

Análise de caminhos

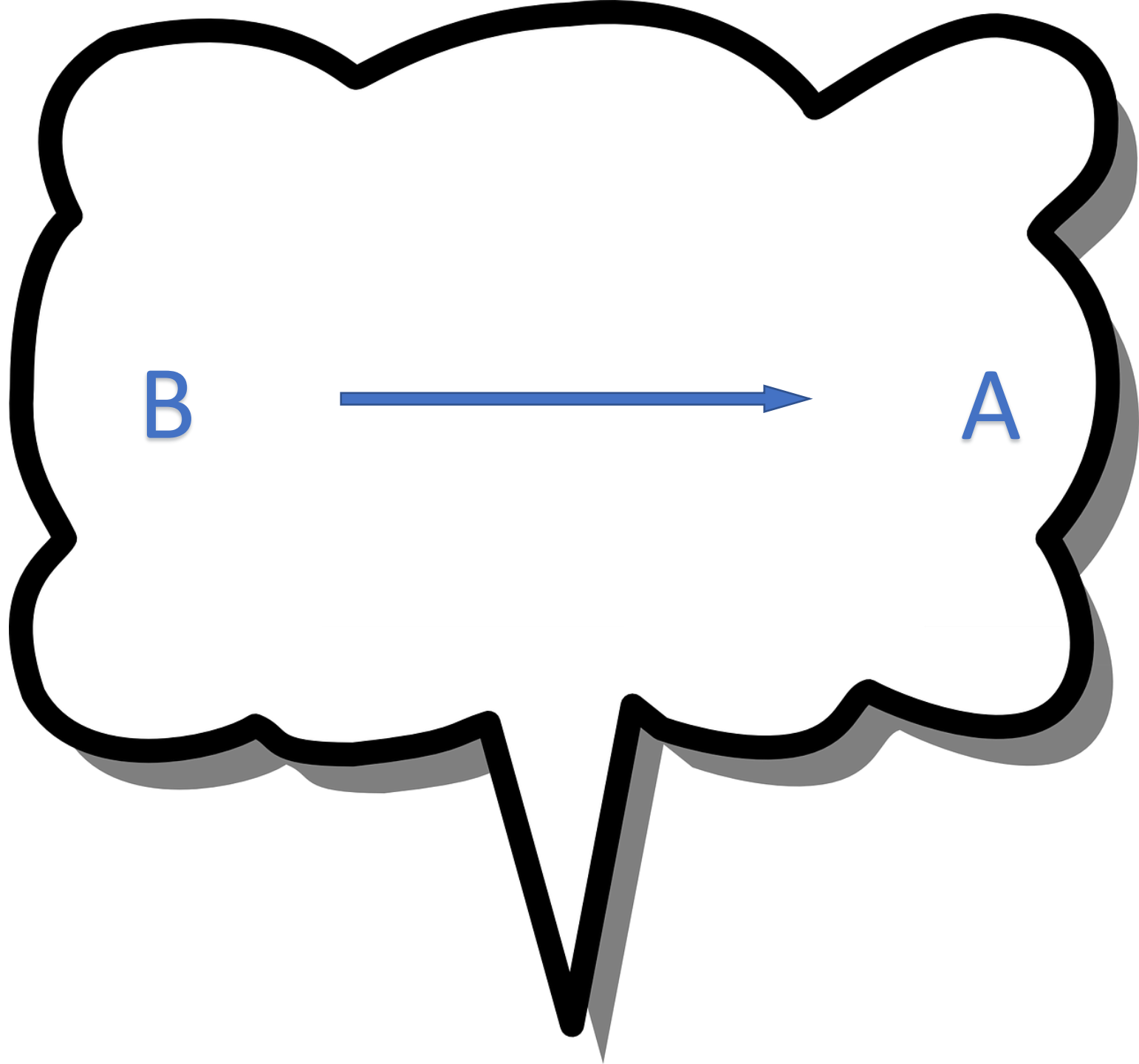
(Modelo de Equações Estruturadas)

