

# Reciprocity Between Adolescent Social Connection and Well-Being: Using Vector Autoregressive Modeling in Daily Diary Design

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1,2

Social  
Connection

3

Long-term (e.g., yearly)

5

Short-term (e.g., daily)

6

Well-Being

4

Quality

Quantity

Need

Within-individual  
(same & lagged day)

Between-individual  
(level & inertia)

Positive:  
Life satisfaction

Negative:  
Perceived Stress

# Research Aims:

1

- **Within-individual directionality**

- Same-day and lagged-day associations between three social connection components and each well-being outcome

2

- **Between-individual differences**

- Individual-level associations between the level and inertia of three social connection components and each well-being outcome

# Samples, Measures, & Analysis

## Social Connection (SC)

- **Quality** (16 items)  
-1 (*Not at all*) to 10 (*Very much*)
  - During your social interaction today... (e.g.) Comfortable
- **Quantity** (1 item in-person; 1 item virtual)
  - During last 24 hours, how many people did you interact with IN PERSON / VIRTUALLY
- **Need** (6 items)  
-1 (*Not at all*) to 10 (*Very much*)
  - Today, ...to what extent did you want to (e.g.) be included?

## Adolescent Well-Being (WB)

- **Life Satisfaction** (1 item)  
-1 (*Not at all*) to 10 (*Completely*)
  - All things considered, how satisfied are you with your life as a whole today?
- **Perceived Stress** (5 items)  
-1 (*Not at all*) to 10 (*Very*)
  - (E.G.) Did anything happen at home that most people would consider stressful?



## Analytic model: Vector Autoregressive (VAR) Model

- **Four VAR models**
  - SC quality + SC quantity + SC need + adolescent WB
  - SC quantity (In-person vs. virtual )X WB (positive vs. negative)
- **Within-individual level**
  - Same-day concurrent associations among all four variables per model
  - Next-day lagged associations between each variable pairs + all stability paths
- **Between-individual level**
  - Correlations among all key variables and estimated parameters

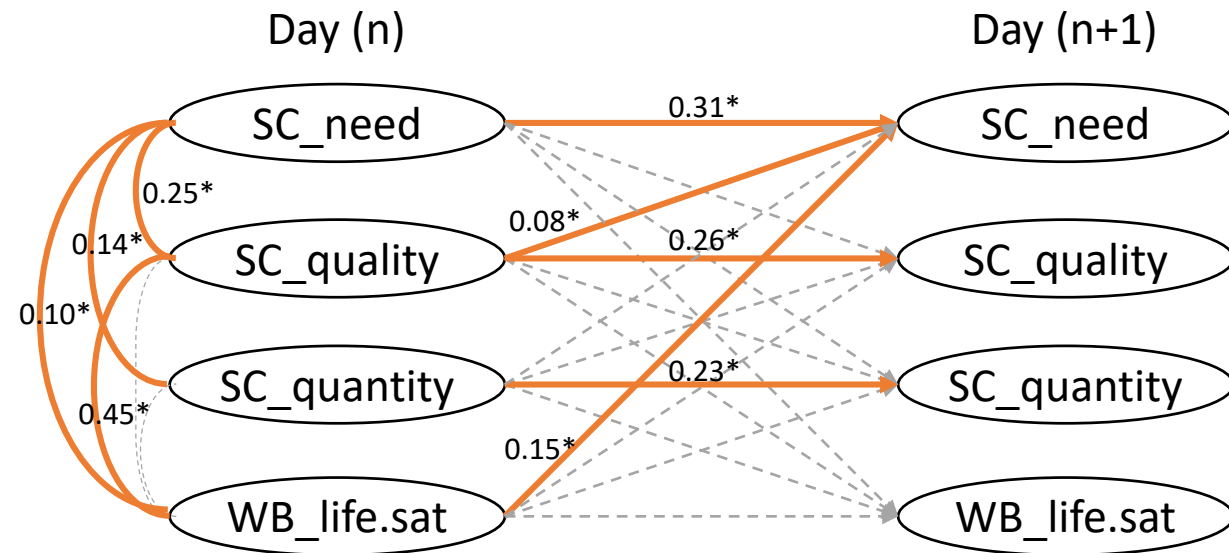
### Sample info:

- **N**=120 adolescents
- 14-day diary
- **Age:**  
Range 12~17  
M=14.99, SD=1.62
- **Sex at Birth:**  
64% male, 36% female,
- **Race/ethnicity:**  
50.83% White, 24.1% Black,  
16.67% Latinx, 5% Asian,  
5.8% Mixed races, 0.8% other

1

- **Within-individual directionality** (WB = life satisfaction)

- Same-day and lagged-day associations between three social connection components and each well-being outcome

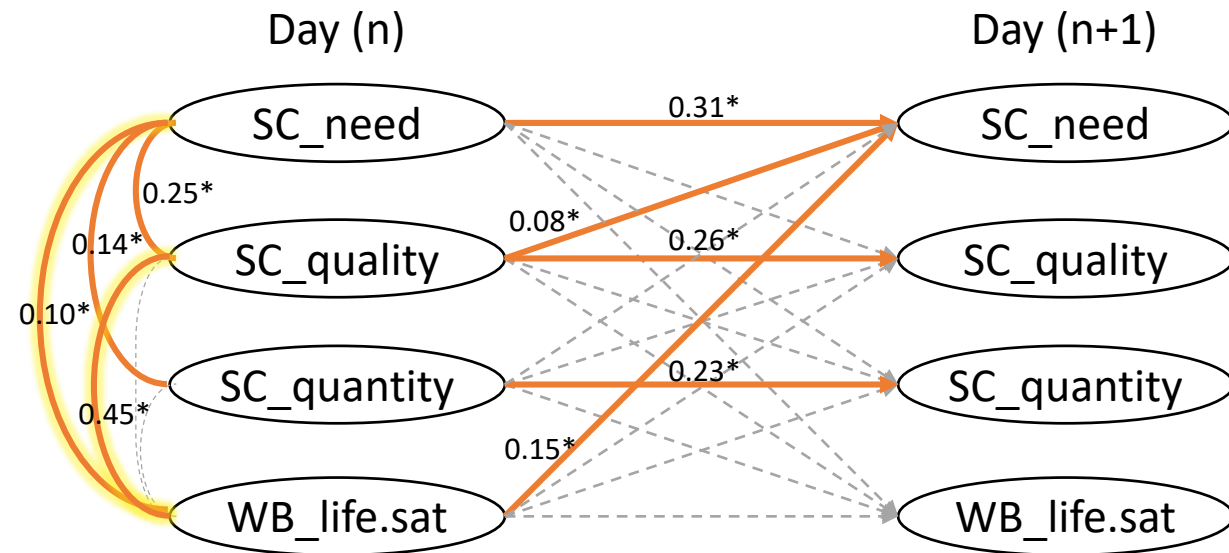


SC quantity = number of people (in person)

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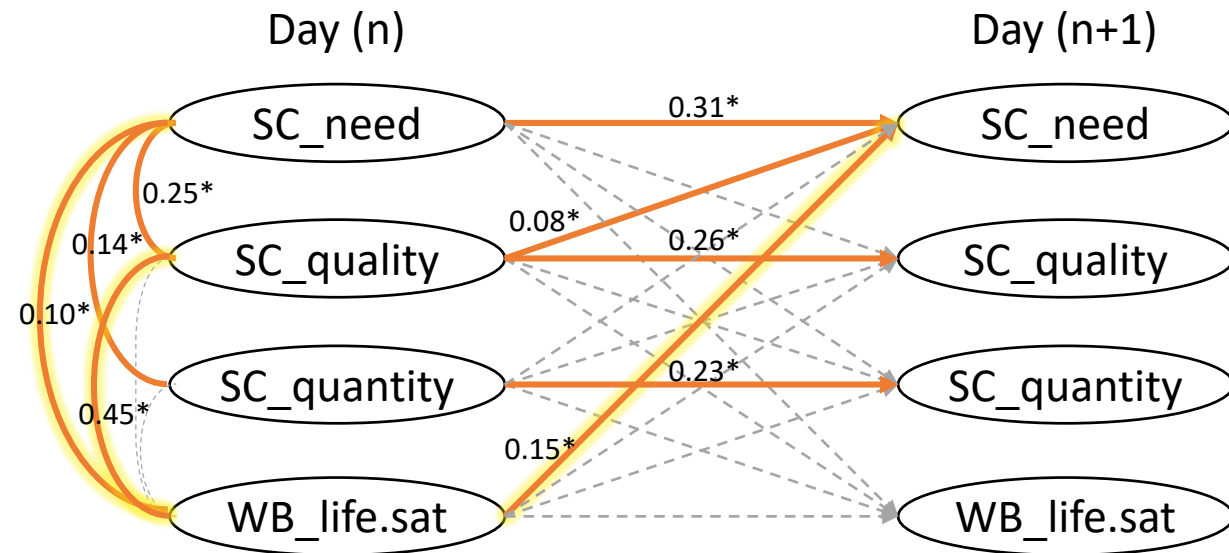


