Self-Determination Theory meets Growth Mind
–
Growth Mind meets Self-Determination Theory

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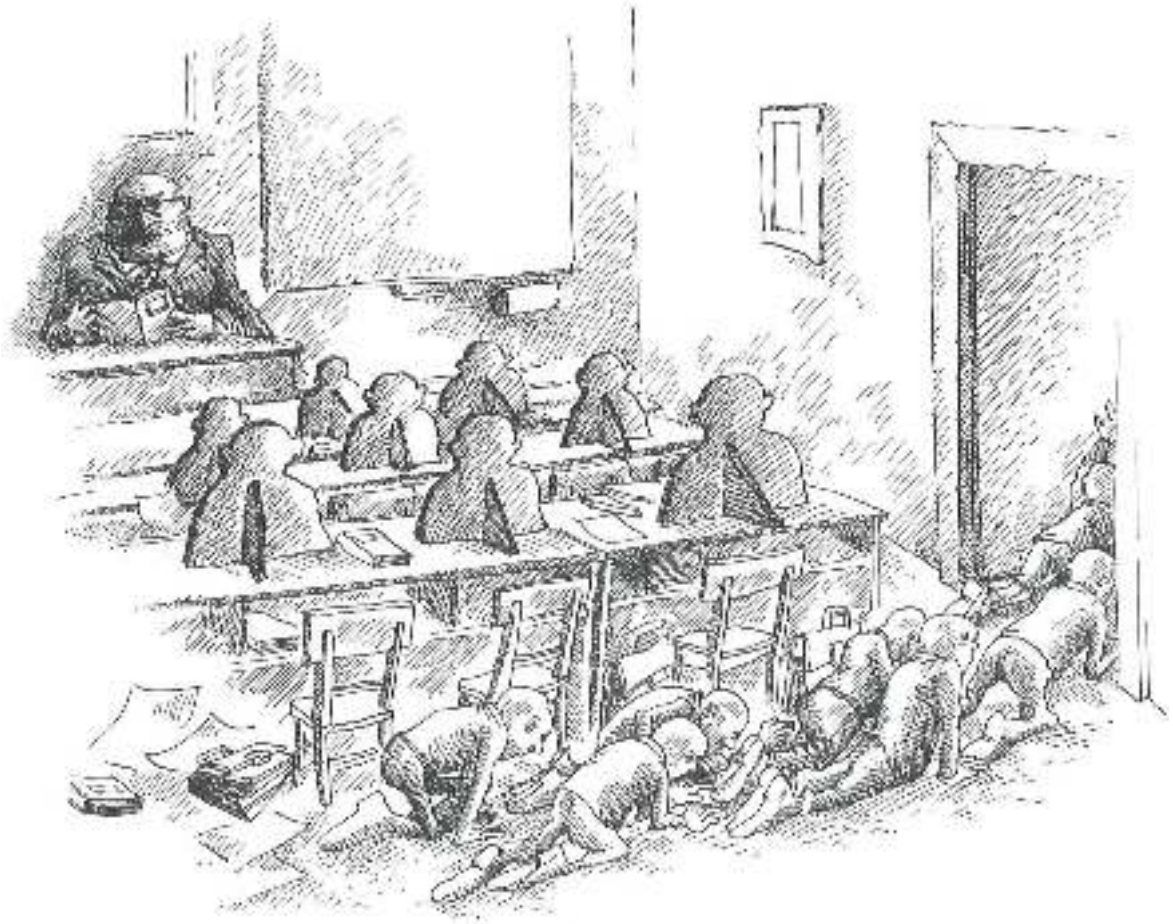
Latest article:
https://www.frontiersin.org/articles/10.3389/fpsyg.2021.775804/full

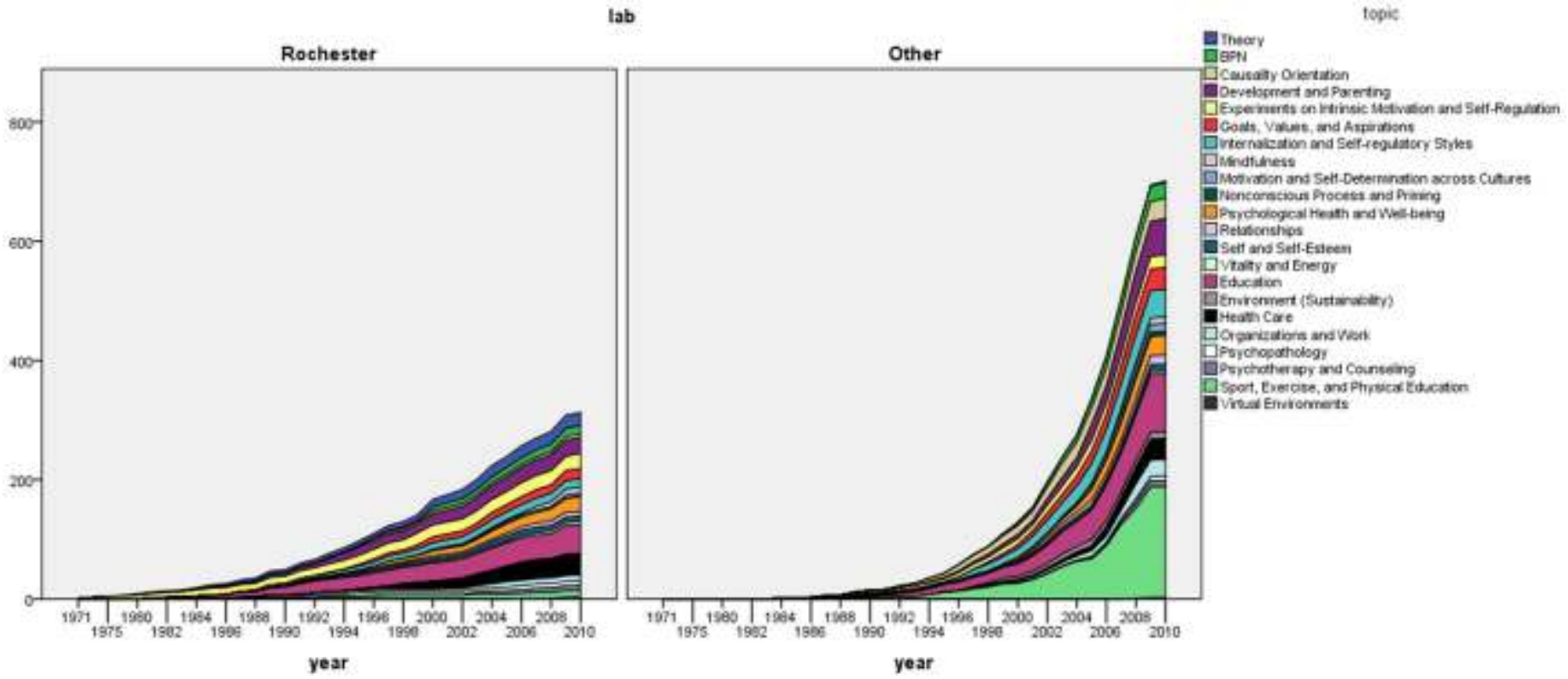


Ohne Worte

Content

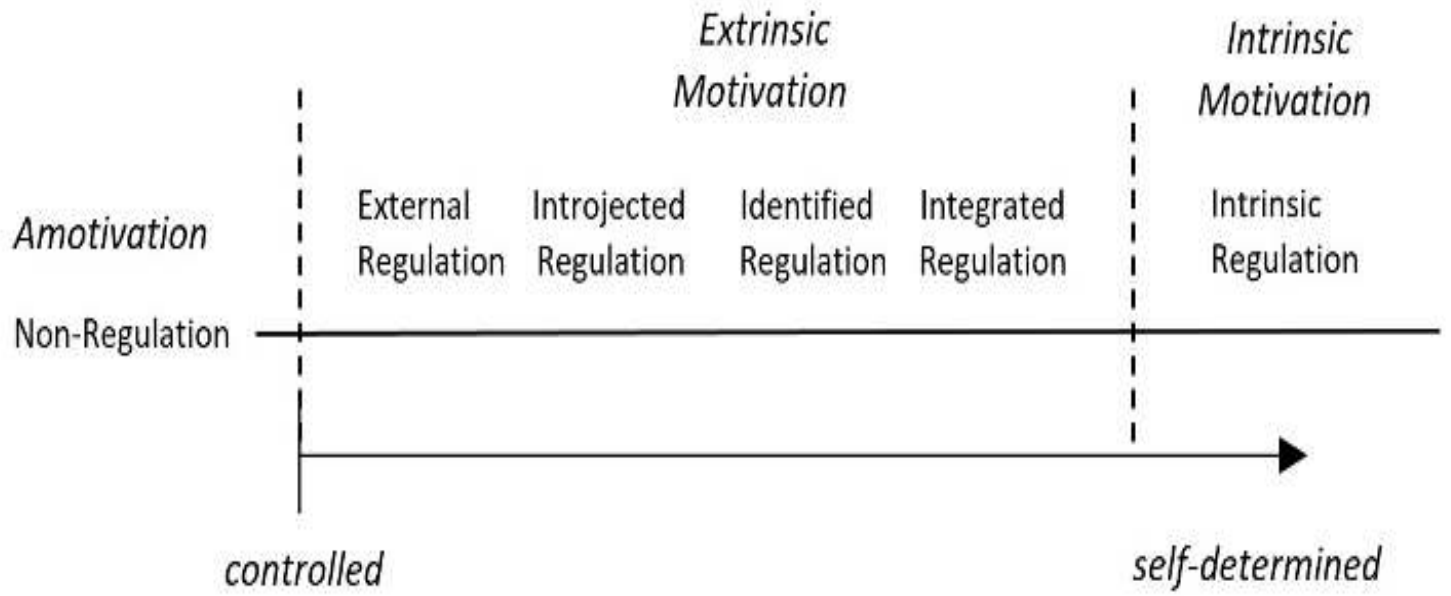
1. Self determination theory (SDT)
2. Evidence
3. New directions in SDT-related research
4. Results from our lab
5. Some implications for university teaching and learning
6. Discussion: SDT and Growth Mind (GM)

Number of journal papers with SDT reference



Connoult (2010)

Continuum of self-determination



Deci & Ryan (2002, p. 16)

Inter-correlations between motivational regulational styles

	Amotivation	External	Introjected	Identified	Intrinsic
Amotivation (AM)	1				
External (EX)	.36**	1			
Introjected (IJ)	-.04	-.01	1		
Identified (ID)	-.39**	-.34**	.34**	1	
Intrinsic (IM)	-.53**	-.37**	.10**	.48**	1