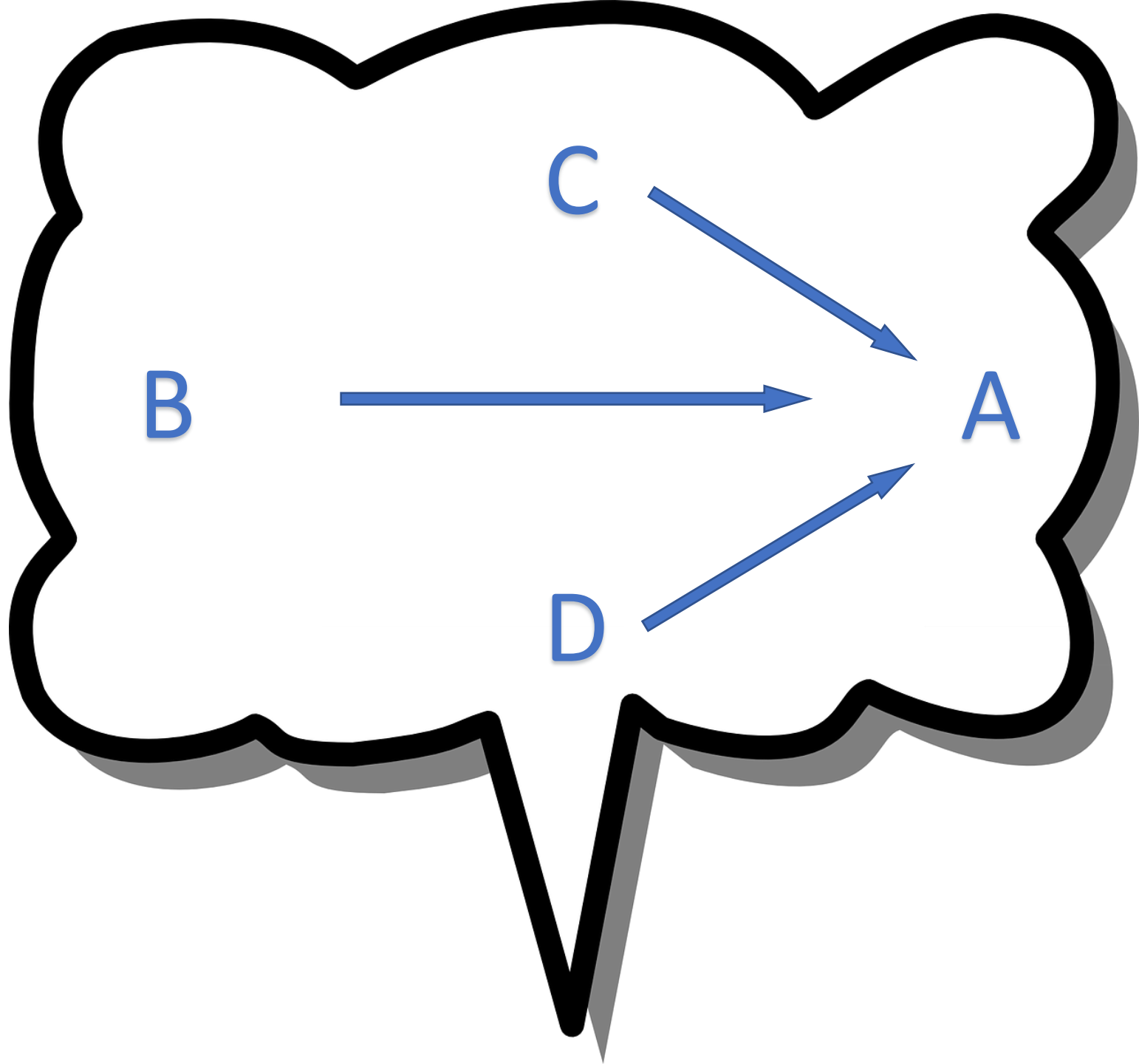
Bioestatística | 1º semestre 2021

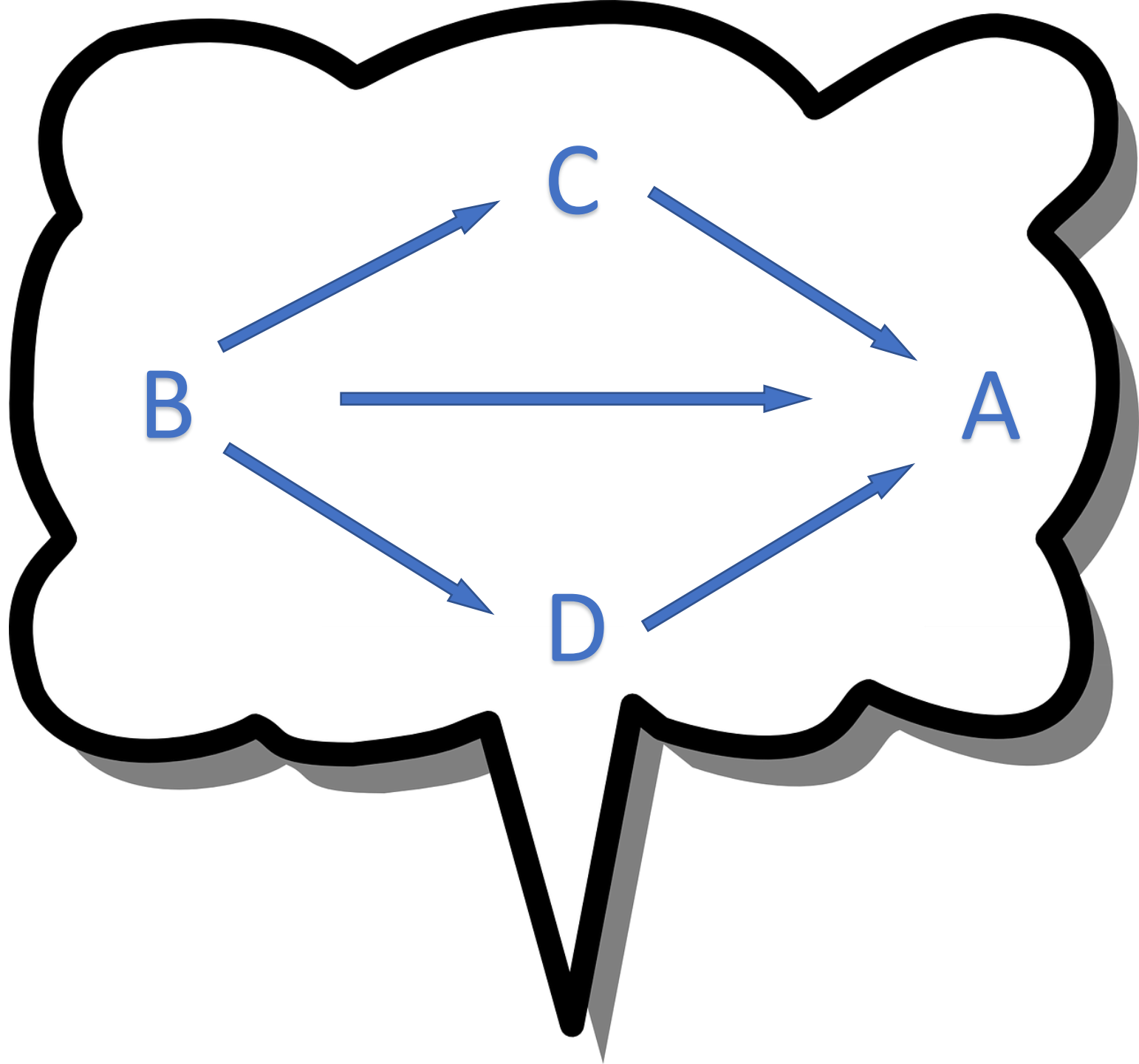
Pós-Graduações stricto sensu

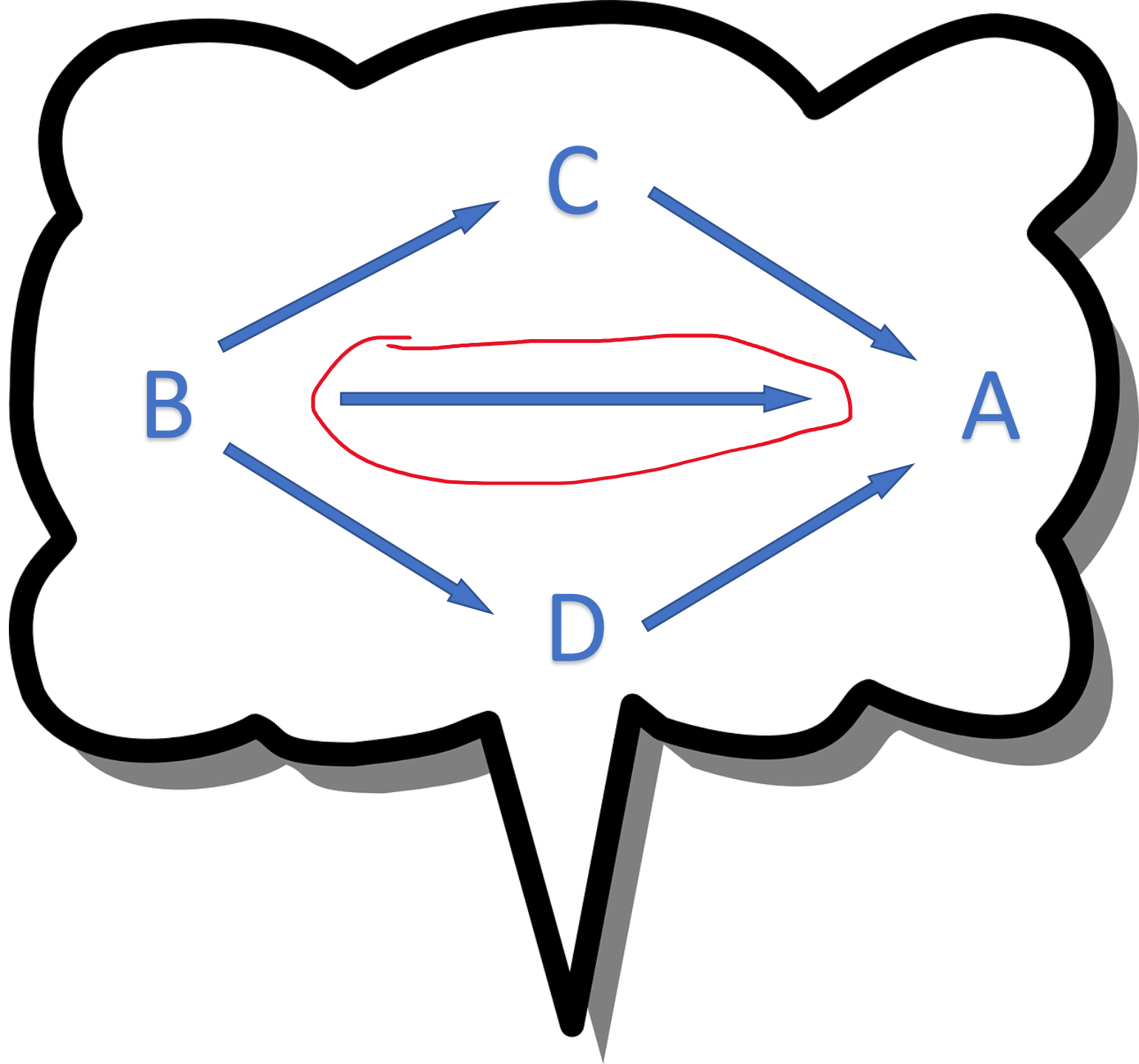
