

# **The interaction of the cognition, morality, emotions and aggressive behaviour from childhood to early adulthood**

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# How does developmental change work?

## Bi-directional

Most processes in human development are potentially bi-directional. (e.g. Gault-Sherman, 2012, Obsuth et al, 2015).

## Cascading

.... many interactions and transactions in developing systems [...] result in spreading effects across levels, among domains at the same level, and across different systems ... (Masten and Cichetti,

## Interconnected

Links between behavioral, social, emotional, vegetative, cognitive, etc. systems.

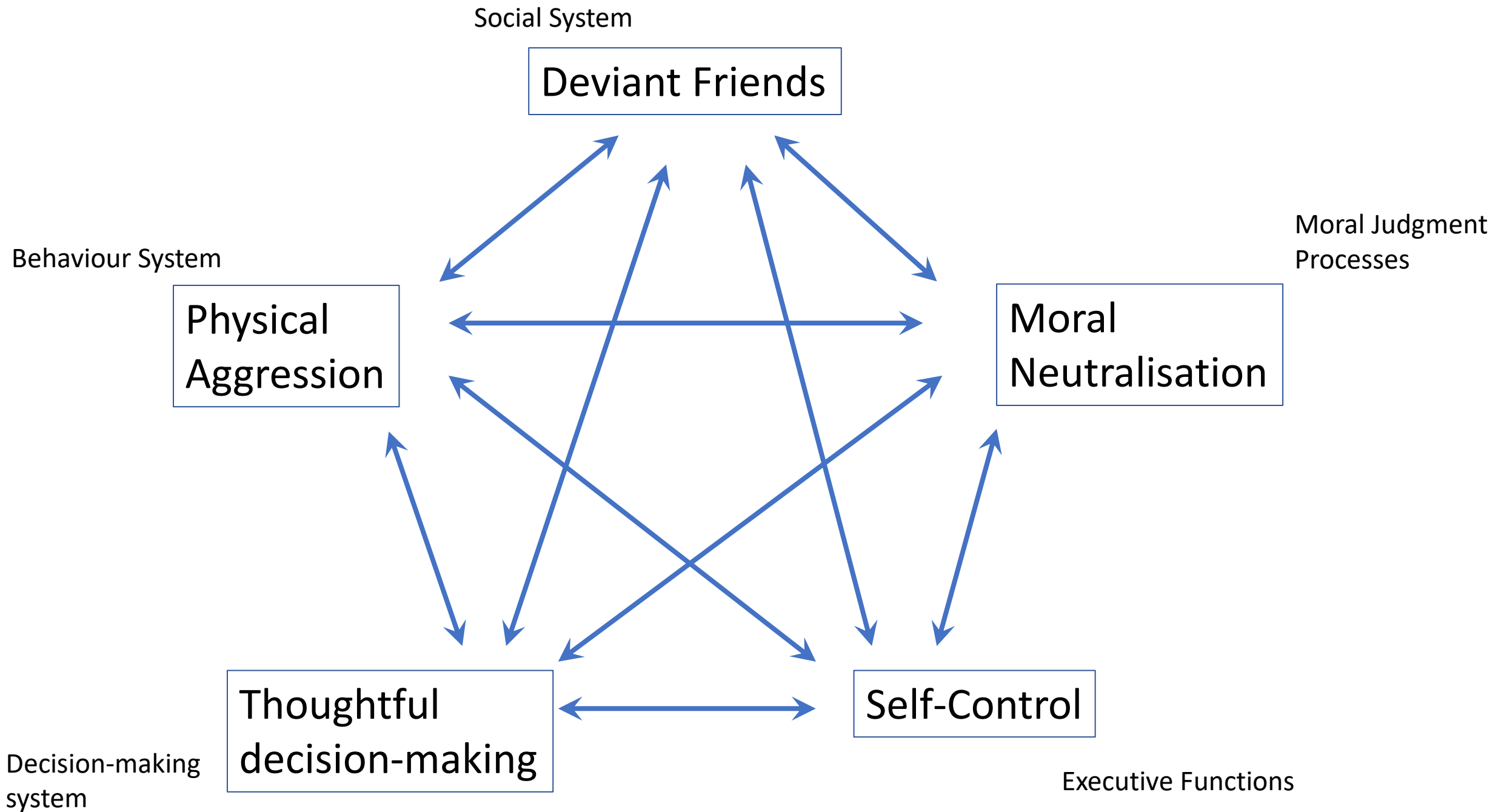
## Interlocking time scales

Seconds – Minutes – Hours – Days – Weeks – Months – Years – Decades – Generations

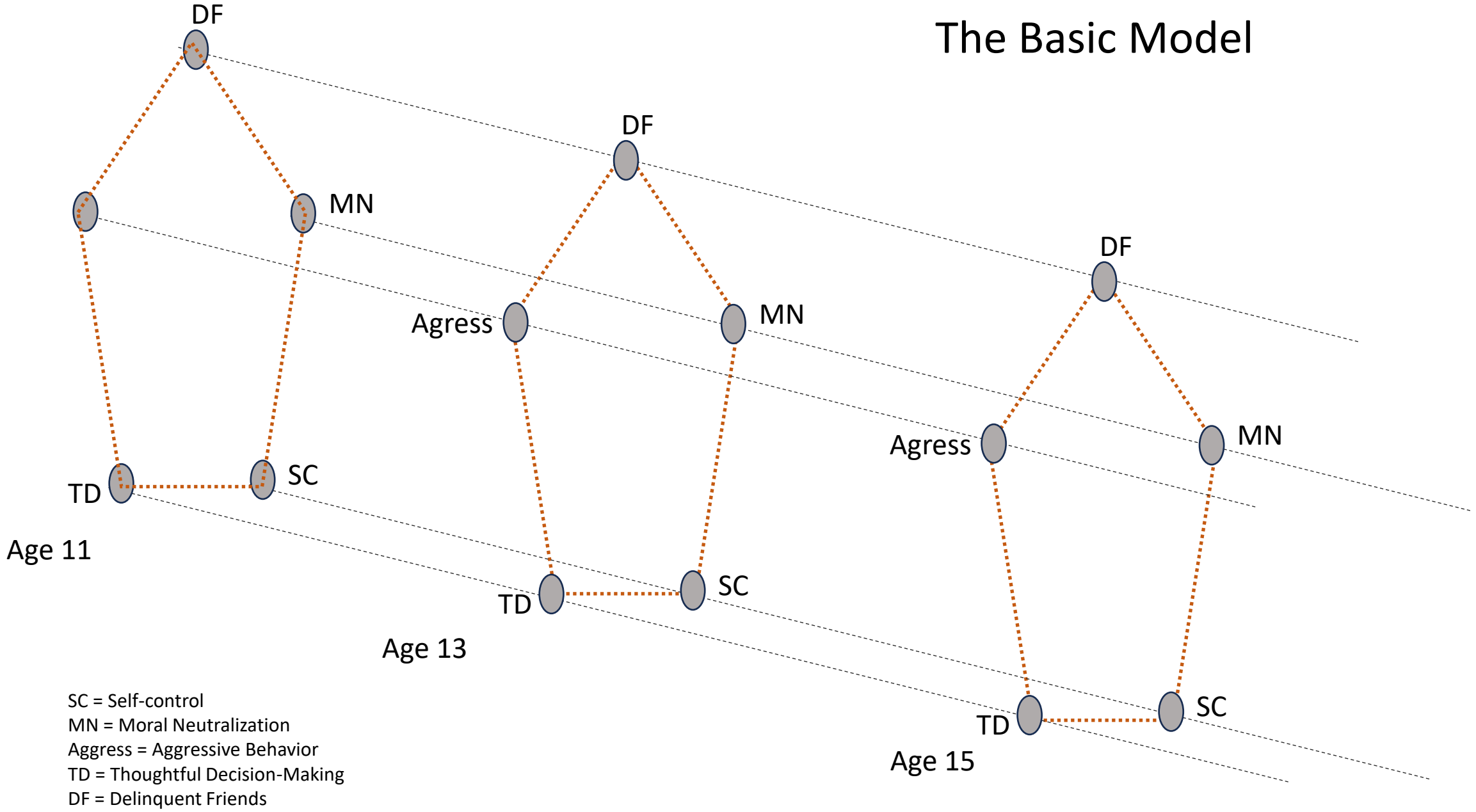
# Goals of this Paper

Interrelated instruments around violence from ages 11 to 24.