* $p<0.05$; **$p<0.01$

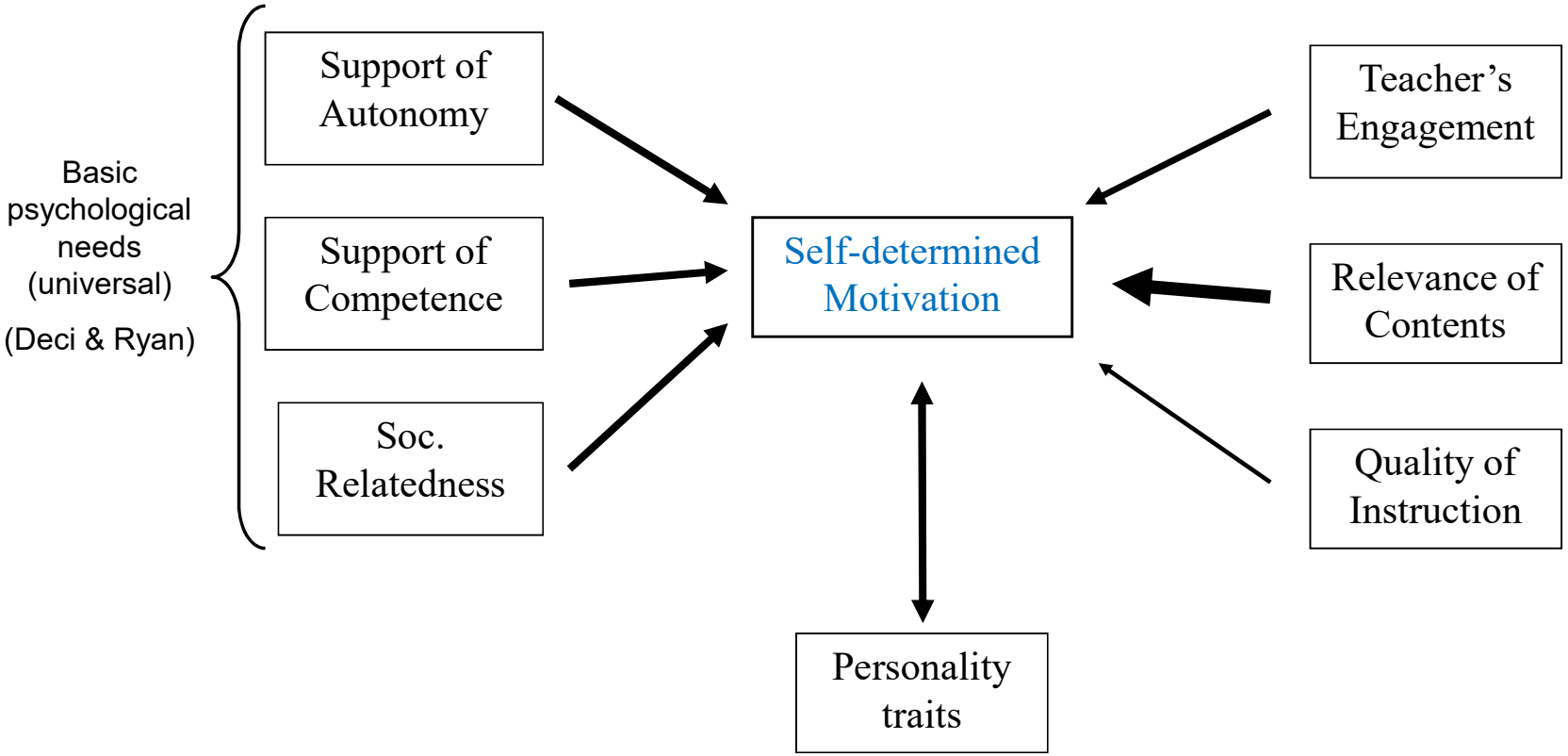
Impact

Learning situations

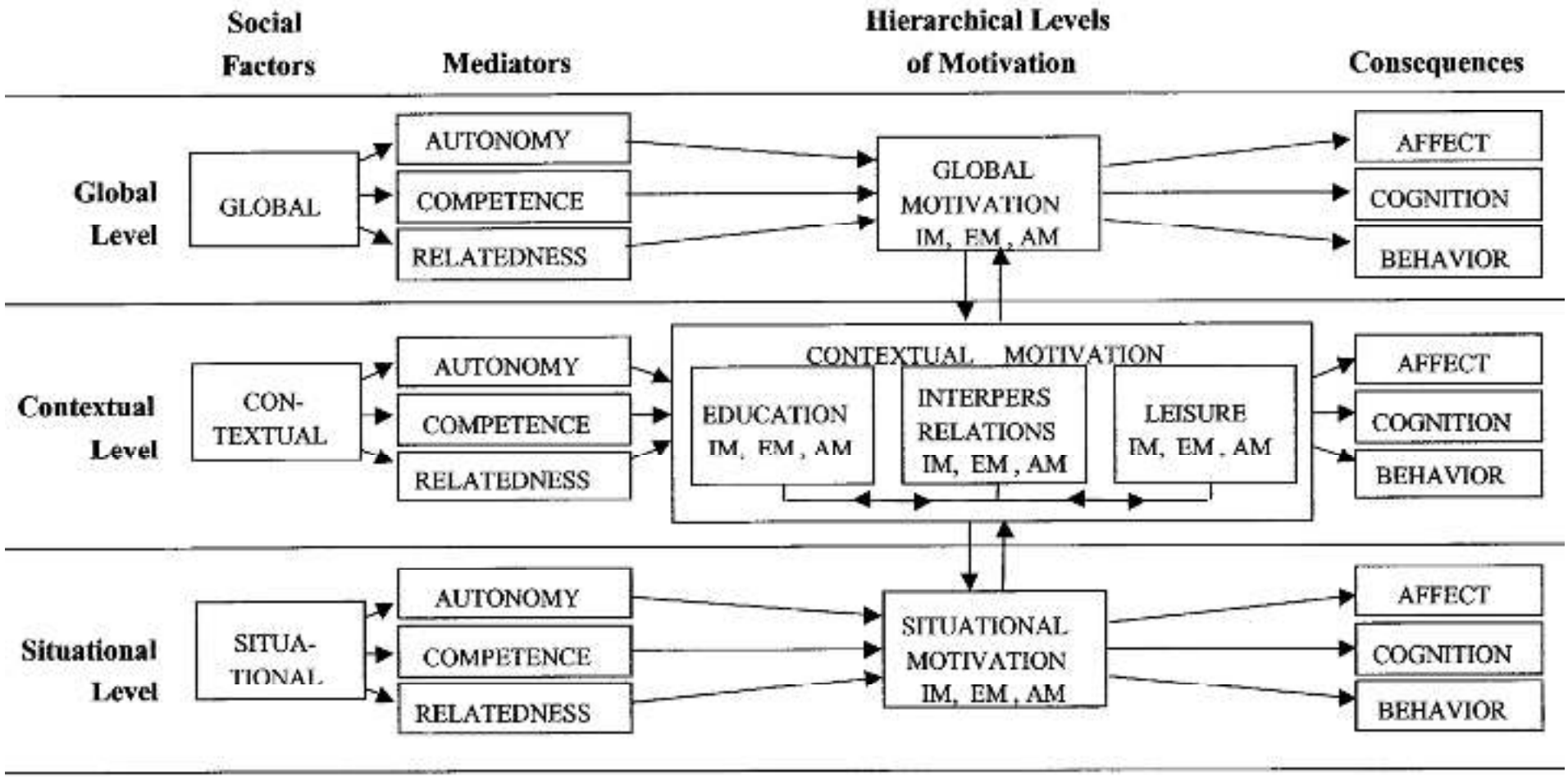
Deep level learning, transfer, achievement and self-concept, interest, creativity, well-being, effort, higher retention rates, satisfaction, vitality, commitment ....

(summarized Reeve, 2002; Ryan & Deci, 2017)

Conditions of Learning Motivation



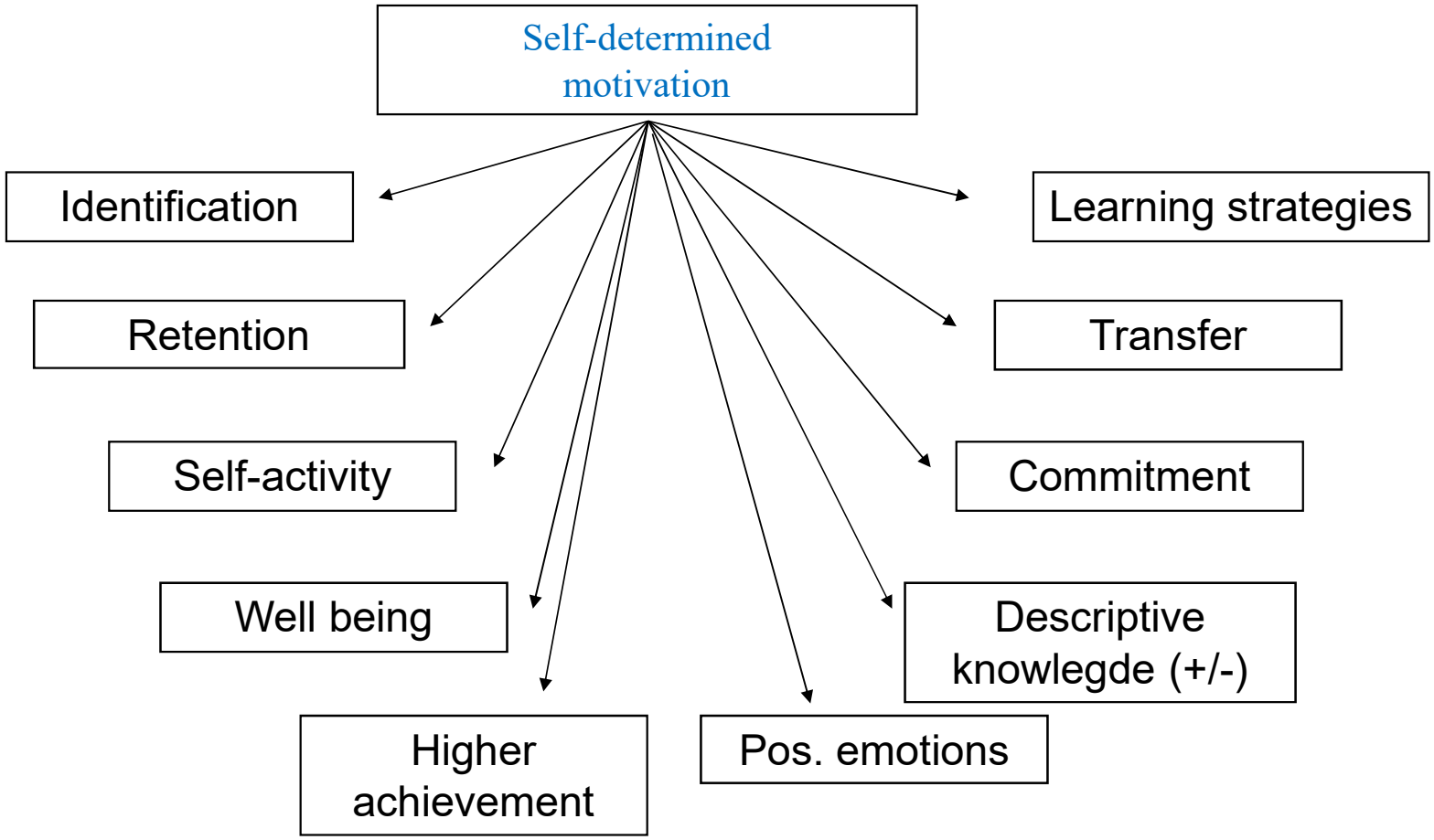
Hierarchical model of motivation (Vallerand, 1997)