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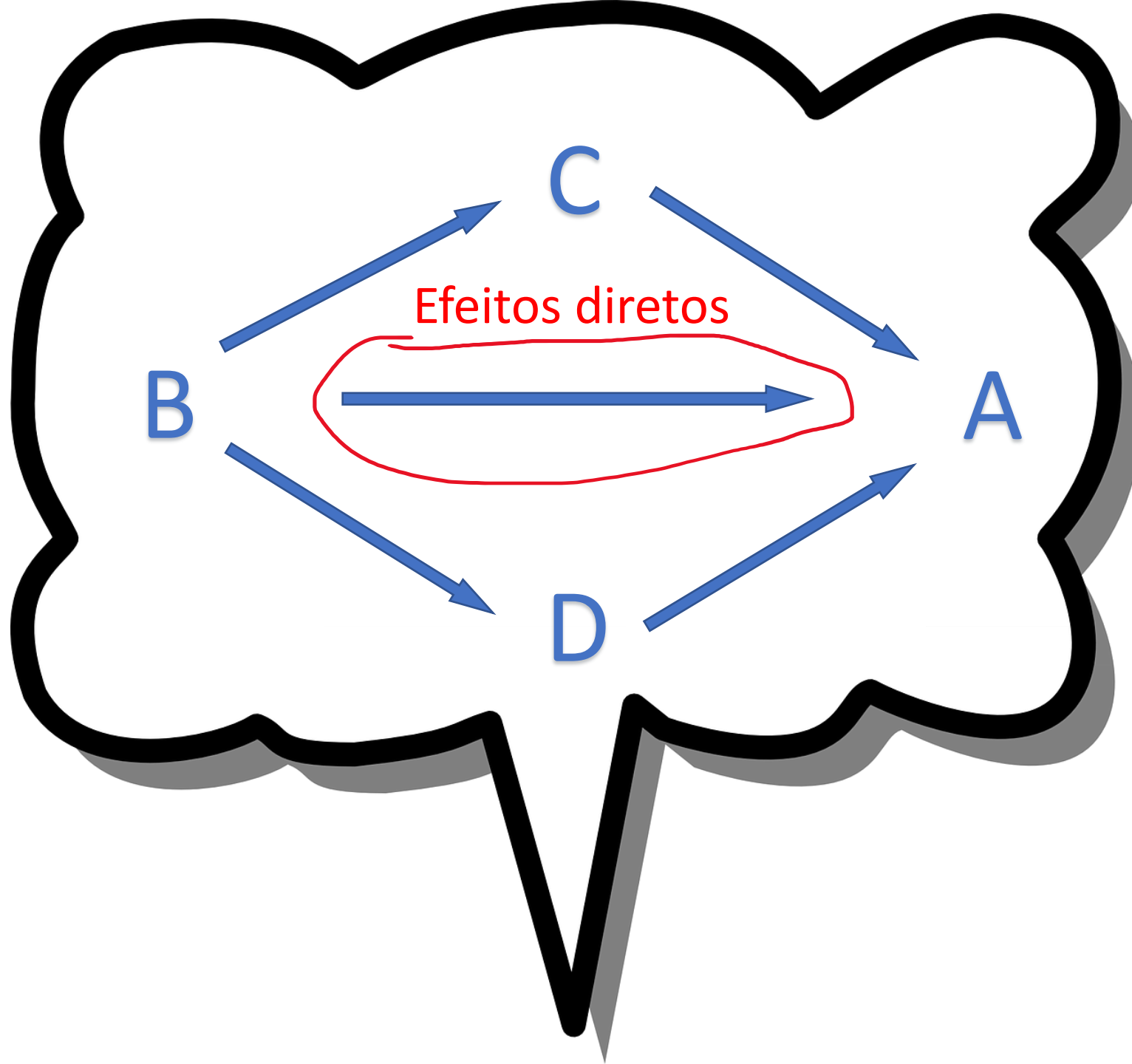
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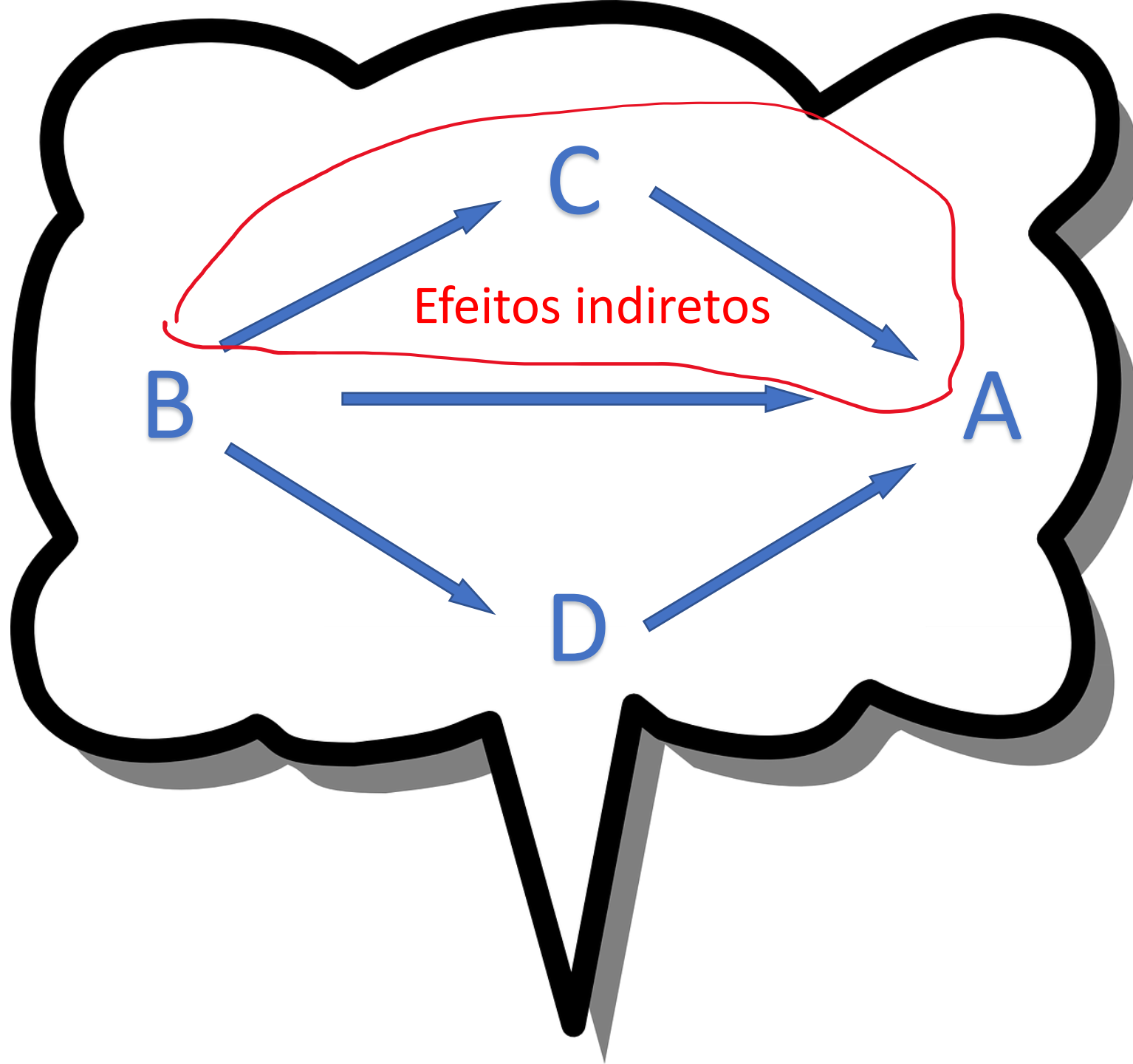


