Curvilinear/Threshold Model of Benefit/Barrier-Behavior Relations:

Improved Model Fit and Conceptual Coherence

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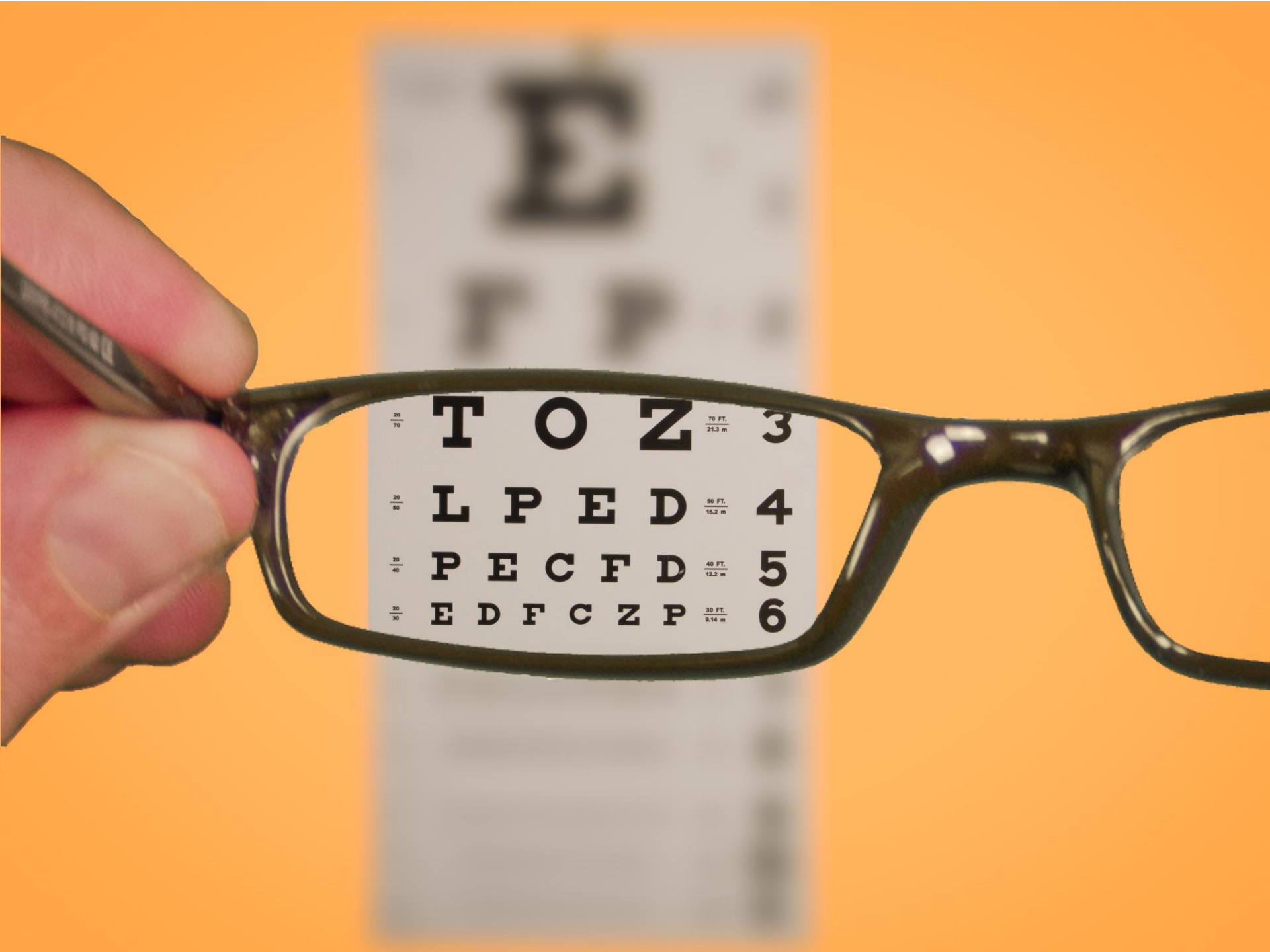
NERAL'S WARNING:
ses Lung Cancer,
Emphysema, And
ate Pregnancy.


T O Z
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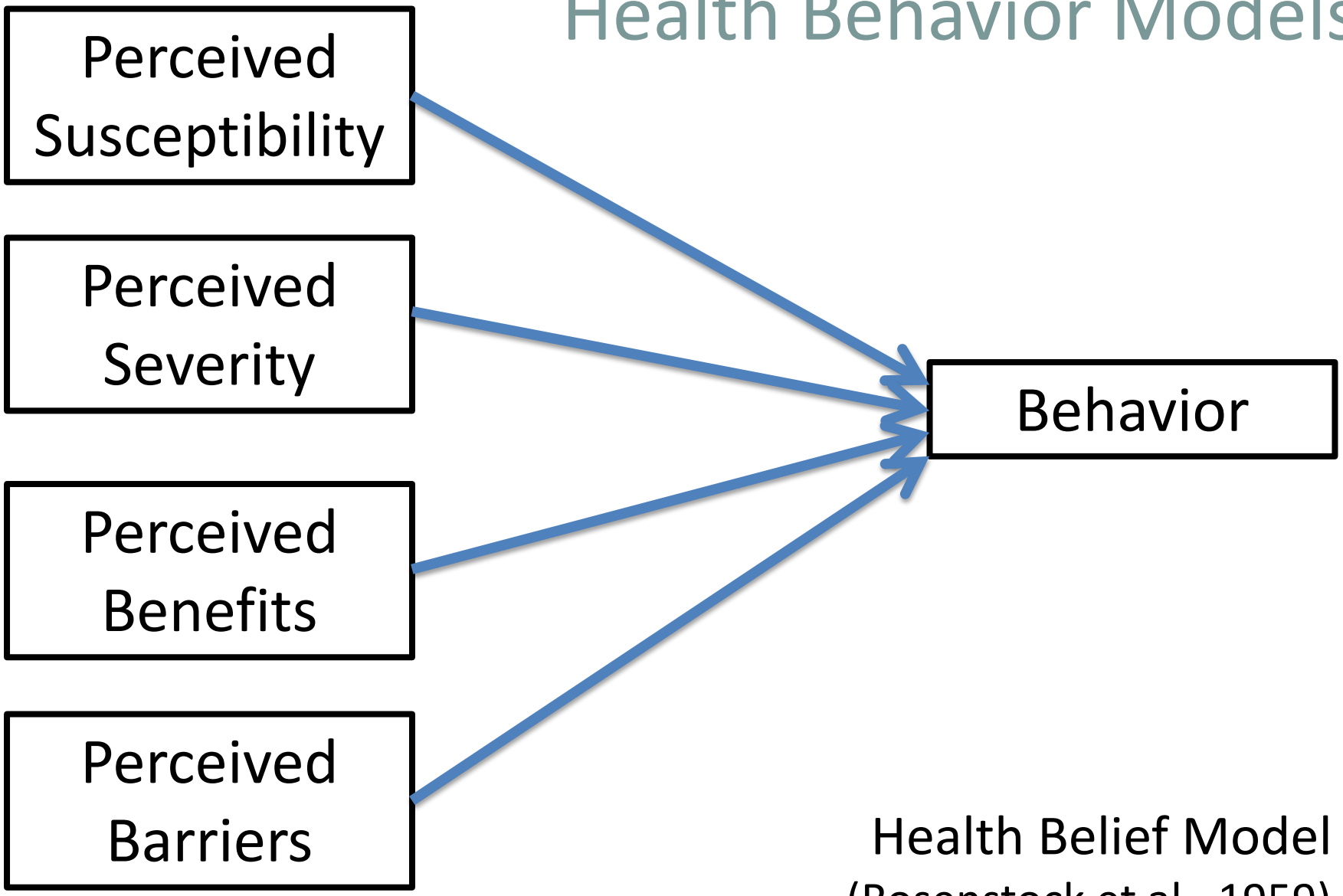
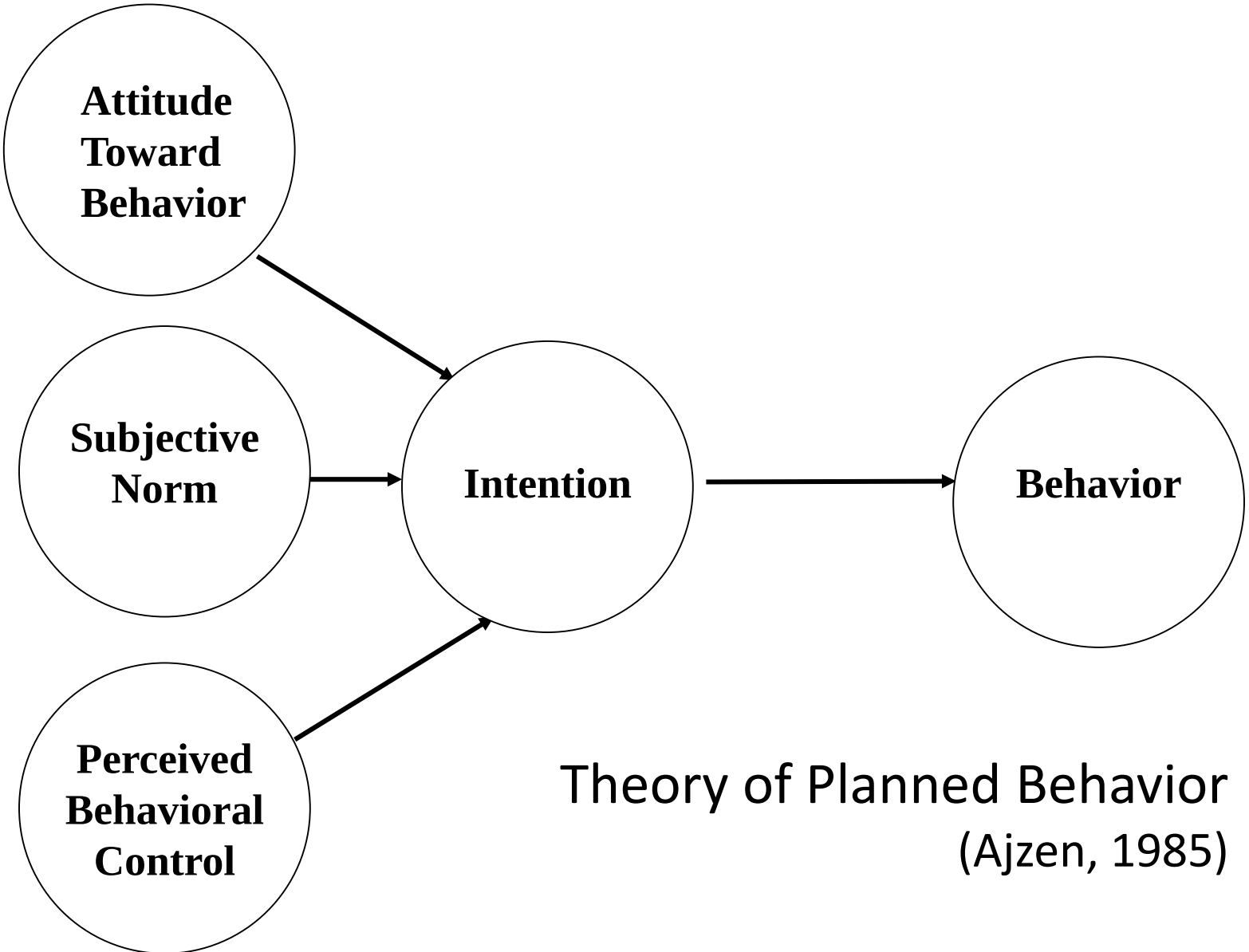
Health Behavior Models

