Is simple effect of A significant within specific levels of B using $\alpha = .05/b$?

Yes

Perform comparisons of individual cell means within specific levels of B, using an $\alpha$ of $.05/b$ for the collection of comparisons

No

Is simple effect of B significant within specific levels of A using $\alpha = .05/a$?

Yes

Perform comparisons of individual cell means within specific levels of A, using an $\alpha$ of $.05/a$ for the collection of comparisons

No

Is A main effect significant?

Yes

Perform tests of A marginal means at $\alpha = .05$

No

Is B main effect significant?

Yes

Perform tests of B marginal means at $\alpha = .05$

No

End

General guidelines for analyzing effects in a two-factor design, with factors A ($a$ levels) and B ($b$ levels). Adapted from Maxwell & Delaney (2004), Fig. 7.2.
General guidelines for analyzing effects in a three-factor design, with factors A (a levels), B (b levels) and C (c levels). Adapted from Maxwell & Delaney (2004), Fig. 8.6.