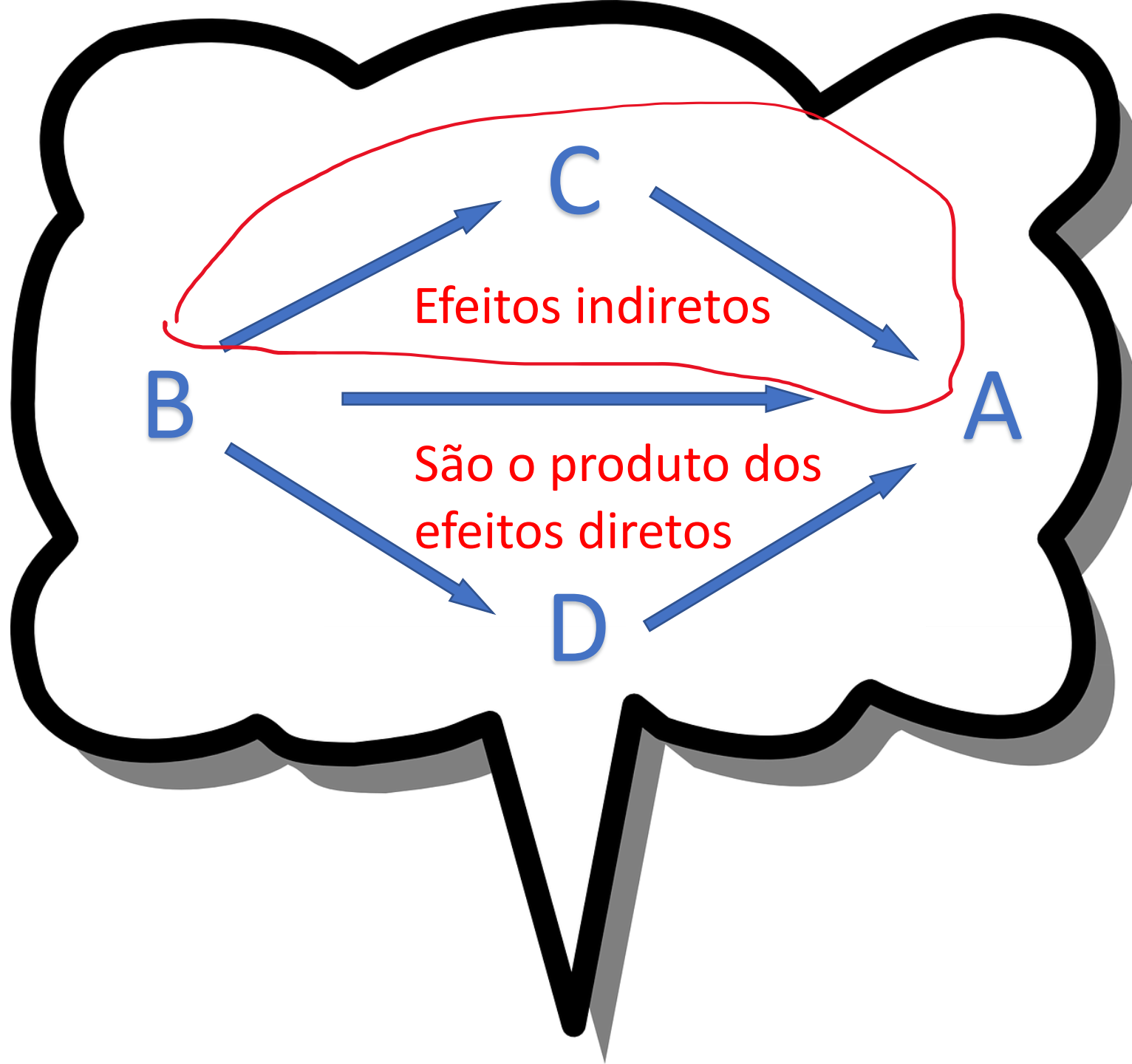


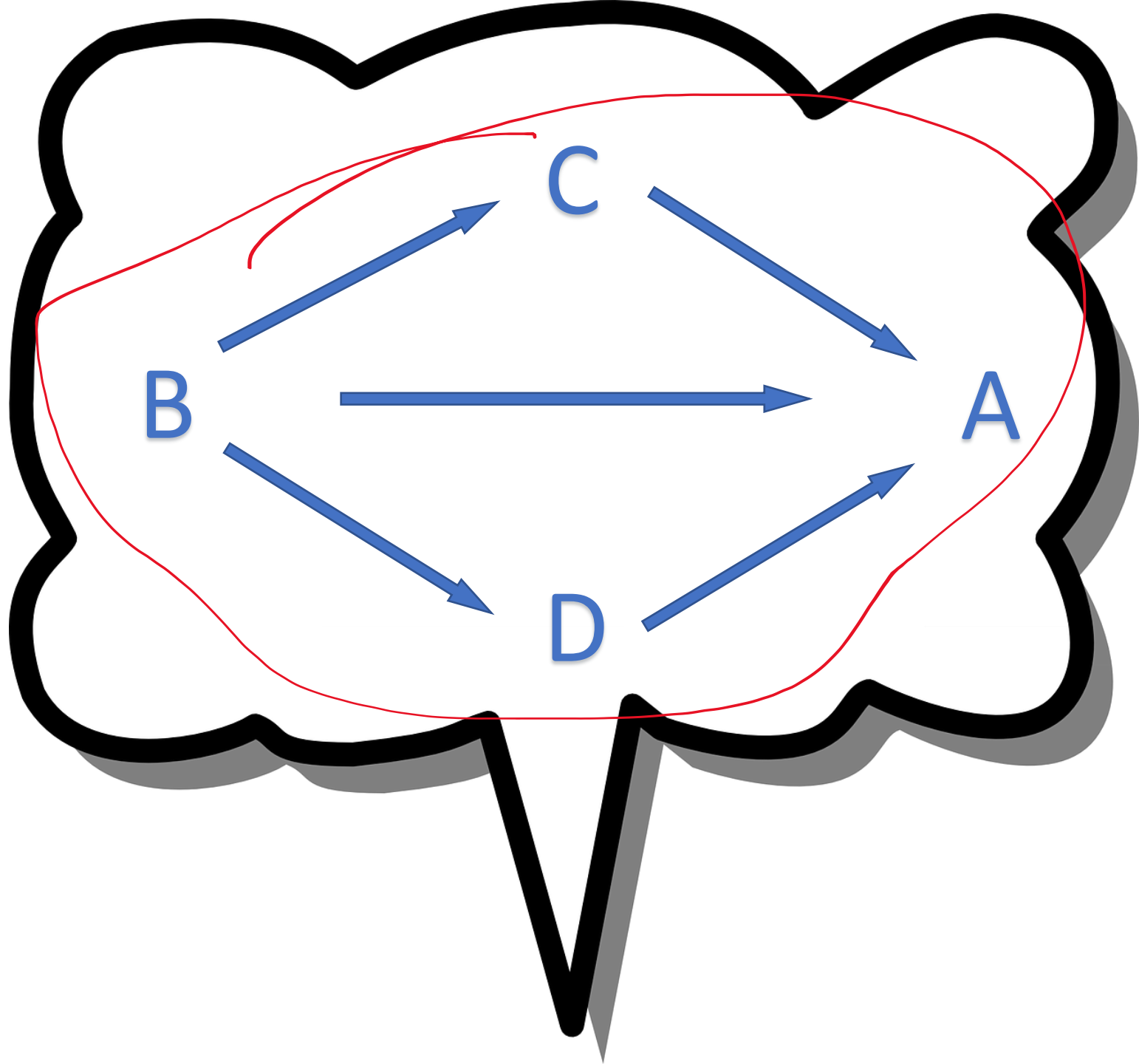


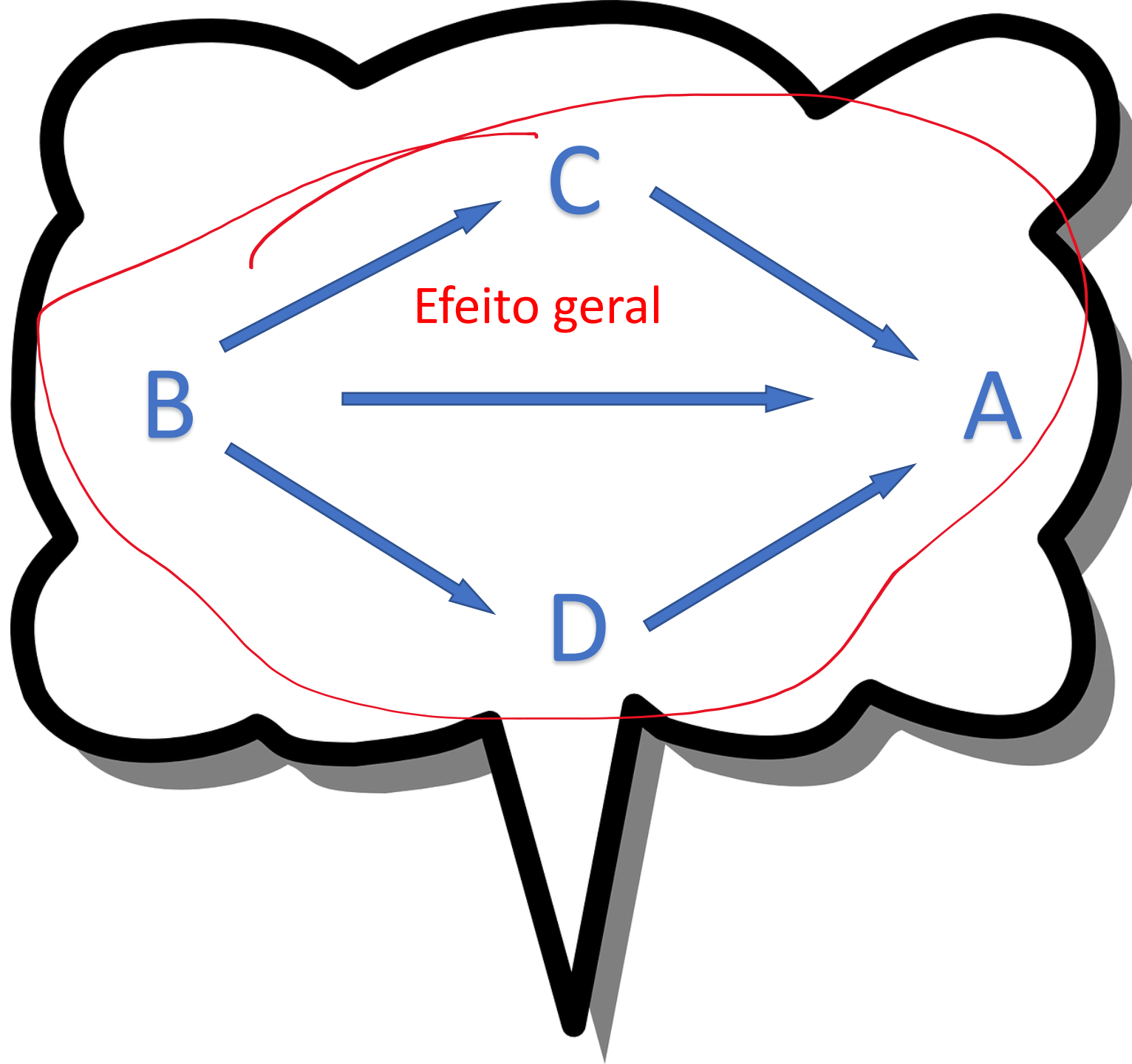












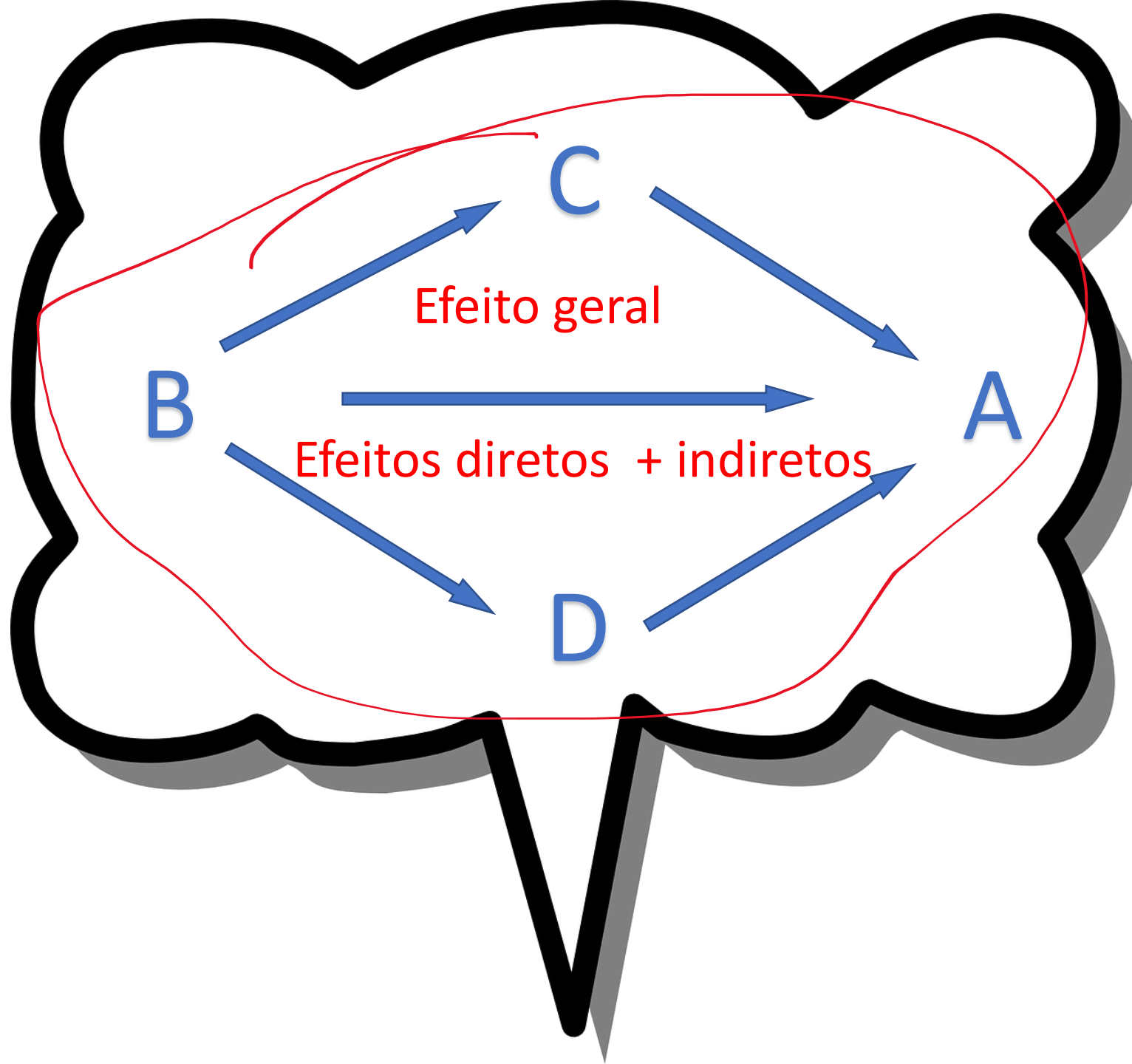
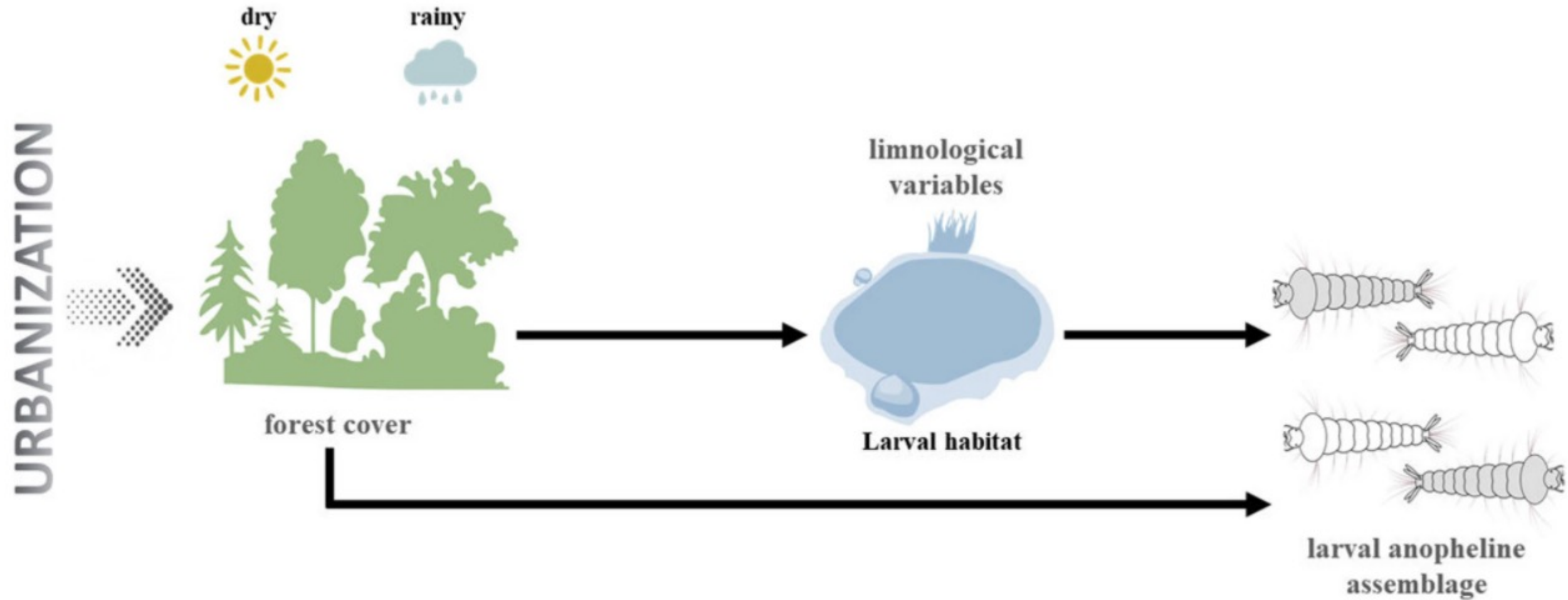


Figure 1

From: [Seasonality modulates the direct and indirect influences of forest cover on larval anopheline assemblages in western Amazônia](#)