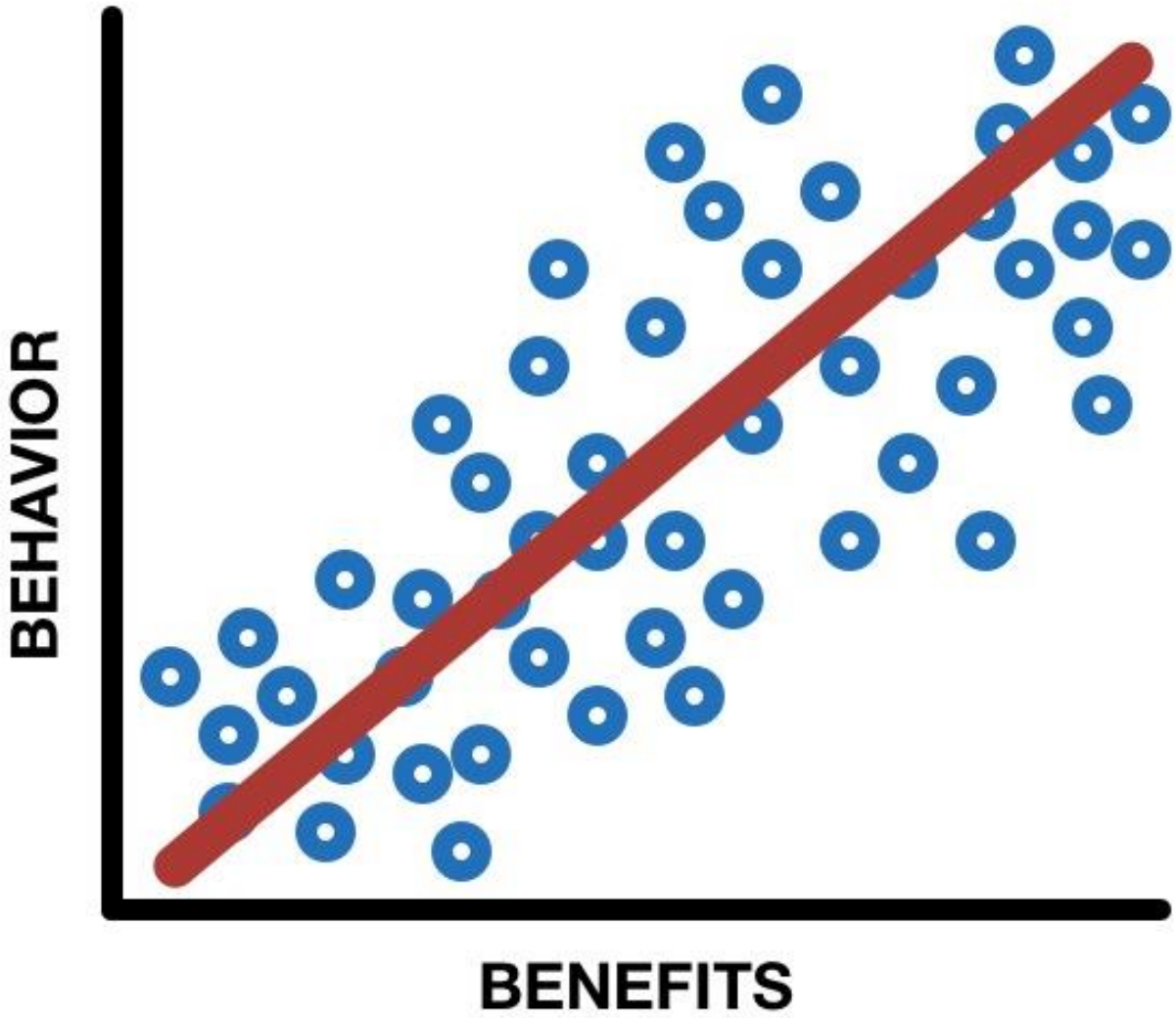


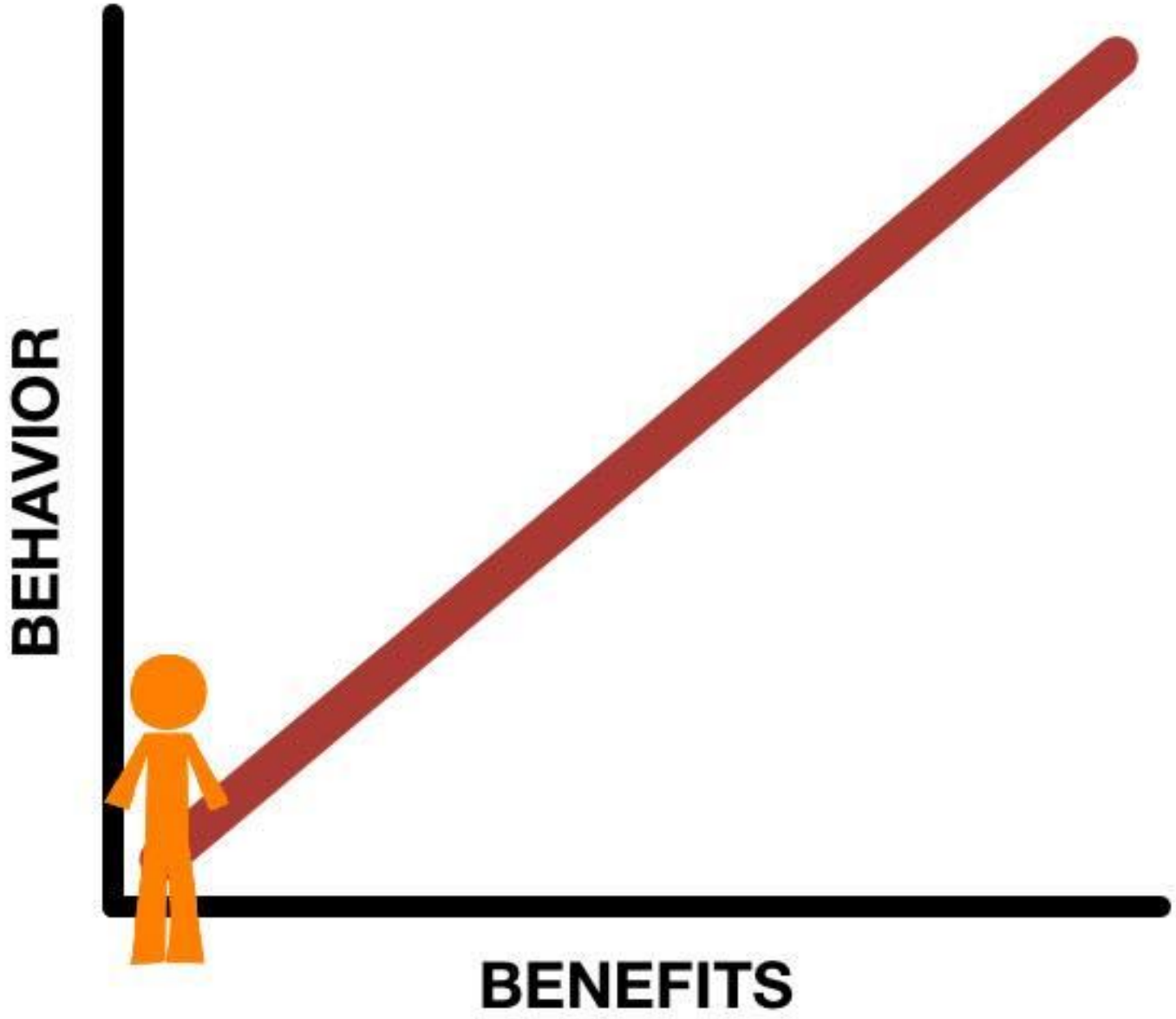
Health Belief Model
(Rosenstock et al., 1959)