1. Conceptualise the developmental logic that may link them.
2. Describe trends from childhood to adulthood.
3. Model three components of the process with a RI-CLPM:
  - Autoregressive within-individual stability
  - 'Concurrent' associations that may reflect short-term bidirectional dynamics
  - Cross-lagged associations that may reflect long-term cascading dynamics
4. Question the model



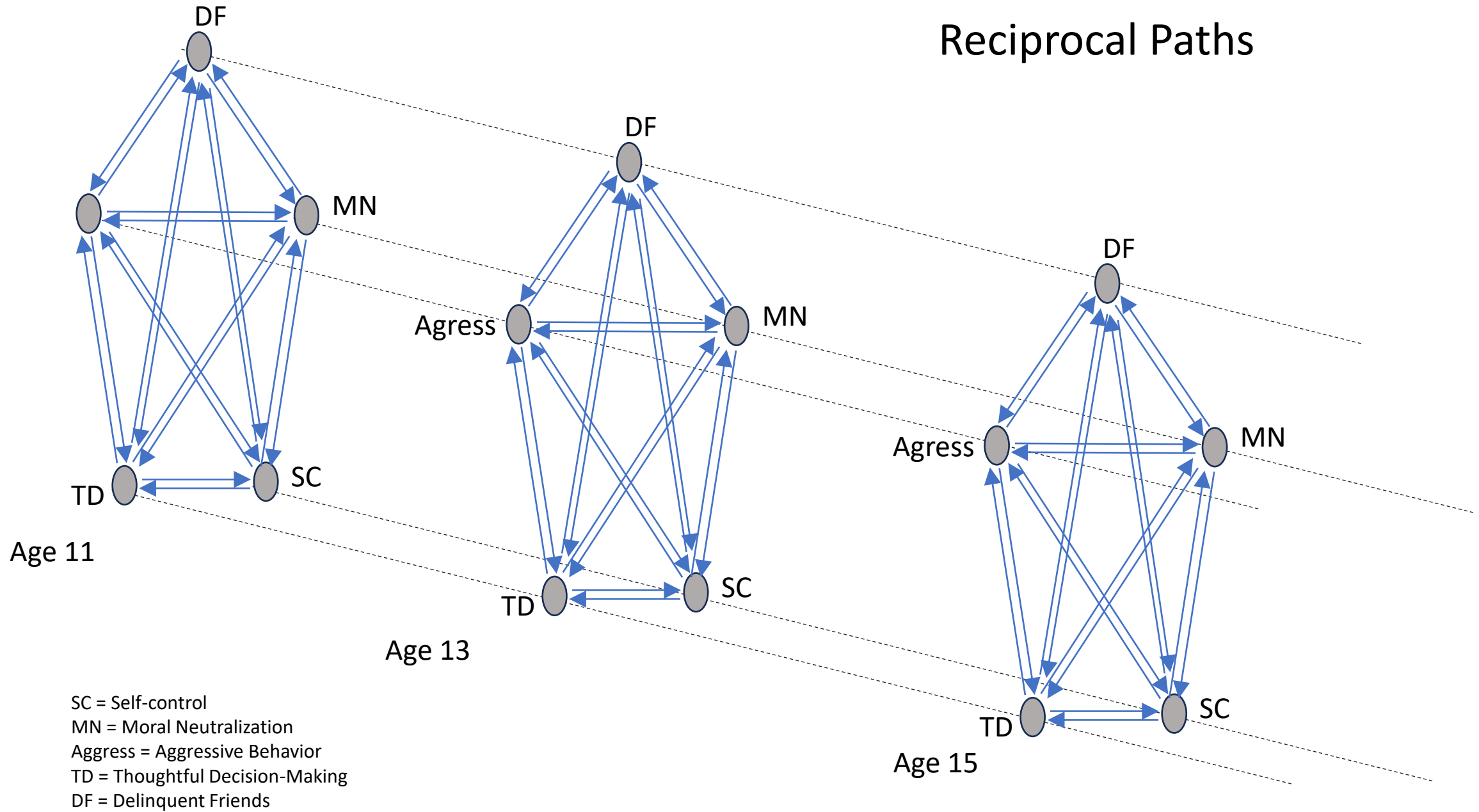
# The Basic Model



SC = Self-control  
MN = Moral Neutralization  
Agress = Aggressive Behavior  
TD = Thoughtful Decision-Making  
DF = Delinquent Friends