Conceptual structural equation model. The image was created using Adobe Illustrator 2020 (<https://www.adobe.com/br/products/illustrator/>).

[Scientific Reports](#) volume 11, Article number: 12721 (2021)

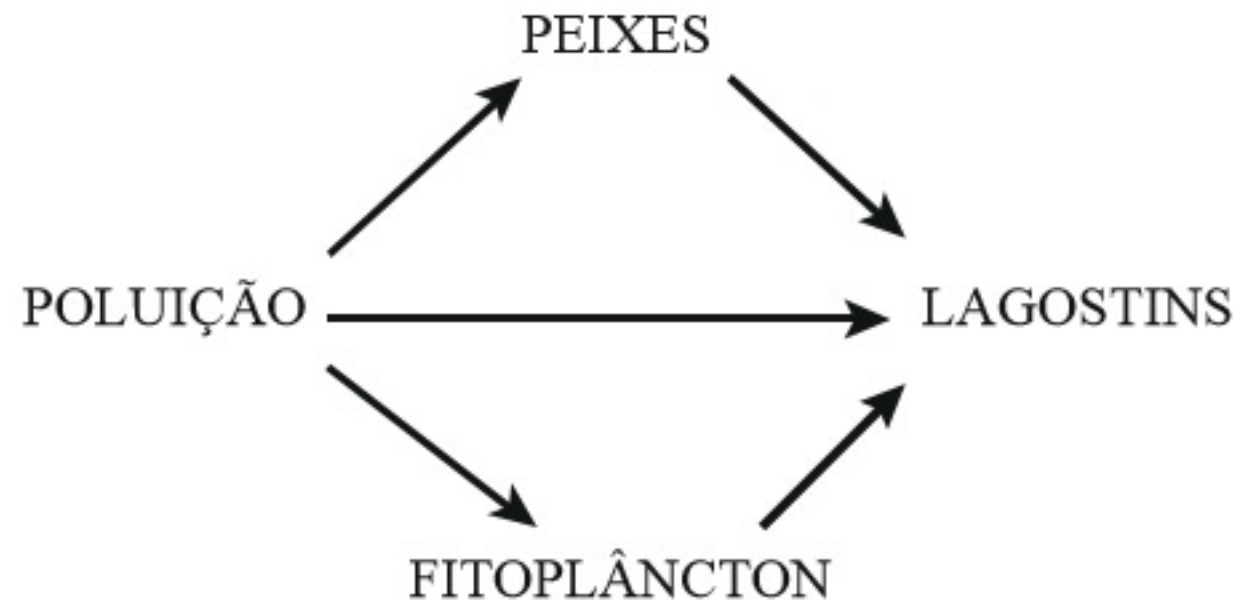
<https://www.nature.com/articles/s41598-021-92217-9>