Health Behavior Models



Theory of Planned Behavior
(Ajzen, 1985)


BEHAVIOR
BENEFITS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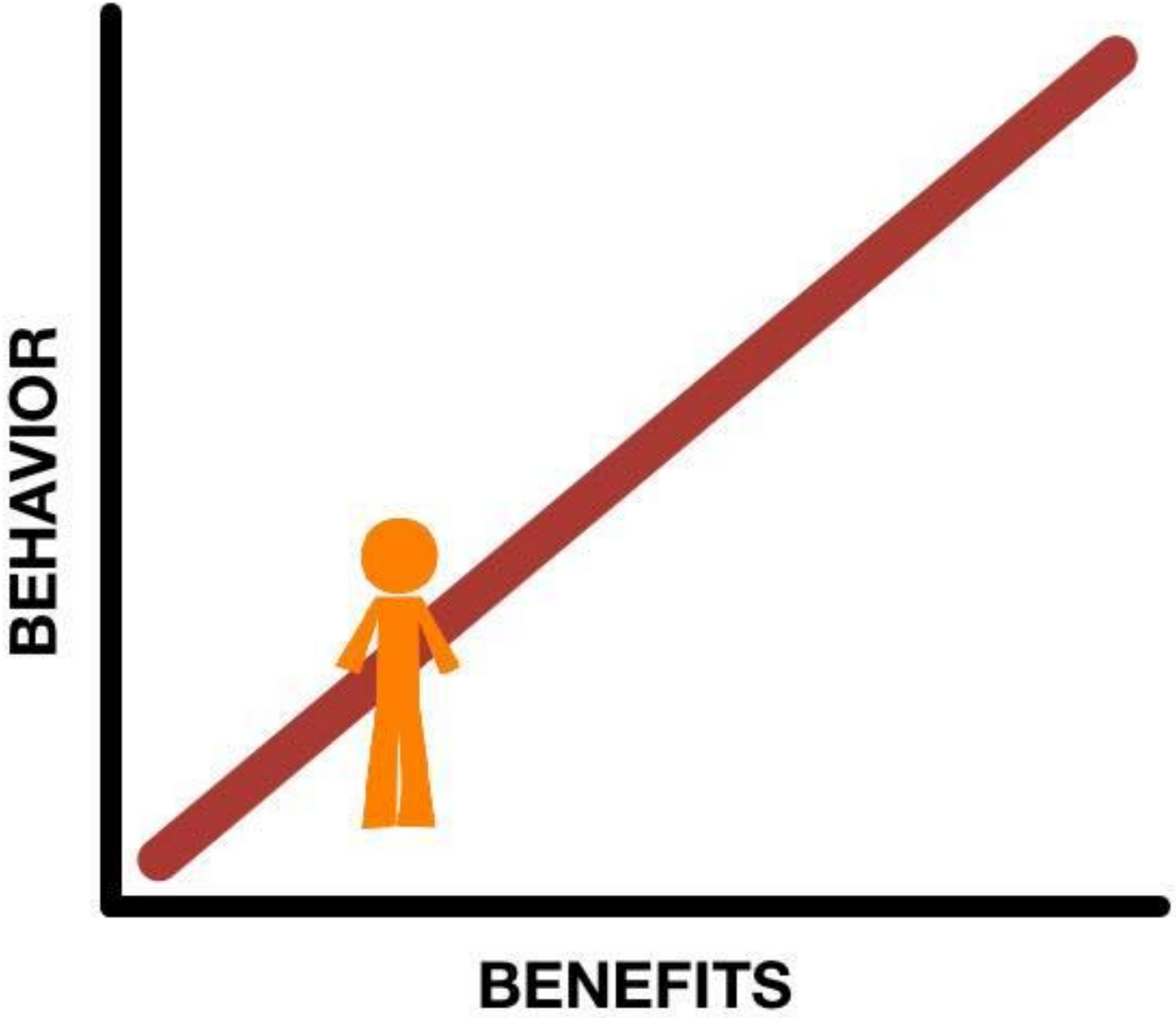
