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MORAL FOUNDATIONS QUESTIONNAIRE AND MORAL FOUNDATIONS SACREDNESS SCALE: ASSESSMENT OF THE FACTORIAL STRUCTURE

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CONTEXT OF STUDY

CONTEXT

- Criminological theorising
 - “*In the specification process (in the production of criminal behavior) so far, **morality has been relatively neglected***” (Antonaccio & Tittle, 2008: p.479, but also see Bottoms, 2002; Bottoms & Tonry, 2002; Messner, 2012)
 - “*An important starting point for this analysis is to recognise that the **concept of crime is intimately related to the notion of morality***” (Durrant, 2021: p.2) but also see SAT (Wikström, 2017), SCT (Agnew, 2014))
- Criminological research
 - Measurement of “morality” (i.e. (dis)approval of particular acts of offending)

CONTEXT

- *A framework on the origins and nature of morality (in offending) is missing*
- *There is more to morality than internalised moral rules of conduct*



MORAL FOUNDATIONS THEORY

(Haidt & Joseph, 2004; Haidt, 2012)

MORAL FOUNDATIONS THEORY (MFT; HAIDT & JOSEPH, 2004)

Moral Foundations Theory:

- a cross-cultural psychological account of how five (six?) *innately-based** psychological systems form the foundation of an *intuitive ethics*,
- attempts to explain how each culture constructs its own set of virtues on top of these foundations.

* *Innately: prewired in the brain, flexible and subject to change, rather than hardwired and immutable* (Haidt, 2012, see also Marcus, 2004)

MORAL FOUNDATIONS THEORY (MFT)

MFT holds a **multidimensional and functional approach** to the moral domain

“....interlocking sets of values, virtues, norms, practices, identities, institutions, technologies, and evolved psychological mechanisms that work together to suppress or regulate selfishness and make social life possible”

(Haidt & Kesebir, 2010: p.800)

THE FIVE MORAL FOUNDATIONS (HAIDT, 2012, 2017)

1. **Care/harm:** Related to our long evolution as mammals with attachment systems and an ability to feel (and dislike) the pain of others. **Underlies compassion, empathy, kindness, nurturance.**
2. **Fairness/cheating:** Related to the evolutionary process of reciprocal altruism. **Generates ideas of justice, rights, and autonomy.**
3. **Loyalty/betrayal:** Related to our long history as tribal creatures able to form shifting coalitions. **Underlies virtues of patriotism and self-sacrifice for the group.** “One for all, and all for one!”
4. **Authority/subversion:** Shaped by our long primate history of hierarchical social interactions. Underlies virtues of leadership and followership, **including deference to legitimate authority, respect for traditions and the fulfillment of role-based duties**
5. **Sanctity/degradation:** **Shaped by the psychology of disgust and contamination.** Underlies religious notions of striving to live in an elevated, less carnal, more noble way, idea that the body is a temple which can be desecrated by immoral activities and contaminants.

- **Self-report surveys**
- *(Implicit measures)*
- *(Psychophysiological and neuroscience methods)*
- *(Text analysis)*

SELF-REPORT SURVEYS

- **Moral Foundations Questionnaire** (MFQ; Graham et al., 2009; Haidt & Joseph, 2004; Haidt & Graham, 2007)
 - MFQ-30 items version & **MFQ-20 items short version** (available on Moralfoundations.org)
 - 2 subscales: Relevance- and Judgment items for each foundation
- **Moral Foundations Sacredness Scale** (MFSS; Graham, Haidt & Nosek, 2009)
 - **MFSS-20 items** (four items for each foundation)