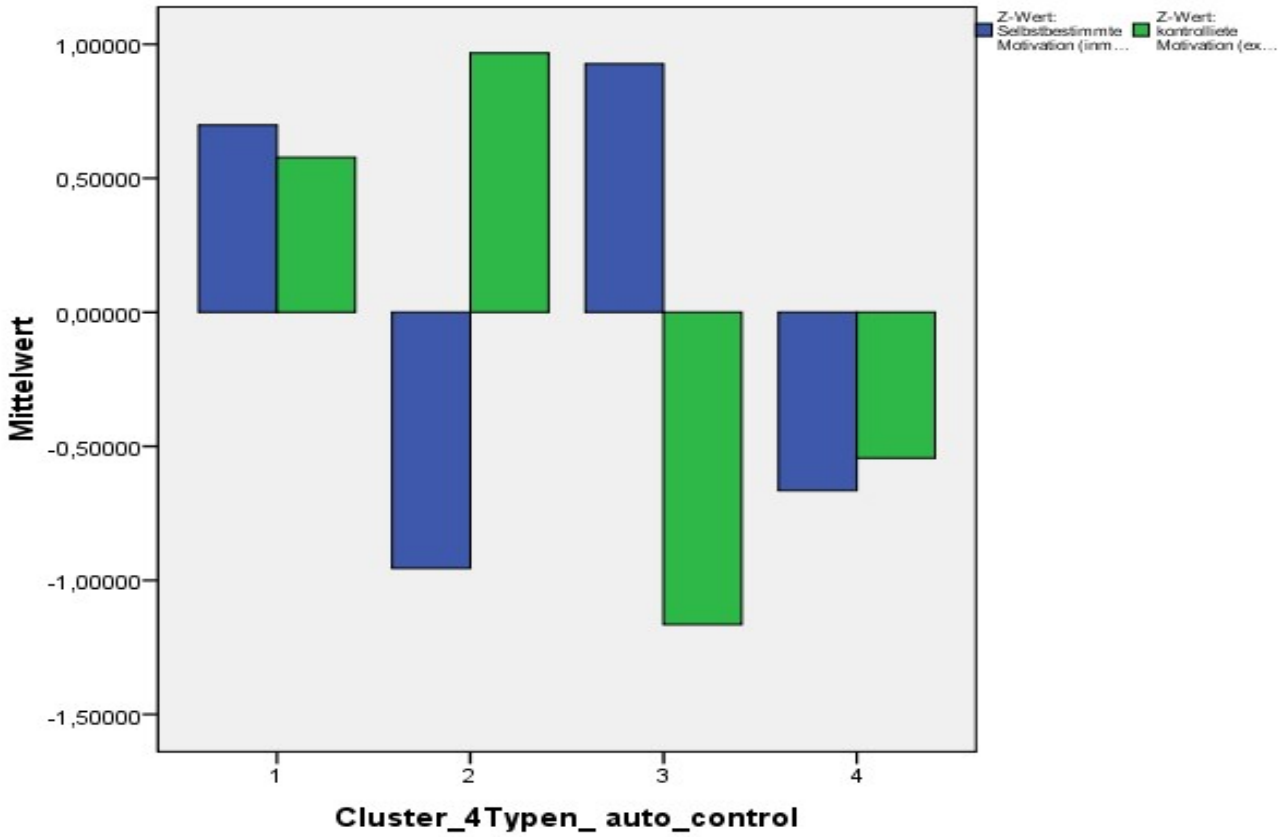


General motivational predispositions (De Chames)

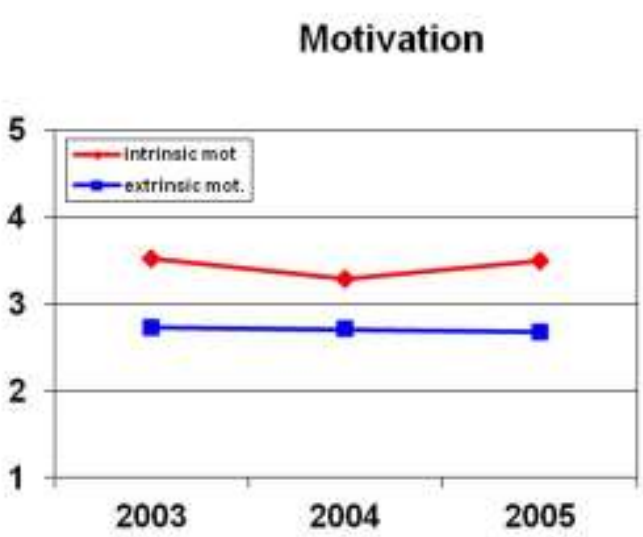
- Autonomous orientation
- Controlled orientation
- Impersonal orientation

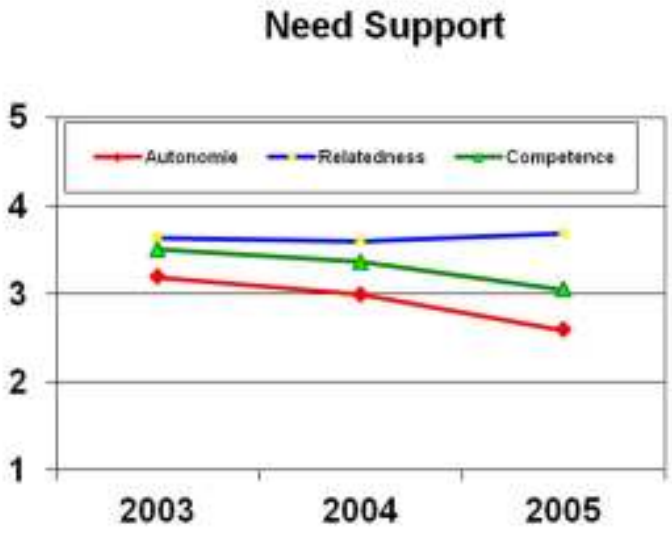
Impacts of autonomous motivation in higher education




Z-Wert: Selbstbestimmte Motivation (imm…
Z-Wert: kontrollierte Motivation (ex…
1,00000
0,50000
0,00000
-0,50000
-1,00000
-1,50000
Mittelwert
1
2
3
4
Cluster_4Typen_ auto_control

Longitudinal study





Müller, F.H. & Palekčić, M. (2005). Continuity of motivation in higher education: A three-year follow-up-study. Review of Psychology, 12 (1), 31-43.

Links between SDT and Growth Mindset

- From a development perspective SDT may be able to explain the GM and FM
- GM correlates with intrinsic motivation! FM with more extrinsic forms of motivation!
- SDT and GM/FM refer to the same or related theories (attribution, goal orientation, self efficacy, …)
- SDT emphasizes emotional processes (does GM/FM not do enough?)

Current projects and one research idea

1. Idea: Introjected regulation – Demand for revision
   (Bieg, Thomas & Müller)

2. Motivation in Distance Learning (MoDiLe): University students / Music schools (Wieser & Müller / Müller et al. / Martinek et al.)

Three current studies

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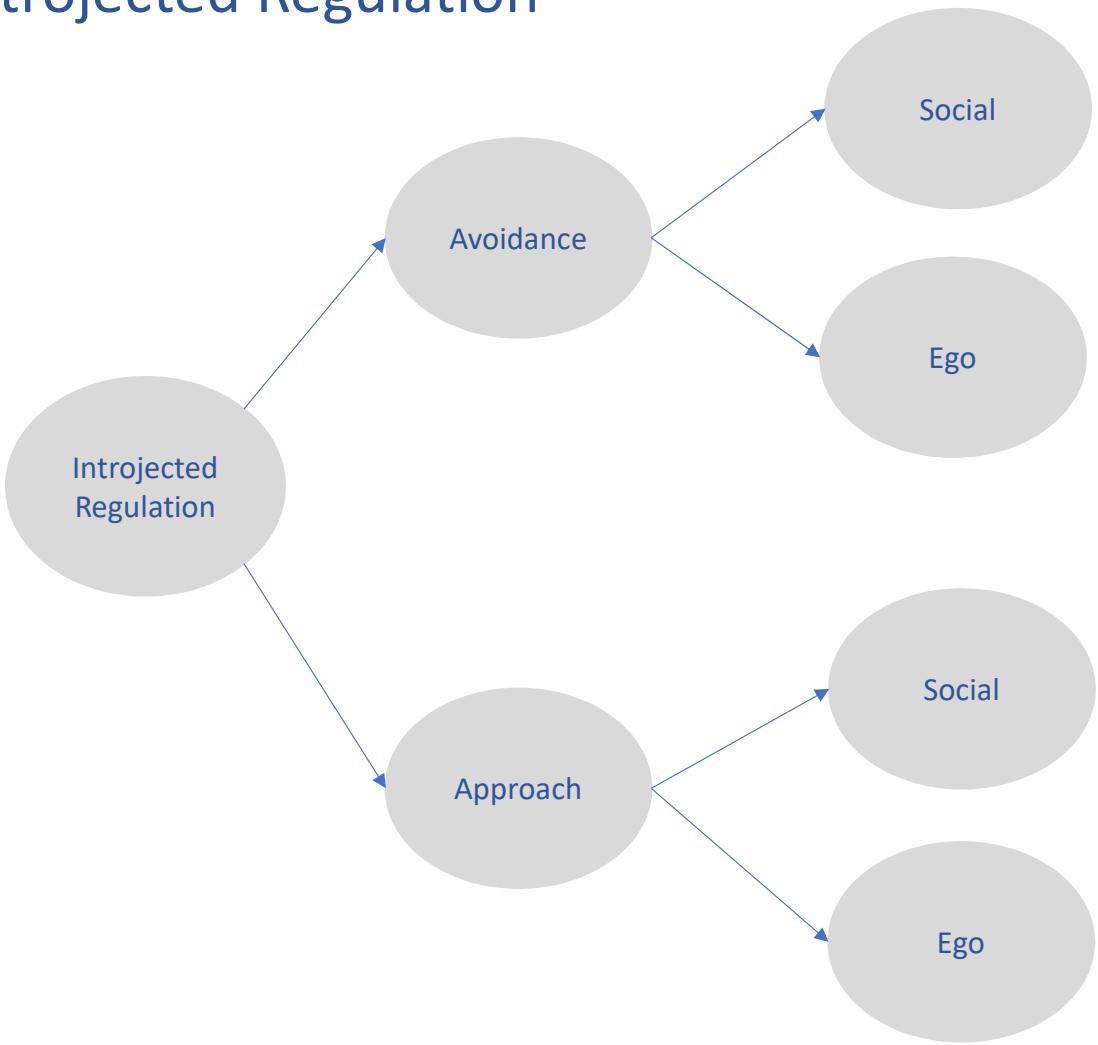
Introjected Regulation: An Attempt at Revision