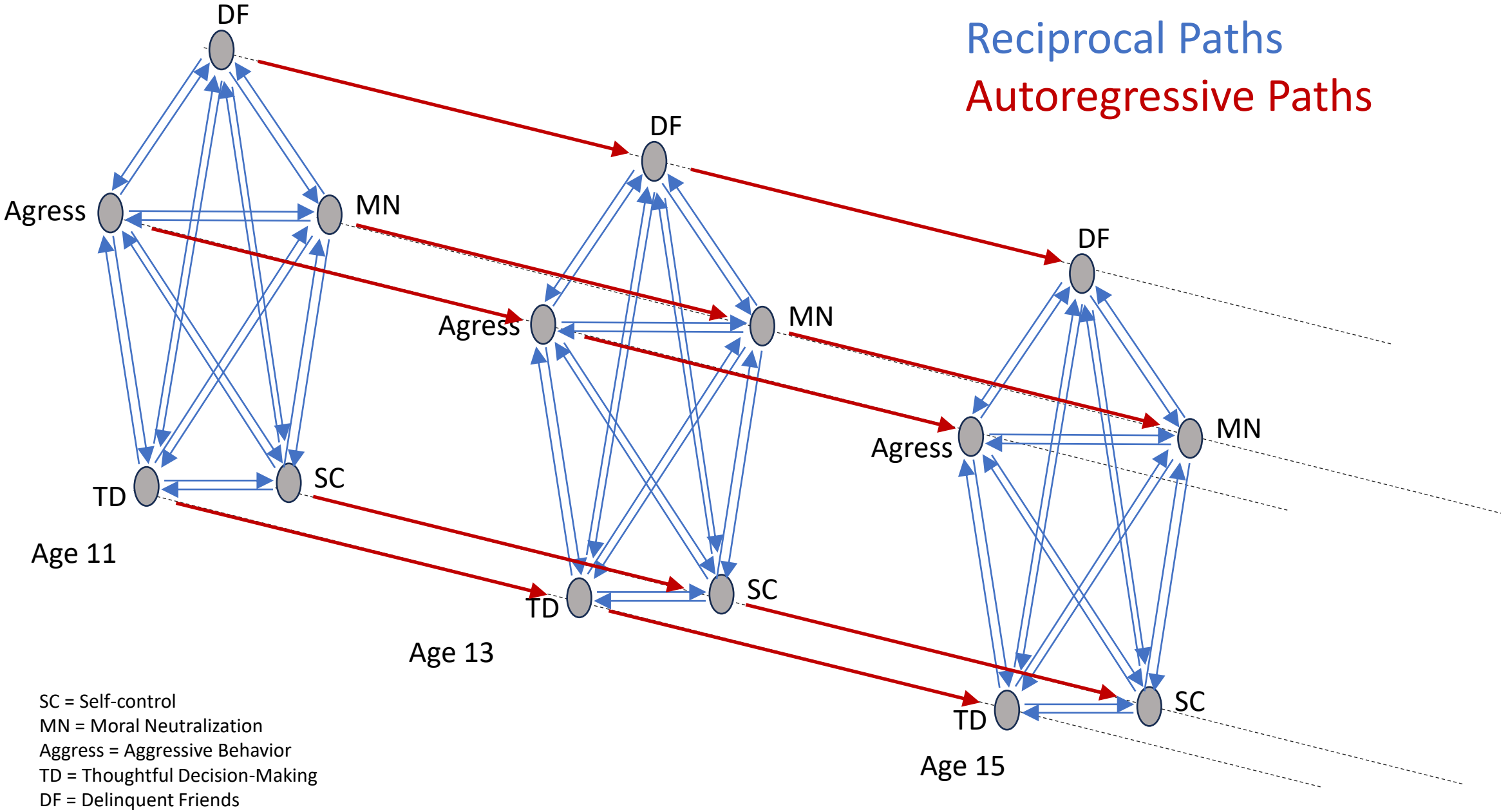
MN

# Reciprocal Paths

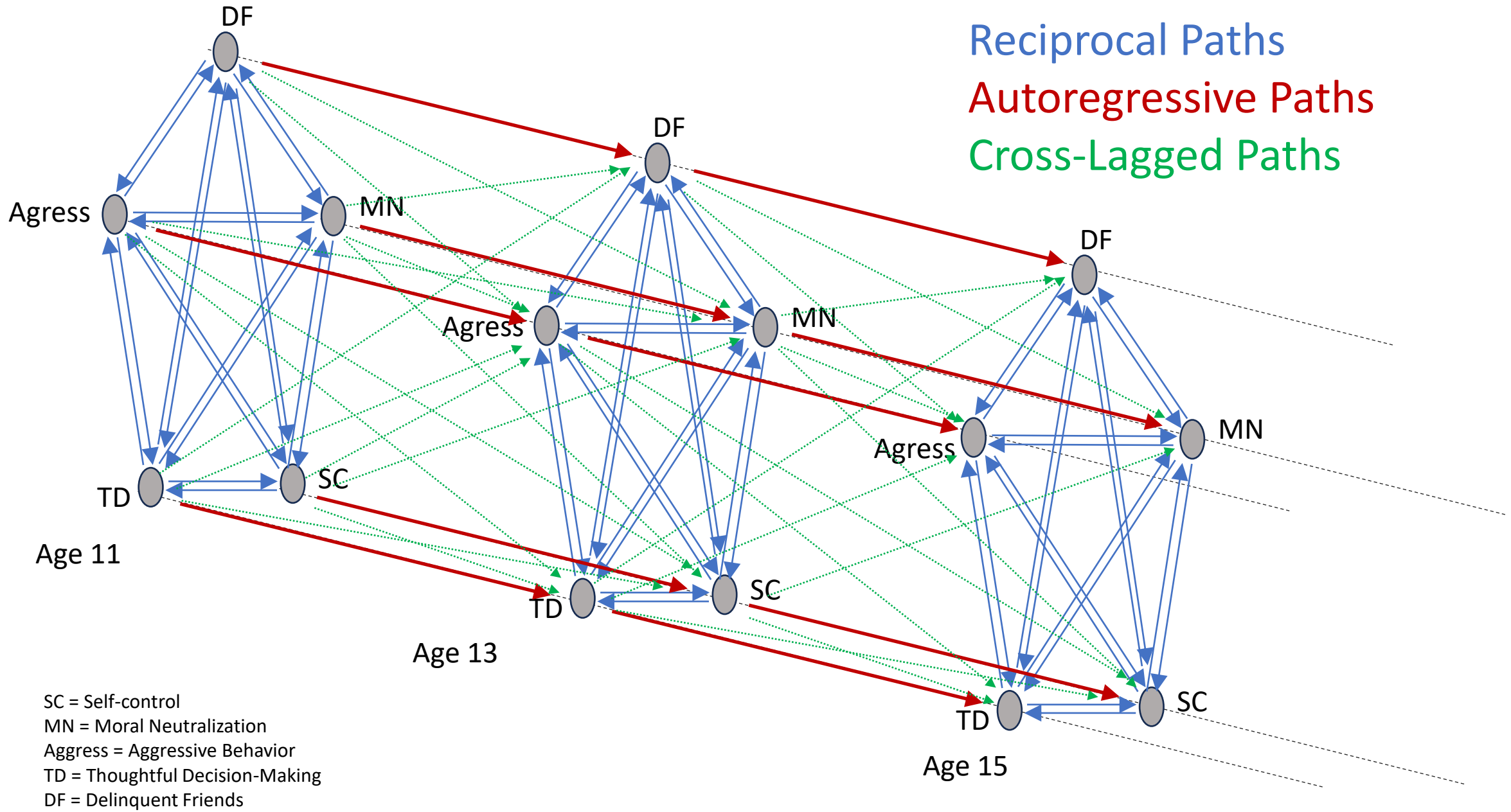


MN

Reciprocal Paths  
Autoregressive Paths



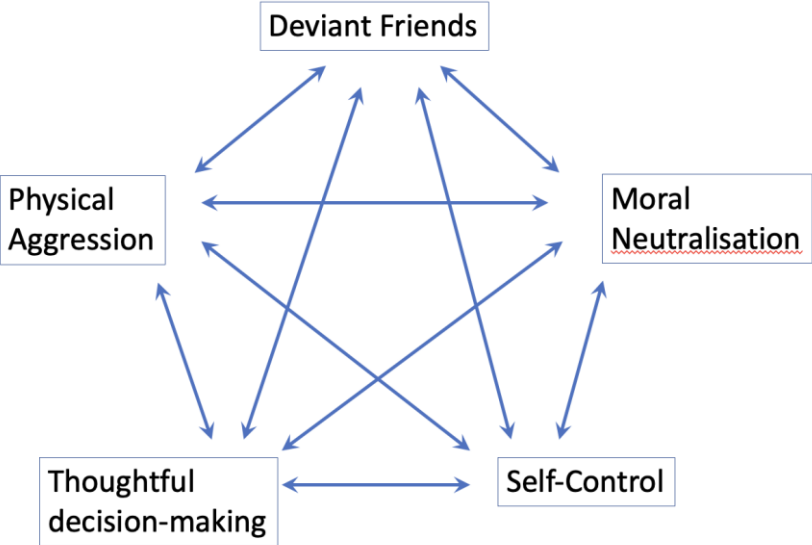
MN



MN



# The Five Domains



# Physical Aggression

## Instrument

Four items that measure physical aggression in the SBQ, i.e. *You physically attacked other people; You kicked, bit, or hit someone else; You got into fights; You hit someone when they tried to take something from you.*

Note: Items on threats, physical aggression item in bullying scale, and assault item in delinquency scale not included.

Items refer to *past 12 months*.

Alpha Range: .75 - .87

## Developmental Links

Developmental bidirectional links found, for example, for

- Aggression and self-control
- Moral neutralisation and aggression
- Delinquent friends and aggression

e.g., Atherton et al. (2017), Vaszonyi et al (2018), Thornberg et al. (2019), Thompson et al (2019)

# Deviant Peers

## Instrument

Respondents indicate whether they had up to two 'best friends' and answer for six delinquency items whether or not these friends engaged in this behavior. The reference period is *the past 12 months*. Mean peer level of delinquency is taken. See Huijsman et al. (2021).

## Developmental Links

- Reciprocal links between delinquent peers and own offending (Matsueda and Anderson, 1998; Kim and Lee 2023; Huijsmans et al, 2019)
- Reciprocal links between delinquent peers and own norms/beliefs (Seddig, 2014, Thornberry et al, 1994)
- Reciprocal links between delinquent peers and moral neutralisation (Romera et al, 2021).
- low self-control predicts association with delinquent peers (Watts and Iratzoqui, 2019)

# Moral Neutralisation of Violence

## Definition

Cognitive processes that minimize cognitive dissonance, threats to self-concept, and moral self-sanction when he or she inflicts violent harm on others (Ribeaud and Eisner, 2010).

## Developmental Links

- Reciprocally related to violence (Bandura et al., 1996; Ribeaud and Eisner, 2015)
- low self control predicts moral disengagement (Gulseven et al, 2023)

## Instrument

11 items of the moral neutralisation scale administered from K4 to K9. Items refer to *current attitudes and beliefs*. Alpha Range: .85 - .88.

# Self-control

Since Gottfredson and Hirschi (1989), self-control plays a crucial role in developmental theories of crime and aggression.

## Developmental Links

- Change in self-control developmentally predicts change in aggression.
- Offending may have a causal effect on self-control (e.g., Kübel, at the conference)
- Delinquent peer association may lower self-control (Meldrum et al. 2012)

## Instrument

10-item scale administered in all waves ages 11-24. Items in present tense, no time reference.

# Thoughtfully Reflective Decision Making in Conflicts

## Definition

Tendency of persons to collect information relevant to a problem or decision, to think deliberately, carefully, and thoughtfully about possible solutions, apply reason to the examination of alternative solutions, and reflect back upon both the process of the choice in order to assess what went right and what went wrong.” (Paternoster and Pogarsky, 2009: 104-5).

## Developmental Links

- found associated with delinquency and desistance processes.
- likely dynamically related to self-control

## Scale

4-item conflict resolution scale in z-proso. Items worded as current behaviour tendencies. Alpha = .65-.78.

I try to put myself in the position of the other person, to try and understand him/her.

I listen very carefully so that there are no misunderstandings.

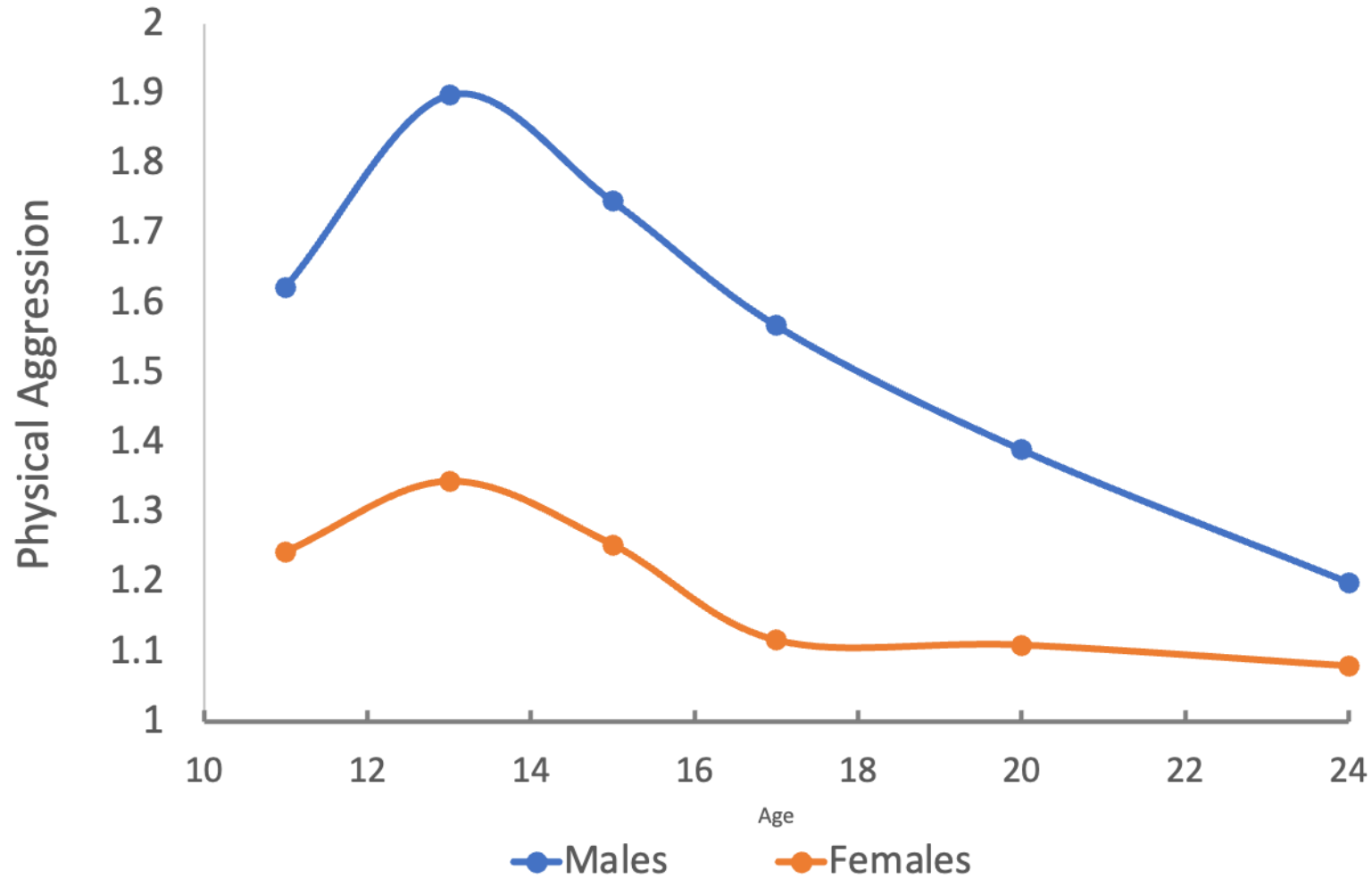
I calmly say that I do not like something, without shouting.