GOALS OF STUDY

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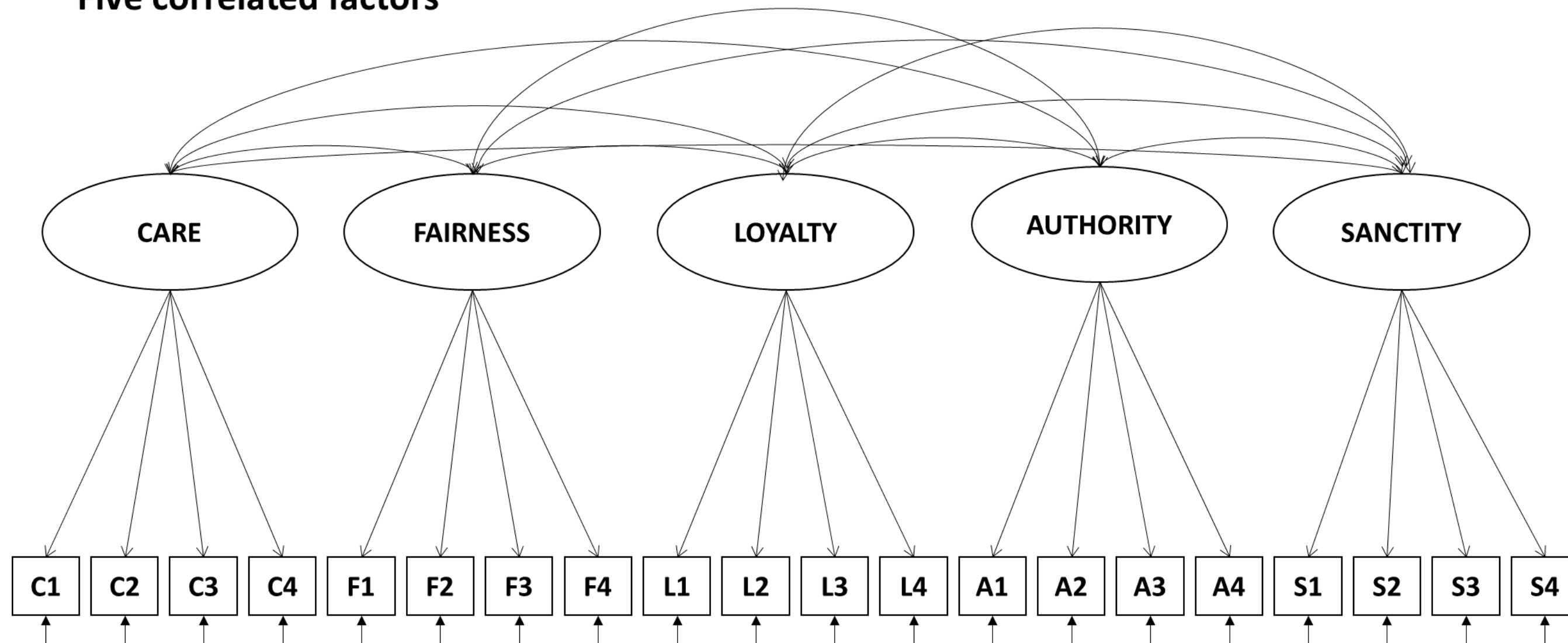
Assessment of the factor structure of the Dutch translation of the subscales in MFQ-20 and MFSS among a large city-based sample of university students in Belgium ($n=2410$)

(To contribute to the cross-cultural evaluation of MFT (Graham et al., 2011))

- 1) Assess scale reliability of five subscales in both questionnaires**
- 2) Replicate the five-factor structure** posited by MFT in MFQ-20 and MFSS
- 3) Explore whether the optimal factor structure holds** across males and females

PROPOSITION 1

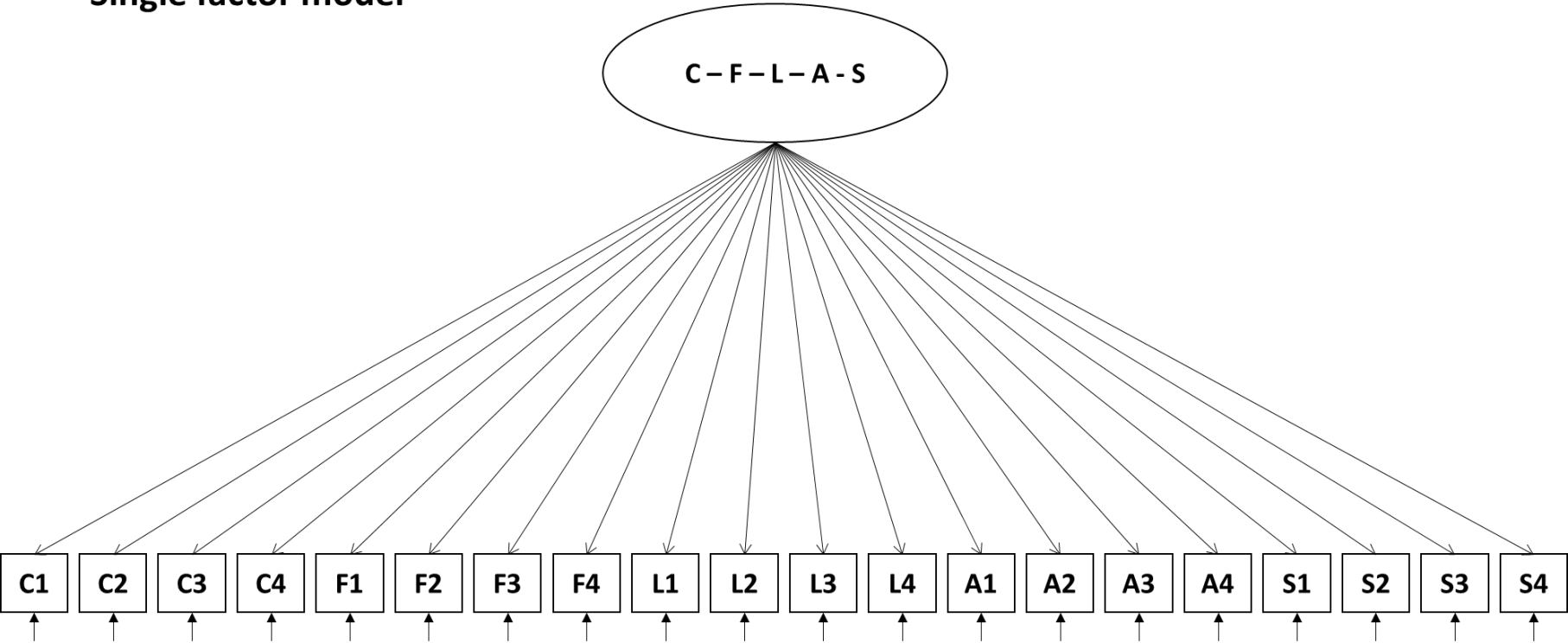
PROPOSED Model 1
Five correlated factors