- Only partially internalized and integrated social norms
- Correlates with "ego-enhancement" and "avoidance of ego-depletion" (Ryan & Deci, 2000)
- Includes positive (e.g., pride) and negative aspects (e.g., shame) (Howard et al., 2017; Ng et al., 2012).
- Inconsistent correlations with different outcomes (Ng et al., 2012).
- Distinction needed between "approach" and "avoidance" components (Assor, Vansteenkiste, & Kaplan, 2009; Sheldon et al., 2017).
- Recent studies: positive effects of *Approach* on well-being and positive affect, *Avoidance* correlates negative! (Assor et al., 2009; Sheldon et al., 2017).

Idea: Introjected Regulation



Bieg, Müller & Thomas (in prep.)

Item examples

? Validation

I learn in my studies ...

Avoidance
...because otherwise I would be ashamed of myself (ego)
...because otherwise I would have a bad conscience (Ego)
...because otherwise I would be ashamed in front of others (social)
...because I don't want to disappoint my environment (Social)

Approach
...because I want to prove to myself that I can complete my studies (Ego)
...because I want to feel good about myself (Ego)
...because I want the teachers to think that I am a good student (Social)
...because I want others to have a good opinion of me (Social)

Goal: about 5 items per dimension: 20 items

Three current studies

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3. [Matteo]
   (Salzburg lab: Martinek & Carmignola))

Motivation in times of Distance Learning (MoDiLe)

➔ University students

Colleagues:

Bielefeld University, D (Matthias Wilde, Nadine Großmann, Alexander Eckes)
University of Innsbruck, AUT (Ann-Kathrin Dittrich)
University College Kärnten, AUT (Almut E. Thomas)
University of Klagenfurt, AUT (Florian H. Müller)
University of Salzburg, AUT (Daniela Martinek, Matteo Carmignola)
University College Weingarten, D (Sonja Bieg)

Distance learning: exemplary findings

- Pandemic as a turning point - moving away from traditional models of teaching (Schneider & Council, 2020)
- Vulnerability to depression increases (Mechili et al, 2020)
- Increased social isolation (Handel et al, 2020; Kedraka & Kaltsidos ,2020).
- Flexible scheduling is described by learners as supportive (Chen et al, 2020)
- Students describe learning as superficial, effortful, and less sustainable (Chen et al, 2020)
- Psychological stress increased, autonomy as well as skill acquisition decreased, lack of intrinsic motivation, and lower attention (Wong, 2020)

Our Research questions (university students)

- Characteristics of regulation styles, needs satisfaction and frustration, as well as vitality in enforced distance learning (before/after)

- Characteristics of workload, perceived overload, and satisfaction with technical resources

- Prediction of motivational regulation and vitality

- Examination of a model to explain motivational regulation and vitality (SEM)

Table 2. Items and Scale Reliabilities of the Motivational Self-Regulation.

Regulation Subscales	Scale Reliability ω	Sample Item
Intrinsic	0.91	I really enjoy studying and working for university.
Identified	0.75	Mainly, I study to be more proficient and to develop myself further.
Introjected Approach	0.81	I study because I want to prove to myself that I am capable of successfully completing this 'distance learning-semester'.
Introjected Avoidance	0.84	I study for this online-program because otherwise I would feel guilty.
External	0.70	I study mainly because I want to obtain an academic degree.

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Table 1. Items and Scale Reliabilities of the BPNSF.

Subscales	Scale Reliability ω	Sample Item
Satisfaction		
Autonomy	0.76	I feel that my decisions regarding my studies reflect what I really want.
Competence	0.90	I feel I can successfully complete difficult tasks for my study program.
Relatedness	0.78	I feel close and connected with other people from university who are important to me.
Frustration		
Autonomy	0.85	In my studies, I feel pressured to do too many things.
Competence	0.84	At university, I feel like a failure because of the mistakes I make.
Relatedness	0.72	I feel that people from university who are important to me are cold and distant towards me.

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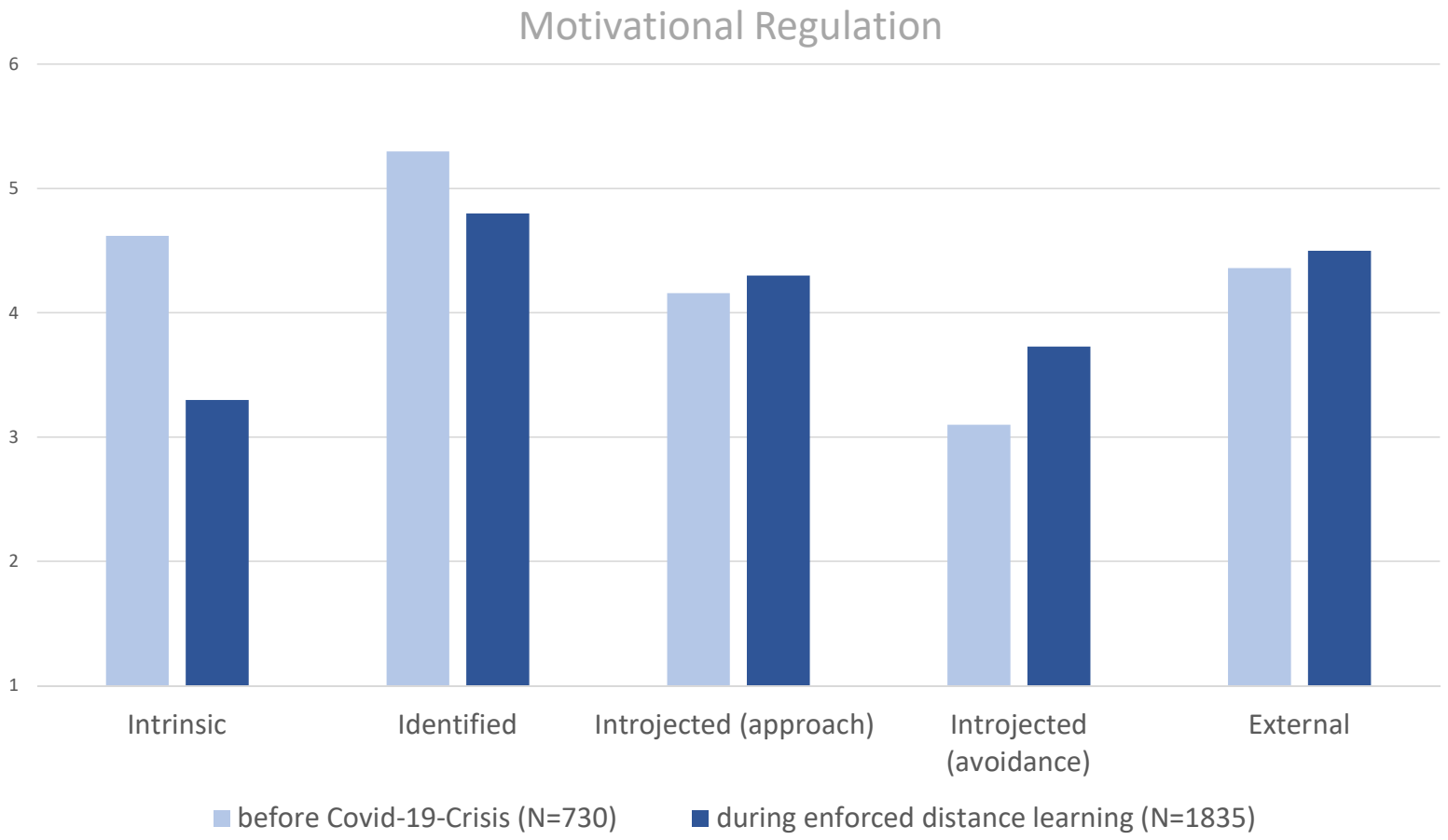
Samples