I try to control my anger.

# Descriptive Trends

# Physical Aggression

Means by Gender, Ages 11 to 24



**Males > Females**

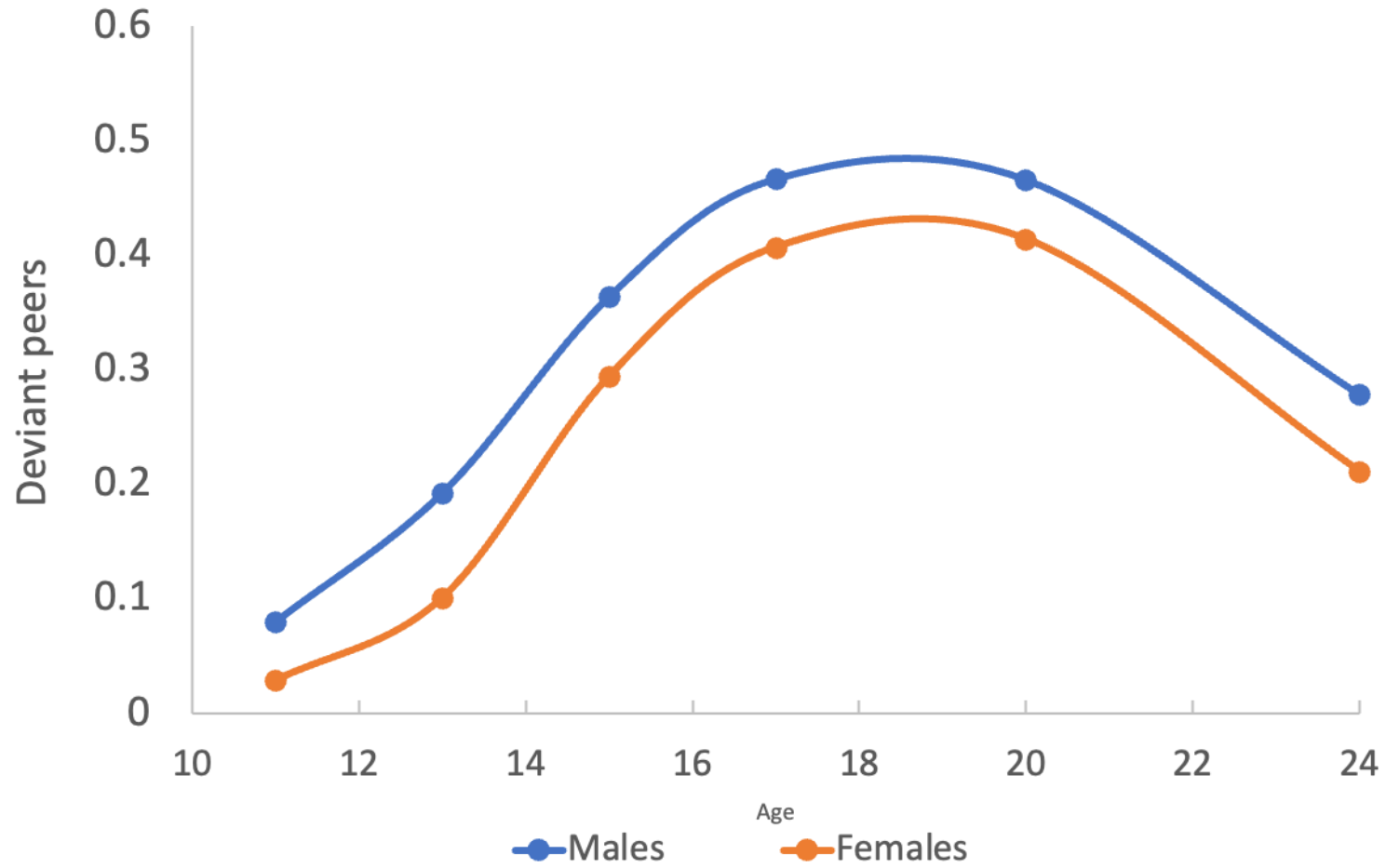
**ES (M/F)      d = 0.61 - 0.81**

**Peak              13 years**



# Deviant Peers

Means by Gender, Ages 11 to 24



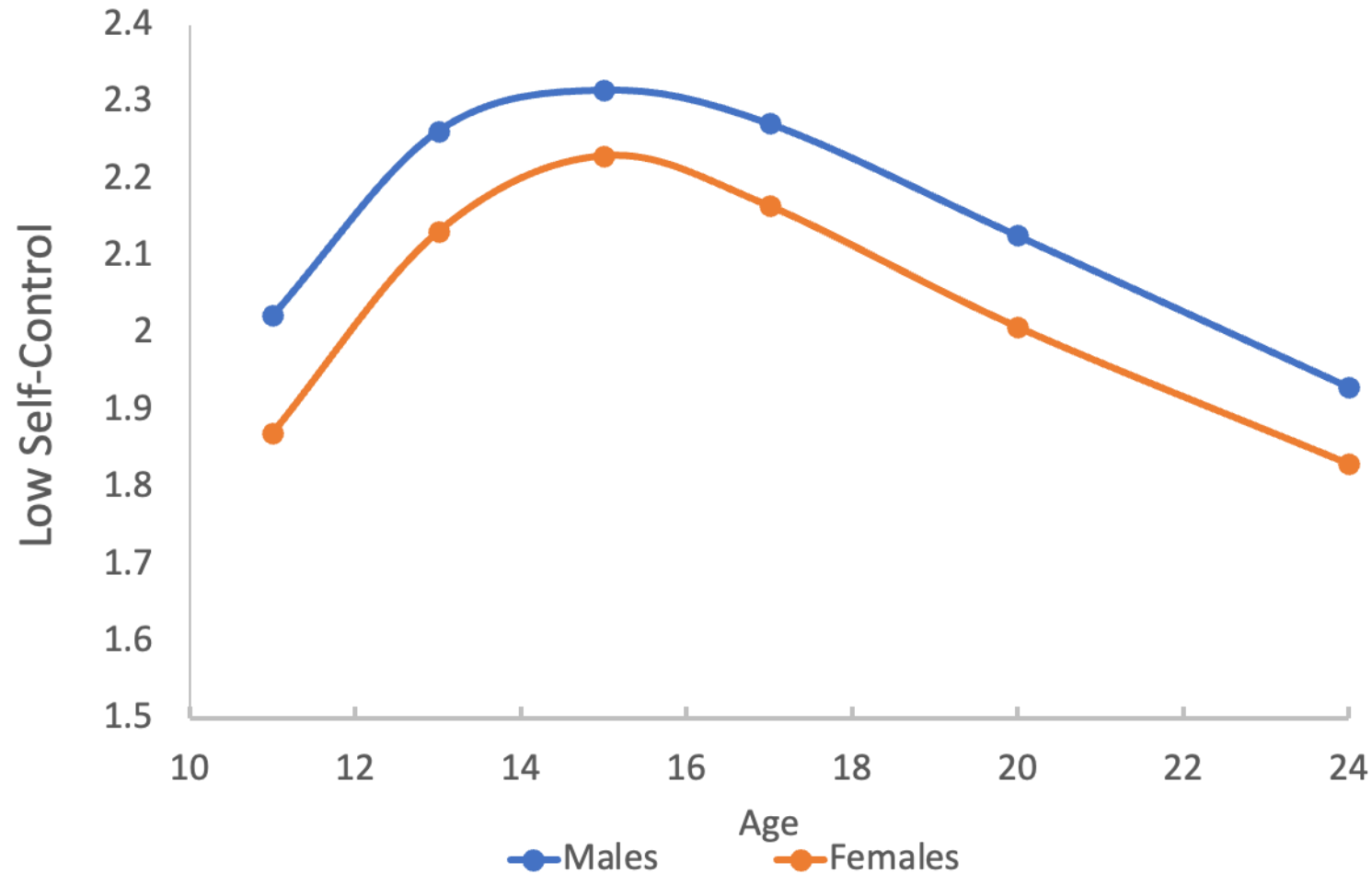
**Males > Females**

**ES (M/F)      d = 0.26 - 0.50**

**Peak              18-20 years**

# Low Self-Control

Means by Gender, Ages 11 to 24



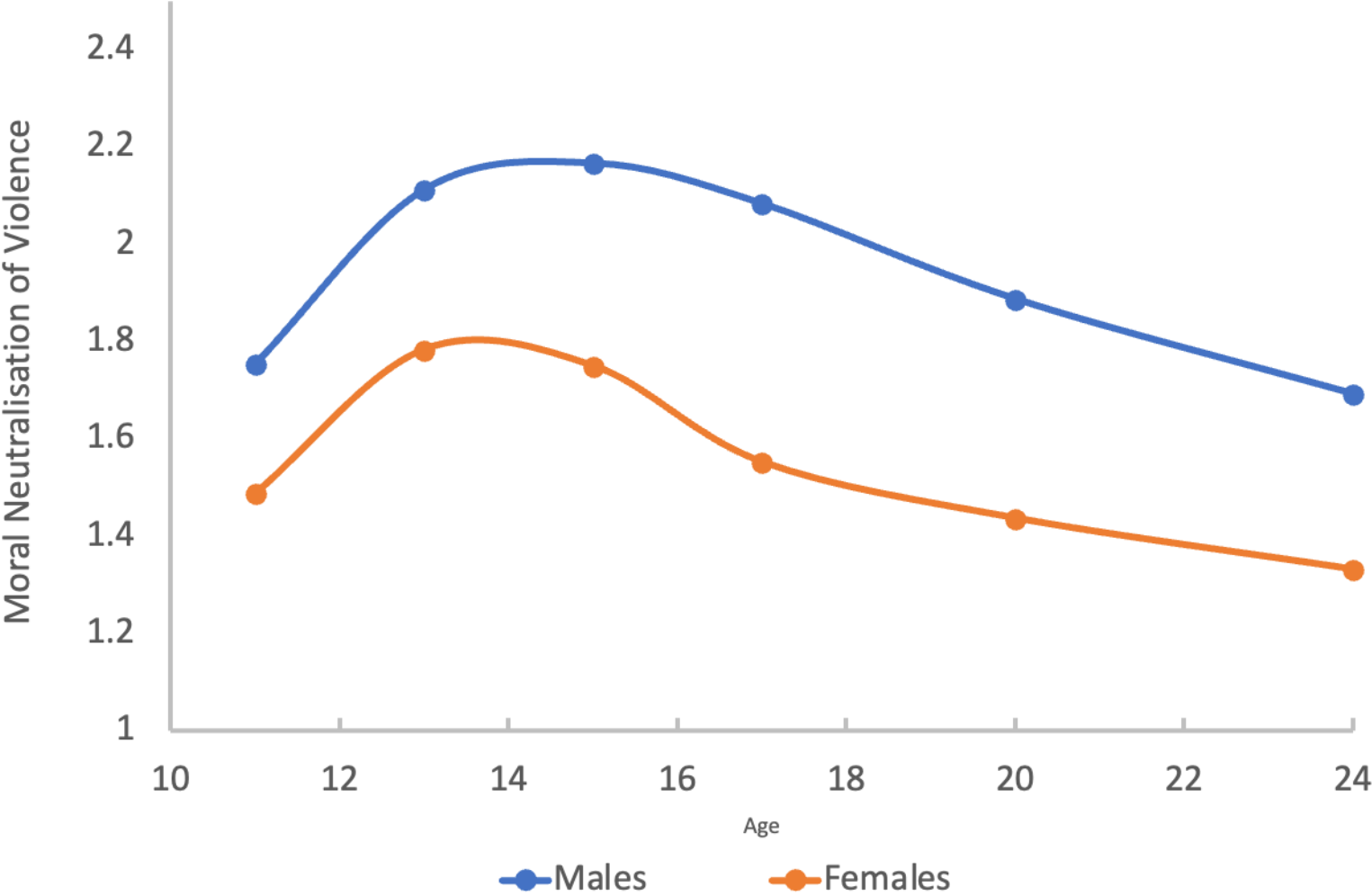