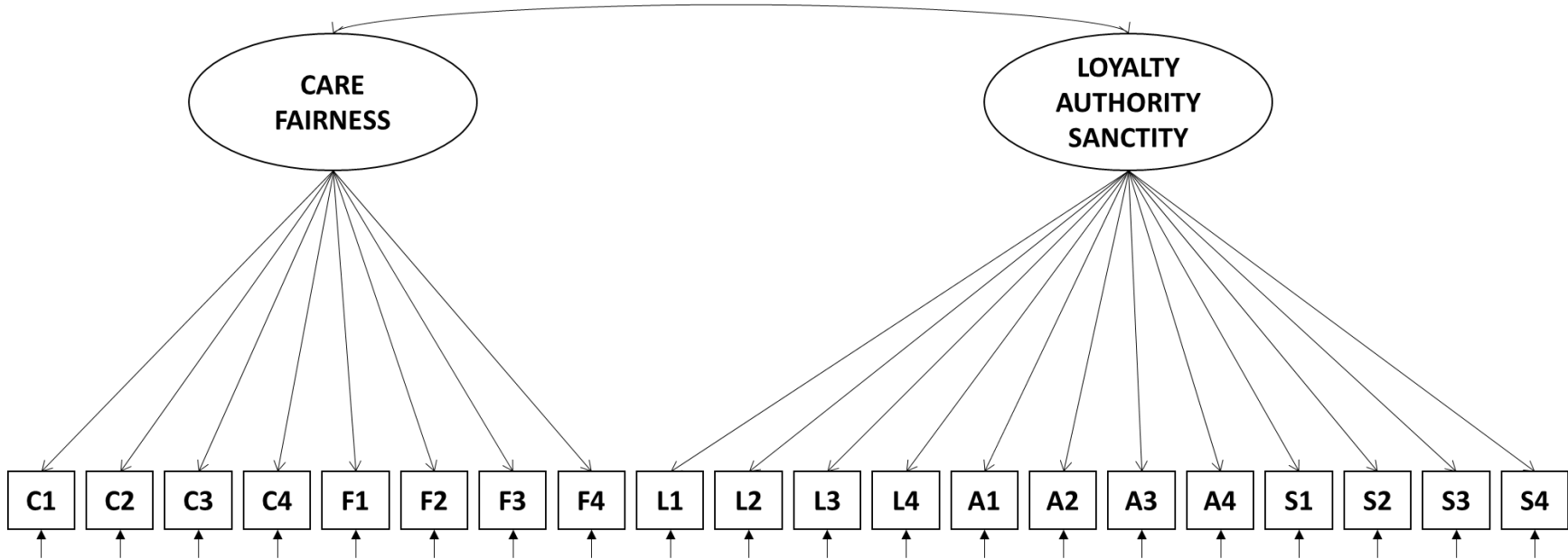
H1: The five-factor model, posited by MFT, provides a better fitting model compared to several competing models of morality in both MFQ-20 and MFSS.