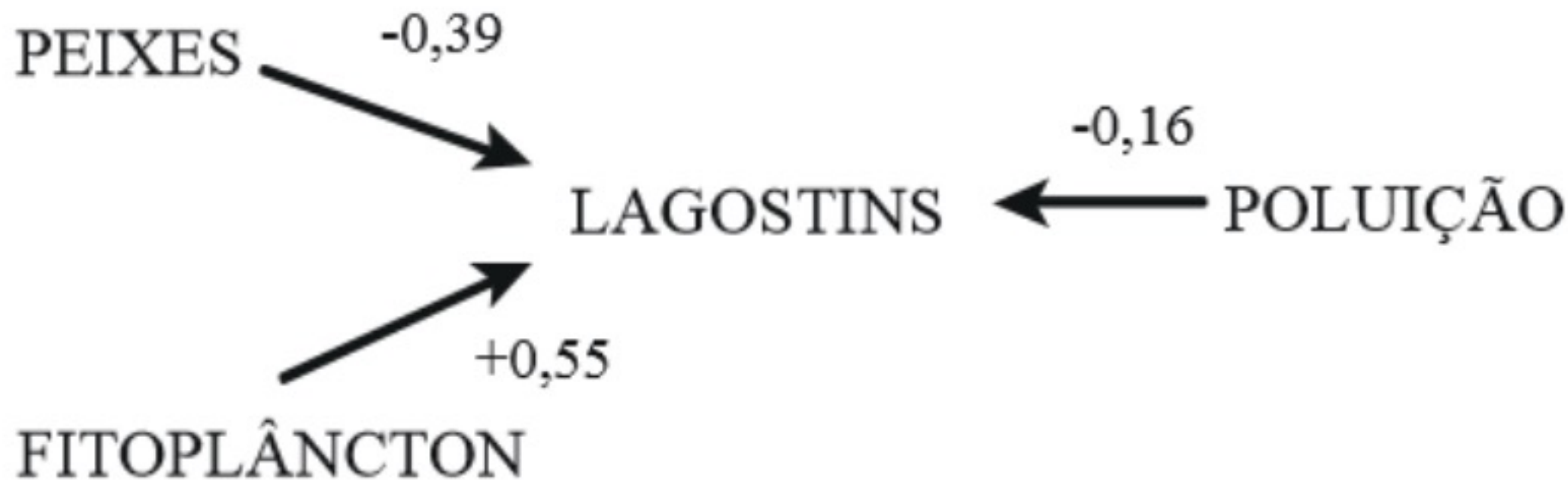
William Magnusson
Guilherme Mourão
Flávia Costa

Estatística [Sem] Matemática

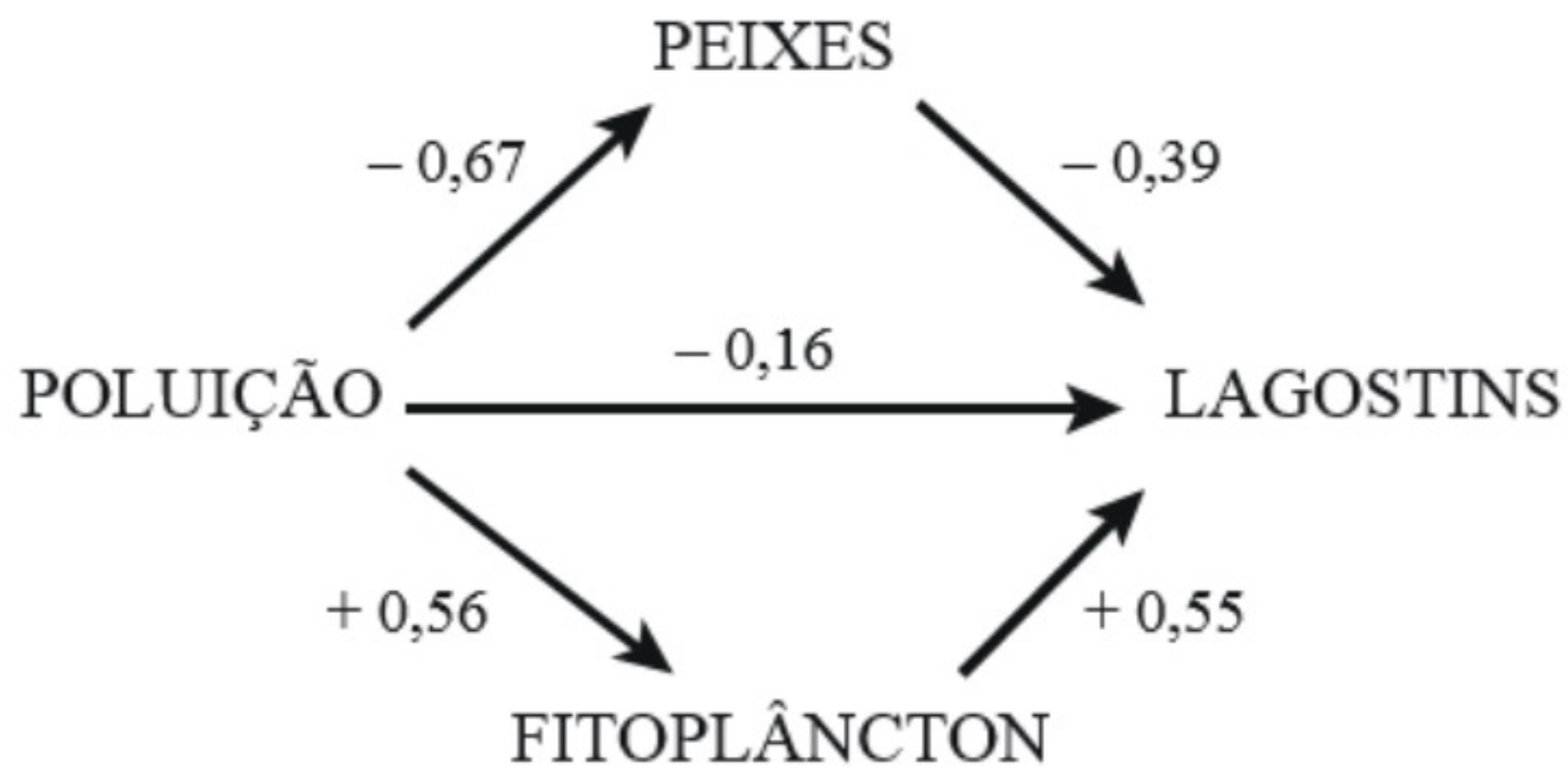
A ligação entre as questões e a análise
segunda edição