**Males > Females**

**ES (M/F)      d = 0.20 - 0.32**

**Peak              15 years**

# Moral Neutralisation of Violence

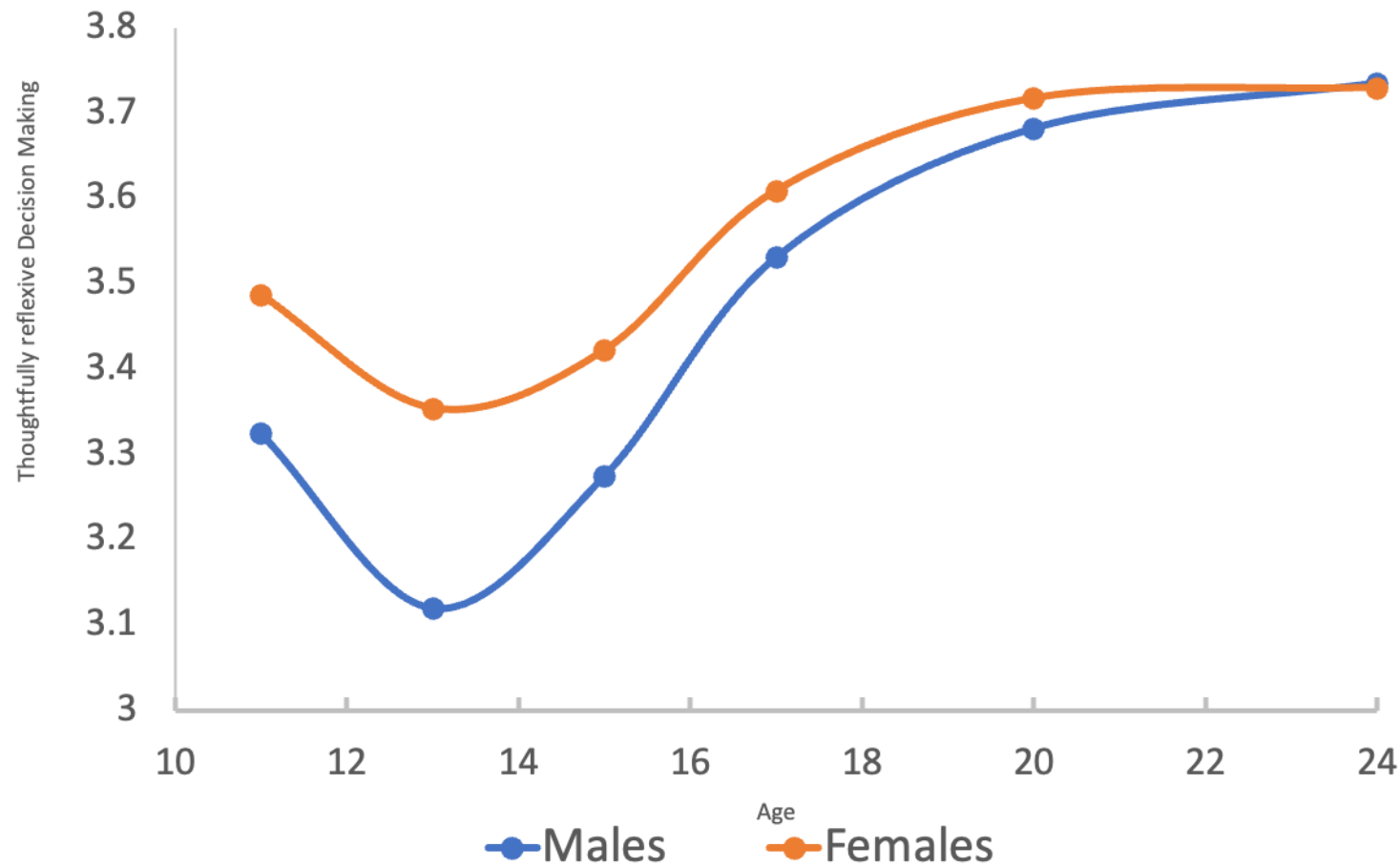
Means by Gender, Ages 11 to 24



**Males > Females**  
**ES (M/F) d = 0.53-1.01**  
**Peak 13-15 years**

# Thoughtful Reflexive Decision Making

Means by Gender, Ages 11 to 24



**Males < Females**

**ES (M/F)  $d = -0.00 - -0.27$**

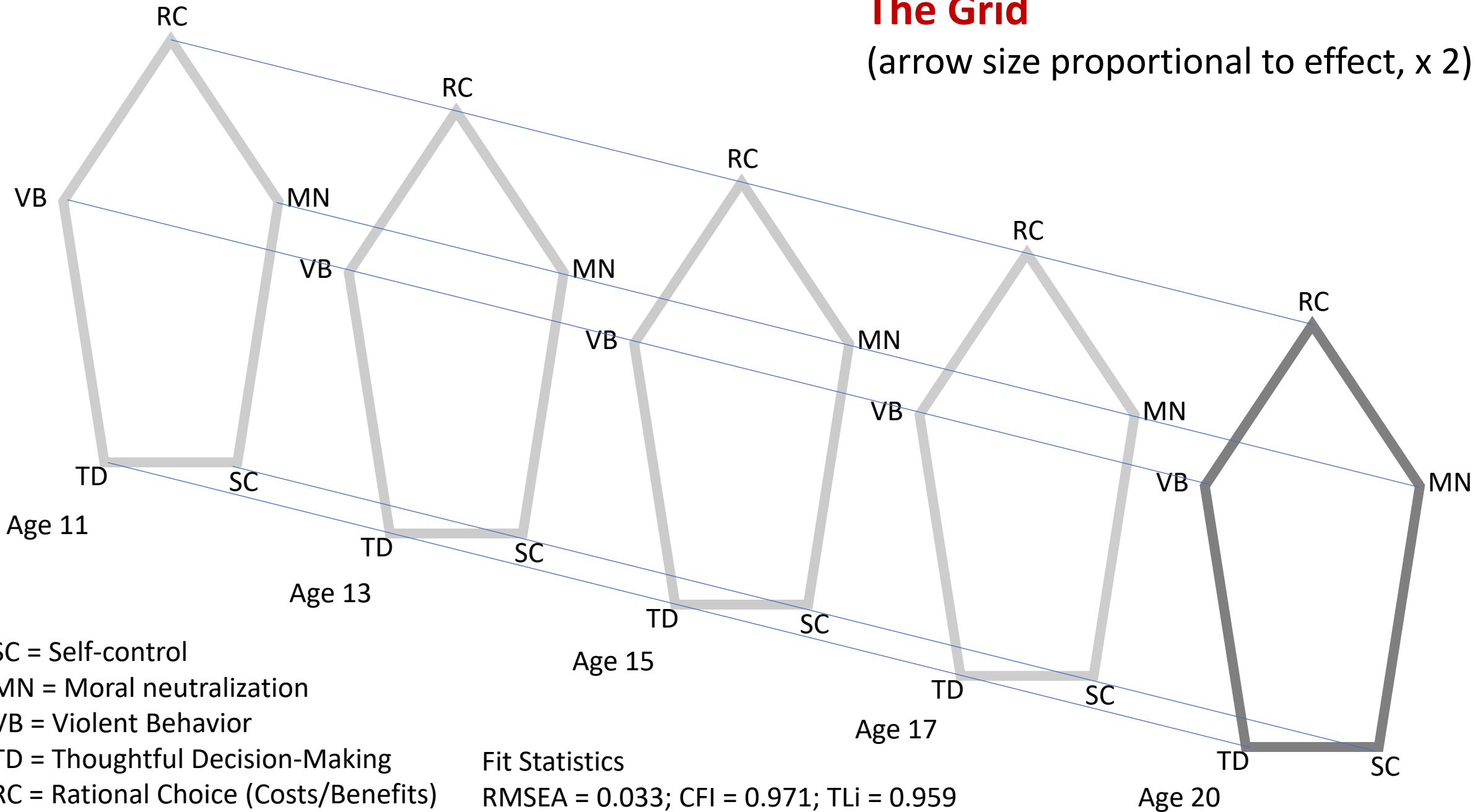
**Peak About age 13**

# Results: An Adventure in RI-CLPM

- Initial models tested March 2022 by Gabriela Roman.
- Models limited to ages 11 to 20.