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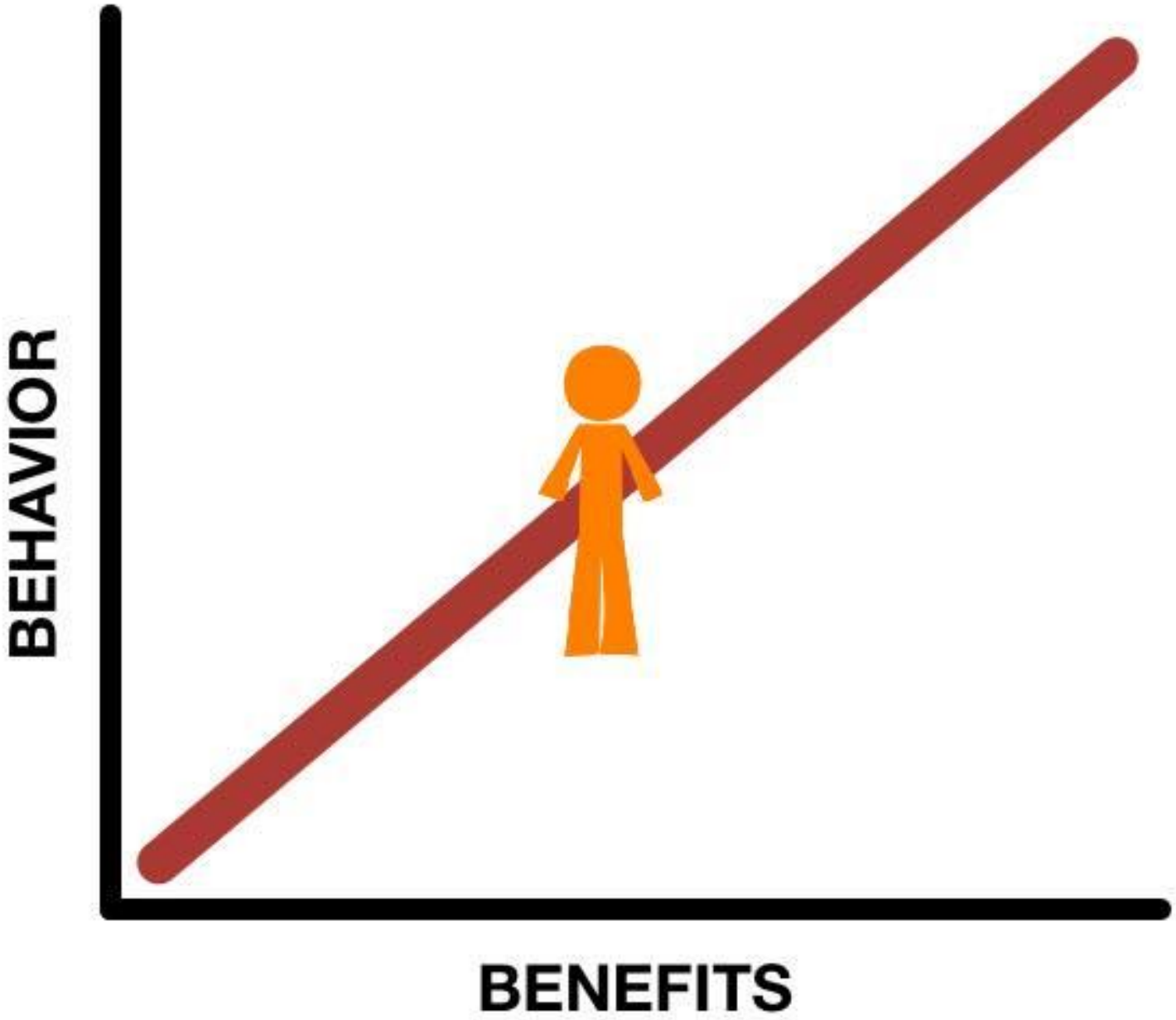
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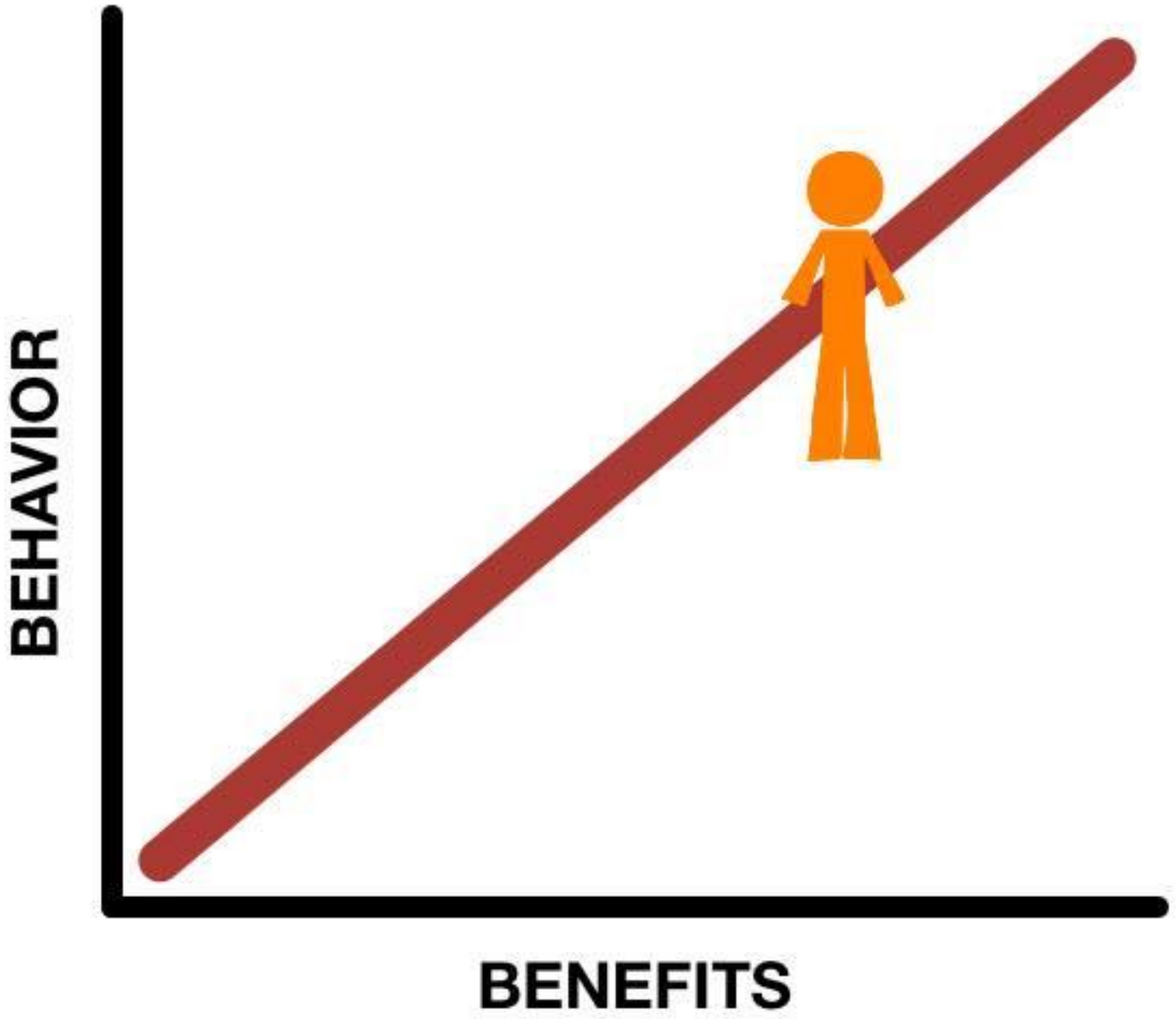