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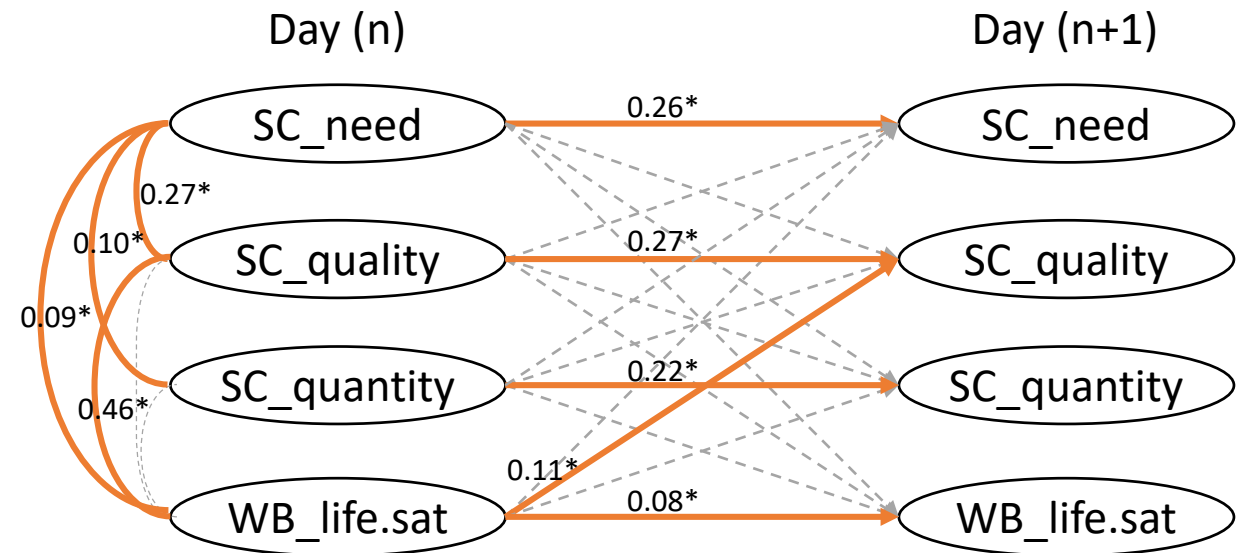
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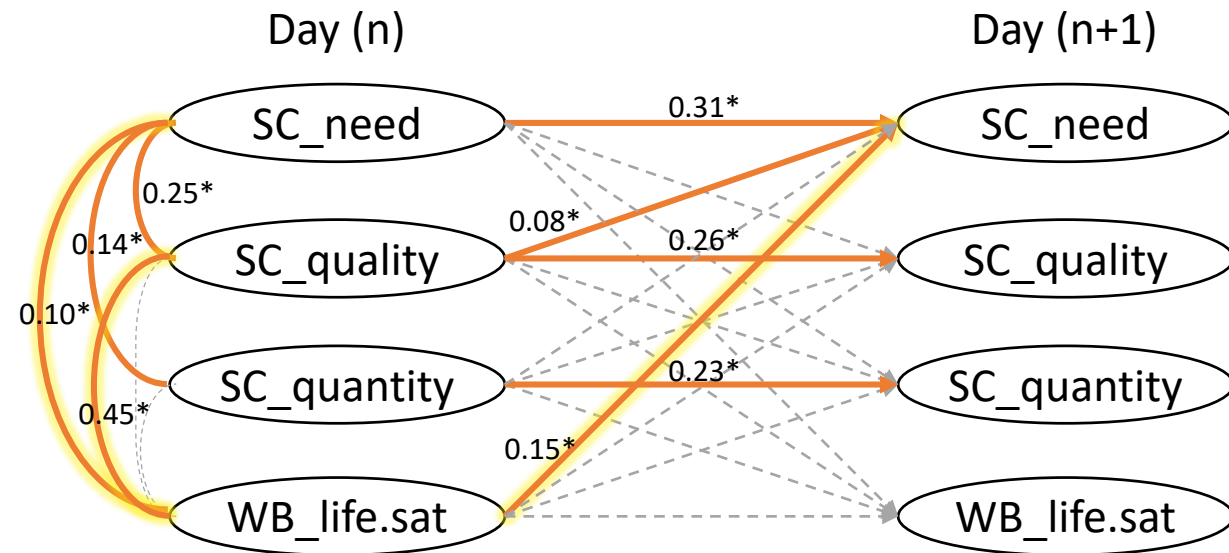
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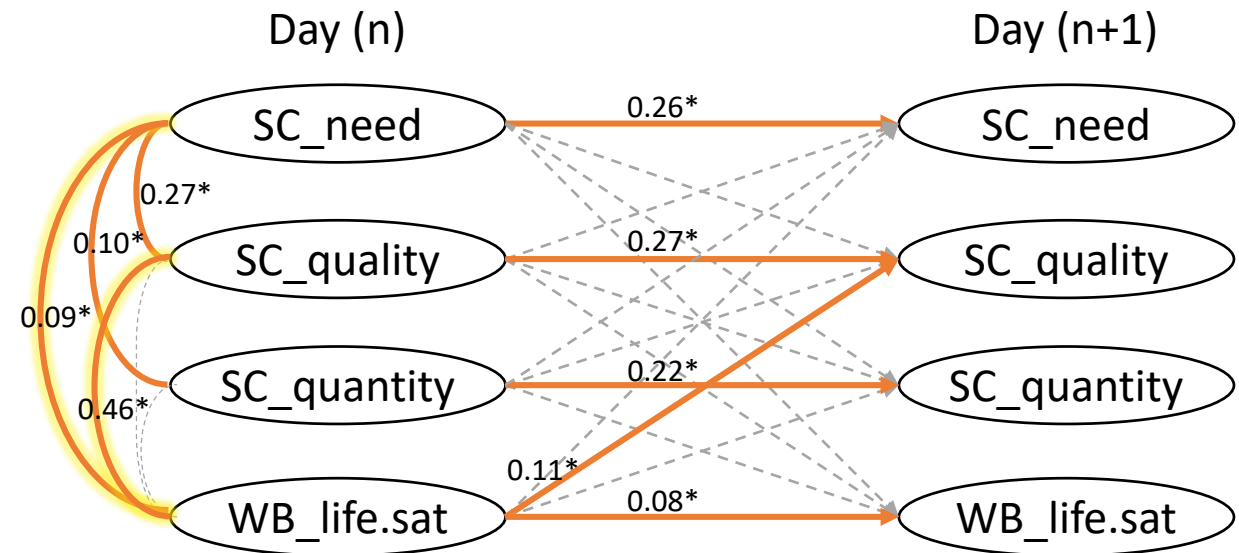
SC quantity = number of people (virtually)

- **Within-individual directionality** (WB = life satisfaction)

- Same-day and lagged-day associations between three social connection components and each well-being outcome



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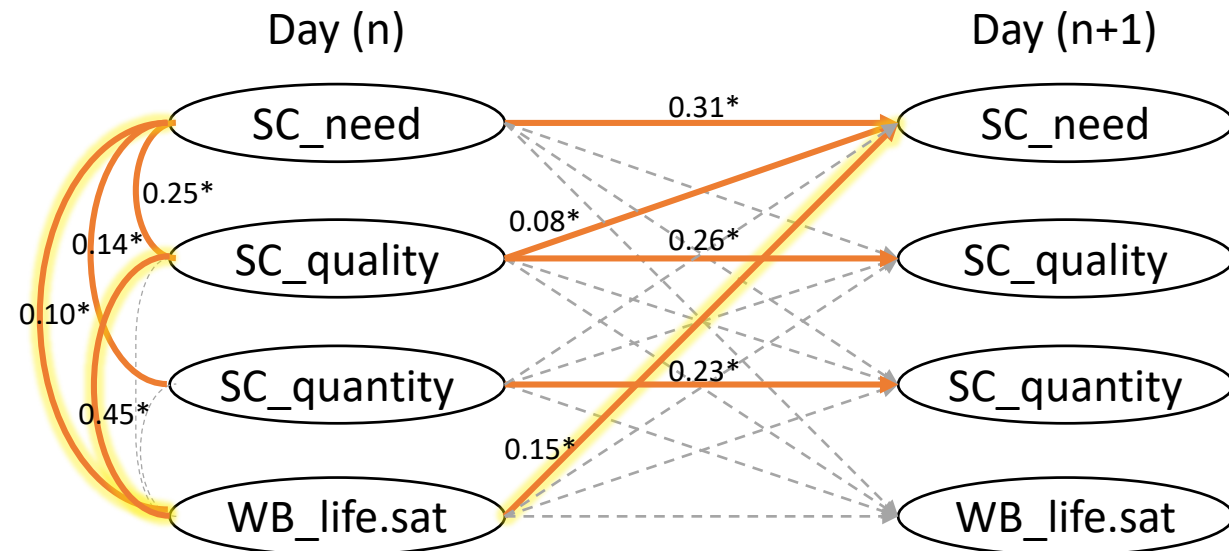
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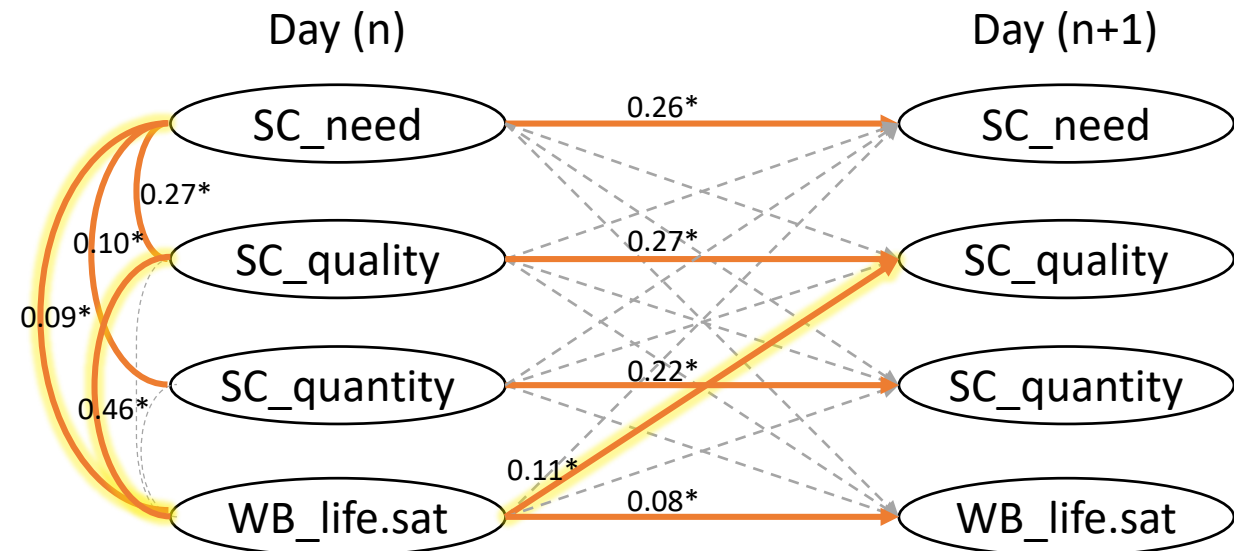
- Same-day and lagged-day associations between three social connection components and each well-being outcome