- Four constructs identical to current plans
- Delinquent peers not included at that stage, instead we included a decision-making (cost/benefit) construct based on the provocation scenarios
- Both RI-CLPM and CLPM2 models
- Models with and without controls for time-invariant differences (sex, SES, parent migration background)
- Models with and without pruning of non-sig results.

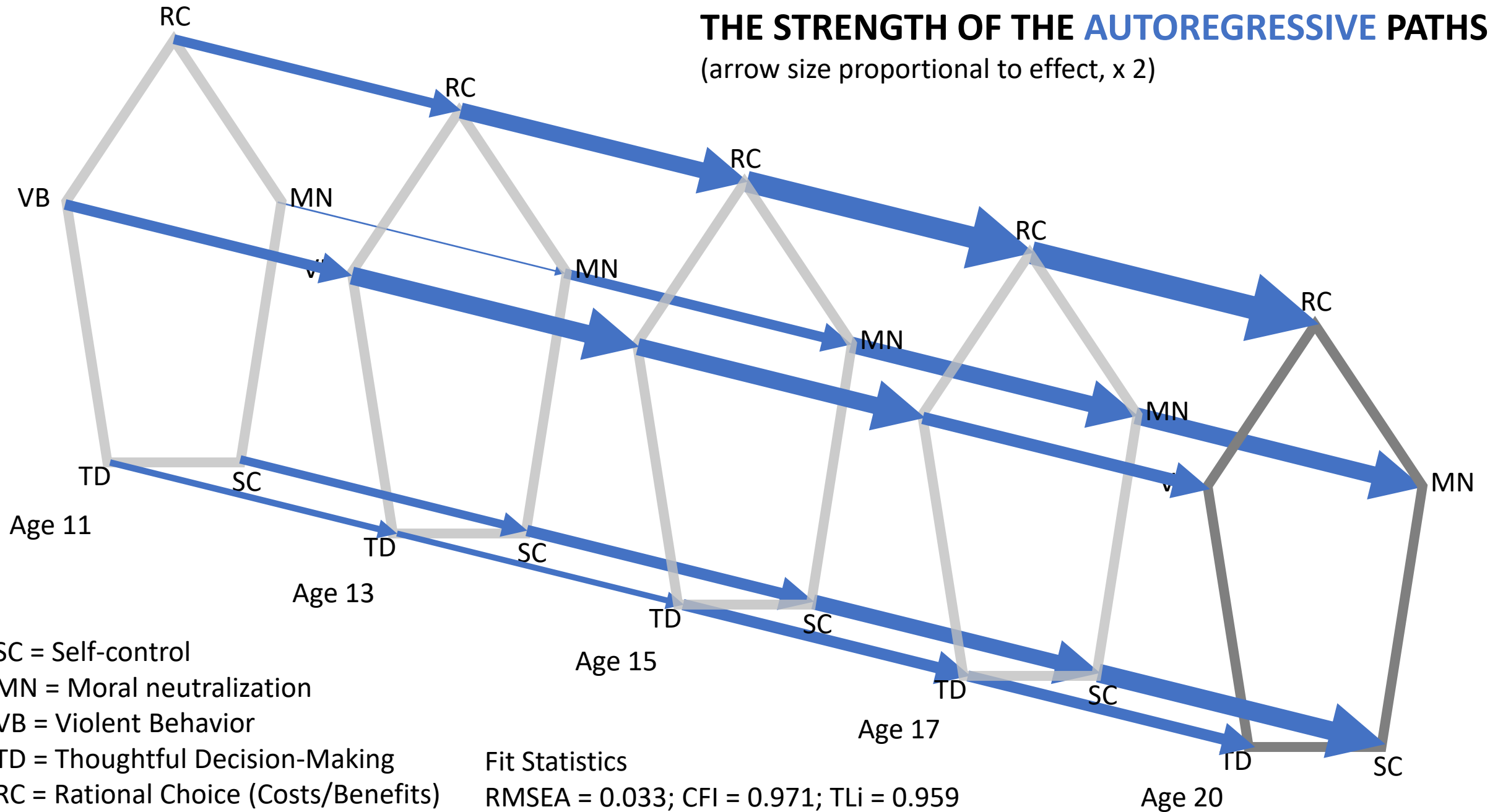
# The Grid

(arrow size proportional to effect, x 2)



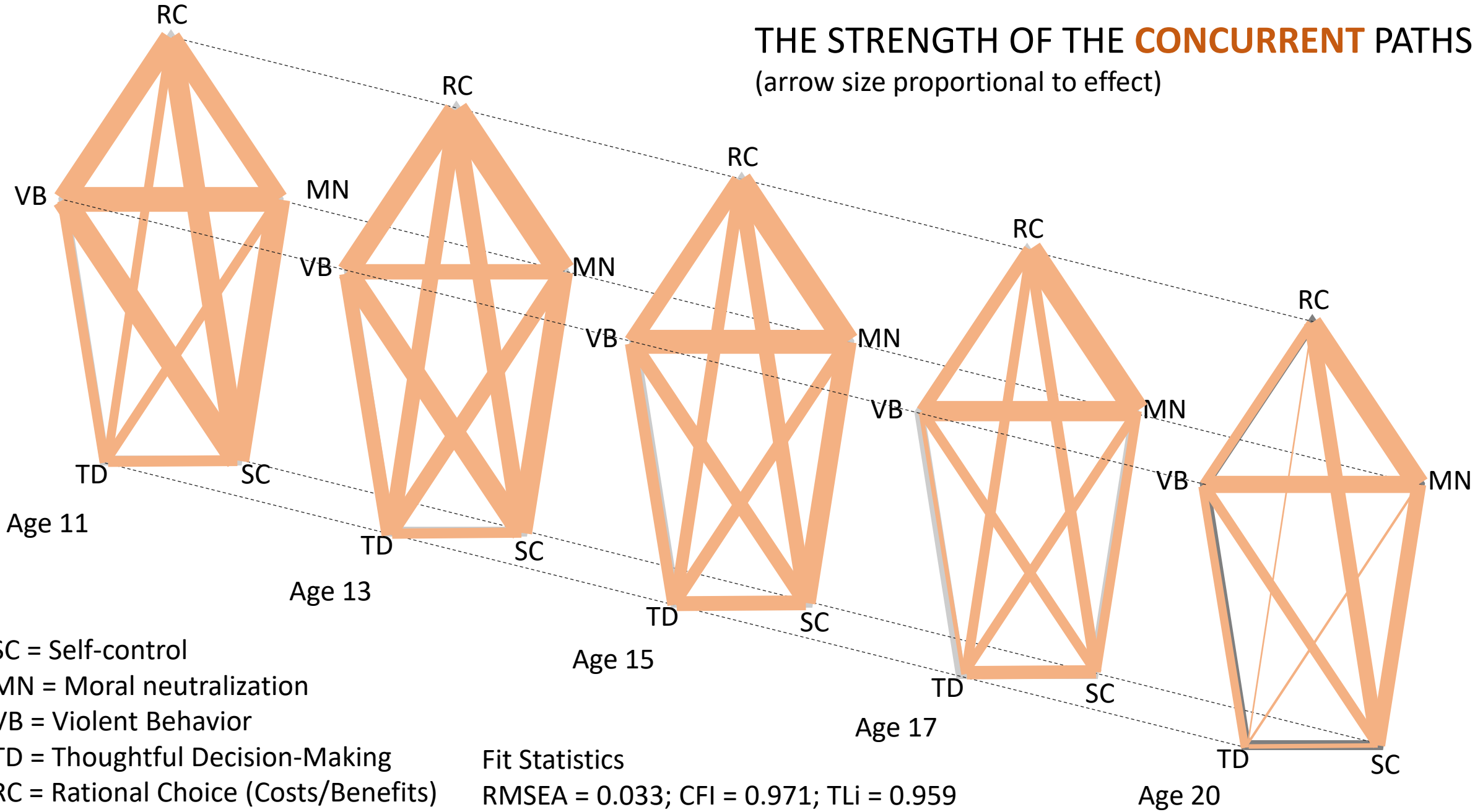
# THE STRENGTH OF THE **AUTOREGRESSIVE** PATHS