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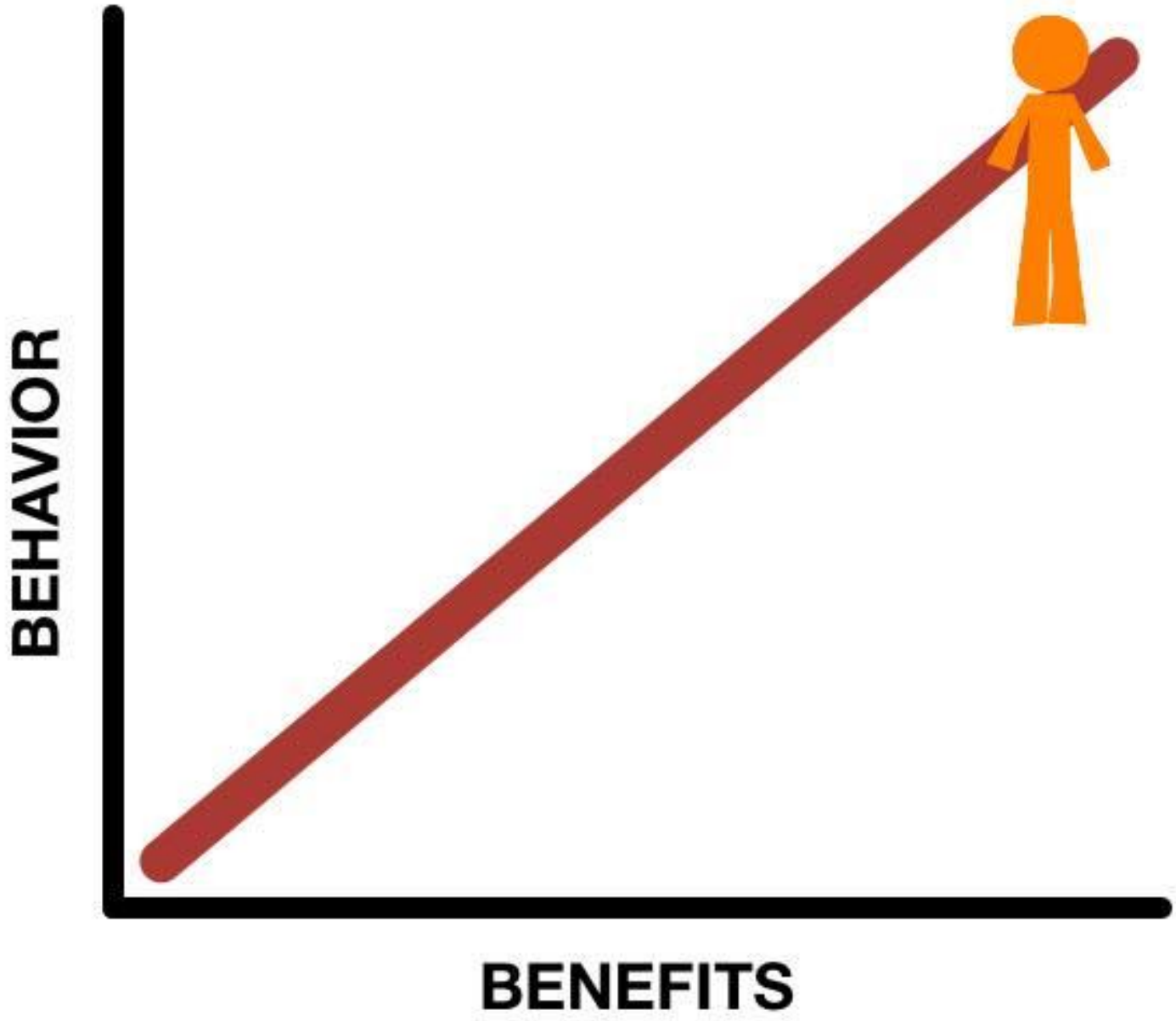
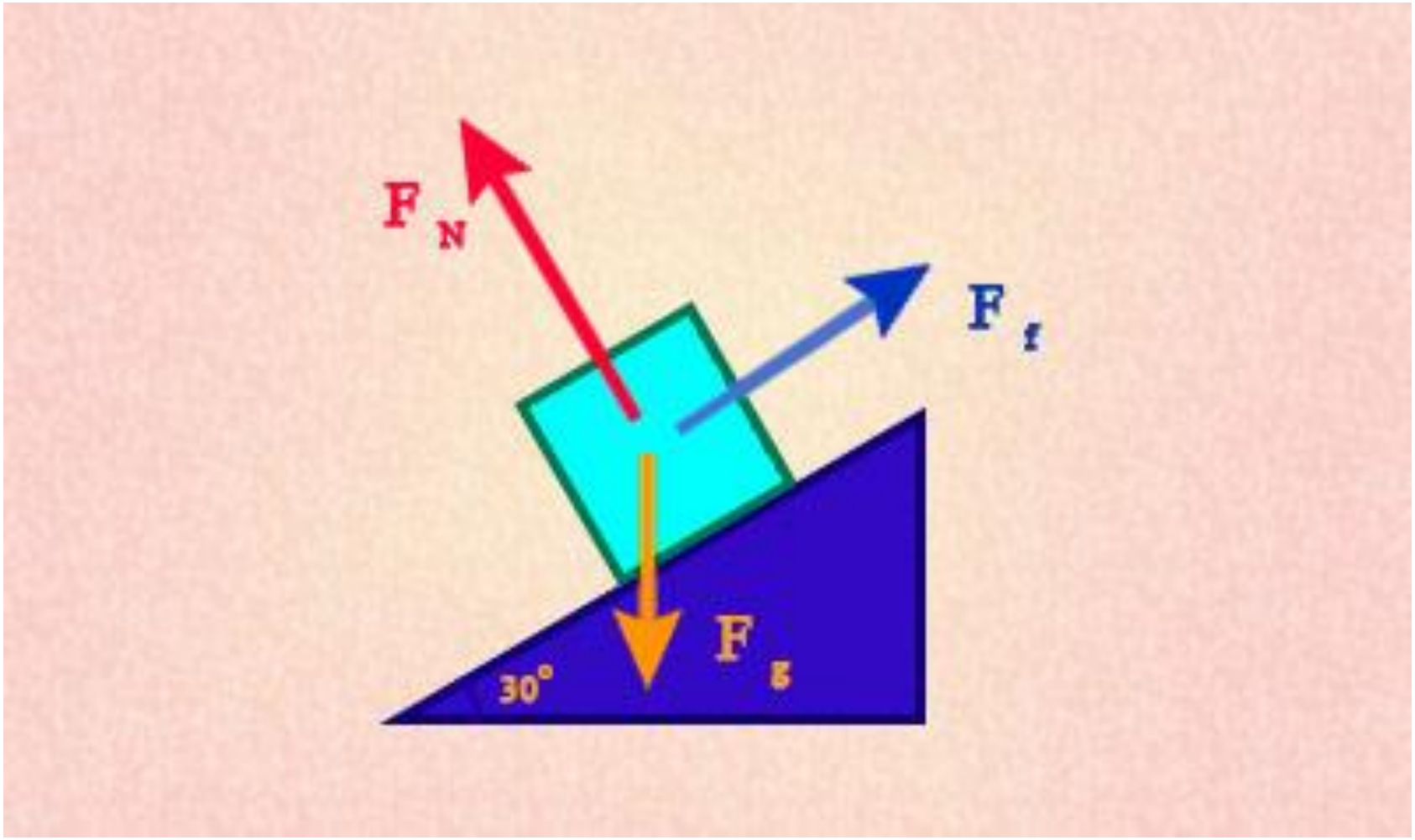
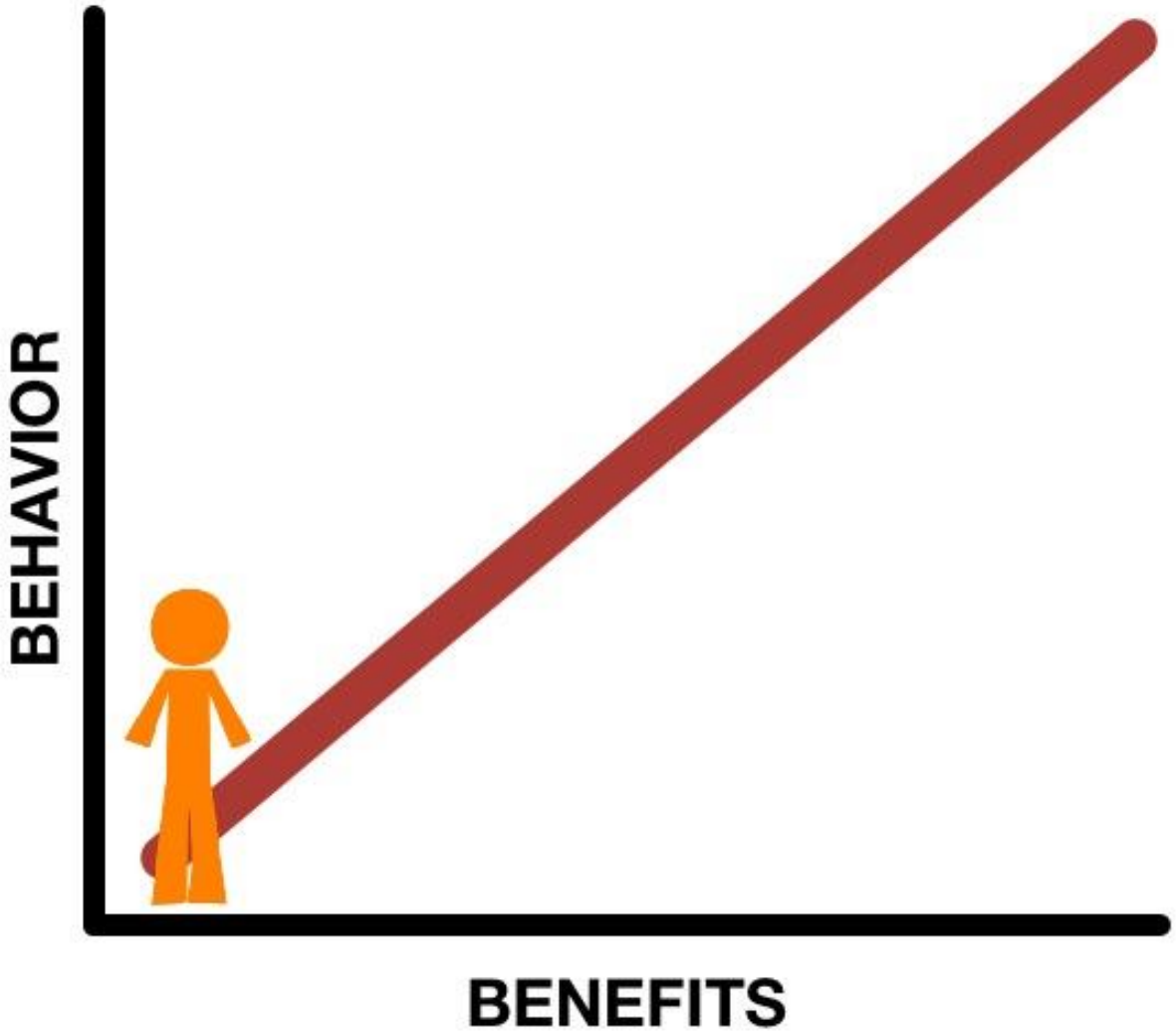