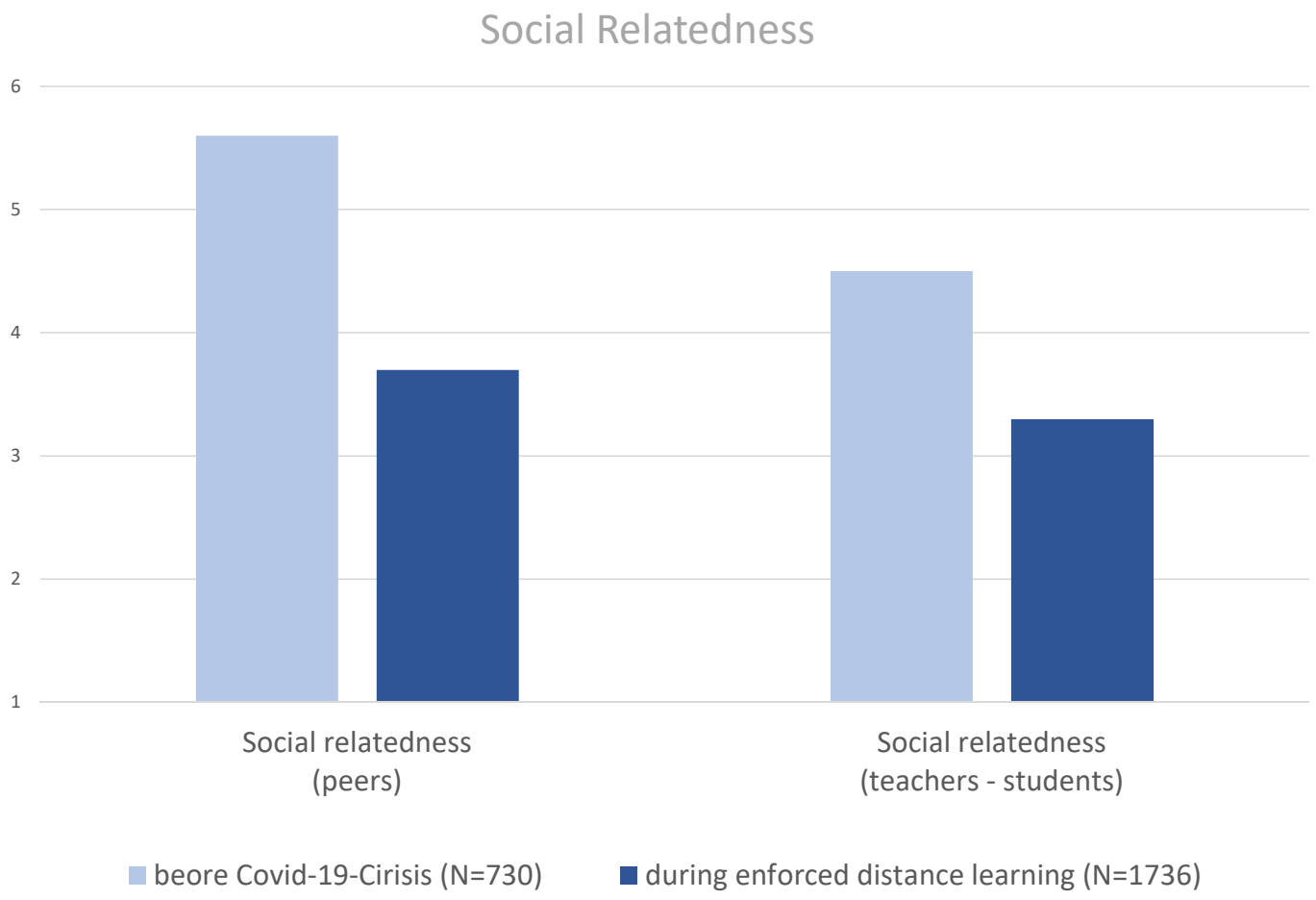
Sample 1 (pre-COVID-19 distance learning, before March 2020)

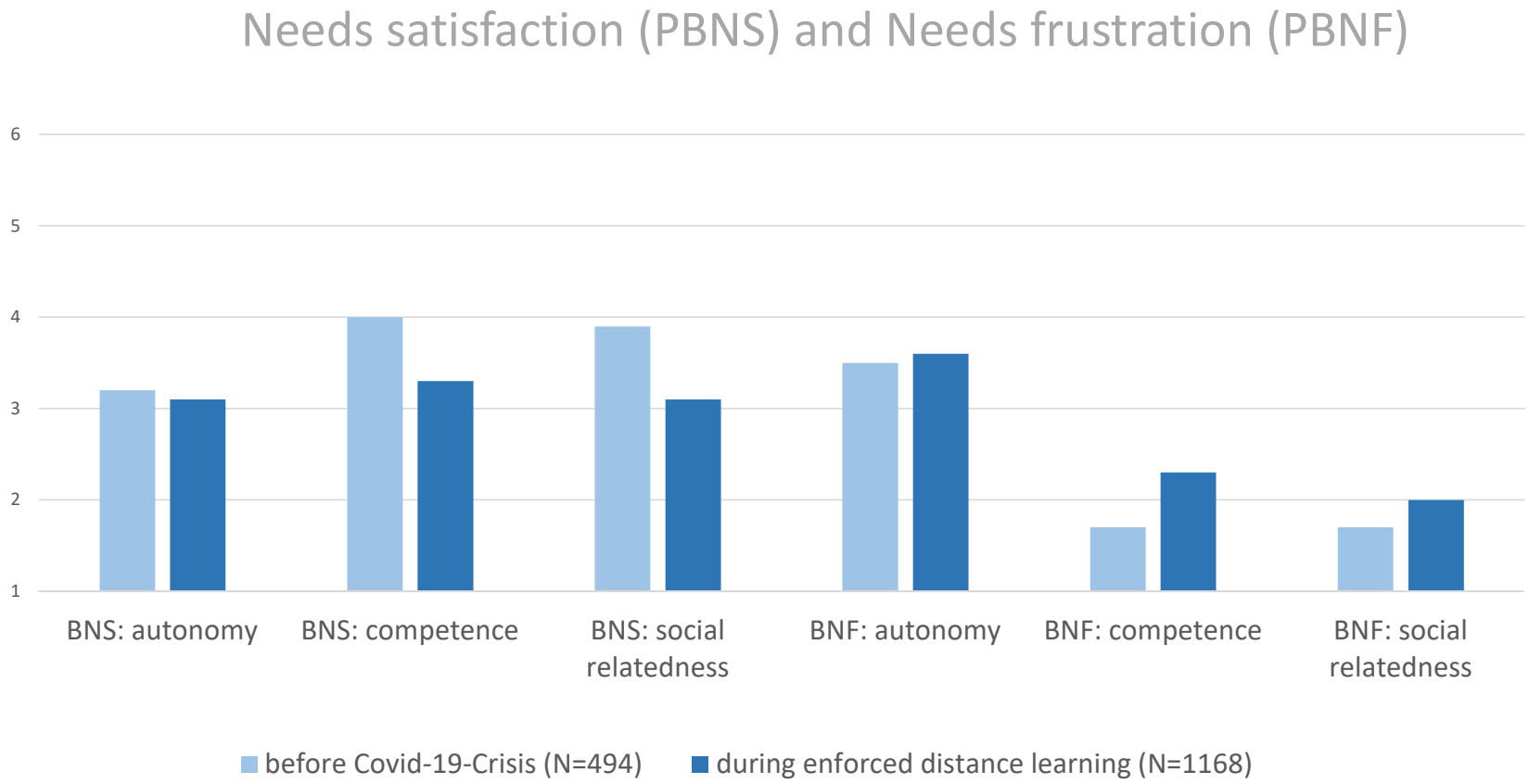
- 1,139 students (64% female, 34% male, and 2% no information)
- 45% were studying at Austrian and 55% at German universities or university colleges
- Teaching degree: 45%, the others mostly study social sciences and humanities.
- The average age was 21.1 years (*SD* = 5.1)

Sample 2 (during forced distance learning)

1,835 students (79% female, 20.6% male, and 0.4% no information)
56% were studying at Austrian and 44% at German universities or university colleges
Teaching degree: 56.4%, other students study social sciences and humanities
Mean age: 23.54 years (*SD* = 5.77).
Most students (73%) were satisfied with their technical equipment for distance learning (internet, PC, etc.) (cf. Martinek et al., 2021).


Motivational Regulation
6
5
4
3
2
1
Intrinsic
Identified
Introjected (approach)
Introjected (avoidance)
External
before Covid-19-Crisis (N=730)
during enforced distance learning (N=1835)

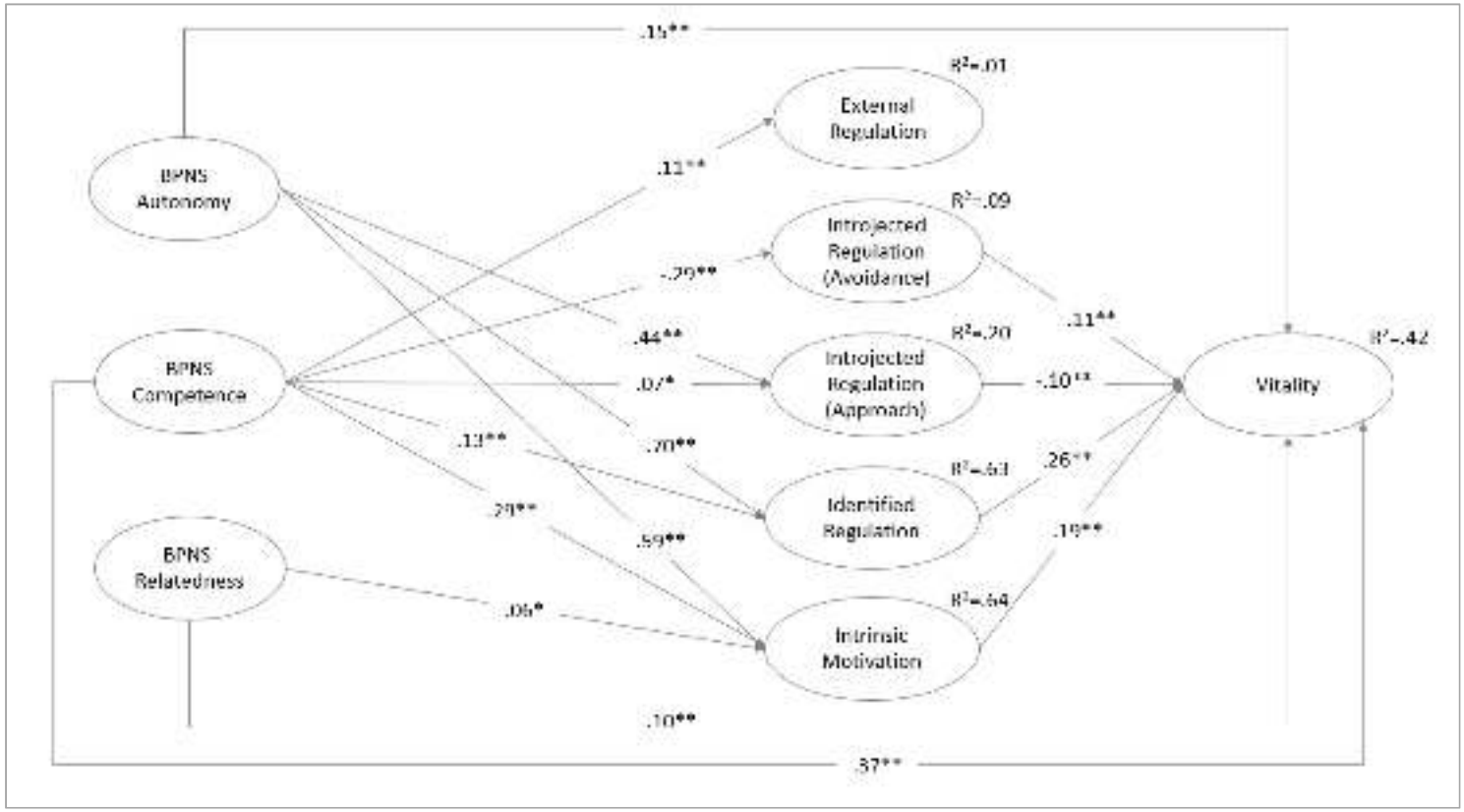

Social Relatedness
6
5
4
3
2
1
Social relatedness (peers)
Social relatedness (teachers - students)
beore Covid-19-Cirisis (N=730)
during enforced distance learning (N=1736)