### Quick Summary:

- Daily life satisfaction  $\leftrightarrow$  (+) same-day SC quality (larger) and need (smaller)
- Daily life satisfaction  $\rightarrow$  (+) SC need / SC quality the next day



SC quantity = number of people (in person)

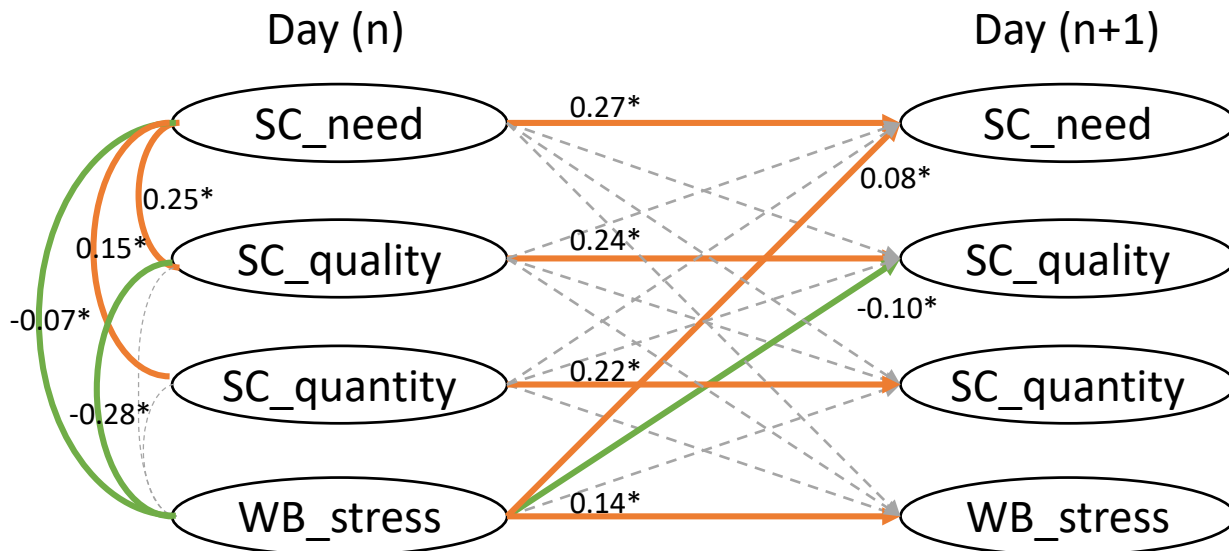


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- **Within-individual directionality** (WB = perceived stress)

- Same-day and lagged-day associations between three social connection components and each well-being outcome

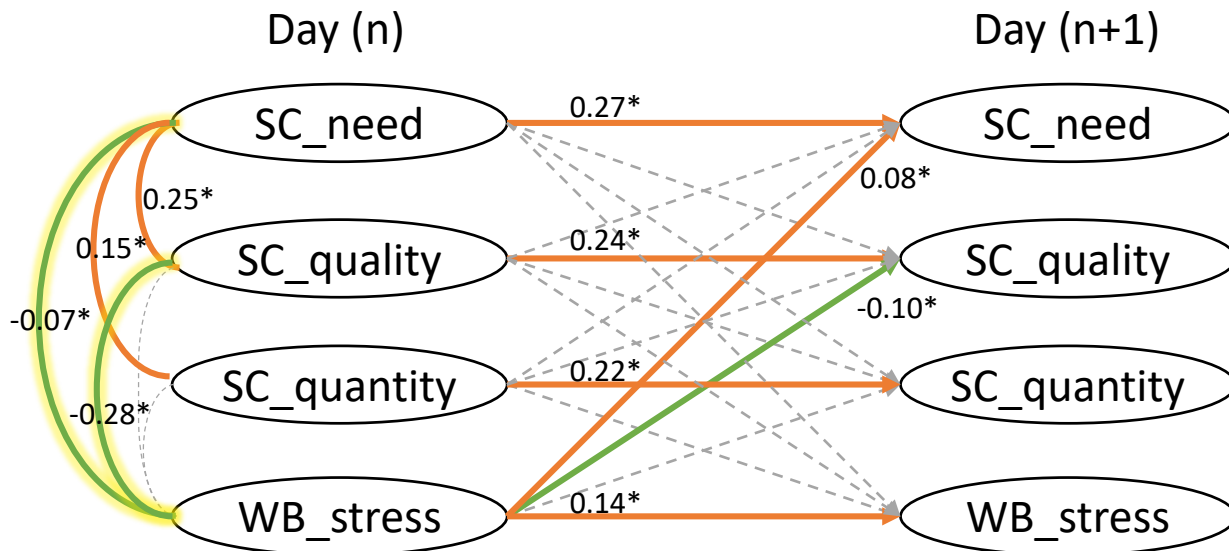


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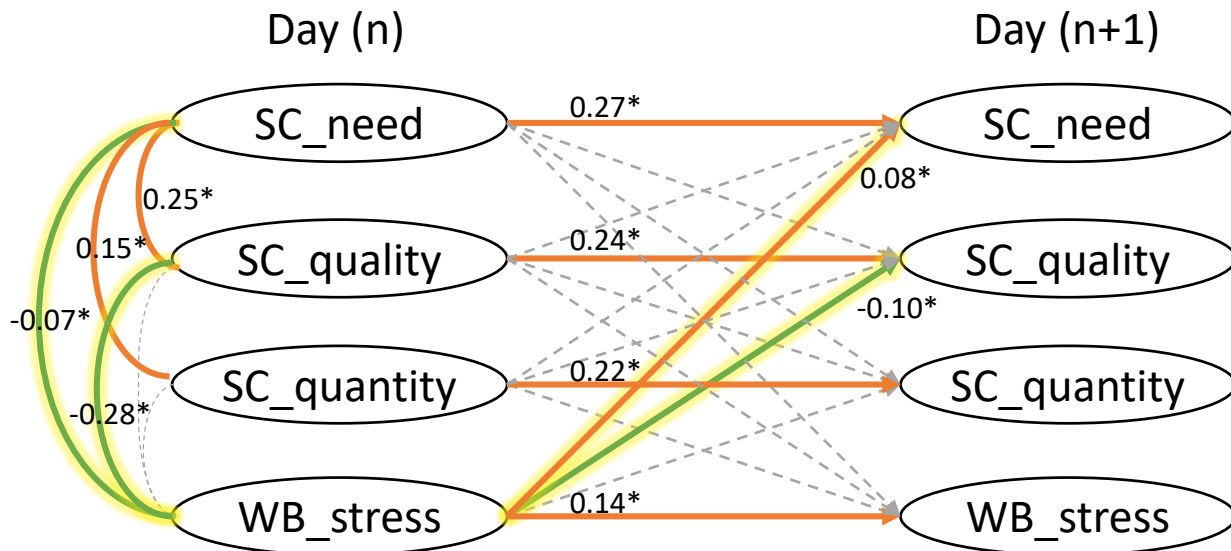