BEHAVIOR
BENEFITS

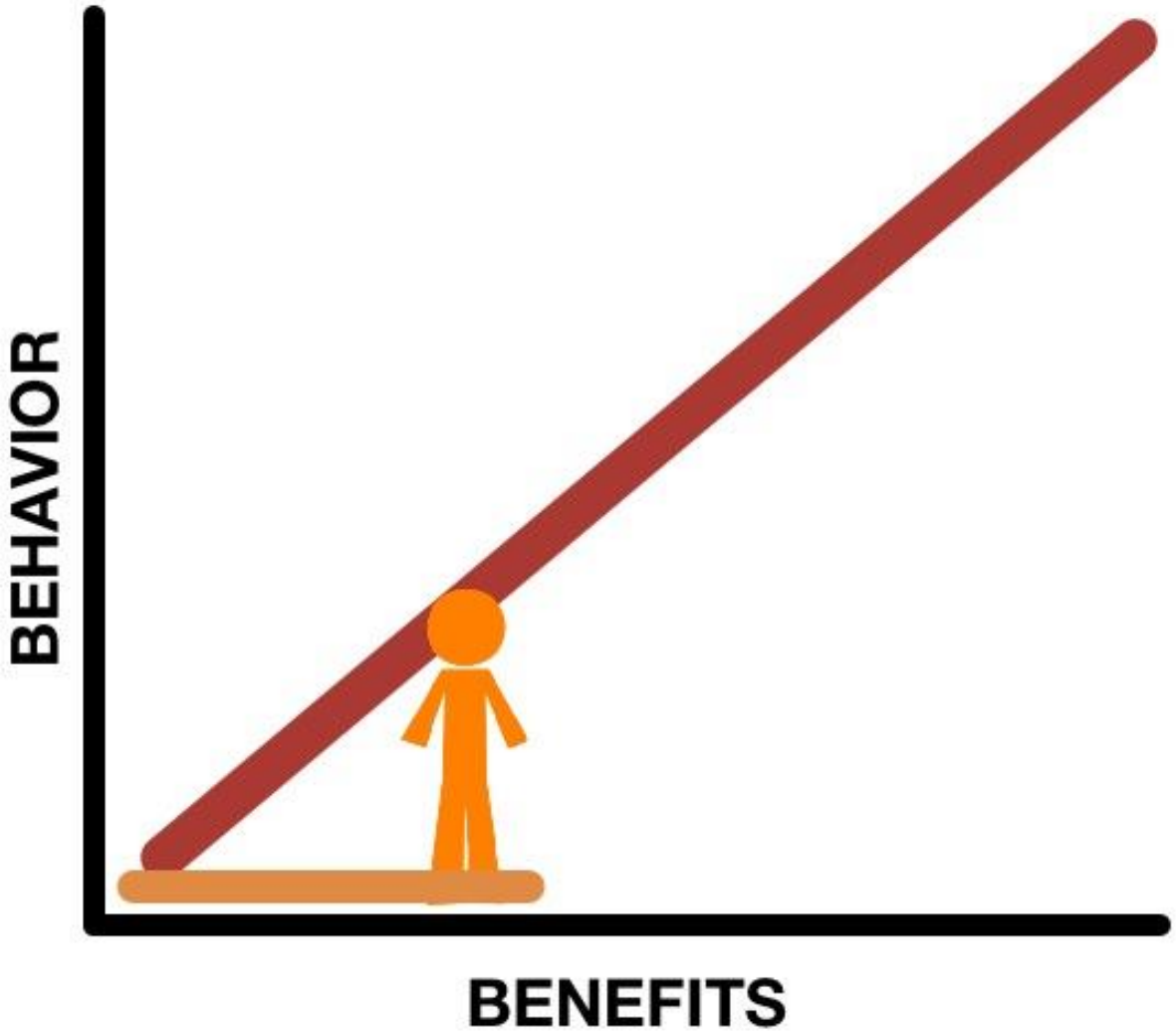
VERTICAL
LOMBART

Metaphors: Forces and Friction



Metaphors: Fluid Dynamics


BEHAVIOR
BENEFITS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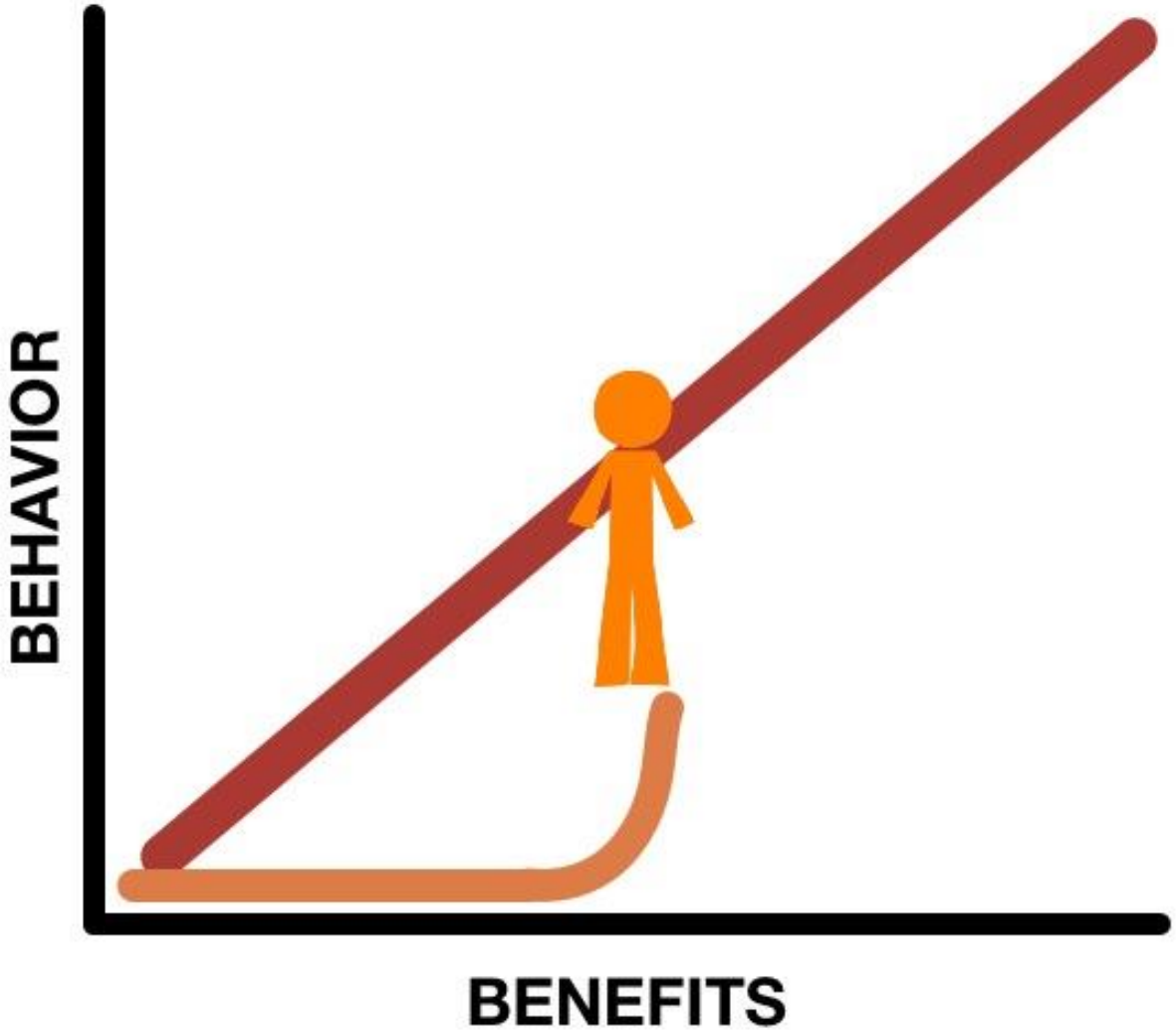
BEHAVIOR
BENEFITS

Kiviniemi et al. (2007) *Health Psychology*

- Community adults (N=433)
  - Average age = 33 years
  - 69% white
  - 58% female
- In person, paper/pencil survey

Kiviniemi et al. (2007) *Health Psychology*

- Community adults (N=433)
- In person, paper/pencil survey
- Vigorous physical activity behavior (BRFSS)
  - Amount of time spent in vigorous physical activity
  - Minutes/week (square root transformed)

Kiviniemi et al. (2007) *Health Psychology*

- Community adults (N=433)
- In person, paper/pencil survey
- Vigorous physical activity behavior (BRFSS)
- Expected Utility (Steinhardt & Dishman, 1989)
  - Perceived benefits (6 items; α=0.86)
  - Perceived barriers (14 items; α=0.79)

Analysis

- Is there a higher order (quadratic or cubic) effect for the relation of benefits (barriers) to behavior?

- Stepwise linear regression
  - Linear term
  - Quadratic term
  - Cubic term

Linear Lens

- Benefits
  - $\beta = 0.12, t(407) = 2.33, p < .05$
- Barriers
  - $\beta = -0.11, t(407) = -2.31, p < .05$

Alternative Lens

Model Term	Benefits		Barriers	
	%VAF (R^2)	F_{CHANGE}	%VAF (R^2)	F_{CHANGE}
Linear	1.3%	5.33*	1.3%	5.43*
Quadratic				
Cubic				

Alternative Lens

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	%VAF (R^2)	F_{CHANGE}	%VAF (R^2)	F_{CHANGE}
Linear	1.3%	5.33^{*}	1.3%	5.43^{*}
Quadratic	4.3%	12.39^{***}	4.1%	11.84^{***}
Cubic				