Figura 11.1

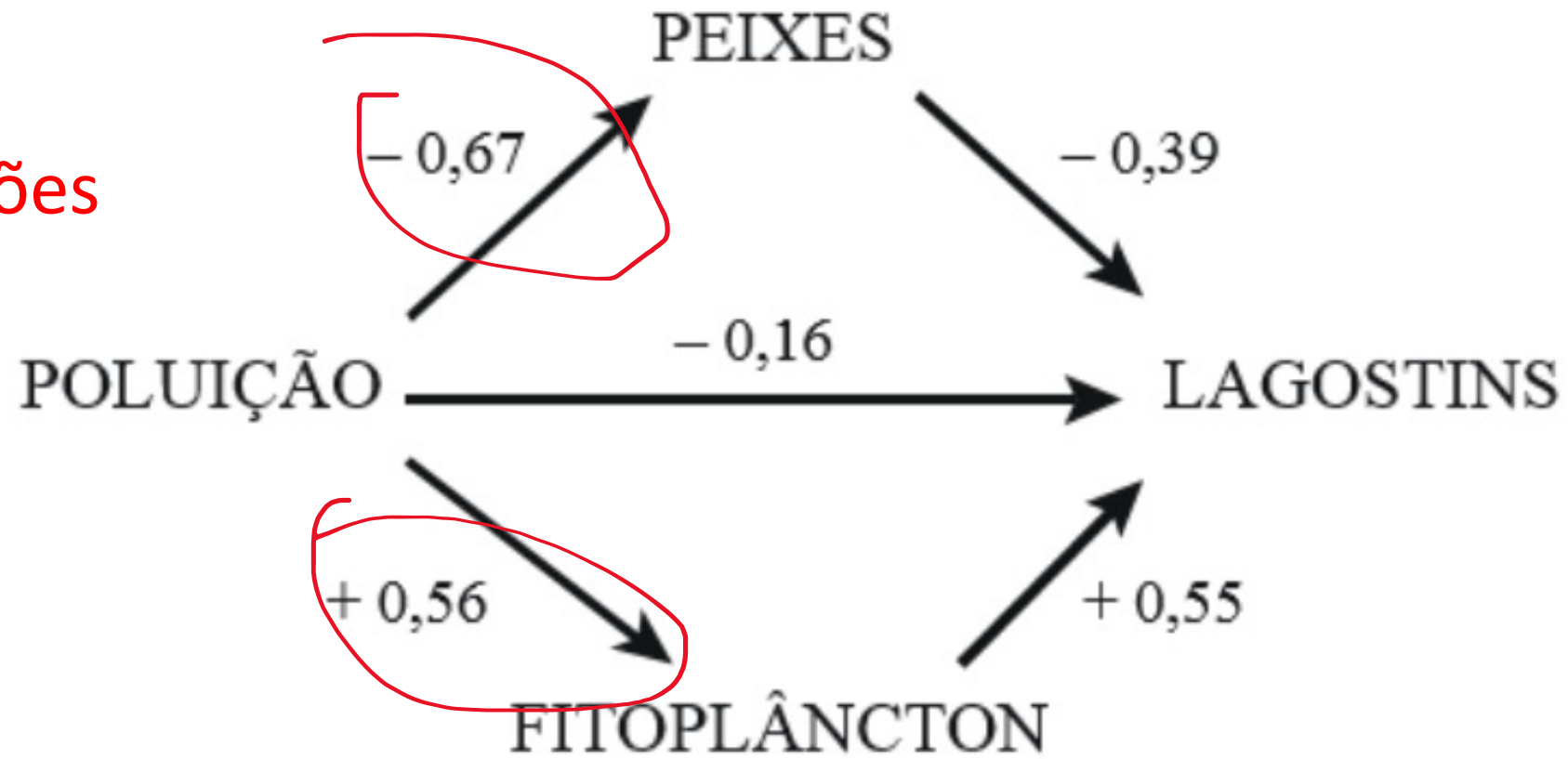




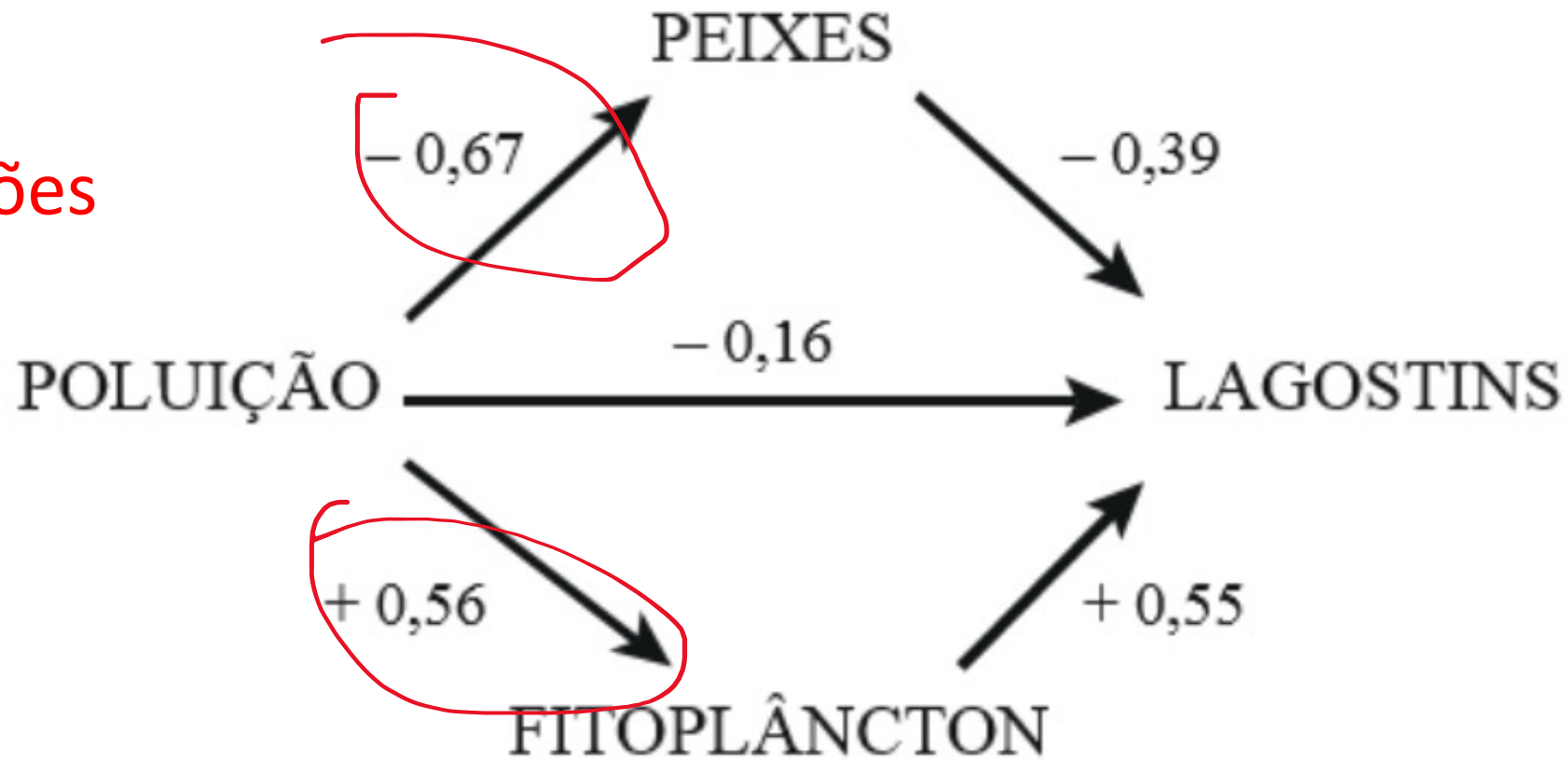
Efeitos diretos
a partir de regressão múltipla



