



Problem with the S-S theories

• While they can explain simple conditioning phenomena, they can't explain

Rescorla-Wagner Model

- Began looking more in-depth at what is happening to the actual association between the CS and the US during the process of conditioning (after each trial).
- Driven to find an explanation for blocking phenomenon.





Rescorla-Wagner Theory

- These concepts were incorporated into a mathematical formula:
 - Change in the associative strength of a stimulus depends on the
 - If existing associative strength is low,
 - If existing associative strength is high, then
 - The speed and asymptotic level of learning is determined by the











Rescorla-Wagner Model cont.

- Both parameter values remain the same
 - e.g., trials
- Parameter values differ
 - e.g., different CS-US combinations, different contexts



- Evaluation:
 - To calculate the model's predictions for learning on a given CS-US trial, need to estimate values of k & λ
 - Could run pilot test but extremely complex (Hull, 1943)
 - Can just use arbitrary values!!!
 - Precludes quantitative data (e.g., *how much saliva* on a given trial)
 - Can make qualitative predictions (e.g., whether saliva will *increase or decrease* on a given trial)





Rescorla-Wagner and Compound Stimuli

- Competitive learning:
- The total amount of learning to each stimulus is
- Rescorla-Wagner predicts overshadowing and blocking accurately.





Rescorla-Wagner & Blocking			
	Phase 1	Phase 2	Test
Group 1		[Light + Tone] : Shock	Tone ???
Group 2	Light : Shock	[Light + Tone] : Shock	Tone ???
 Phase 1 Grout the sl Conce Phase 2 Compressed No le perfet 	p 2 the light (CS) pe hock (US) in phase 1 litioning reaches the pound stimuli (Ligh ented with US earning to Tone beca octly predicts US	erfectly predicts p 40 asymptote p 30 t + Tone) p 20 nuse light 10	
 Associat 	ive strength is share	d between CSs $0 + \frac{1}{Gr}$	oup1 Group2 ntrols Blocking





Problems with Rescorla-Wagner

• Problem 2:

 Occasion setting (context that indicates the CS-US pairing will occur, and different context that indicates the CS won't be followed by a US)

- Example:
 - If in a dim Room= tone:shock
 - If in a bright Room= tone is not followed by shock
- Rescorla-Wagner says
- But, it has been the "best" theory of Classical Conditioning