COMPETING MODELS

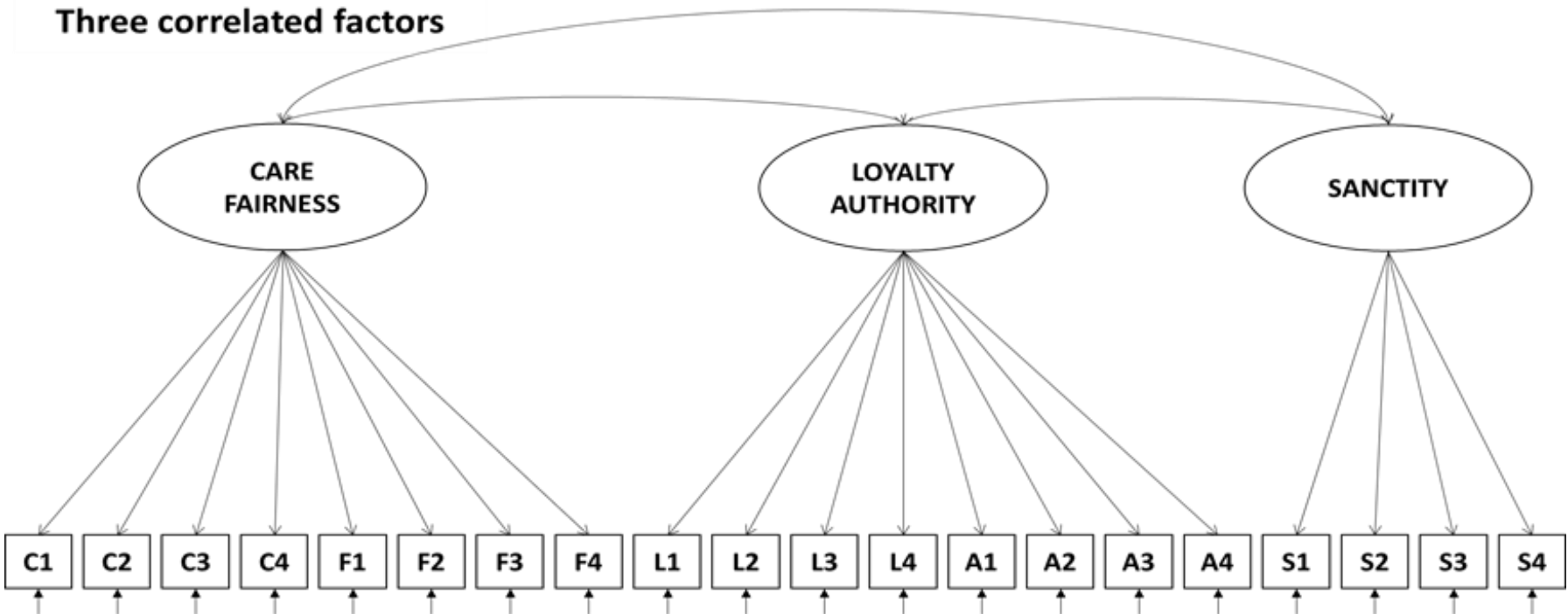
Competing Model
Single factor model



Competing Model 2
Two correlated factors



Competing Model 3
Three correlated factors



PROPOSITION 2

- ***... to test factorial invariance in the hypothesized five-factor CFA model across gender to see whether the proposed five factor structure holds across males and females***

(see Atari et al., 2020; Graham et al., 2011)

Previous studies found gender differences in endorsement of the moral foundations:

- women scoring higher than men on Care, Fairness and Sanctity
- men scoring just higher on Loyalty and Authority

METHOD

STUDY PARTICIPANTS

- Convenience sample of $n=2410$ undergraduates at Ghent University
- Online survey (part of a larger study on human cooperation in 2019)
- Dutch translation of the 20-item MFQ (Moralfoundations.org)
- Dutch translation of the 20-item MFSS
- 1/3 of sample were male subjects
- Mean age= 19.85 ($SD=2.87$)

MORAL FOUNDATIONS QUESTIONNAIRE (MFQ-20)

Part 1. Moral relevance items (responded to using the following response options: 1=*not at all relevant* to 5= *extremely relevant*)

When you decide whether something is right or wrong, to what extent are the following considerations relevant to your thinking?

Please rate each statement using this scale:

Examples:

Care- Whether or not someone suffered emotionally

Fairness- Whether or not some people were treated differently than others

Loyalty- Whether or not someone's action showed love for his or her country

Authority- Whether or not someone showed a lack of respect for authority

Sanctity- Whether or not someone did something disgusting

Part 2. Moral judgment items (responded to using the following response options: 1=*completely disagree* to 5= *completely agree*)

Please read the following sentences and indicate your agreement or disagreement

Examples:

Care- Compassion for those who are suffering is the most crucial virtue

Fairness- Justice is the most important requirement for a society

Loyalty- I am proud of my country's history

Authority- Men and women each have different roles to play in society

Sanctity- People should not do things that are disgusting, even if no one is harmed

MORAL FOUNDATIONS SACREDNESS SCALE (MFSS)

Instructions: Try to imagine *actually doing* the following things, and indicate how much money someone would have to pay you, (anonymously and secretly) to be willing to do each thing. For each action, assume that nothing bad would happen to you afterwards. Also assume that you cannot use the money to make up for your action.

Scale: 1) \$0 (I'd do it for free) - 2) \$10 - 3) \$100 - 4) \$1000 - 5) \$10,000 - 6) \$100,000 - 7) NEVER for any amount of money

Examples:

Care: *Kick a dog in the head, hard*

Fairness: *Cheat in a game of cards played for money with some people you don't know well*

Loyalty: *Break off all communications with your immediate and extended family for 1 year*

Authority: *Throw a rotten tomato at a political leader you dislike. (remember you will not get caught)*

Sanctity: *Get a blood transfusion of 1 pint of disease-free, compatible blood from a convicted child molester*

ANALYSIS PLAN

- All CFA in *Mplus* version 7.11 (Muthén & Muthén, 2012)
- WLSMV estimator (Kline, 2016)
- Model evaluation (Hu & Bentler, 1999; Marsh et al., 2004; Yu, 2002)
 - $CFI \geq .95$
 - $TLI \geq .95$
 - $RMSEA \leq .05$ (close fit), .05-.08 (fair fit)
 - $WRMR \leq 1.00$
- Chi²-DIFFTESToption in *Mplus* available for difference testing (Asparouhov & Muthén, 2006; Muthén & Muthén, 2012)
- $\Delta CFI \leq -.002$ (Meade et al., 2008)

