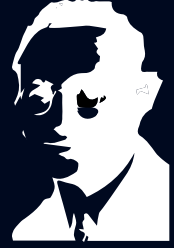
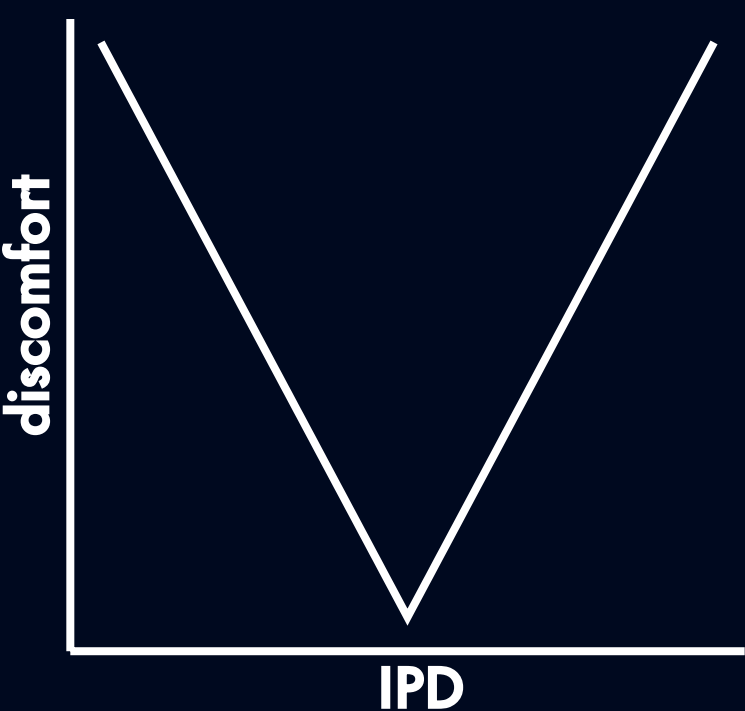


**Motivation**

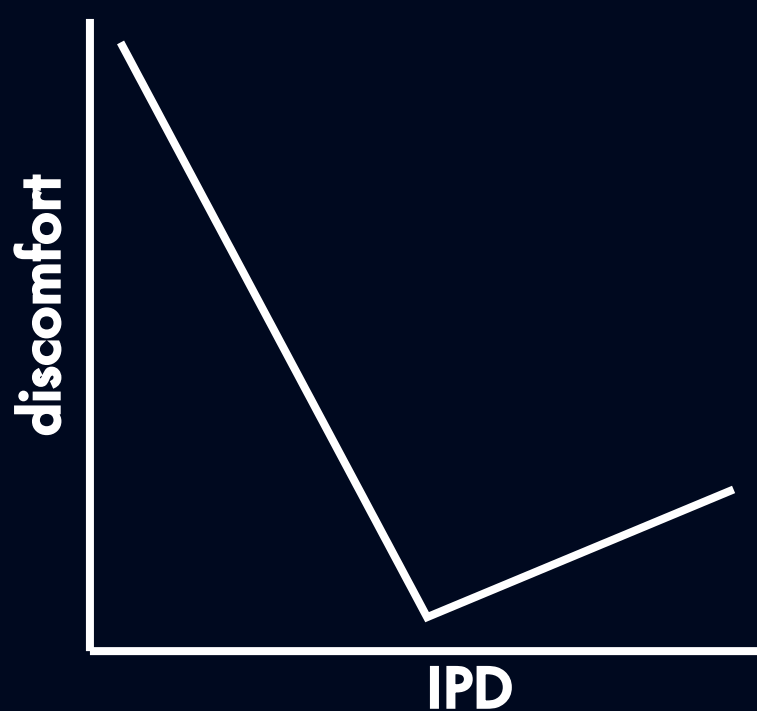
Psychological fields are constructed through individually scaled vectors of approach and avoidance that link the person to the environment (Lewin, 1939). In this vein, Hayduk (1978) defines Personal space (PS) as the area around the individual into which intrusion causes discomfort and arousal. Thus, we conceived four different response models that predict the relationship between interpersonal distance (IPD) and discomfort.