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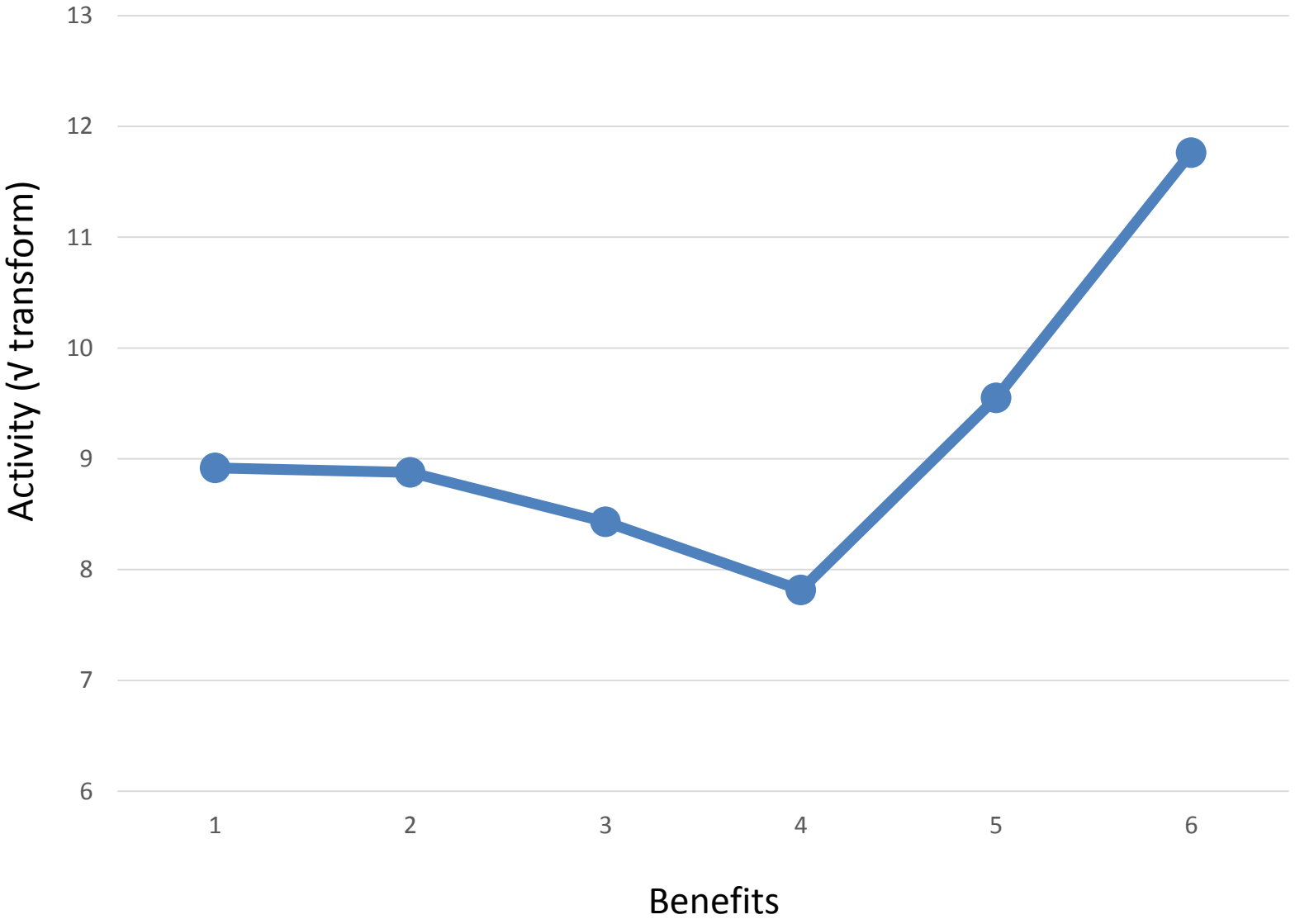
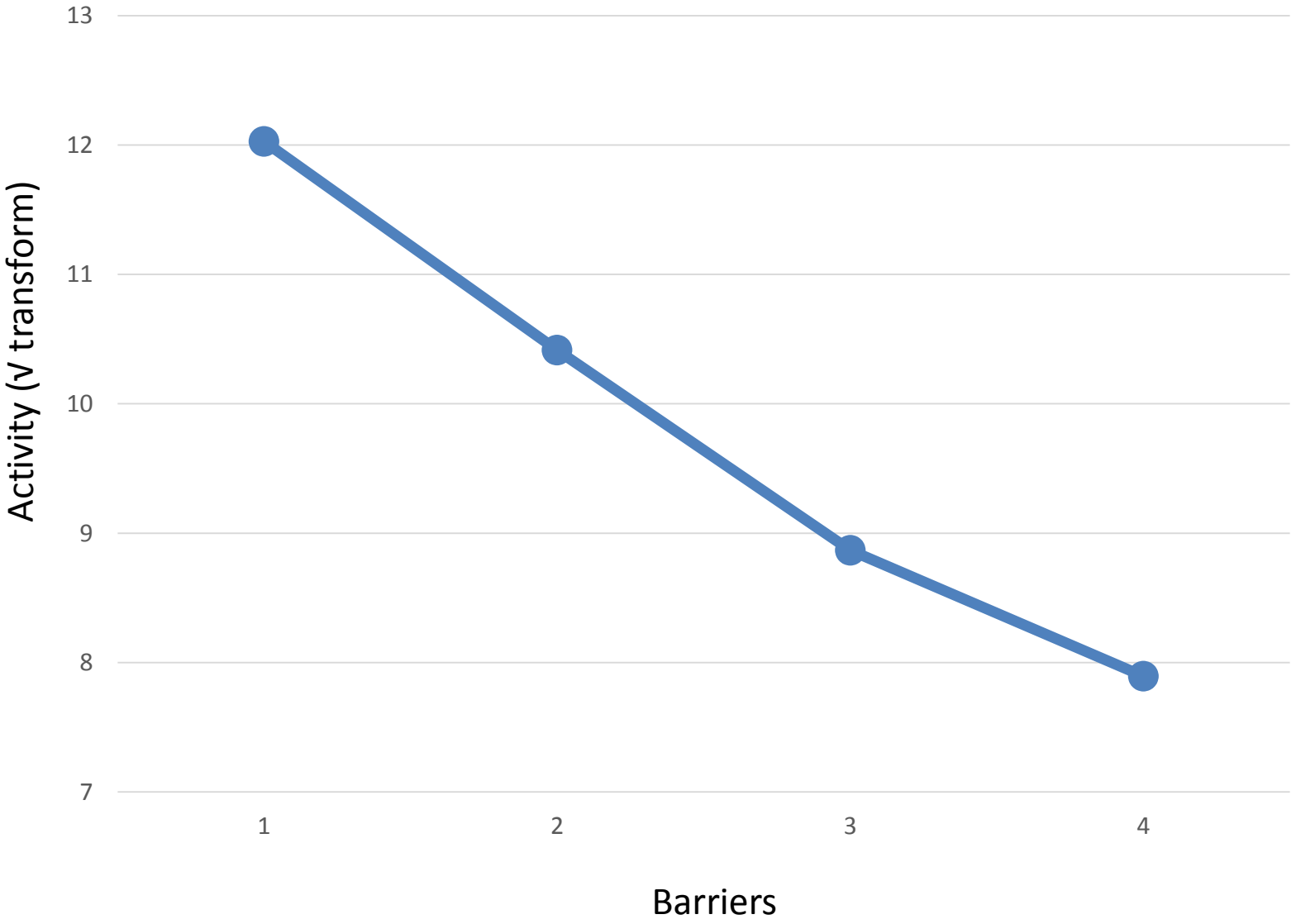
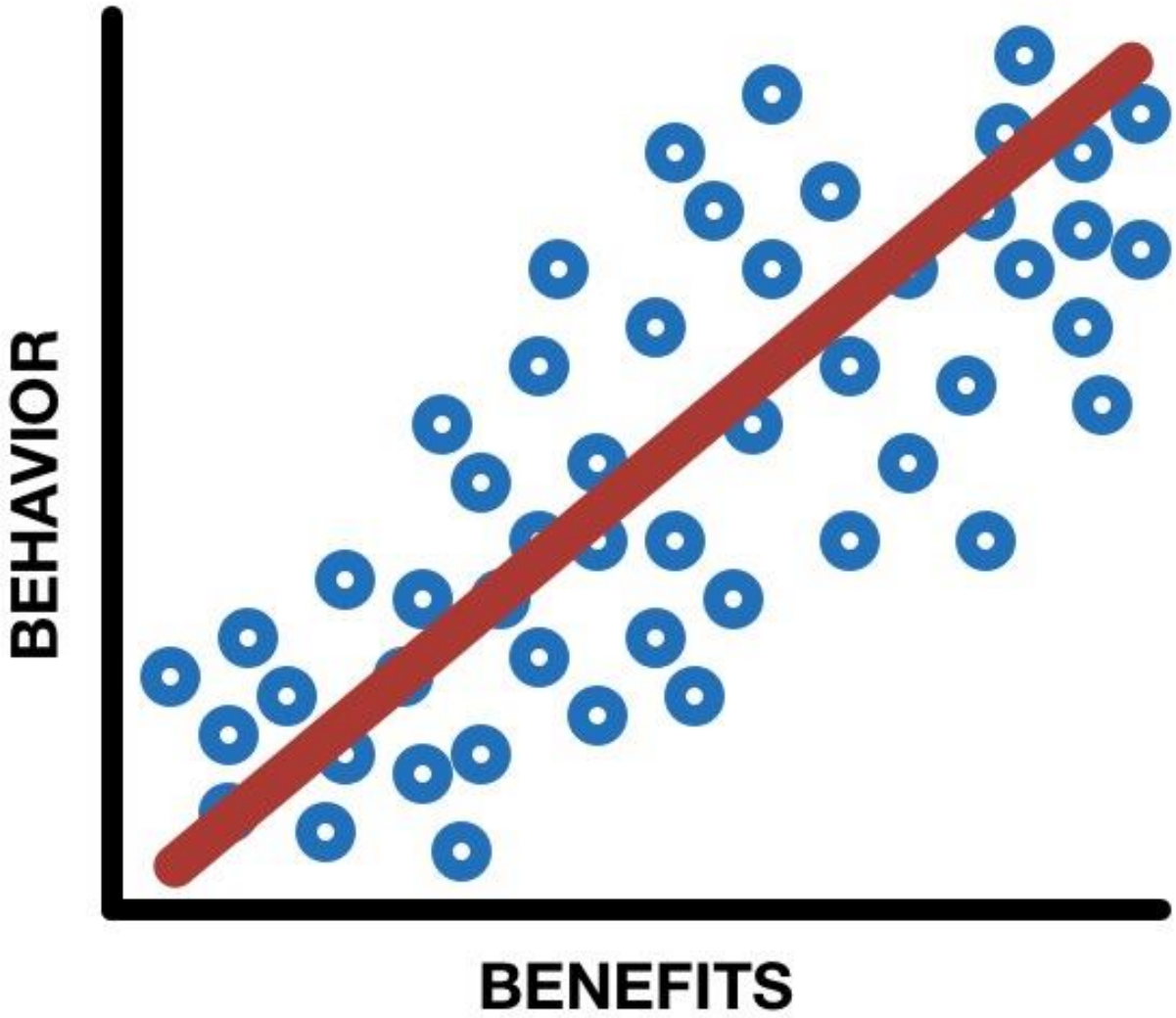
Cubic	4.3%	<1, *ns*	4.1%	<1, *ns*