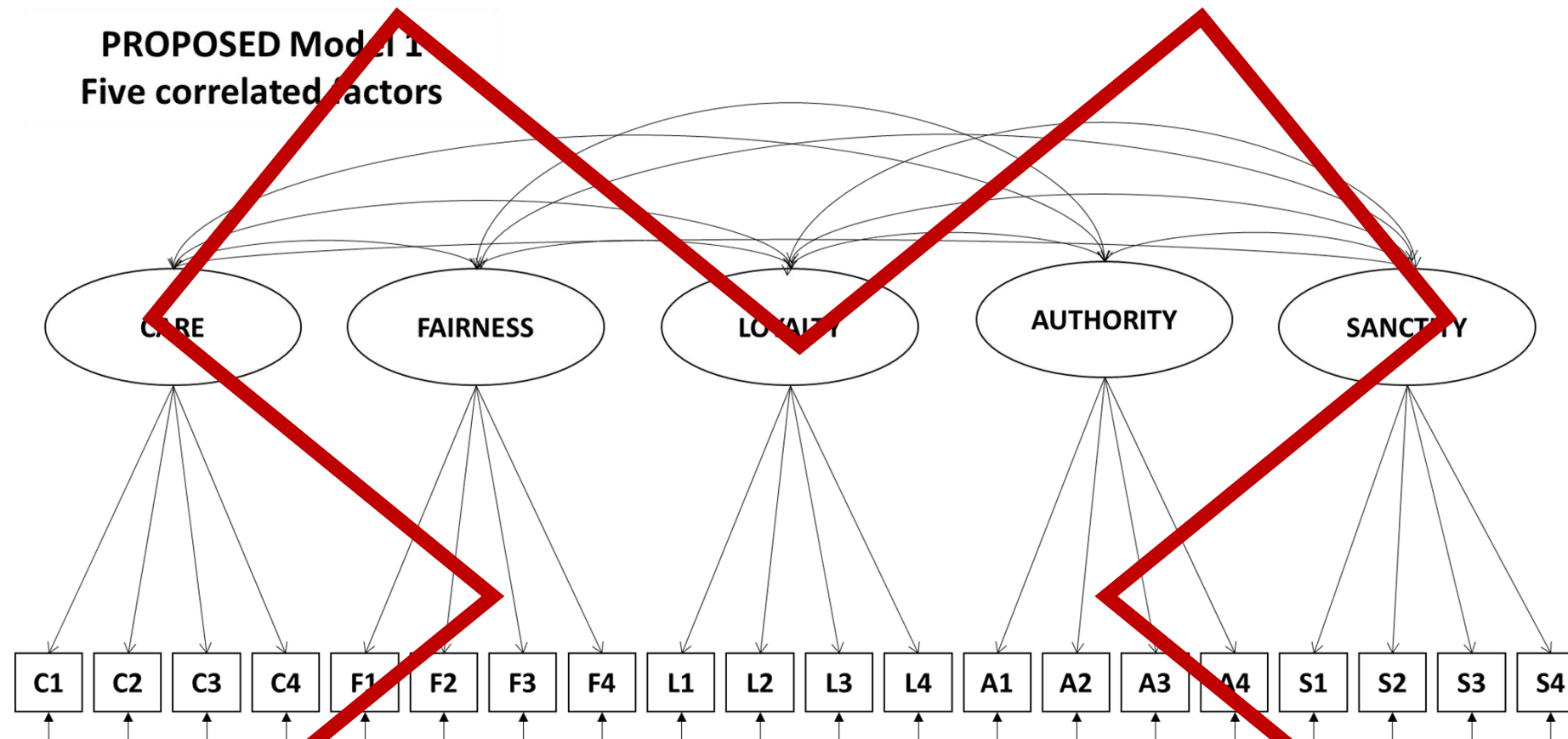
RESULTS

SCALE RELIABILITY

	MFQ-20 Cronbach's α (4 items/foundation)	MFSS-20 Cronbach's α (4 items/foundation)
Care/harm	.47	.71
Fairness/reciprocity	.41	.63
Loyalty/betrayal	.51	.59
Authority/respect	.53	.70
Sanctity	.50	.53
Full scale (20 items)	.70	.86

CFA MODELS

(BASED ON PROCEDURES IN GRAHAM ET AL., 2009 AND GRAHAM ET AL., 2011)