Needs satisfaction (PBNS) and Needs frustration (PBNF)
6
5
4
3
2
1
BNS: autonomy
BNS: competence
BNS: social relatedness
BNF: autonomy
BNF: competence
BNF: social relatedness
before Covid-19-Crisis (N=494)
during enforced distance learning (N=1168)

Müller FH, Thomas AE, Carmignola M, Dittrich A-K, Eckes A, Großmann N, Martinek D, Wilde M & Bieg S (2021) University Students' Basic Psychological Needs, Motivation, and Vitality Before and During COVID-19: A Self-Determination Theory Approach. Front. Psychol. 12:775804. doi: 10.3389/fpsyg.2021.775804

SEM: During forced distance learning

(University students, N=1837)



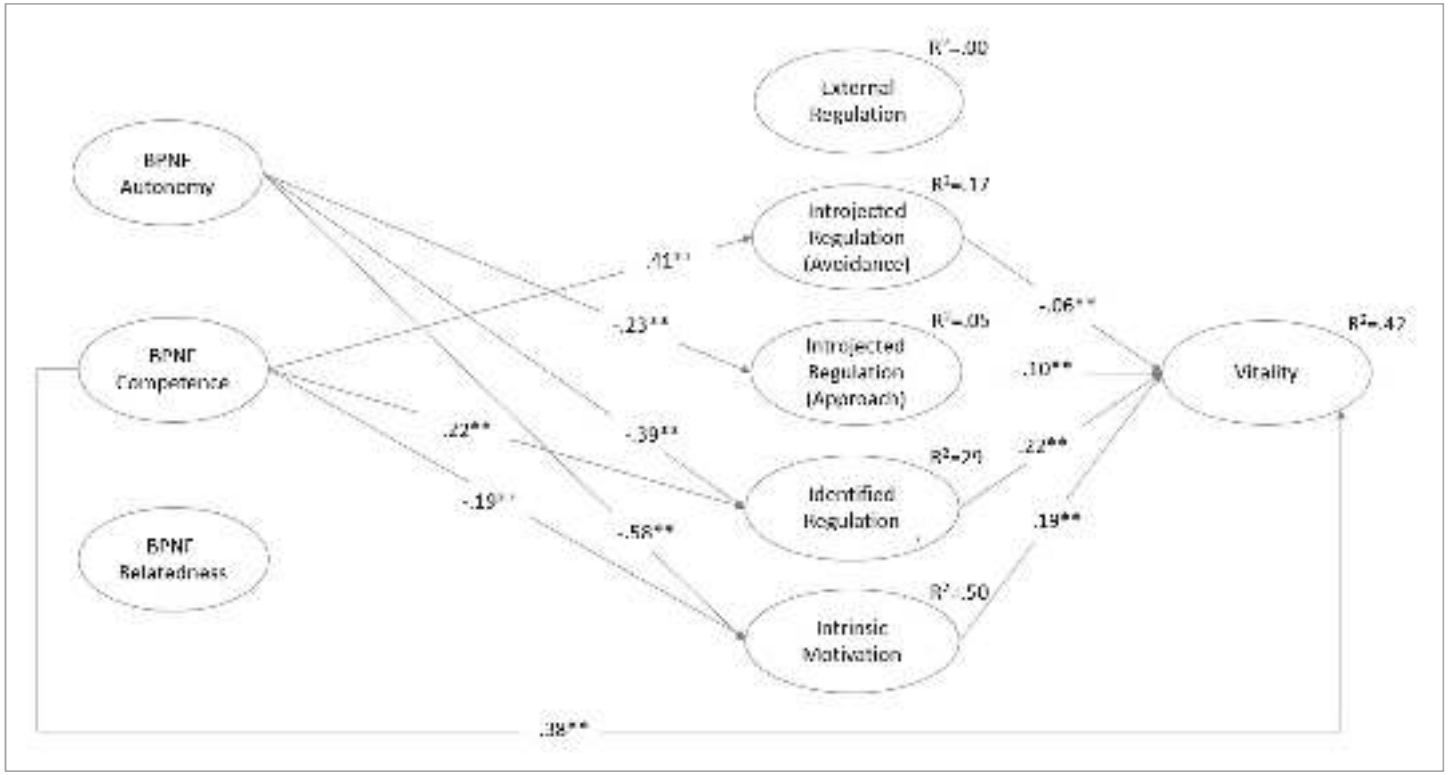
Structural equation model with BPN-Satisfaction, motivational regulation, and vitality (during the forced distance learning period)

Note. $\chi^2(488) = 1667.328$, $p < .01$, *CFI* = .965, *RMSEA* = .026. Variables are modelled latently; measurement models are not shown; * $p < .05$, ** $p < .01$; non-significant paths are not shown.

Müller FH, Thomas AE, Carmignola M, Dittrich A-K, Eckes A, Großmann N, Martinek D, Wilde M & Bieg S (2021) University Students' Basic Psychological Needs, Motivation, and Vitality Before and During COVID-19: A Self-Determination Theory Approach. Front. Psychol. 12:775804. doi: 10.3389/fpsyg.2021.775804

SEM: During forced distance learning

(University students, N=1837)



Structural equation model with BPN-Frustration, motivational regulation and vitality (during the forced distance learning period): Müller et al. (2021)

Note: $\chi^2(494) = 1626.855$, $p < .01$, CFI = .965, RMSEA = .027. Variables are modelled latently; measurement models are not shown; * $p < .05$, ** $p < .01$; non-significant paths are not shown.

SEM: During forced distance learning
(University students, N=1837)

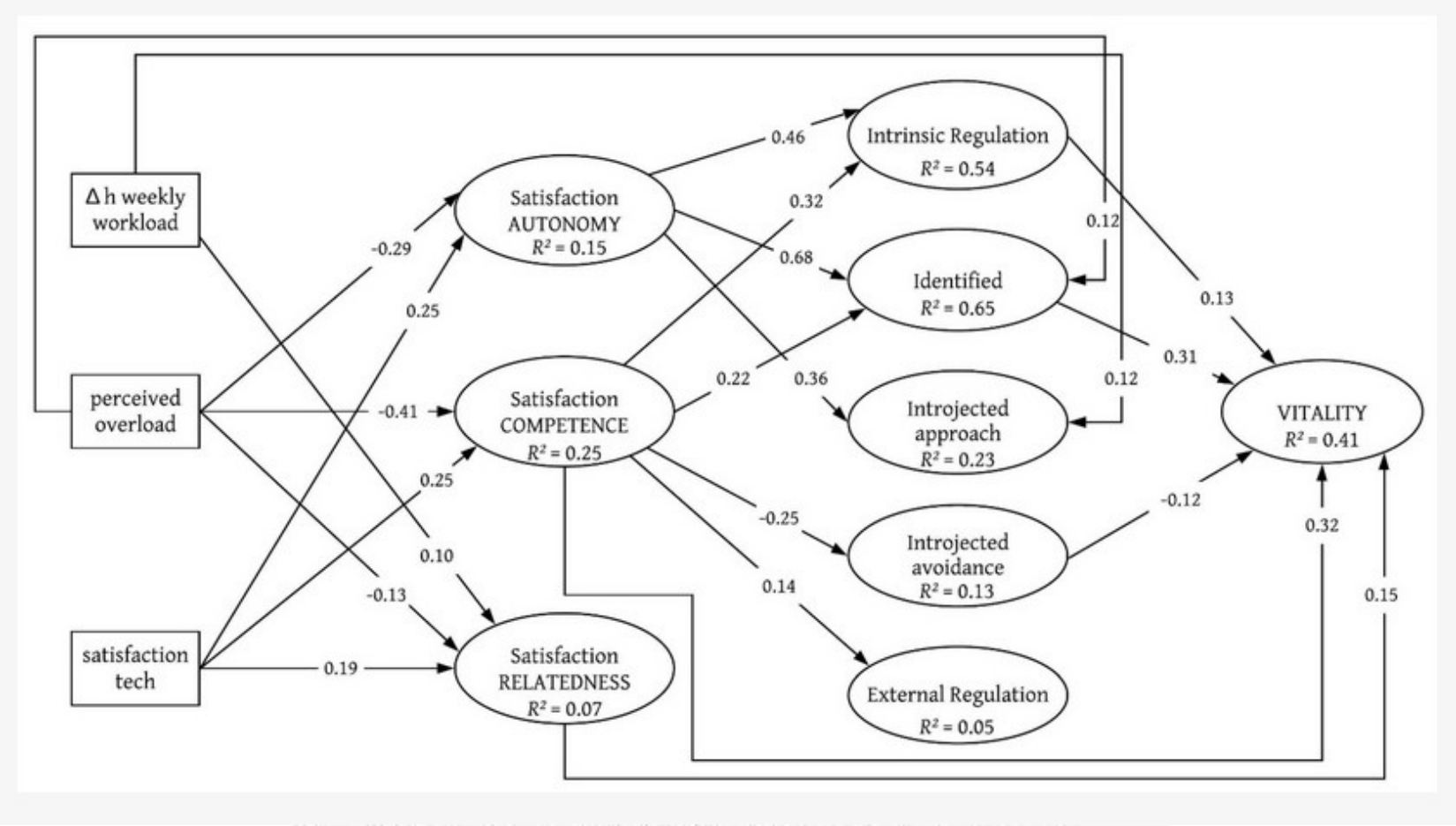


Figure 1. Structural Equation Model (SEM) indicating the standardised regression weights of the independent manifest variables, needs satisfaction and motivational regulation on subjective vitality, controlled for possible confounding effects by the variables of age, gender and study semester. All regressions and covariances were modelled, but only significant path weights ($p < 0.01$) are depicted, for visual clarity. Model fit: $\chi^2_{(642)} = 2631.31$, *TLI* = 0.93, *CFI* = 0.94, *RMSEA* = 0.04, *SRMR* = 0.05.