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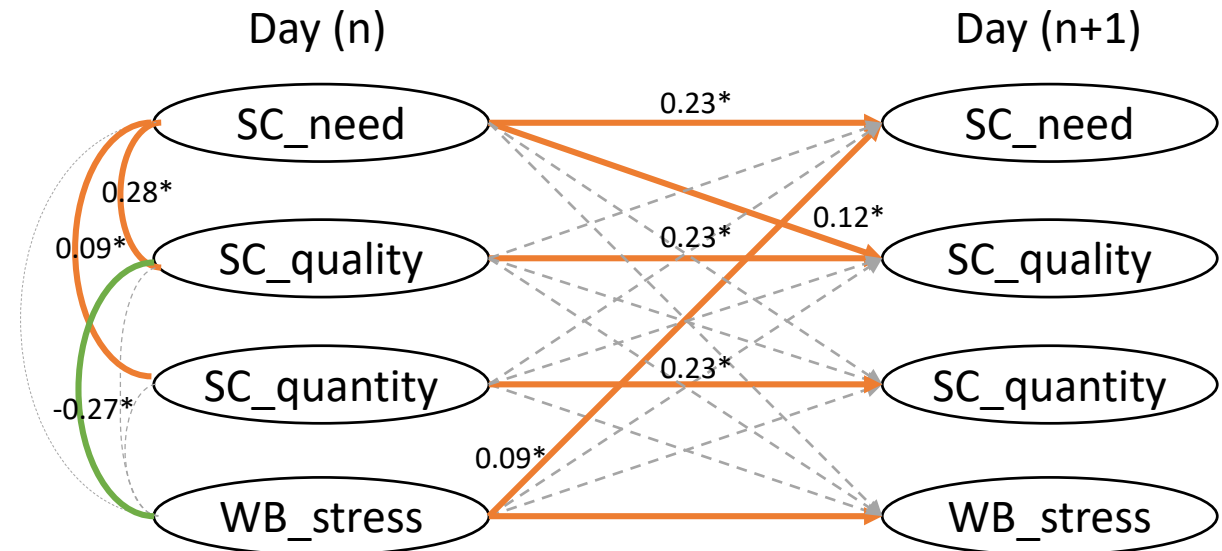
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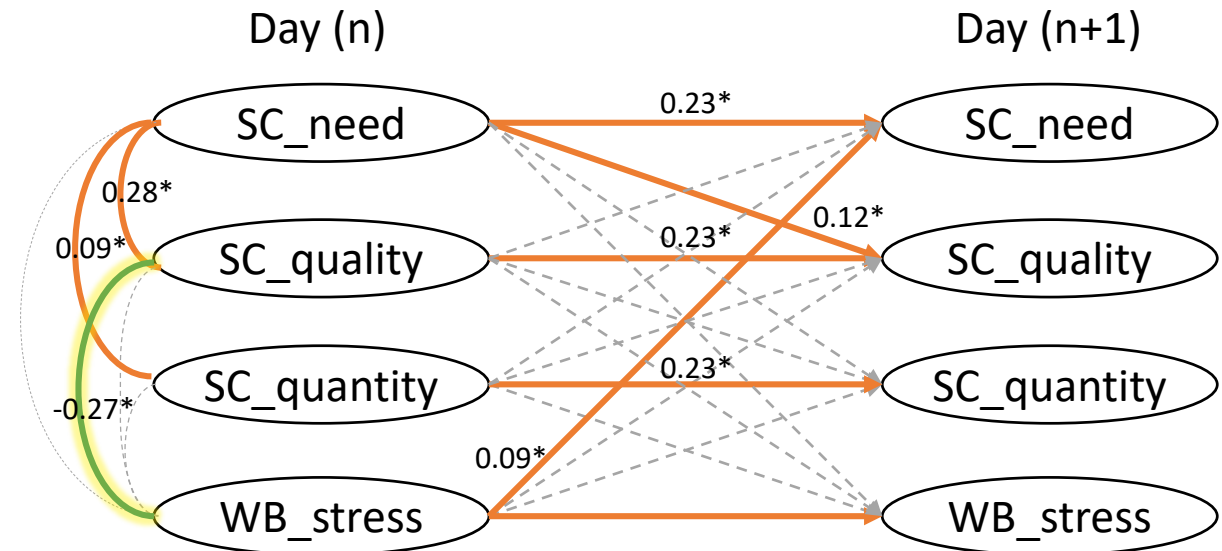
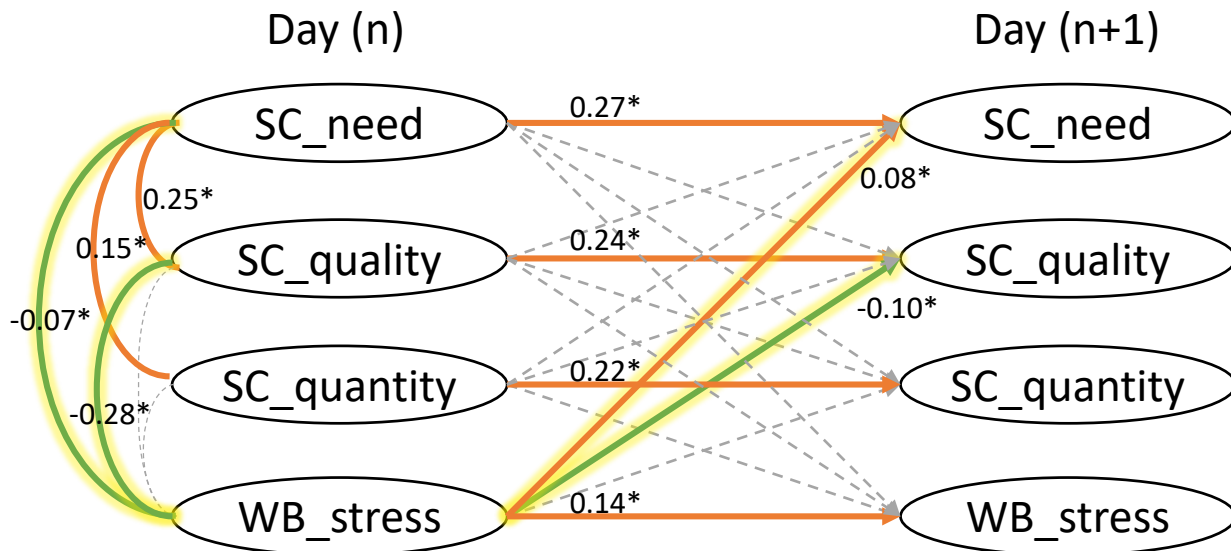


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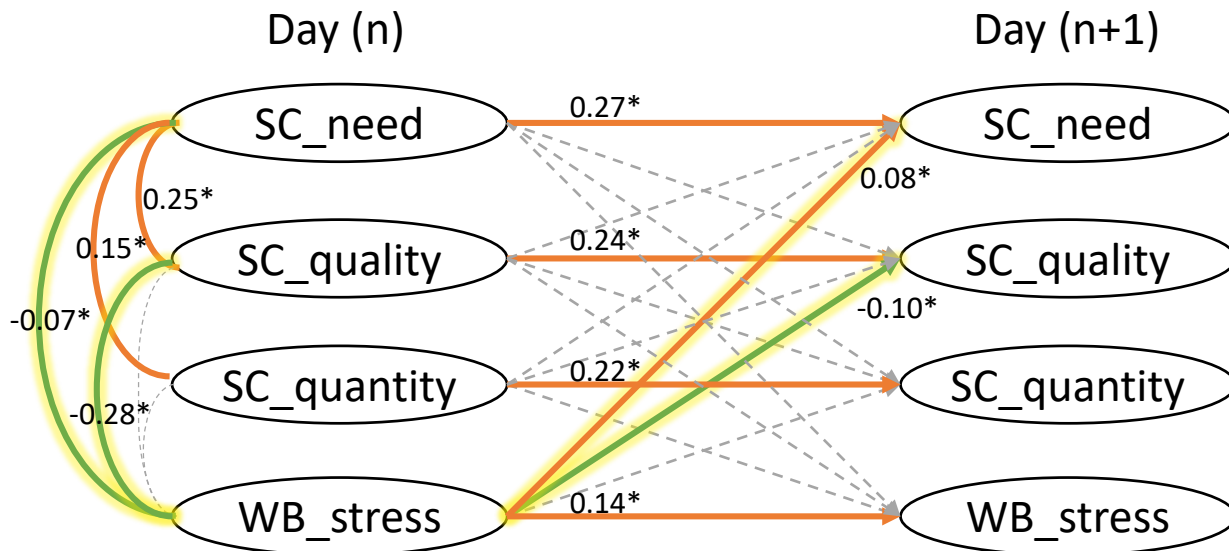
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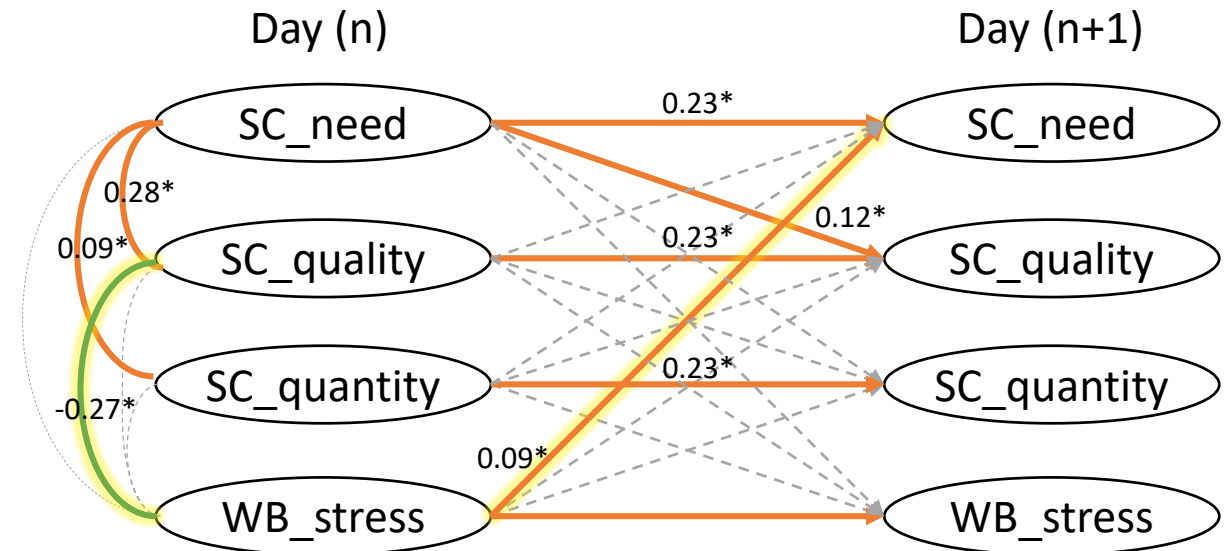
- Same-day and lagged-day associations between three social connection components and each well-being outcome

