

Simple Main Effect for 2-Way ANOVA (Mixed Design)

2-Way ANOVA: Independent Design vs. Mixed Design

Independent Design

Price (Between-Subjects: high vs. low) ×
Package color (Between-subjects: Orange vs. Blue)

	High Price	Low Price
Orange Color	Group 1 $M_{\text{Intention 1}}$	Group 2 $M_{\text{Intention 2}}$
Blue Color	Group 3 $M_{\text{Intention 3}}$	Group 4 $M_{\text{Intention 4}}$

Each group has 5 people, 20 in total.

Mixed Design

Price (Between-Subjects: high vs. low) ×
Package color (Within-subjects: Orange vs. Blue)

	High Price	Low Price
Orange Color	Group 1 $M_{\text{Intention 1}}$	Group 2 $M_{\text{Intention 2}}$
Blue Color	Group 1 $M_{\text{Intention 3}}$	Group 2 $M_{\text{Intention 4}}$

Each group has 5 people, 10 in total.

Independent Design

Price (Between-Subjects: high vs. low) ×
Package color (Between-subjects: Orange vs. Blue)

	Prices	Colors	Purchase_intention
1	1.00	1.00	4.00
2	1.00	1.00	4.00
3	1.00	1.00	6.00
4	1.00	1.00	5.00
5	1.00	1.00	4.00
6	1.00	.00	2.00
7	1.00	.00	1.00
8	1.00	.00	2.00
9	1.00	.00	1.00
10	1.00	.00	3.00
11	.00	1.00	7.00
12	.00	1.00	7.00
13	.00	1.00	7.00
14	.00	1.00	6.00
15	.00	1.00	5.00
16	.00	.00	6.00
17	.00	.00	6.00
18	.00	.00	7.00
19	.00	.00	5.00
20	.00	.00	6.00

Each group has 5 people, 20 in total.

Mixed Design

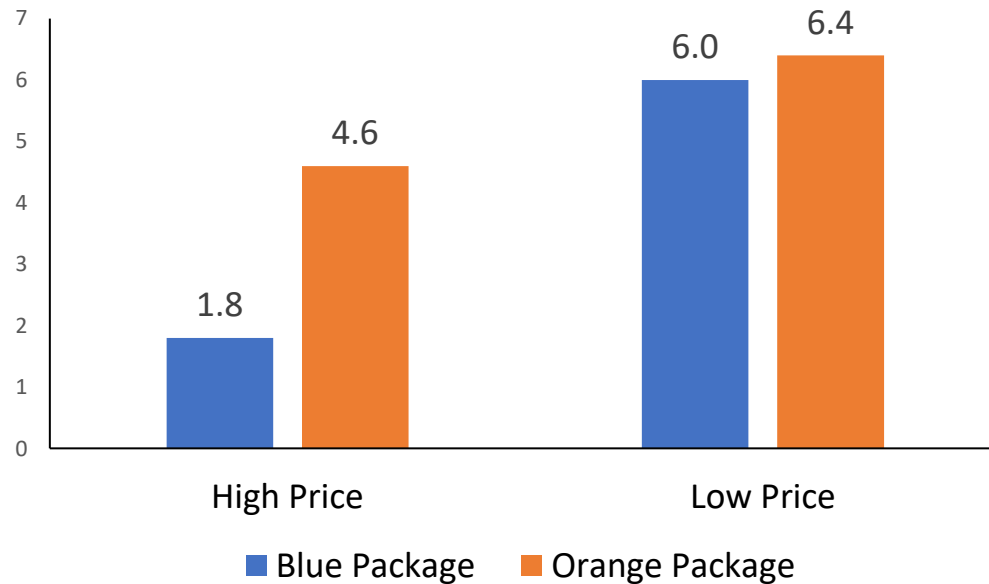
Price (Between-Subjects: high vs. low) ×
Package color (Within-subjects: Orange vs. Blue)

	Prices	Orange	Blue
1	1.00	4.00	2.00
2	1.00	4.00	1.00
3	1.00	6.00	2.00
4	1.00	5.00	1.00
5	1.00	4.00	3.00
6	.00	7.00	6.00
7	.00	7.00	6.00
8	.00	7.00	7.00
9	.00	6.00	5.00
10	.00	5.00	6.00

Each group has 5 people, 10 in total.