(arrow size proportional to effect, x 2)



# THE STRENGTH OF THE **CONCURRENT** PATHS

(arrow size proportional to effect)



SC = Self-control  
 MN = Moral neutralization  
 VB = Violent Behavior  
 TD = Thoughtful Decision-Making  
 RC = Rational Choice (Costs/Benefits)

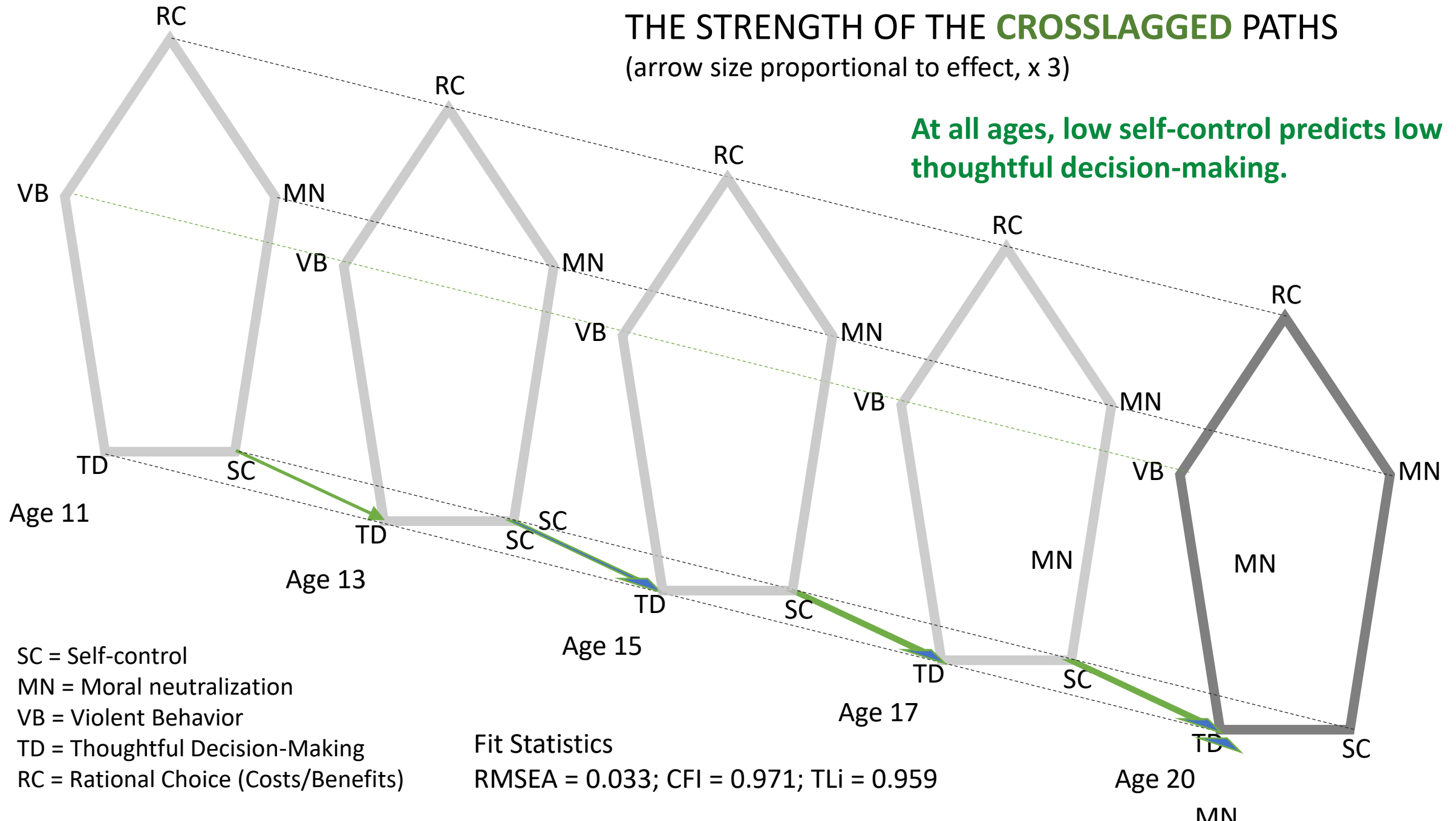
Fit Statistics  
 RMSEA = 0.033; CFI = 0.971; TLI = 0.959



# THE STRENGTH OF THE **CROSSLAGGED** PATHS

(arrow size proportional to effect, x 3)

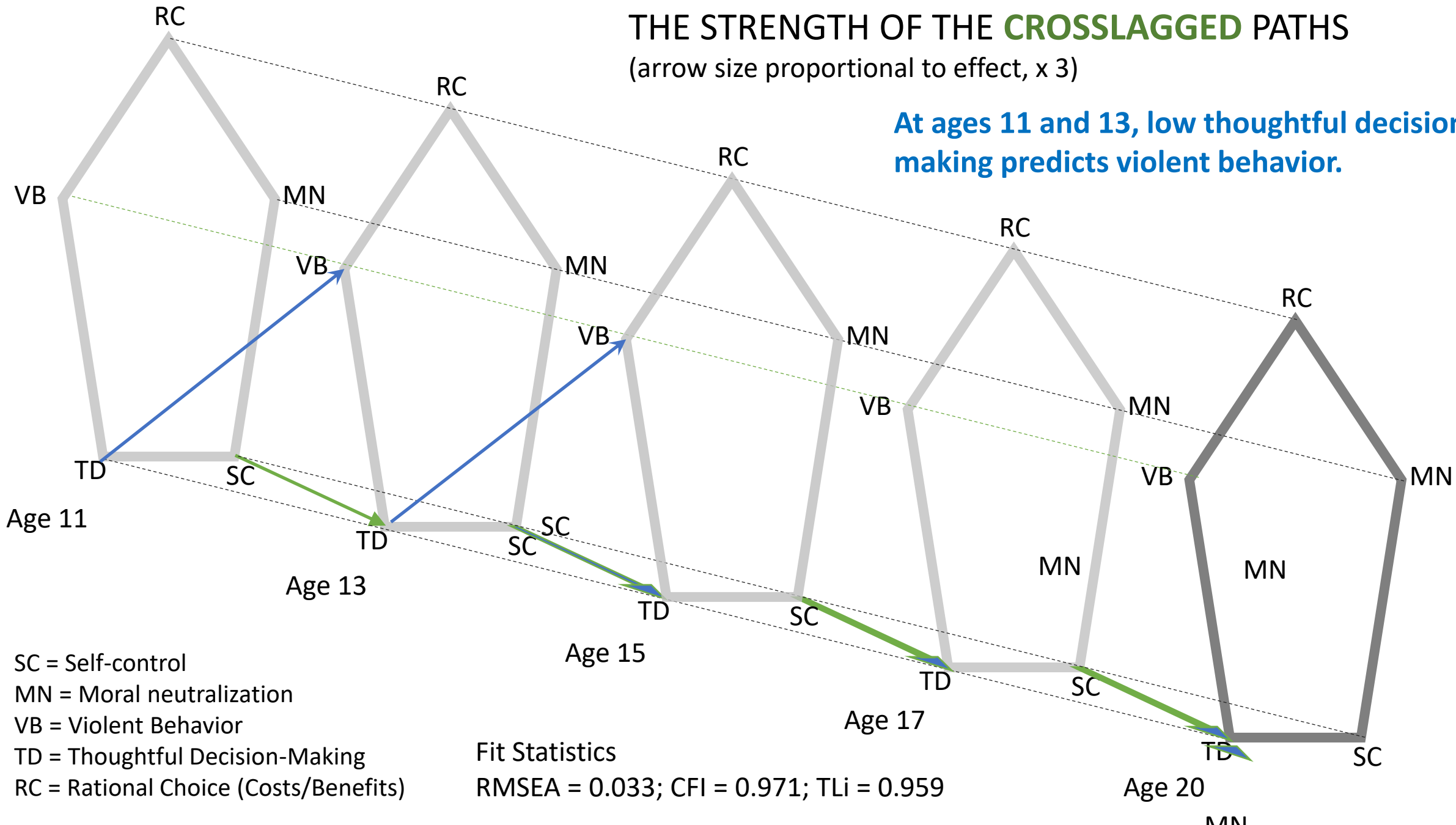
**At all ages, low self-control predicts low thoughtful decision-making.**