### Quick Summary:

- Daily perceived stress  $\leftrightarrow$  (-) same-day SC quality (larger) and need (smaller/ns)
- Daily perceived stress  $\rightarrow$  (+) SC need & (-) SC quality (left model) the next day



SC quantity = number of people (in person)

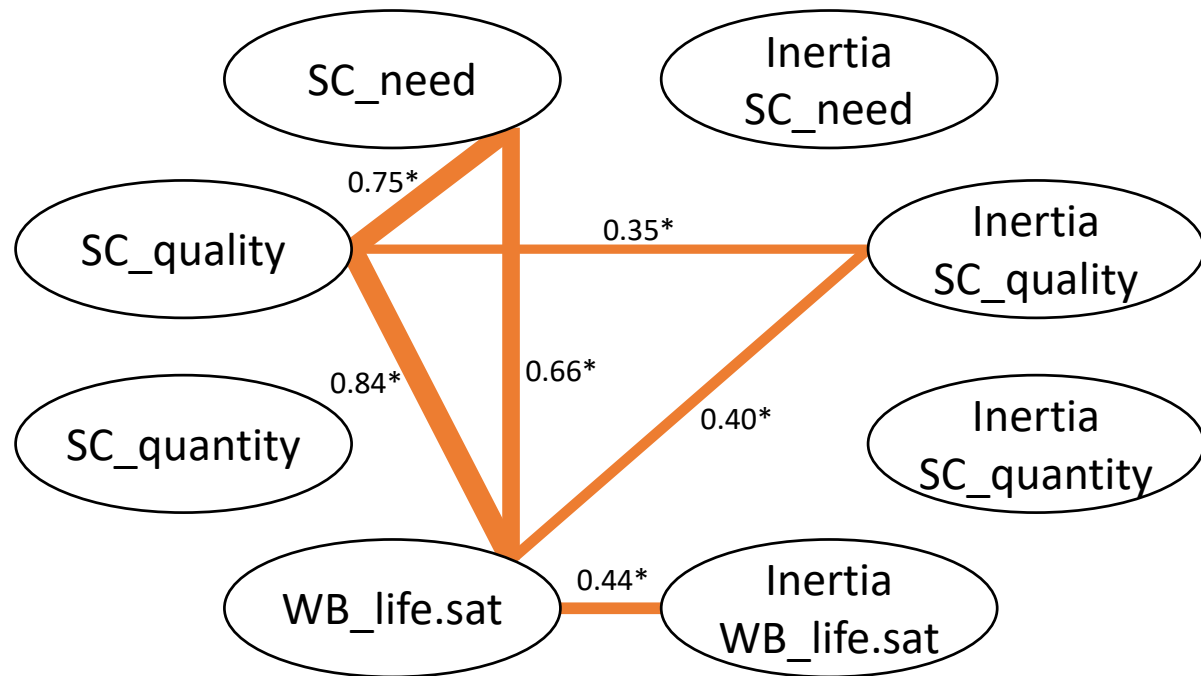


SC quantity = number of people (virtually)

2

- **Between-individual differences** (WB = life satisfaction)

- Individual-level associations between the level and inertia of three social connection components and each well-being outcome

