength	-1.84439E-05	.008590	-6.474E-04	-.002	.9983
(Constant)	20.660702	3.262677		6.332	.0001

Variable(s) Entered on Step Number
   2..   WEIGHT

Multiple R	.86129
R Square	.74181
Adjusted R Square	.69018
Standard Error	1.28859

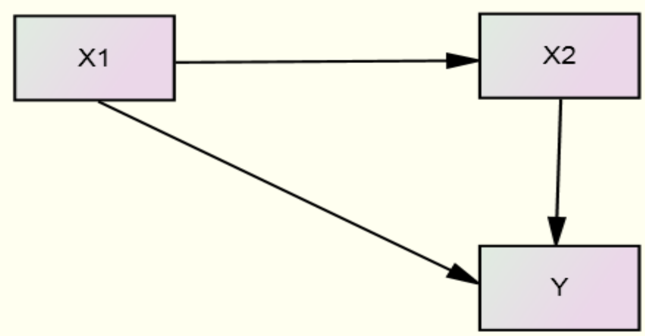
F =   14.36587   Signif F = .0011

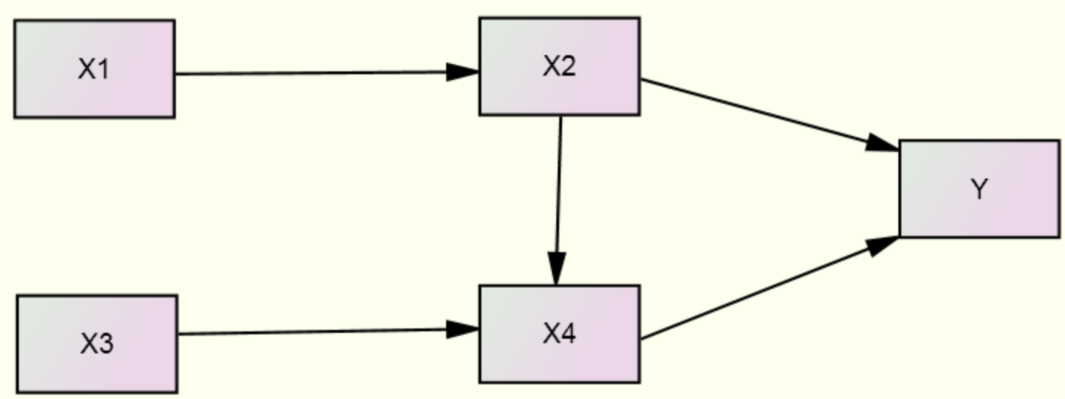
------------------ Variables in the Equation ------------------

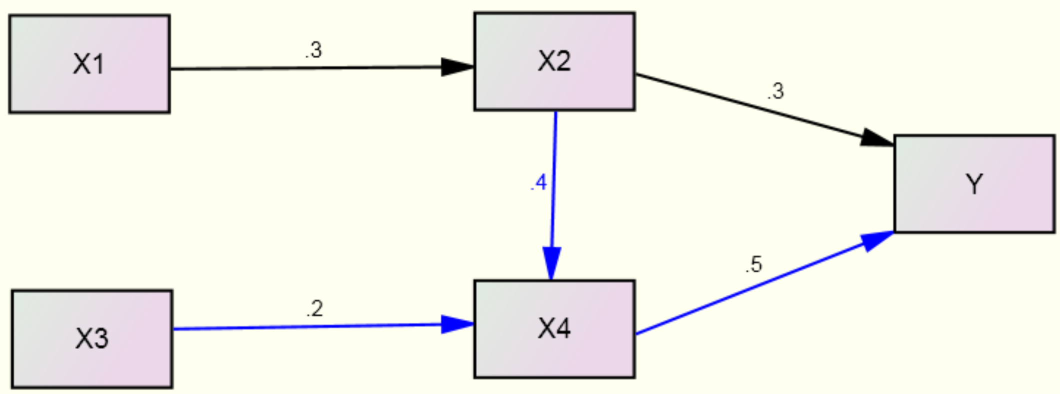
Variable	B	SE B	Beta	T	Sig T
STENGTH	.016694	.005539	.585985	3.014	.0130
WEIGHT	-.091079	.016992	-1.042090	-5.360	.0003
(Constant)	30.982504	2.594481		11.942	.0000

Five extensions of the standard regression approach.

~~Consider Reliability;~~
~~Reconceptualize R^2;~~
~~Enter IV in more that one chunk (a hierarchical approach);~~
~~Create tables with more than one model;~~
Form models with more than one DV (Path Analysis).


X1
X2
Y


X1
X2
Y
X3
X4


X1
.3
X2
.3
Y
.4
.5
X3
.2
X4

Review our five extensions.

Consider Reliability.
Reconceptualize R^2.
Enter IVs in more that one chunk. This is the hierarchical approach.
Create tables with more than one model.
Form models with more than one DV in something called Path Analysis involving both direct and indirect effects.