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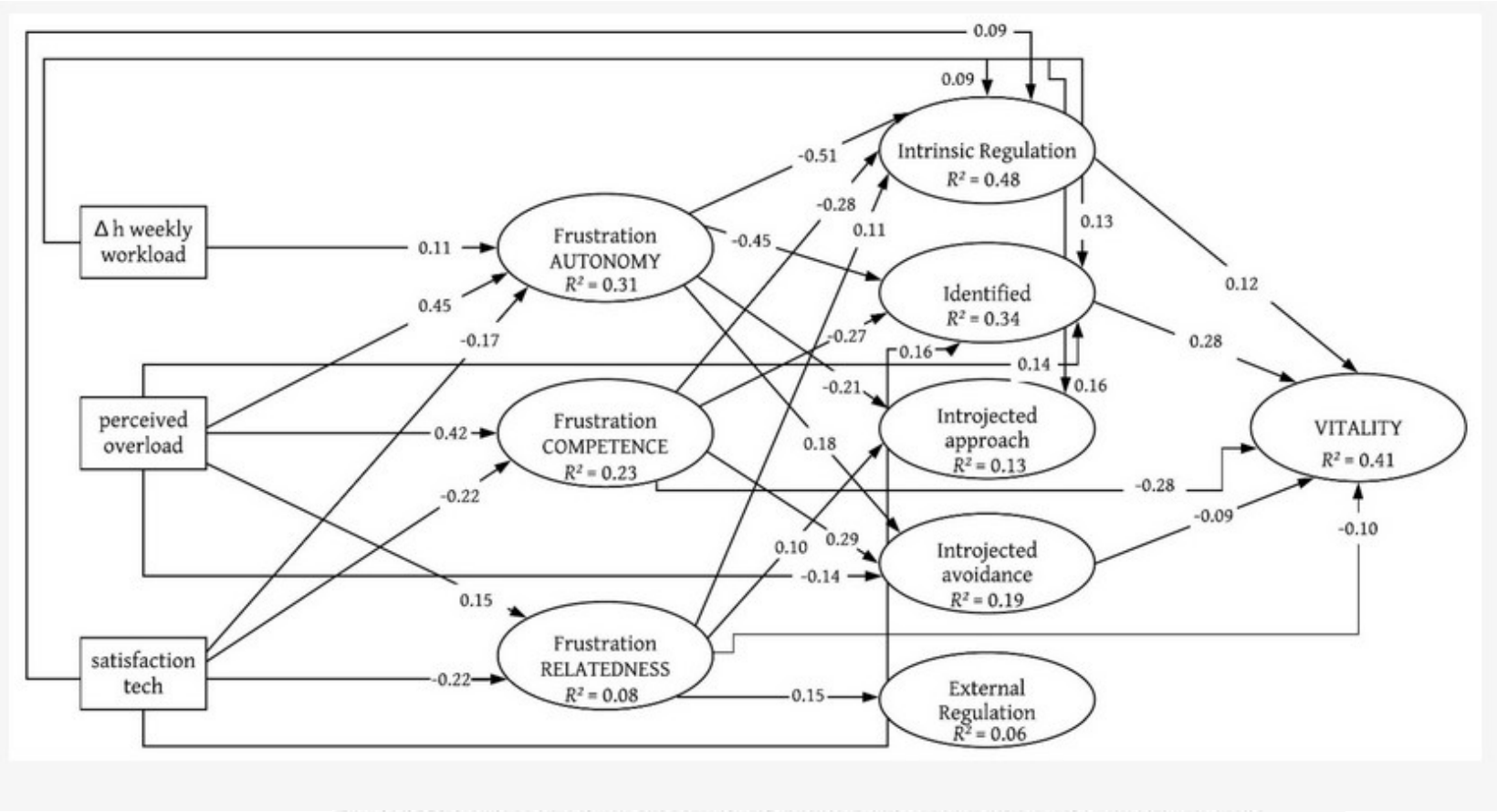

Figure 2. Structural Equation Model (SEM) indicating the standardised regression weights of the independent manifest variables, needs frustration and motivational regulation on subjective vitality, controlled for possible confounding effects by the variables of age, gender and study semester. All regressions and covariances were modelled, but only significant path weights (at least $p < 0.01$) are depicted for visual clarity. Model fit: $\chi^2_{(642)} = 2696.92$, *TLI* = 0.93, *CFI* = 0.94, *RMSEA* = 0.04, *SRMR* = 0.06.

SEM: During forced distance learning
(University students, N=1837)

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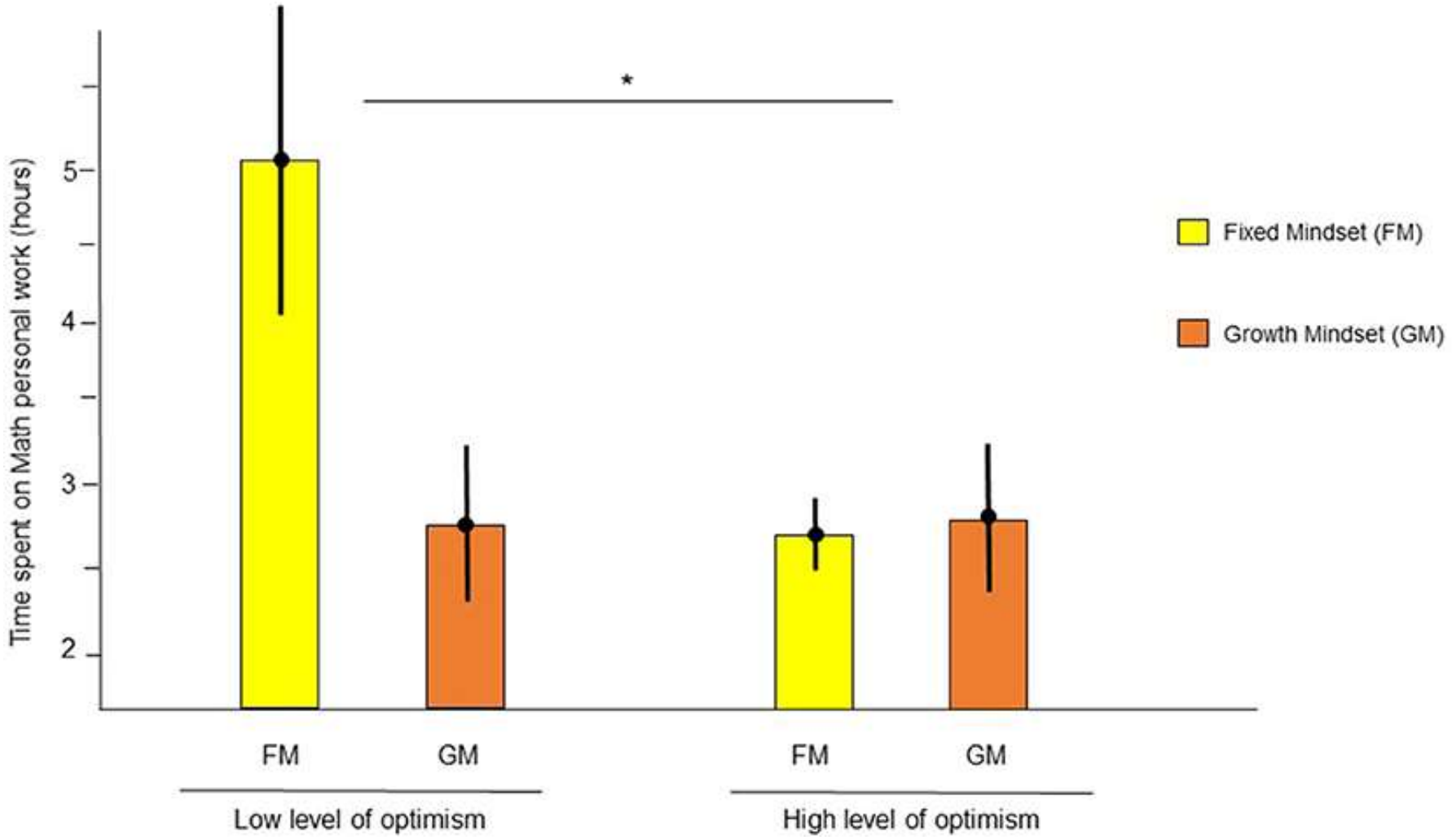

Combette et al. (2021)