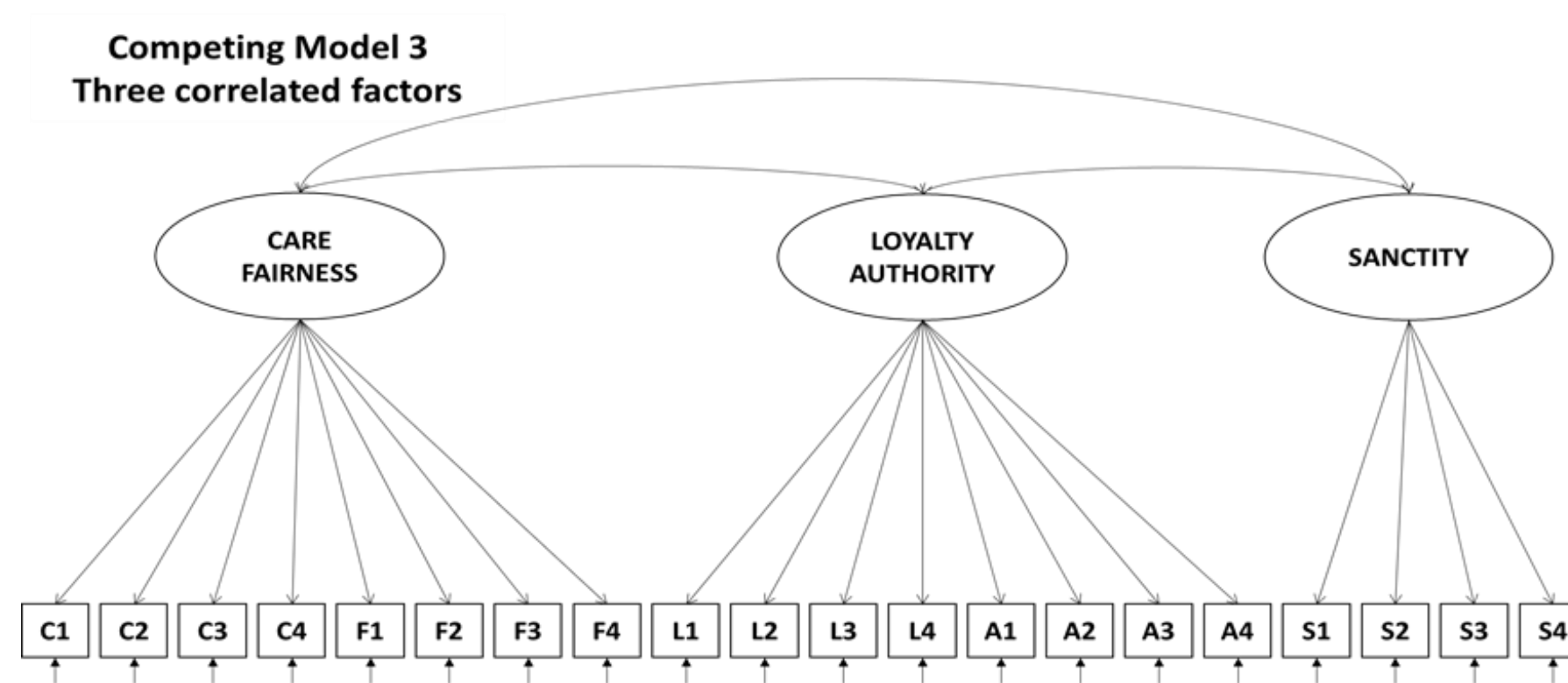


H1: The five-factor model, posited by MFT, provides a better fitting model compared to several competing models of morality in both MFQ-20 and MFSS.

- Cross-loadings
- Error co-variances
- Highly correlated factors

CFA MODELS

(BASED ON PROCEDURES IN GRAHAM ET AL., 2009 AND GRAHAM ET AL., 2011)



Fit indices for the full MFQ-20:

$WLSMV\chi^2 = 2348.279, df = 167$

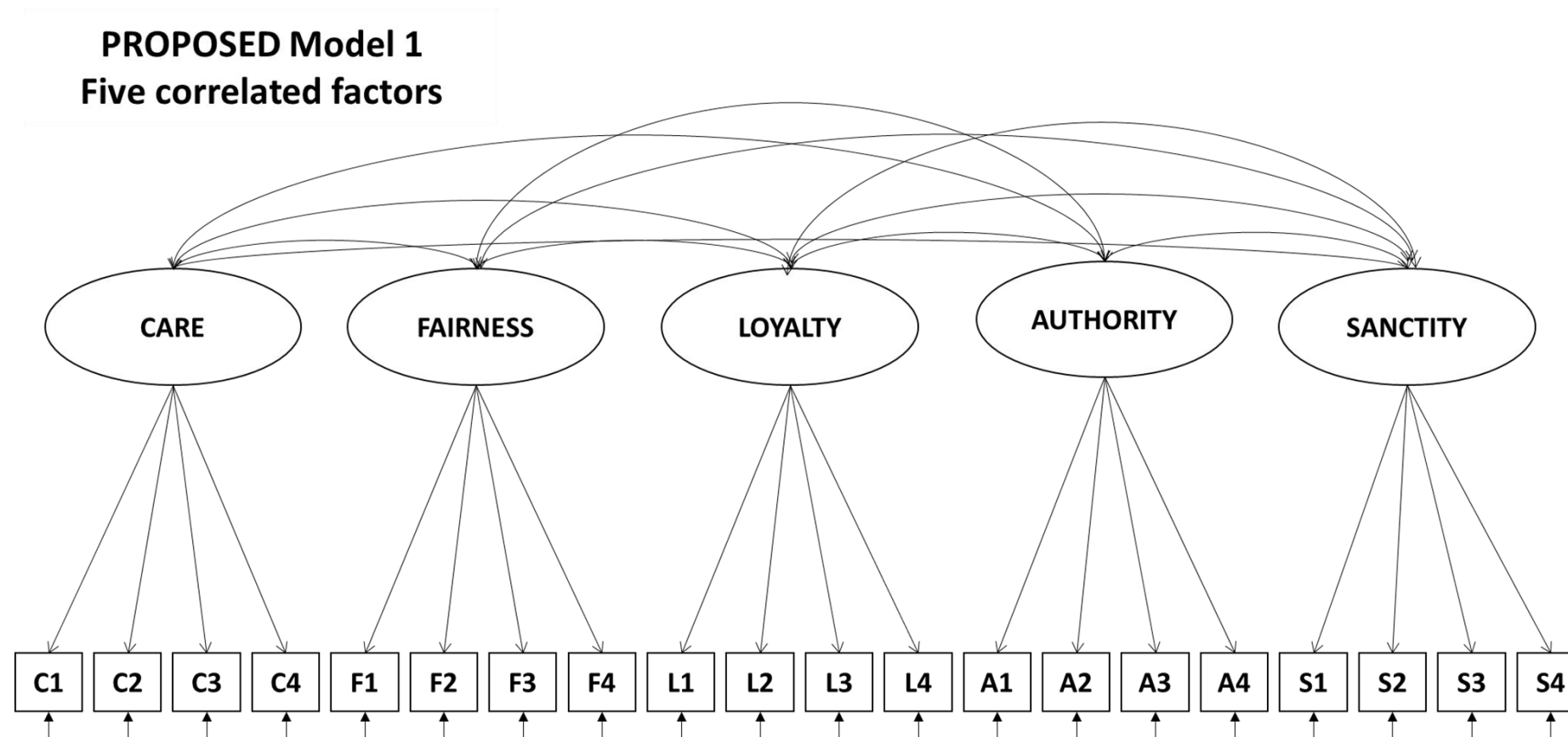
RMSEA = 0.081; 90% CI = 0.078 ; 0.084

WRMR = 2.979

CFI/TLI = 0.722/0.683.

CFA MODELS

(BASED ON PROCEDURES IN GRAHAM ET AL., 2009 AND GRAHAM ET AL., 2011)



Fit indices for the full MFSS-20:

$WLSMV\chi^2 = 1126.855, df = 160$

RMSEA = 0.059; 90% CI = 0.055; 0.062

WRMR = 1.578

CFI/TLI = 0.944/0.933

TESTING MEASUREMENT INVARIANCE ACROSS GENDER

MFQ-20 : three factor baseline model

	WLSMVX ²	df	CFI/TLI	RMSEA	WRMR	ΔCFI	DIFFtest Δχ ²
<i>Three-factor model: FULL 20 items MFQ (N_females =1062; N_males =435)</i>							
Model 1: Configural model	2051.679	334	0.702/0.661	0.083 90%CI (0.079 ; 0.086)	2.838		
Model 2: Weak invariance	1965.531	351	0.720/0.696	0.078 90%CI (0.075 ; 0.082)	2.908	-0.002	Δχ ² =54.157 df=17 p<.000

TESTING MEASUREMENT INVARIANCE ACROSS GENDER

MFSS-20 : five factor baseline model

Five-factor model: Taboo trade-off items of MFSS (N_females=1060. Males=436)

	WLSMVX ²	df	CFI/TLI	RMSEA 90%CI (0.050 ; 0.058)	WRMR	ΔCFI	DIFFtest Δχ ²
Model 1: Configural model	1018.197	320	0.946/0.936	0.054 90%CI (0.050 ; 0.058)	1.602		
Model 2: Weak invariance	909.482	335	0.956/0.950	0.048 90%CI (0.044 ; 0.052)	1.661	-0.01	Δχ ² =22.547 df=15 p<.094
Model 3: Strong invariance	1244.732	446	0.938/0.947	0.049 90%CI (0.046 ; 0.052)	2.008	0.018	Δχ ² =379.076 df=111 p<.000

DISCUSSION OF THE RESULTS

- **Relatively poor internal consistencies** (see also Graham et al., 2009; Harper & Hogue, 2019)
- **Comparison of several measurement models**
 - Hypothesized 5-factor model converged in MFSS
 - But, problematic in MFQ-20
 - !! Low fit criteria (low CFI/TLI) (see also: Iurino & Saucier, 2020; Kivikangas, Lönnqvist & Ravaja, 2017; Nilsson & Erlandsson, 2015; Yilmaz et al., 2016)
- **Measurement invariance across gender**
 - Weak MI for the MFSS
 - But not for the MFQ-20 (see also, Iurino & Saucier, 2020)

CONCLUSIONS

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- **SO FAR...** MFQ is used as the gold-standard measure of moral foundations (MFSS to much lesser extent)
- **BUT...** MFT has been criticized both theoretically and methodologically (e.g. Harper & Rhodes, 2021; Suhler & Churchland, 2011)
- *“Researchers are encouraged to use the MFQ30 instead of the short version, if at all possible, because it’s hard to get good measurement with just 4 items per foundation”* (MoralFoundations.org)
- **HOWEVER...** MFQ tends to support two factors: individualizing and binding foundations (see Franks & Scherr, 2015, Harper & Rhodes, 2021)
- **THUS...** Future research may take a different approach to the hypothesized five factor structure of MFT
- **IN ADDITION...** Alternative questionnaires are proposed (e.g. Curry, Jones Chesters & Van Lissa, 2019; Leitgöb, Eifler & Weymeirsch, 2020)

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NOT CLAIMING EXHAUSTIVE – Apologies for anything omitted