# THE STRENGTH OF THE **CROSSLAGGED** PATHS

(arrow size proportional to effect, x 3)

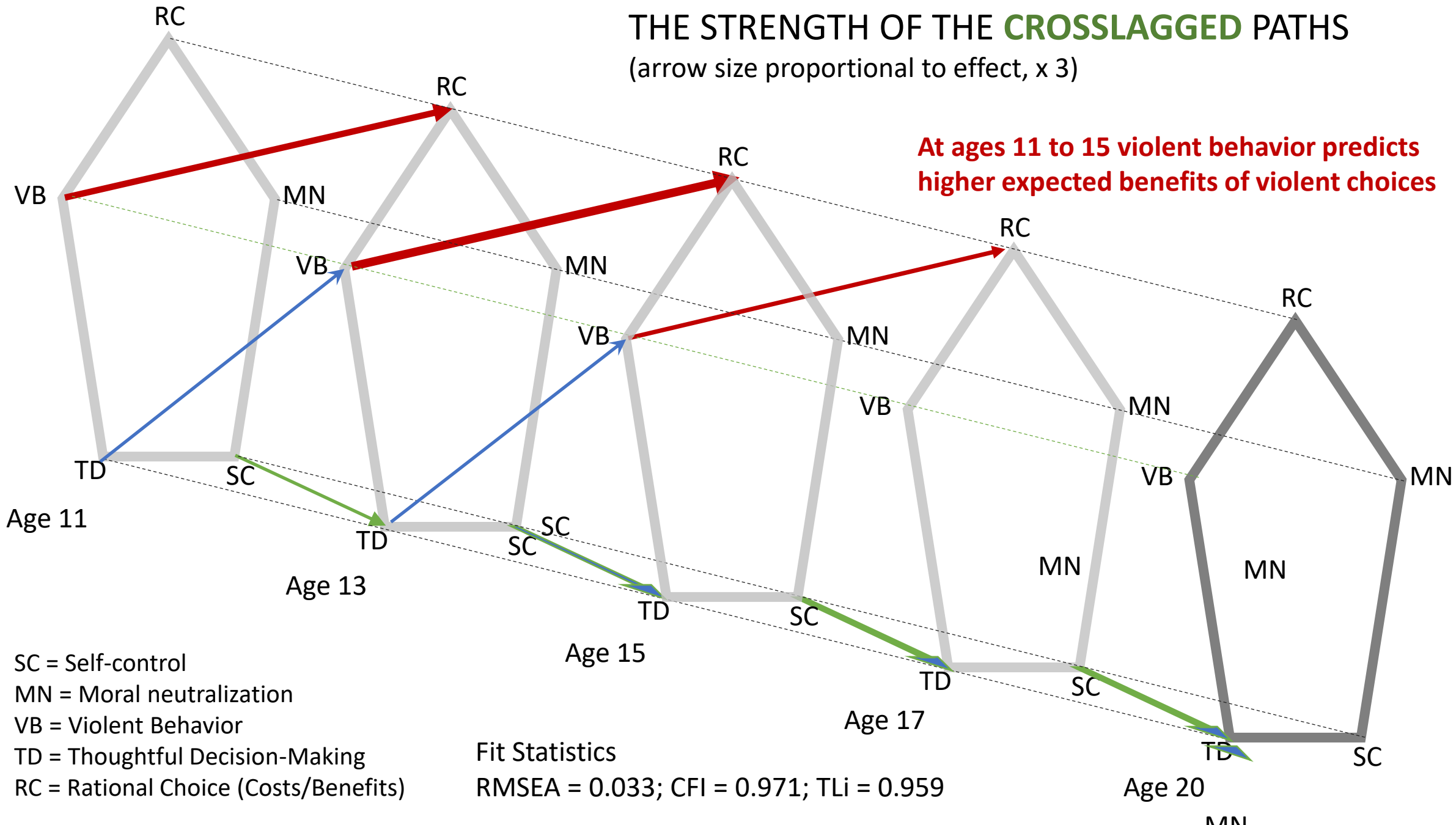
**At ages 11 and 13, low thoughtful decision-making predicts violent behavior.**



# THE STRENGTH OF THE **CROSSLAGGED** PATHS

(arrow size proportional to effect, x 3)

**At ages 11 to 15 violent behavior predicts higher expected benefits of violent choices**



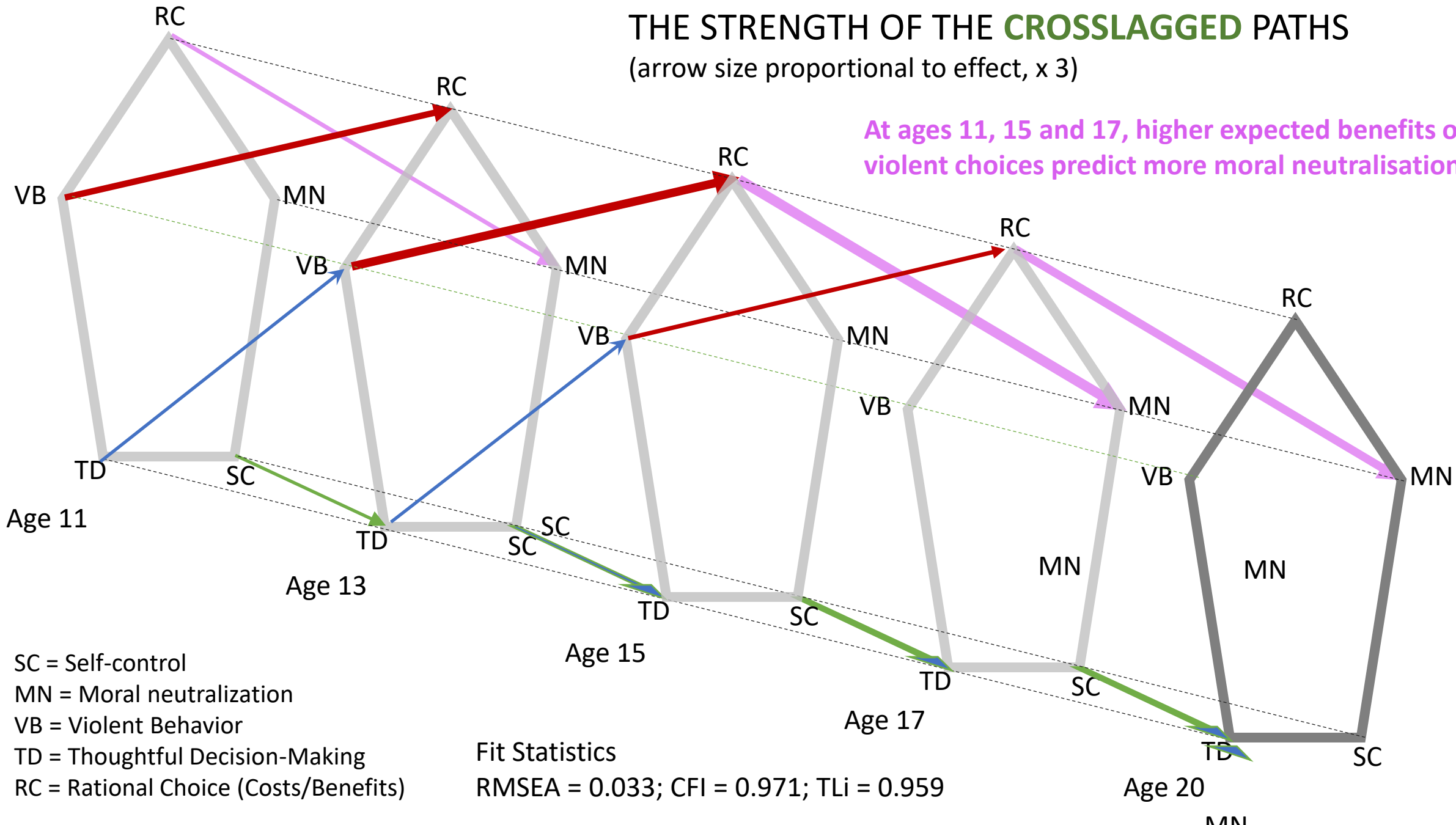
SC = Self-control  
 MN = Moral neutralization  
 VB = Violent Behavior  
 TD = Thoughtful Decision-Making  
 RC = Rational Choice (Costs/Benefits)

Fit Statistics  
 RMSEA = 0.033; CFI = 0.971; TLI = 0.959

# THE STRENGTH OF THE **CROSSLAGGED** PATHS

(arrow size proportional to effect, x 3)

At ages 11, 15 and 17, higher expected benefits of violent choices predict more moral neutralisation



# Instead of Conclusions: Some Concerns

- Instruments measured for different time frames: “now” versus past 12 months. -> Should not be modelled as concurrent?
- Time lag of 2-3 years unrealistically long for causal effects (e.g. Nägel and Nivette, 2022) -> Misspecification of time lag for causal effects?
- Lacking modelling of long-term effects mediated via short-term effects -> CLPM Models contradict acyclical graph theory models
- Cross-lagged effects vary depending on included covariates, pruning, RI-CLPM vs CLPM2, -> Ample room for post-hoc confirmation bias.