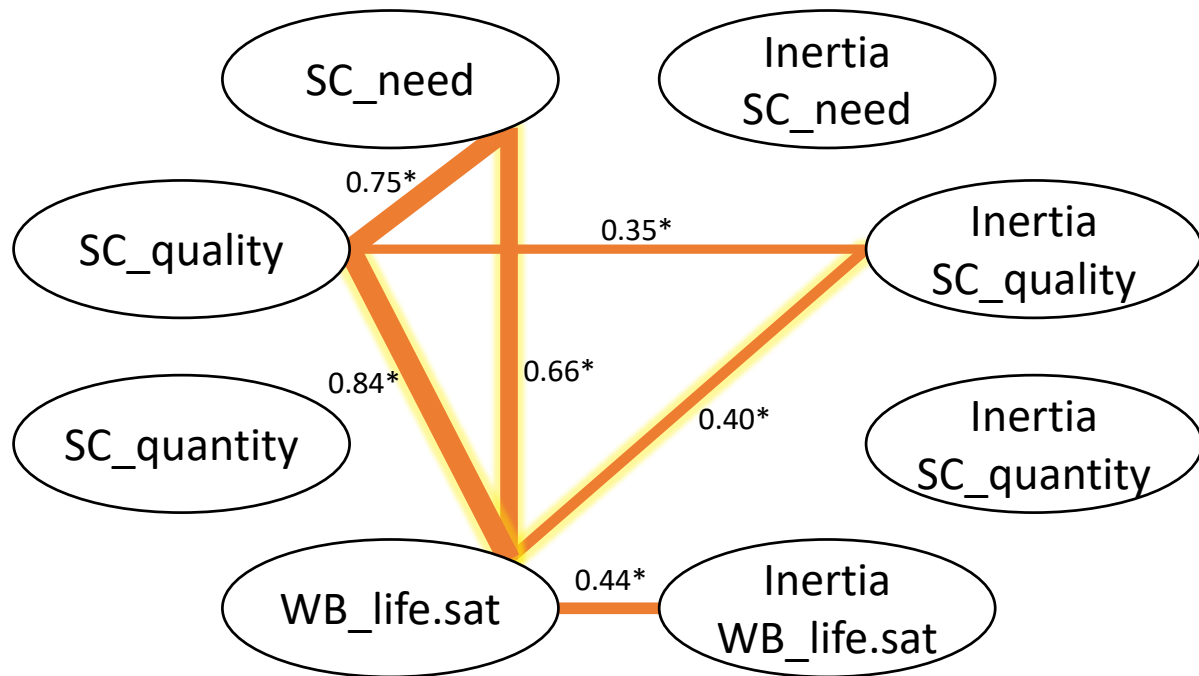


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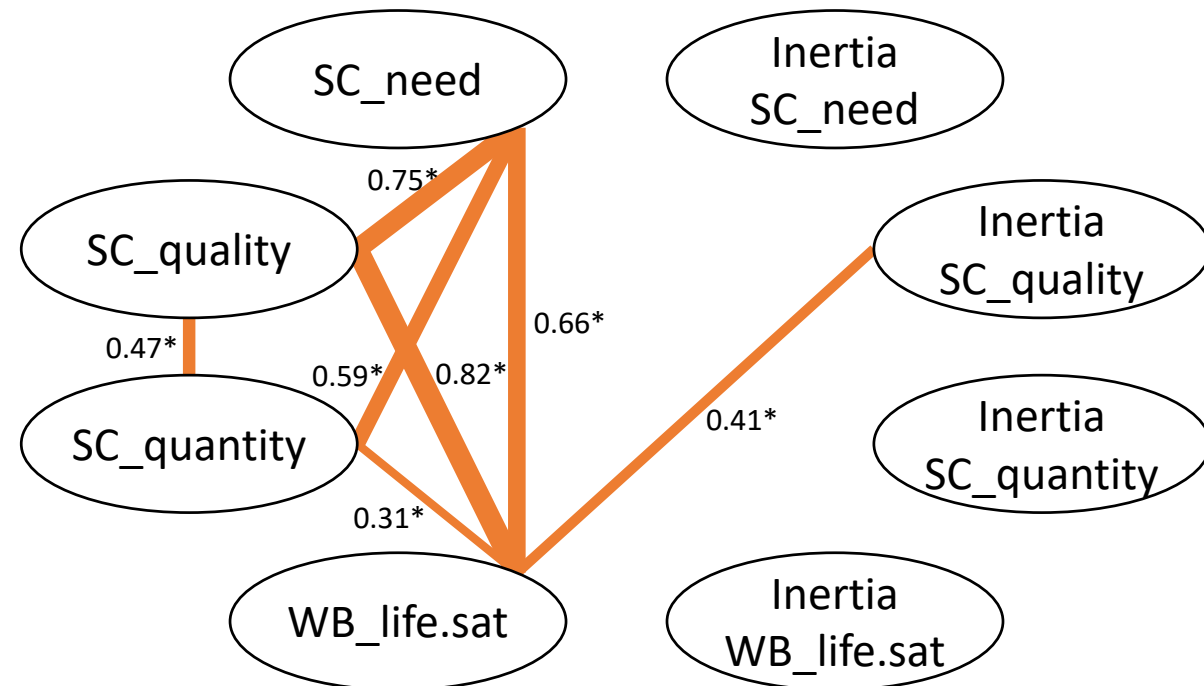
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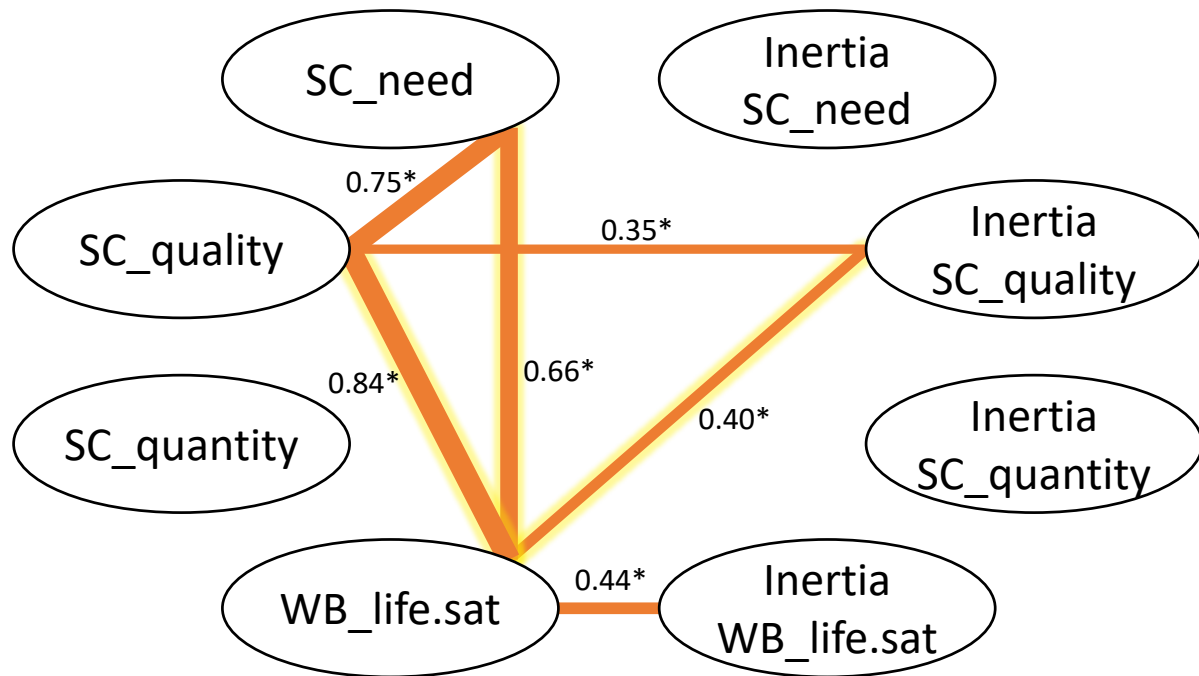
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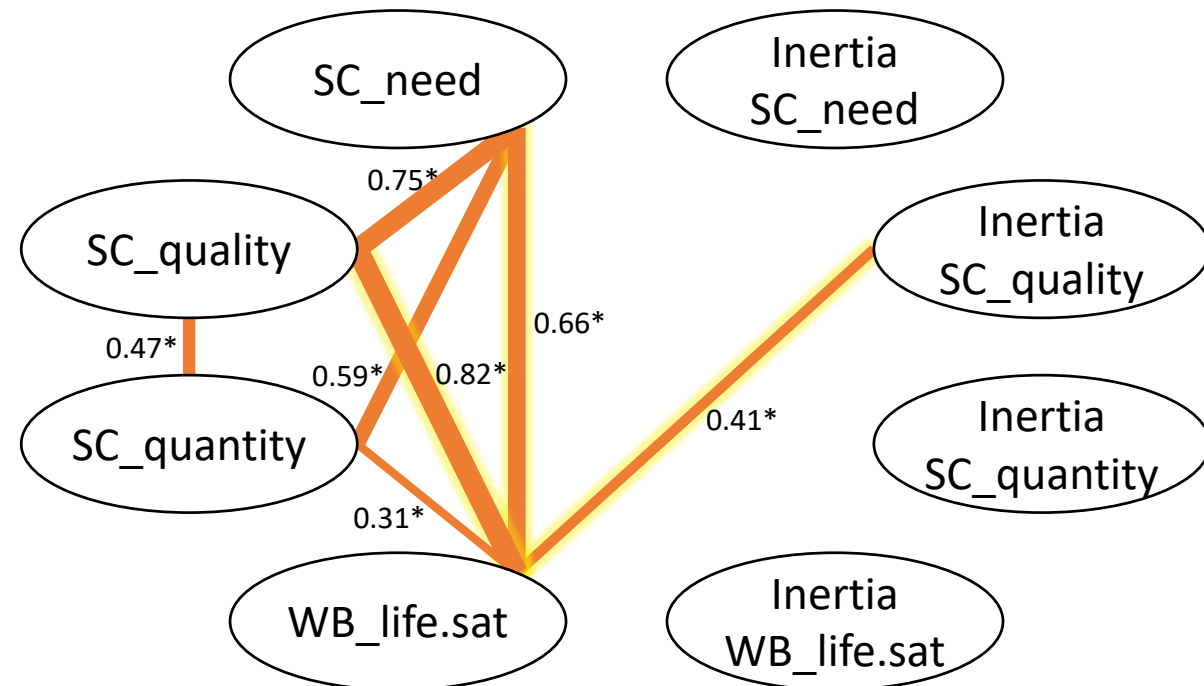
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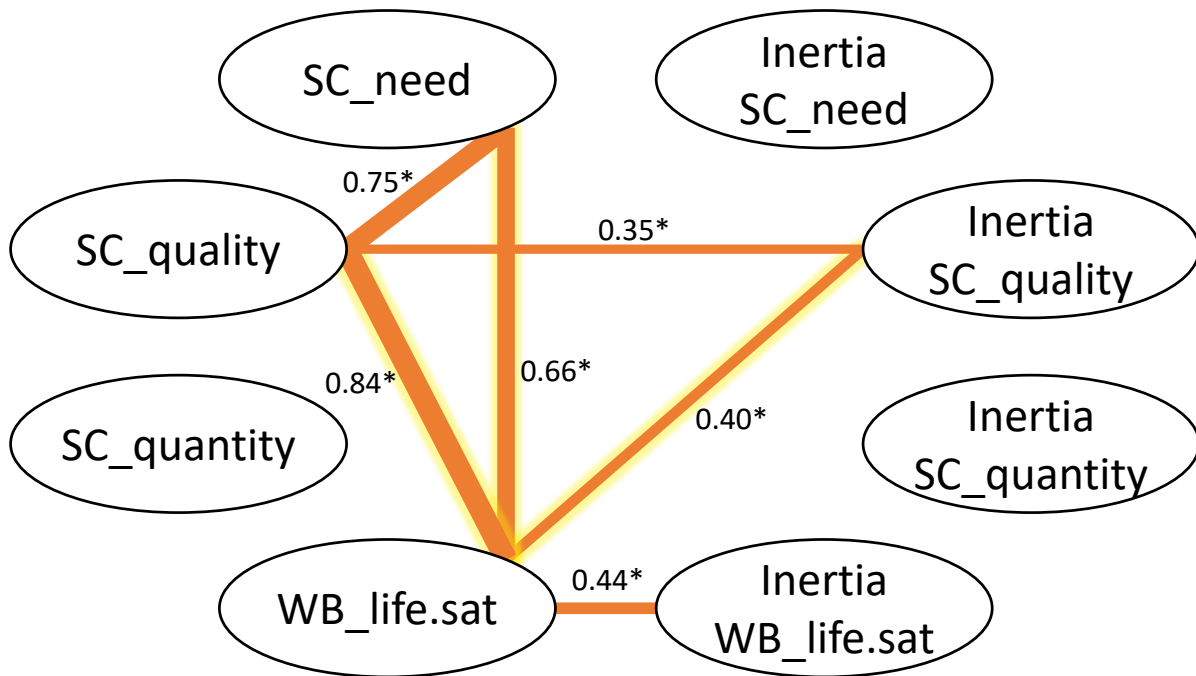
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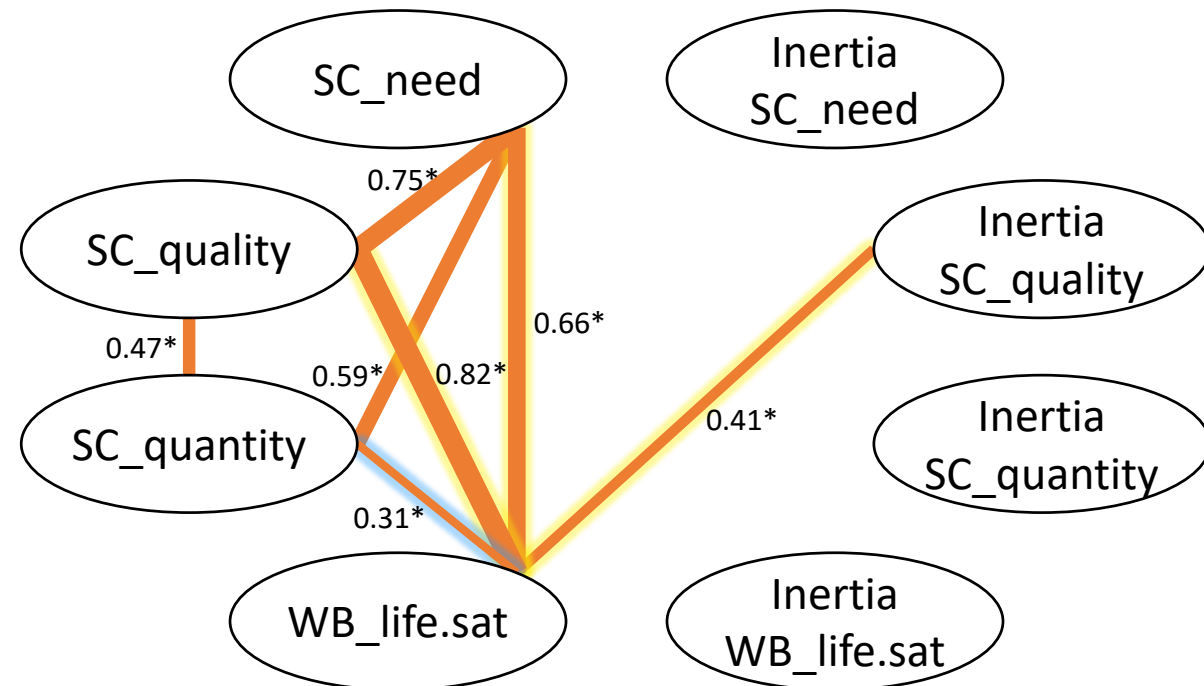
- Individual-level associations between the level and inertia of three social connection components and each well-being outcome