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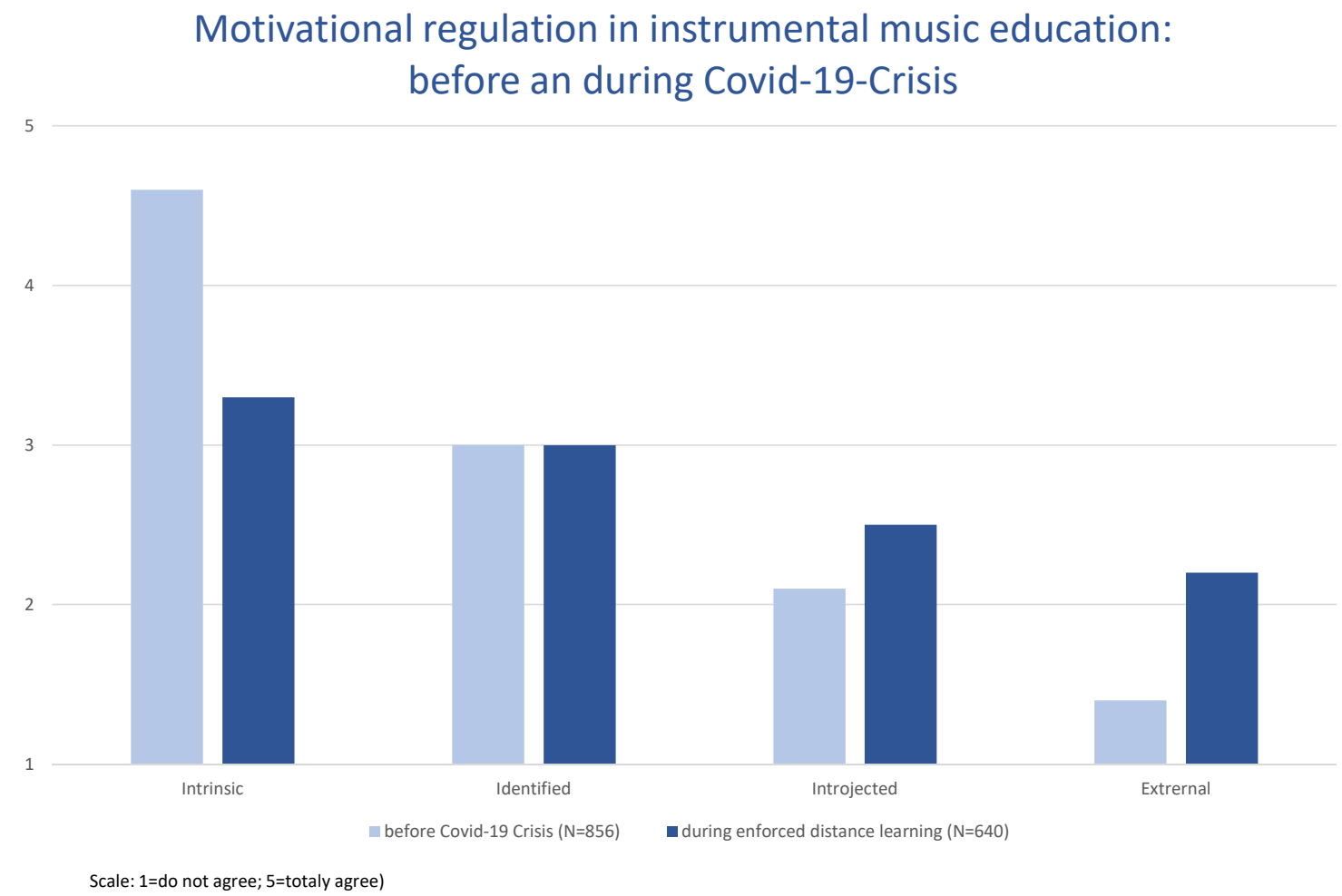
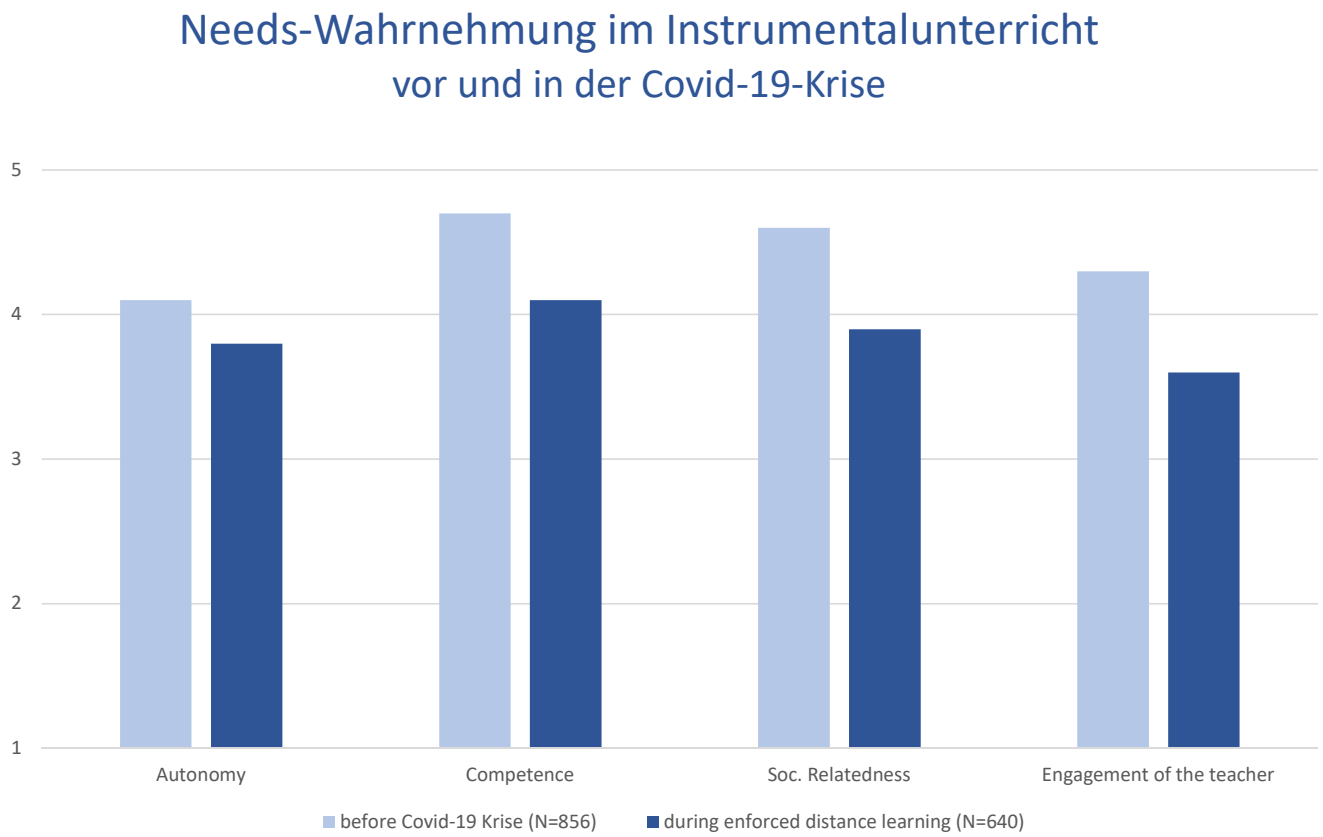


Scale: 1=do not agree; 5=totaly agree)

Wieser & Müller (submitted). Motivation in instrumental music instruction before and during the COVID-19 crisis: A self-determination theory perspective. International Journal of Music Education.



Skala: 1=trifft gar nicht zu; 5=trifft voll zu)

Implications for university teaching and learning

…….

More choice

Less is more

Support cooperative forms of learning

Ensure competence experience for students

More problem solving and transfer

More individual Feedback to improve learning

Make it clear how to learn

Change assessment procedures

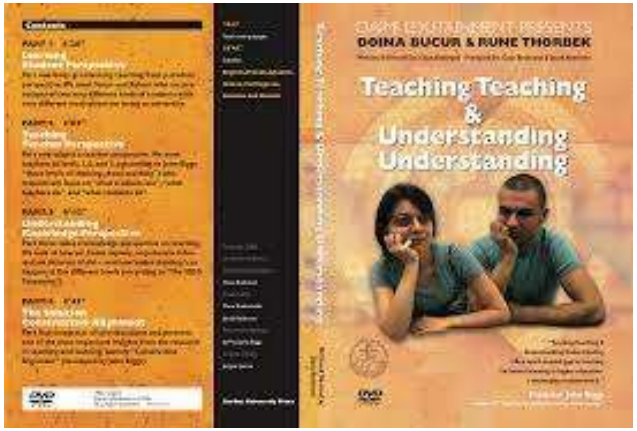
……

?

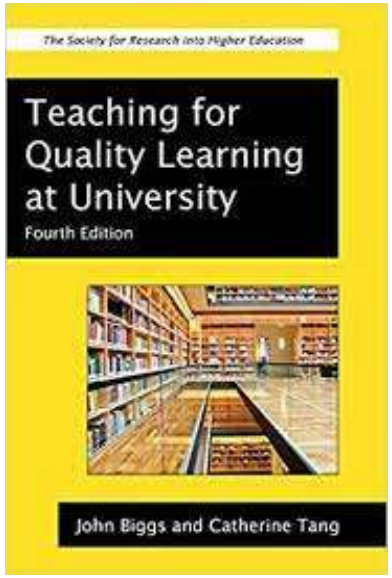
Promote self-organization.

Constructive Alignment (CA)

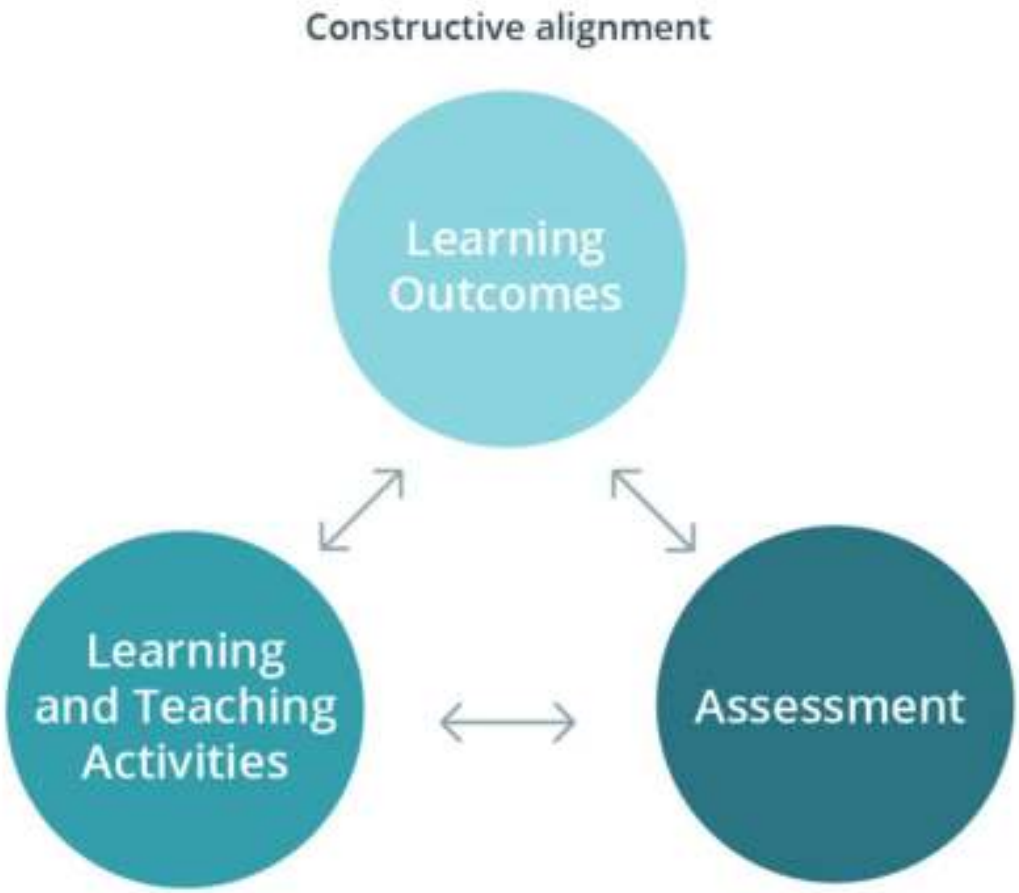
(John Biggs & Catherine Tang)



Video is on Youtube!



3 Levels of Thinking about Teaching


Constructive alignment
Learning Outcomes
Learning and Teaching Activities
Assessment

Questions and research desiderata

- Teachers‘ mindsets and the association with student’s mindsets
- Is GM a categorical variable or rather to be conceptualized as a continuum (mixed mindset?)?
- Is the concept of intelligence well chosen in the GM concept?
- Is the GM subject specific or cross-disciplinary?
- Can we change the FM of students? Should we be doing this at all?



Thank you for your attention

Questions & Discussion