Results – Benefits and Activity



Results – Barriers and Activity

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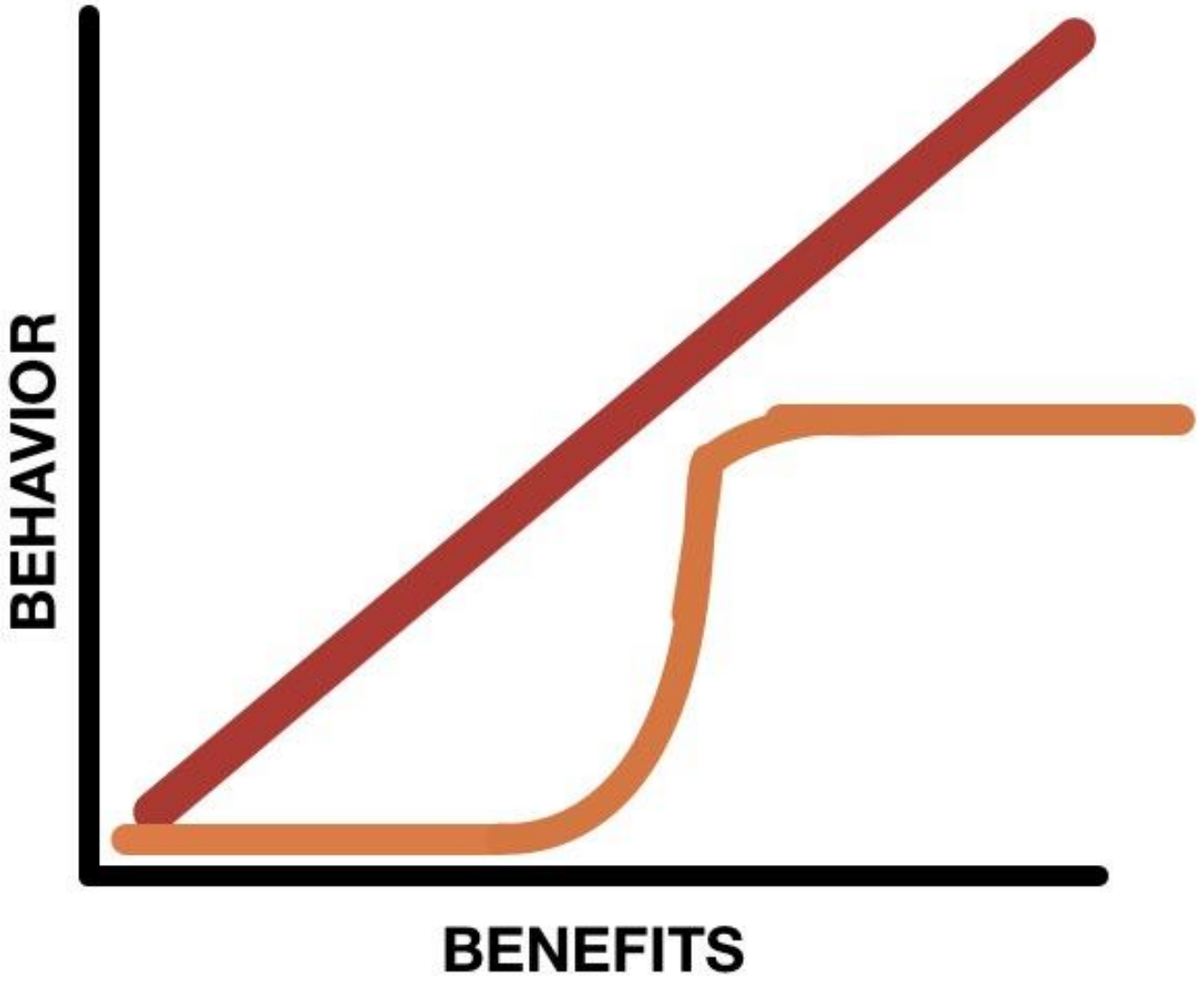
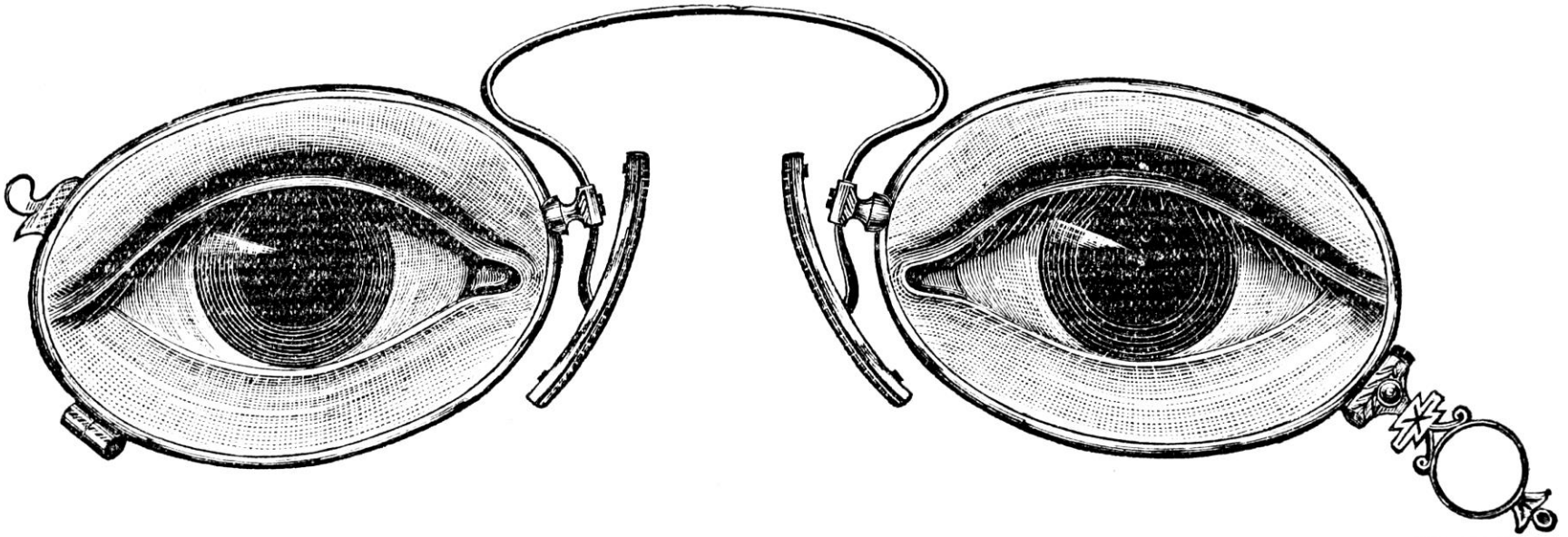
BENEFITS


BEHAVIOR
BENEFITS

BORSCH & ROMMEL,



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