Interaction Terms

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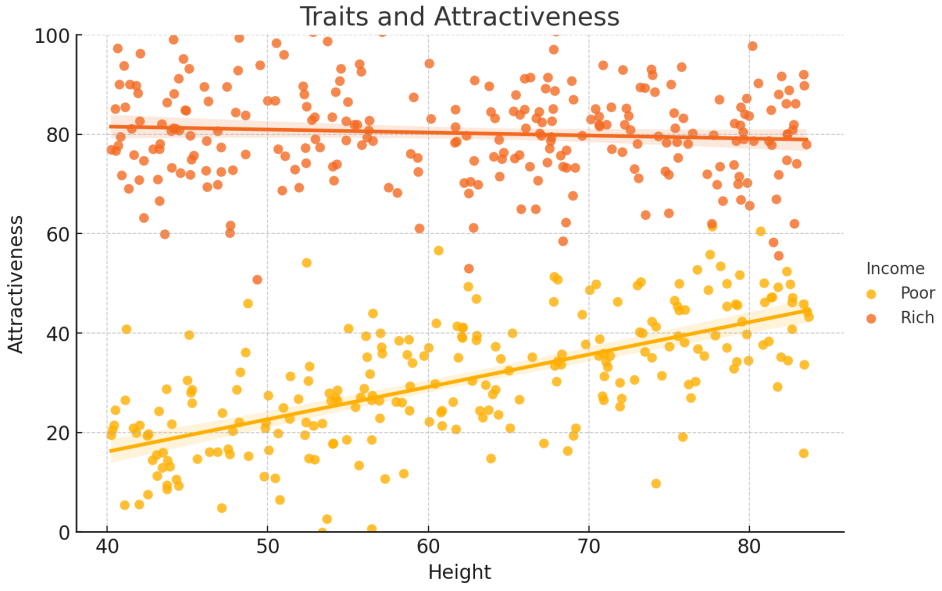
  - There is a relationship between both height and income, and attractiveness, but the effects of our predictors are not consistent.
  - Observation: tall poor people are seen as just as attractive as short rich people.

Visualizing this relationship



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Now let's account for the interaction:

$$\text{VoterSupport} = \alpha_0 + \beta_1 \text{EconPerf} + \beta_2 \text{RegimeType} + \beta_3 (\text{EconPerf} \times \text{RegimeType}) + \mu$$

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- β_3 is the coefficient for the interaction term between economic performance and regime type. This term shows how the effect of economic performance on voter support differs in authoritarian regimes compared to democratic ones.
- μ represents the error term

Interpreting interaction terms

Coefficient of an interaction term tells you how the relationship between two variables changes.

Educational attainment, political participation and gender

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Coefficient	Estimate
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$$\text{Expected Political Participation} = 10.01 + 3.22 \times 15 + (-1.87) \times 1 + 1.5 \times (15 \times 1) = 78.94$$

National security threats, immigration attitudes, and ideology

Does the effect of perceived national security threats on immigration attitudes differ among liberals and conservatives?

$$\text{Expected Immigration Attitude} = \alpha + \beta_1 \times \text{NationalSecurityThreat} + \beta_2 \times \text{PoliticalIdeology} +$$

$$\beta_3 \times (\text{NationalSecurityThreat} \times \text{PoliticalIdeology})$$

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What is the expected immigration attitudes for liberals where national security threat is 10

$$\text{Expected Immigration Attitude} = 20 + 1.5 \times 10 - 5 + 2 \times (10 \times 1) = 50$$