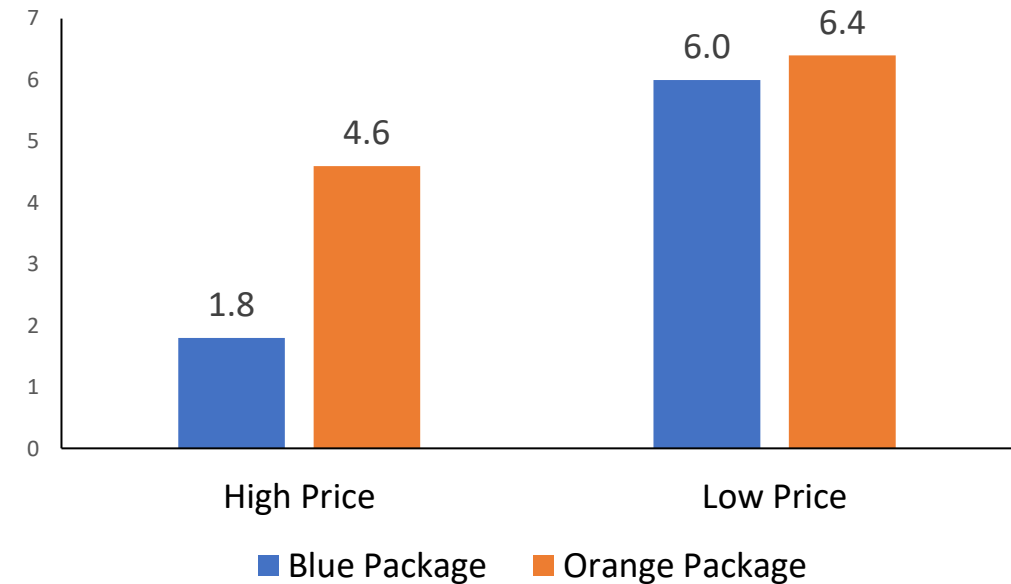
Independent Design

Price (Between-Subjects: high vs. low) ×
Package color (Between-subjects: Orange vs. Blue)



Mixed Design

Price (Between-Subjects: high vs. low) ×
Package color (Within-subjects: Orange vs. Blue)



Independent Design

Price (Between-Subjects: high vs. low) ×
Package color (Between-subjects: Orange vs. Blue)

```
DATASET ACTIVATE DataSet1.
```

```
UNIANOVA Purchase_intention BY Prices Colors
```

```
/METHOD=SSTYPE(3)
```

```
/INTERCEPT=INCLUDE
```

```
/EMMEANS=TABLES(Prices*Colors) compare(Colors)
```

```
/PRINT=DESCRIPTIVE
```

```
/CRITERIA=ALPHA(.05)
```

```
/DESIGN=Prices Colors Prices*Colors.
```

Mixed Design

Price (Between-Subjects: high vs. low) ×
Package color (Within-subjects: Orange vs. Blue)

```
DATASET ACTIVATE DataSet1.
```

```
GLM Orange Blue BY Prices
```

```
/WSFACTOR=Colors 2 Polynomial
```

```
/METHOD=SSTYPE(3)
```

```
/EMMEANS=TABLES(Prices*colors) compare(Colors)
```

```
/PRINT=DESCRIPTIVE
```

```
/CRITERIA=ALPHA(.05)
```

```
/WSDESIGN=Colors
```

```
/DESIGN=Prices.
```

Report:

- The Intention effect of Price (High vs. Low) \times Package Color (Orange vs. Blue) was significant, $F(1, 8) = 11.52$, $p = 0.009$.
- Further, we tested the simple main effects, and found that, when the price was low, the simple main effect of color on purchase intention ($M = 6.0$ vs. 6.4) was not significant ($F(1, 8) = 0.64$, $p = 0.447$). When the price was high, the simple main effect of color on purchase intention ($M = 1.8$ vs. 4.6) was significant ($F(1, 8) = 31.36$, $p = 0.001$).