**Competing models of IPD and discomfort:**

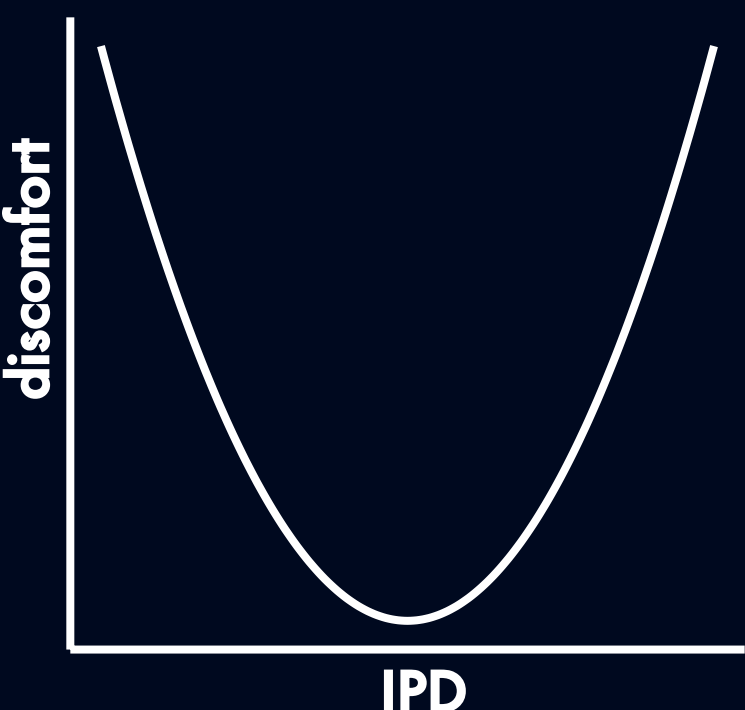
Fast symmetric response model



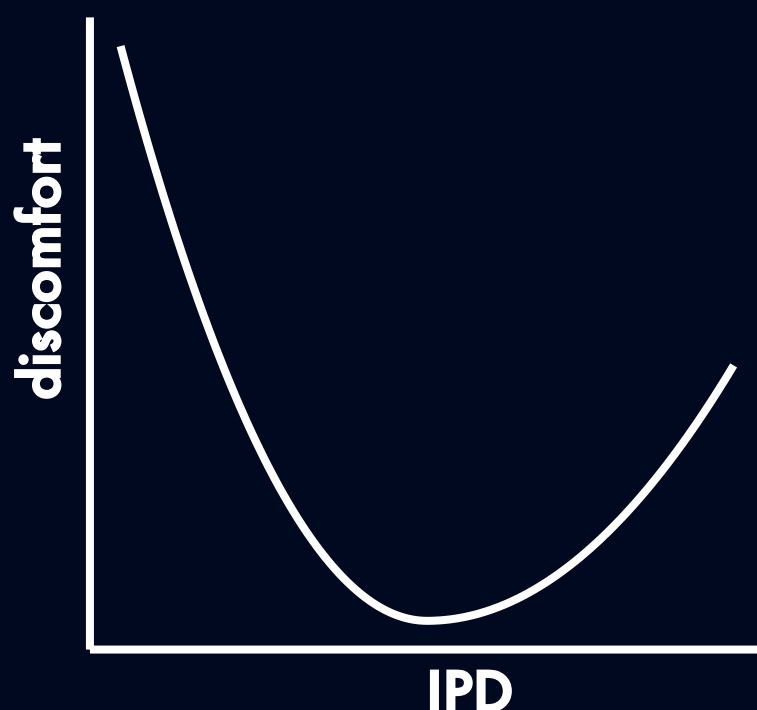
Fast asymmetric response model



Slow symmetric response model



Slow asymmetric response model

**Method**

- N = 24, 6♂ ( $M_{age} = 21.66$ ,  $SD_{age} = 6.92$ )
- placed at 15 interpersonal distances from 40cm to 250cm in steps of 15 cm to a female confederate
- verbal rating of discomfort: -100 (maximum discomfort, too close) to +100 (maximum discomfort, too far)
- manual rating of discomfort: tilt of a joystick
- 3 repetitions of all 15 distances in three blocks: verbal active rating, verbal passive rating, manual passive rating
- PSize estimated by stop-distance task
- 2 female confederates

**Results**

PSize in stop-distance task:  $M = 88.31\text{cm}$ ,  $SD = 17.39\text{cm}$

Shortest distance without discomfort:  $M = 88.33\text{cm}$ ,  $SD = 16.08\text{cm}$ ;

