

Fun with Fractional Factorials.

(Helps us review contrasts and how they allow us to conceptualize orthogonality)

2 x 2 x 2 half fraction

	A1		A2	
	B1	B2	B1	B2
	C1	C2	C2	C1
Main A	1	1	-1	-1
Main B	1	-1	1	-1
A x B	1	-1	-1	1
Main C	1	-1	-1	1

Main effect of C is equivalent to the A x B interaction. $C = C + AxB$

A 2 x 2 x 2 x 2 (four-way) half-fractional factorial design:

	A1				A2			
	B1		B2		B1		B2	
	C1 D1	C2 D2	C1 D2	C2 D1	C1 D2	C2 D1	C1 D1	C2 D2
Main A	1	1	1	1	-1	-1	-1	-1
Main B	1	1	-1	-1	1	1	-1	-1
Main C	1	-1	1	-1	1	-1	1	-1
A x B	1	1	-1	-1	-1	-1	1	1
A x C	1	-1	1	-1	-1	1	-1	1
B x C	1	-1	-1	1	1	-1	-1	1
A x B x C	1	-1	-1	1	-1	1	1	-1
Main D	1	-1	-1	1	-1	1	1	-1

Factor D is equivalent to the A x B x C Interaction. $D = D + AxBxC$