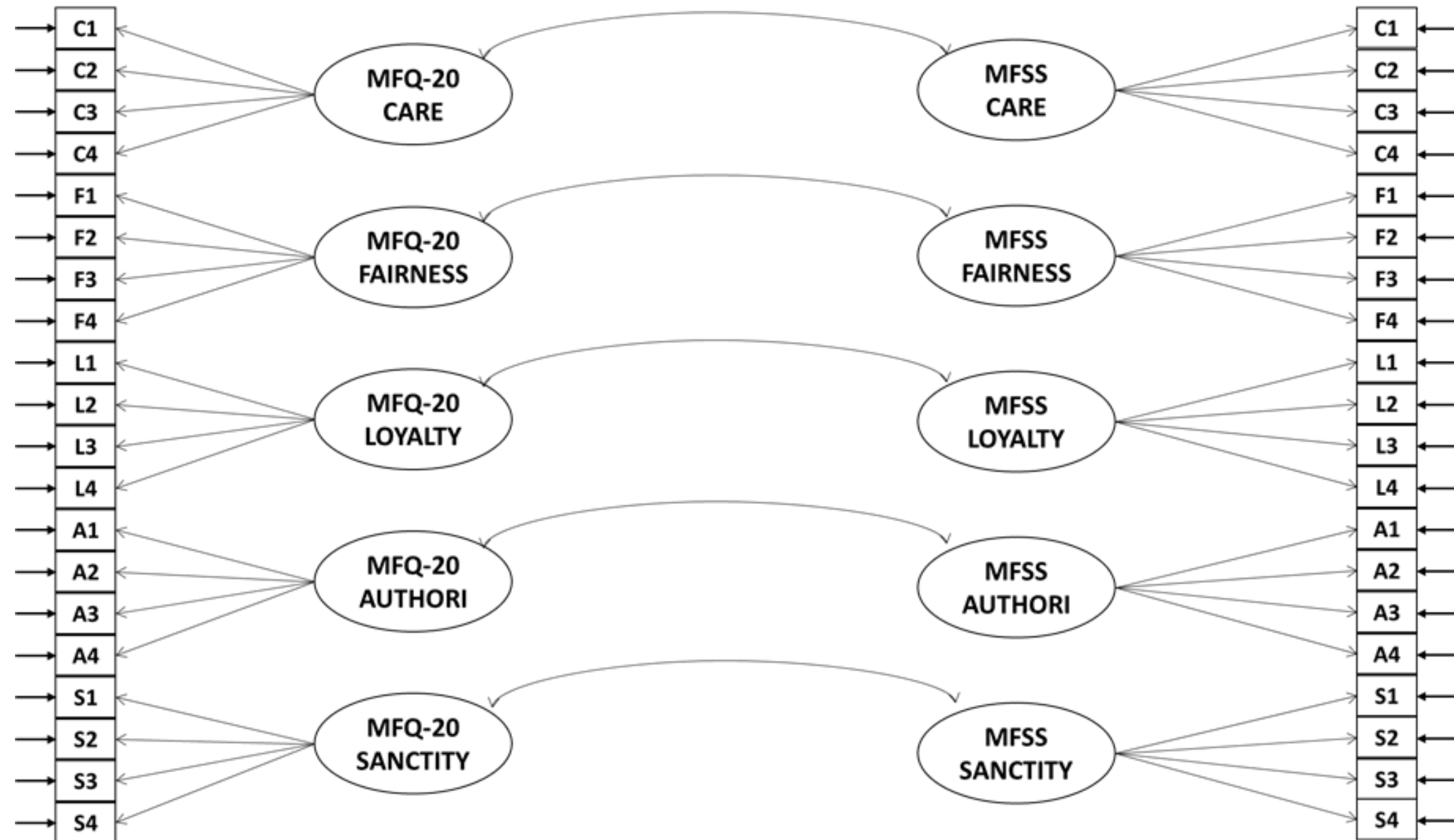
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PROPOSITION 2

H2: Substantial correlations are expected to be found among Individualizing (Care and Fairness) and among Binding foundations (Authority – Loyalty and Sanctity) within each scale and between equivalent subscales of both MFQ-20 and MFSS.



CORRELATIONS AMONG AND BETWEEN MFQ-20 AND MFSS SUBSCALES



DISCUSSION OF THE RESULTS

- **Relatively poor internal consistencies** (see also Graham et al., 2009; Harper & Hogue, 2019)
- **Comparison of several measurement models**
 - Hypothesized 5-factor model converged in MFSS
 - But, problematic in MFQ-20
 - !! Low fit criteria (low CFI/TLI) (see also: Iurino & Saucier, 2020; Kivikangas, Lönnqvist & Ravaja, 2017; Nilsson & Erlandsson, 2015; Yilmaz et al., 2016)
- **Correlations among and between subscales in MFQ and MFSS**
 - Correlations between subscales as expected
 - Correlations among MFSS subscales were very high (see also: Yalçındag et al., 2019)
- **Measurement invariance across gender**
 - Weak MI for the MFSS
 - But not for the MFQ-20 (see also, Iurino & Saucier, 2020)