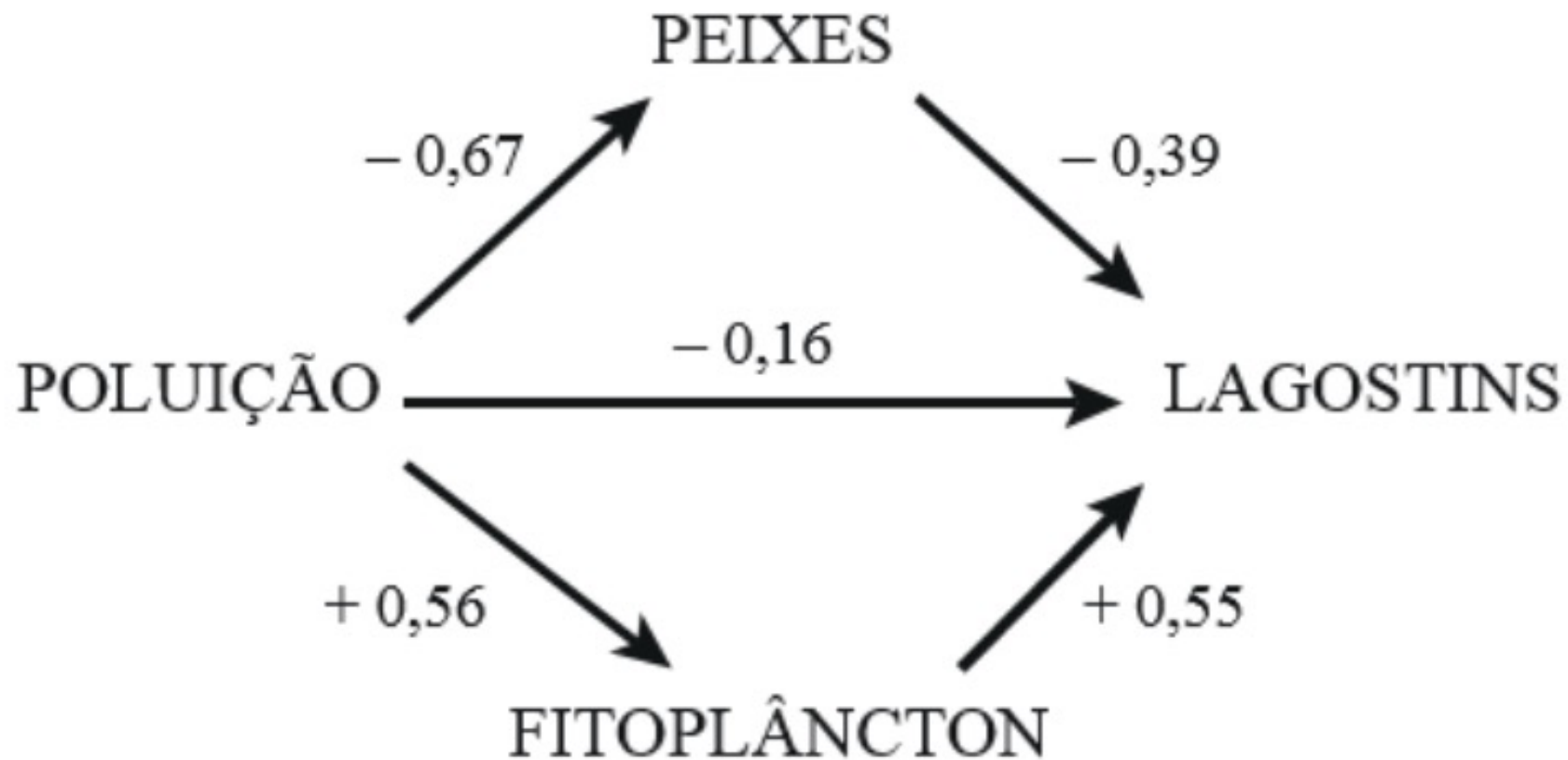
Regressões
simples



Regressões
simples

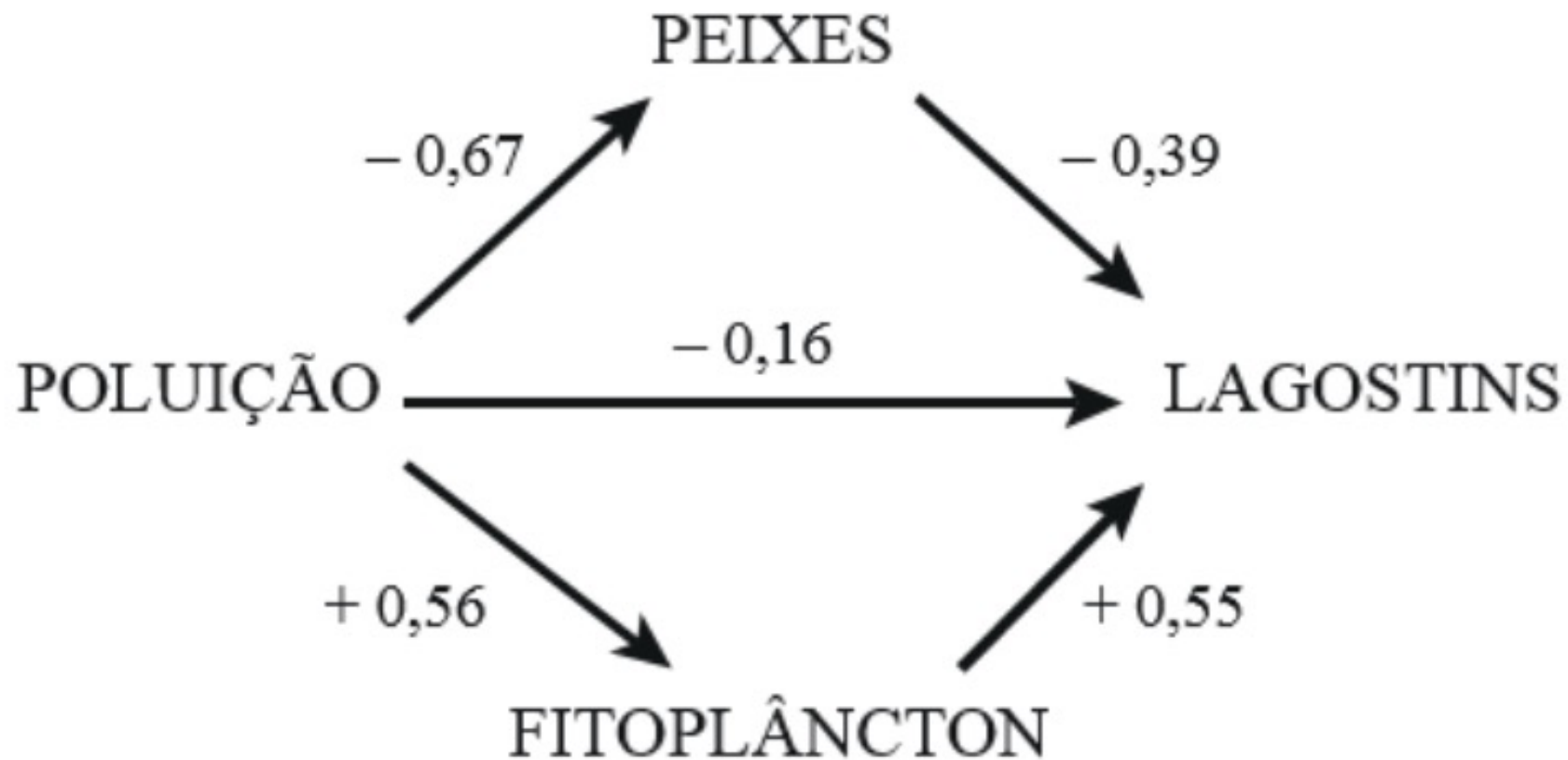


Efeitos diretos + Efeitos indiretos = Efeito Geral



Coeficientes de caminhos (“path coefficients”)

Poluição – Lagostins		-0,16
Poluição – Peixes – Lagostins	$-0,67 \times -0,39 =$	0,26
Poluição – Fitoplâncton – Lagostins	$0,56 \times 0,55 =$	0,31



Coeficientes de caminhos (“path coefficients”)

Poluição – Lagostins

-0,16

Poluição – Peixes – Lagostins

$-0,67 \times -0,39 =$

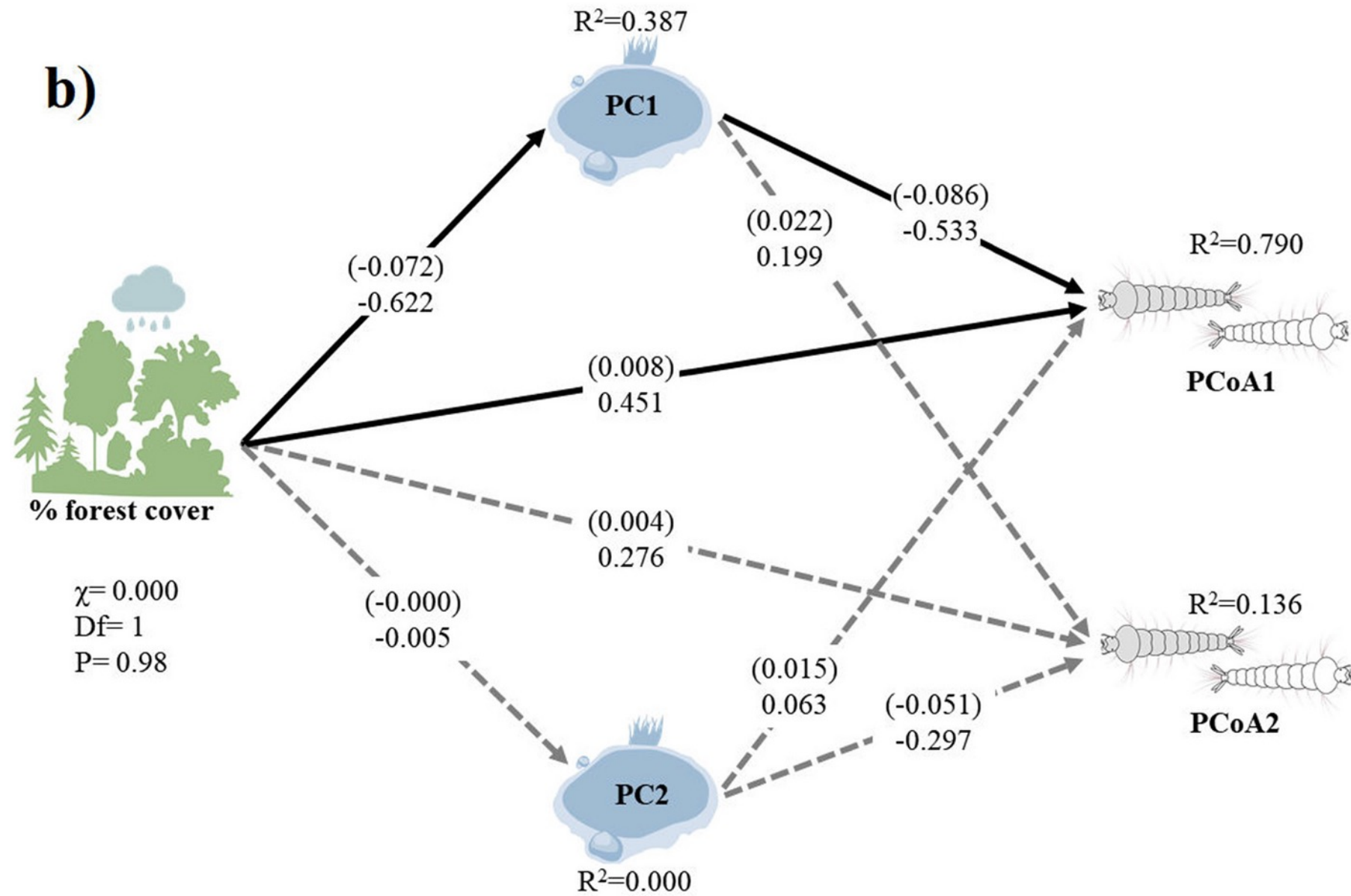
0,26

Poluição – Fitoplâncton – Lagostins

$0,56 \times 0,55 =$

0,31

0,41



Com R

Preparei dois scripts com o passo a passo para obter os coeficientes de caminhos.

'1_path_analysis.R'

Para você entender o processo conforme proposto pelo Bill Magnusson (INPA)

'2_structural_equation_model.R'

Uso o pacote 'lavaan' para gerar os coeficientes e testes de hipóteses e o pacote 'semPlot' para a representação gráfica.

Os arquivos necessários estão em nossa sala do Moodle:
<https://presencial.ead.ufgd.edu.br/course/view.php?id=535>