TABLE 8.8 Meaning of Effects in a Three-Way A × B × C Design

	Meaning
Main Effects	
A	Comparison of marginal means of A factor, averaging over levels of B and C
B	Comparison of marginal means of B factor, averaging over levels of A and C
C	Comparison of marginal means of C factor, averaging over levels of A and B
Two-Way Interactions	
A × B	Examines whether the A effect is the same at every level of B, averaging over levels of C (equivalently, examines whether the B effect is the same at every level of A, averaging over levels of C)
A × C	Examines whether the A effect is the same at every level of C, averaging over levels of B (equivalently, examines whether the C effect is the same at every level of A, averaging over levels of B)
B × C	Examines whether the B effect is the same at every level of C, averaging over levels of A (equivalently, examines whether the C effect is the same at every level of B, averaging over levels of A)
Three-Way Interaction	
A × B × C	Examines whether the two-way A × B interaction is the same at every level of C (equivalently, examines whether the two-way A × C interaction is the same at every level of B; equivalently, examines whether the two-way B × C interaction is the same at every level of A)