### Quick Summary:

- High level, consistent SC quality + high level SC need  $\leftrightarrow$  (+) life satisfaction
- High level SC quantity (only virtually)  $\rightarrow$  (+) life satisfaction



SC quantity = number of people (in person)

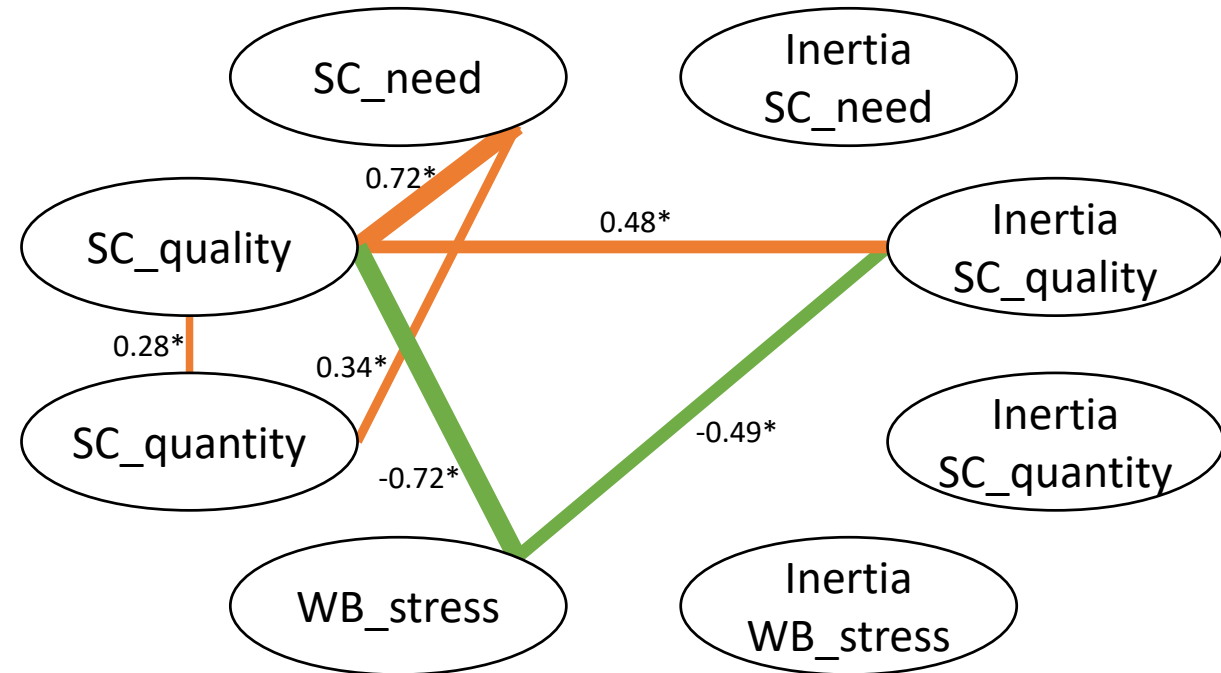


SC quantity = number of people (virtually)

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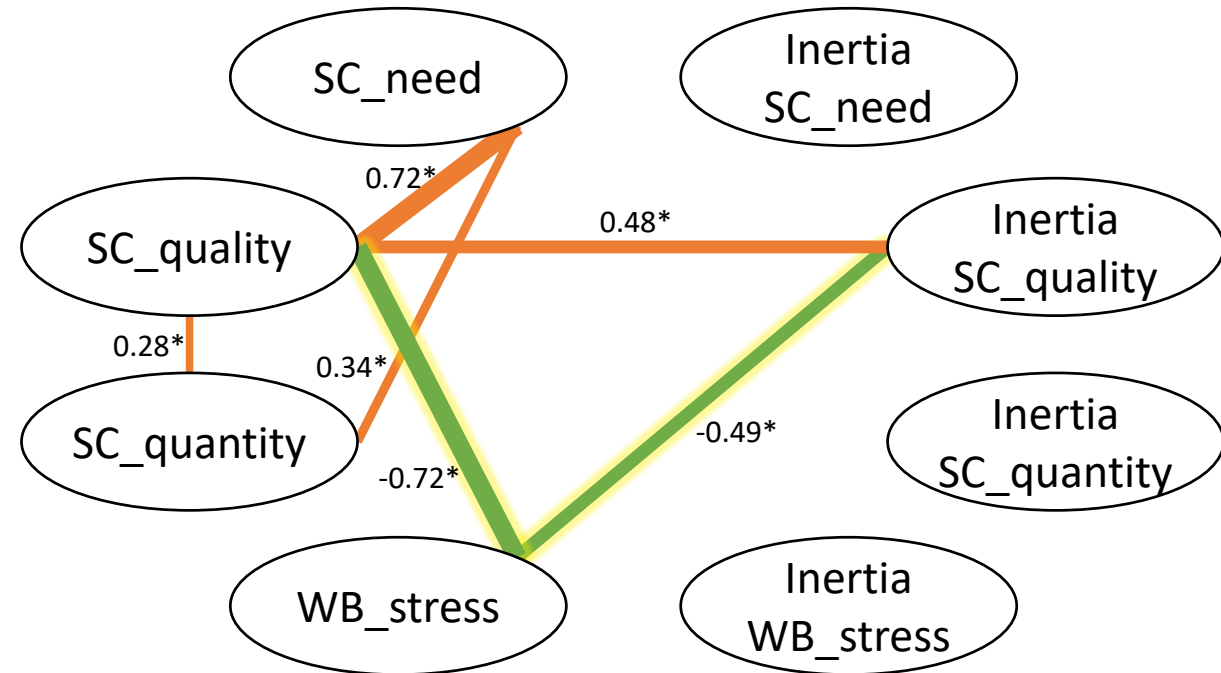


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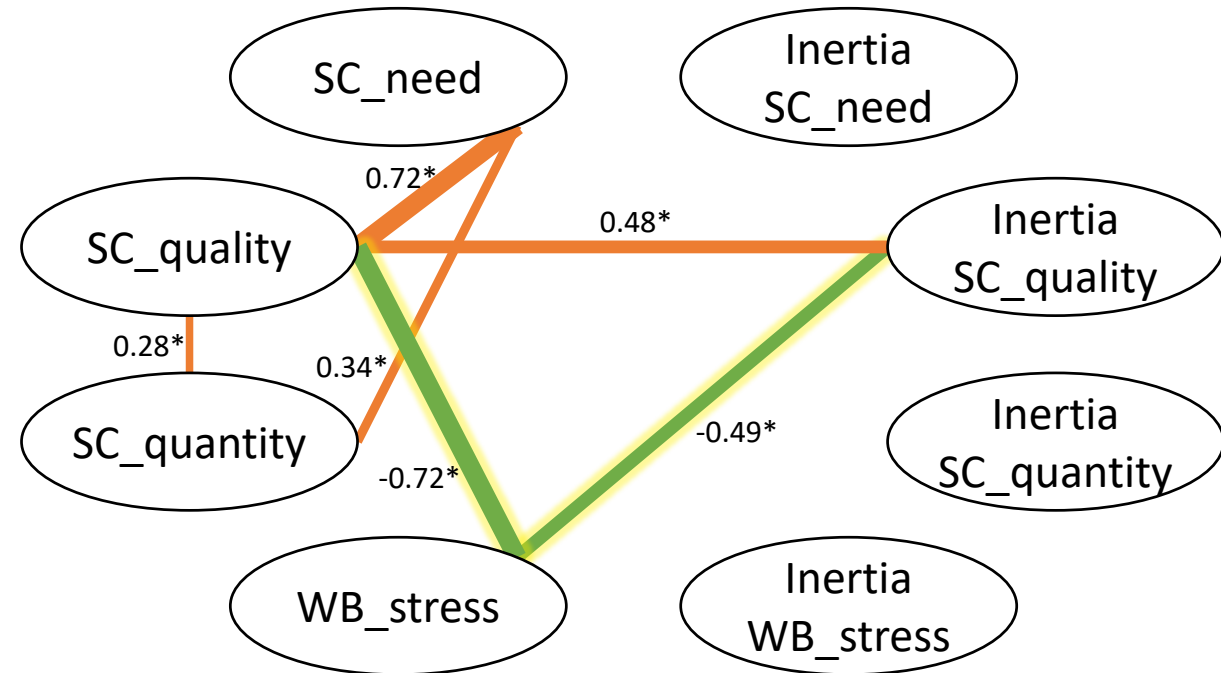