$r(22) = .64$

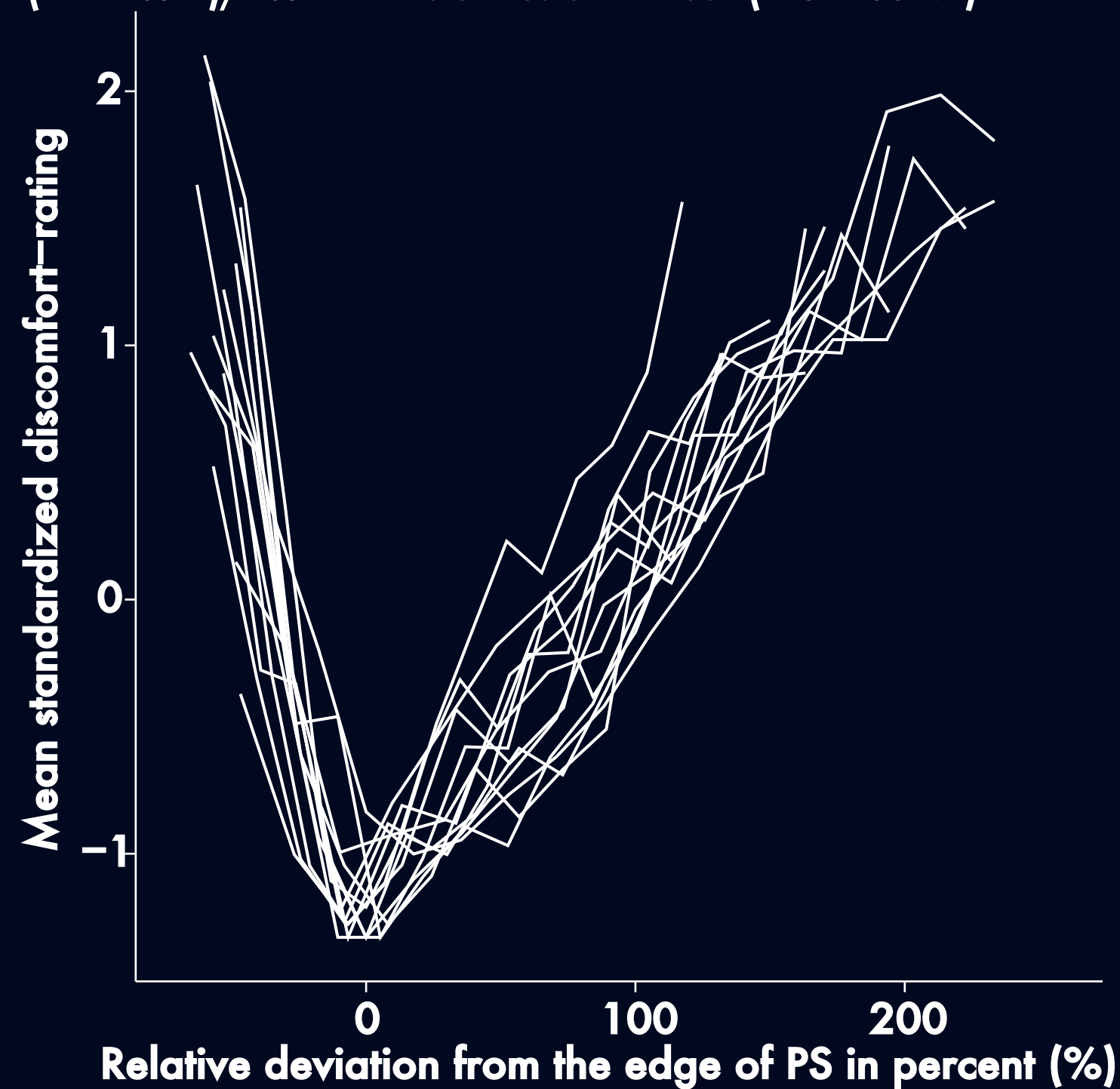
Four linear mixed models:

Discomfort  $\sim$  IPD-PS<sub>SIZE</sub>+ Block (AIC= 2279.2)

Discomfort  $\sim$  IPD- PS<sub>SIZE</sub>\*in- vs extrusion + Block (AIC= 1881.6)

Discomfort  $\sim$  (IPD- PS<sub>SIZE</sub>)<sup>2</sup>\*in- vs extrusion + Block (AIC= 2032.0)

Discomfort  $\sim$  (IPD- PS<sub>SIZE</sub>)/PS<sub>SIZE</sub>\*in- vs extrusion + Block (AIC= 1834.7)

**Discussion**

- Intrusion of PS elicits a rapid and immediate increase in discomfort
- IPDs exceeding the limits of PS cause a moderate increase in discomfort
- Consistent with field-theory (Lewin, 1939), the function of IPD and discomfort is scaled individually on the size of Ps
- The tolerance previously observed in other studies (Thompson et al., 1979), may merely be an artifact of aggregation across subjects that has resulted in a U-shaped function of IPD and discomfort.
- We cannot rule out a tolerance for violations of PS smaller than 15 cm

**Conclusion**

**The data favor the fast asymmetric response model**