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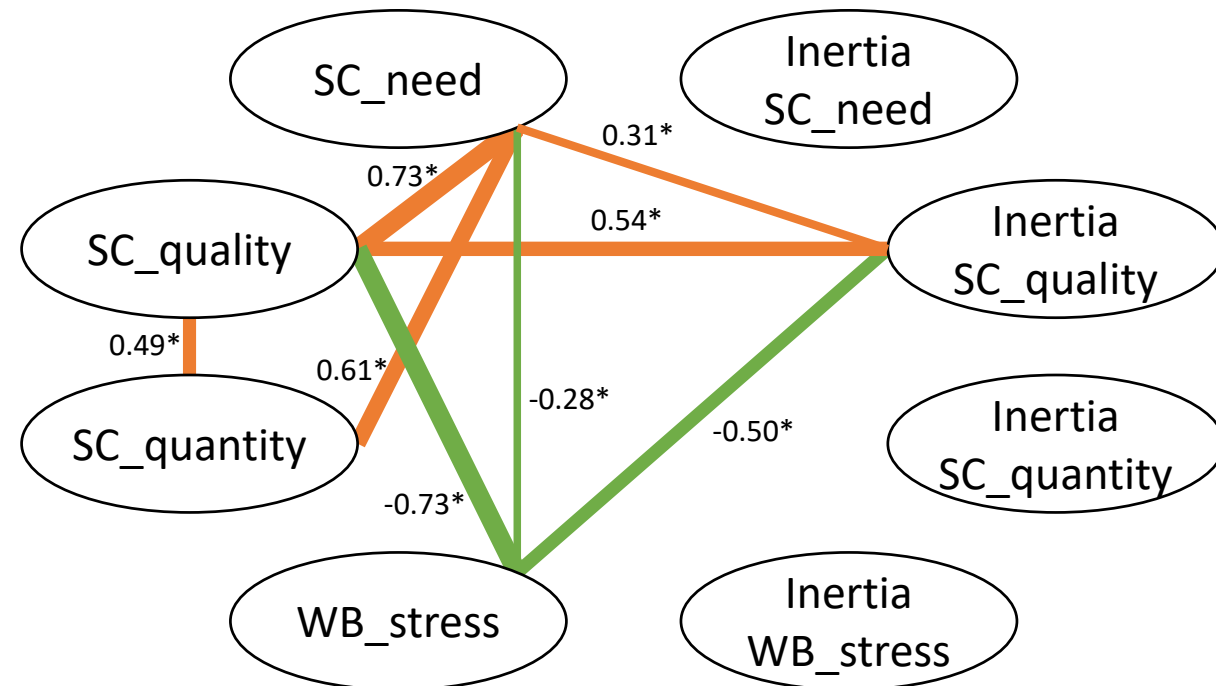
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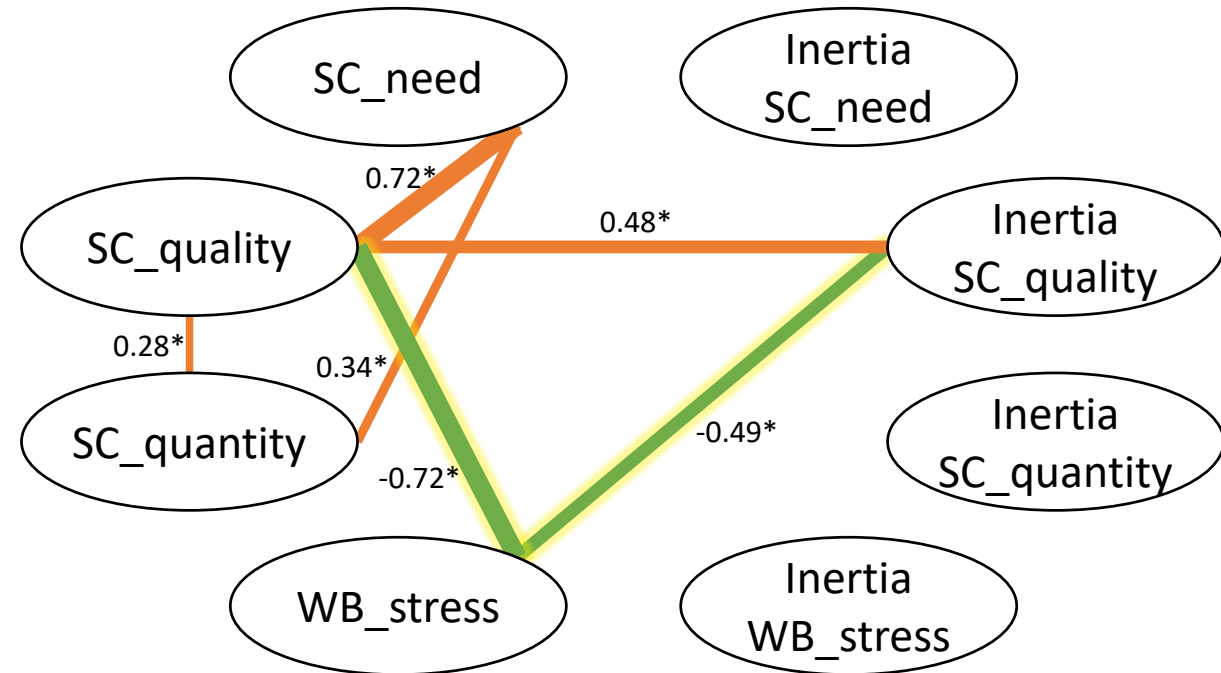
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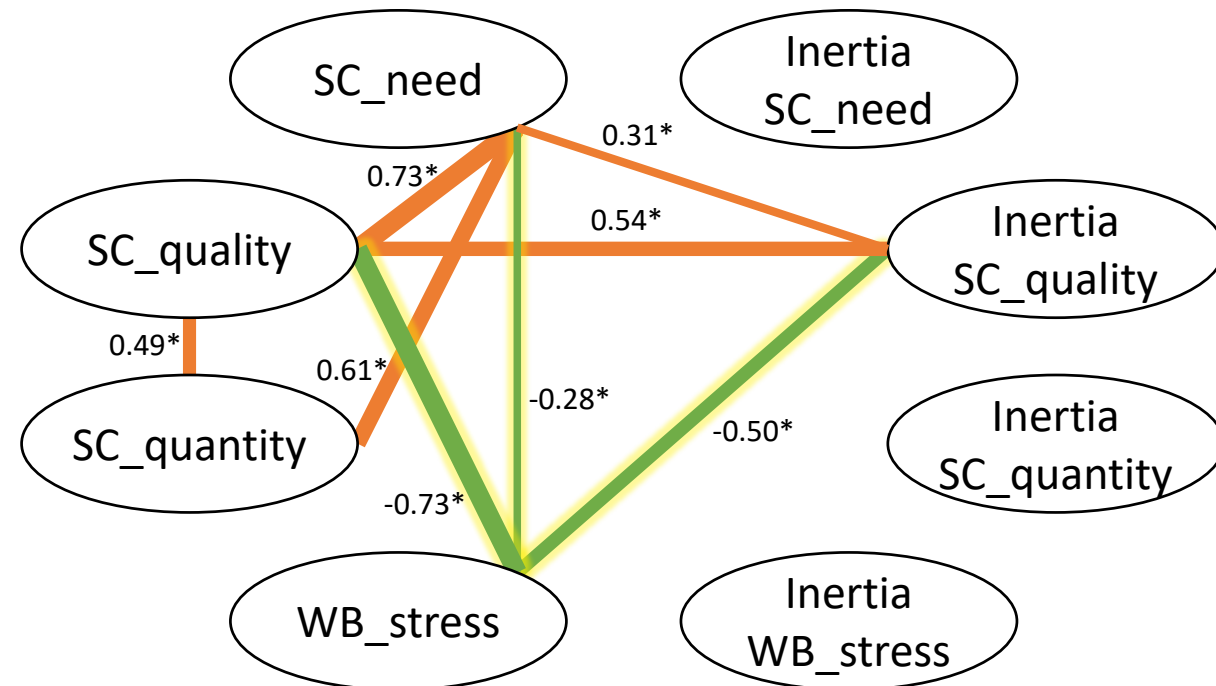
- Individual-level associations between the level and inertia of three social connection components and each well-being outcome

### Quick Summary:

- High level, consistent SC quality + high level SC need (right)  $\leftrightarrow$  (-) perceived stress



SC quantity = number of people (in person)



SC quantity = number of people (virtually)

# Summary & take home message

## Within-level

- Same day:
  - SC quality is highly correlated with both positive and negative WB in the expected direction
  - SC quantity is not significantly correlated with WB (regardless of in-person or virtual)
- Lagged day:
  - It is that WB predict next-day SC, instead of the opposite direction
  - Either positive or negative WB predict increases in next-day SC need


## Between-level

- Consistency:
  - Individuals with high level, consistent SC quality also have high positive and low negative WB
- Discrepancy:
  - Individual with high levels of virtual SC quantity, not in-person SC quantity, also have high life satisfaction

## Overall

- Take-home message:
  - At least daily level, the directionality is WB  $\rightarrow$  SC
  - Consistent high level SC quality  $\leftrightarrow$  better WB
- Next Step:
  - Collect more daily data to evaluate the robustness of the results
  - Expand to other positive and negative indicators of WB



A portrait of Dr. Yoonhee Park, a woman with short dark hair, smiling. She is wearing a dark blue button-down shirt with thin white vertical stripes. The background is a blurred outdoor setting with green foliage.[illegible]

*The Dynamics of Relationship, Emotion, and Asset in Multiple Systems Lab*