



Fostering Diversity

The role of culture in the association
between learning environment and
student engagement

MDHS L&T conference

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Xue Jun Cheng
Annie Blunden
Sophie Paquet-Fifield
Said Shafa

Angelina Fong
Vanja Rozenblat
Samantha Marangell



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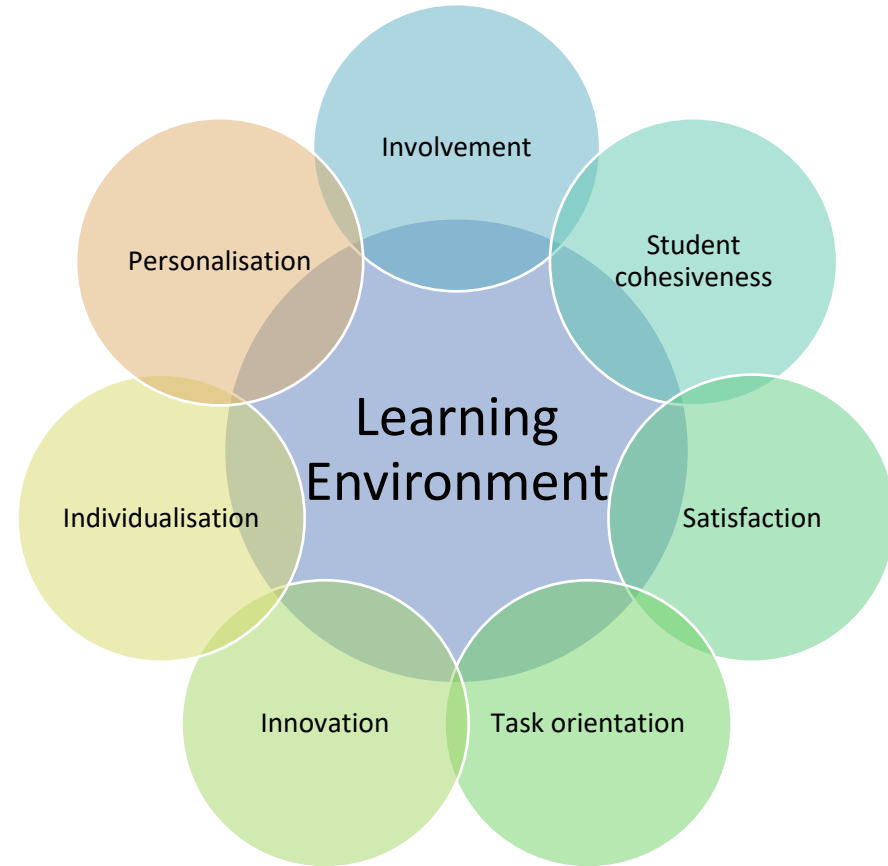
How does Learning Environment impact student engagement?

- What is the relationship between students' perceptions of their learning environment and their engagement with their learning at Universities?
- Does the relationship vary between students from different cultural backgrounds?
- Does engagement subsequently affect students' performance?



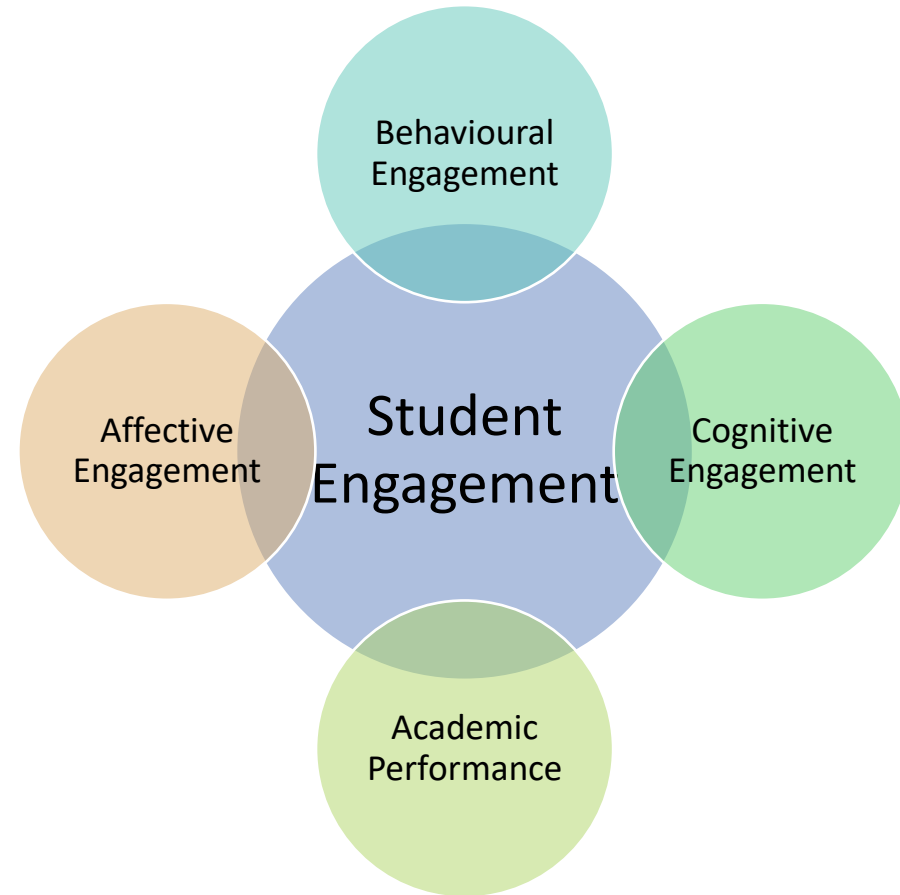
Learning environment

- Students' subjective perception of....
- Classroom Psychosocial Environment or Learning Environment (LE)
- Well-established in primary and secondary education
- Little research on how LE shapes student engagement and performance in tertiary education



Student Engagement and Performance

- Self-reported indicator of engagement with implications for many academic outcomes
 - Affective (identification, belonging and positive attitude)
 - Behavioural (classroom conduct, effort and participation)
 - Cognitive (integration, self-regulation, learning strategies and persistence)
- Academic performance
 - Final grade (LMS)





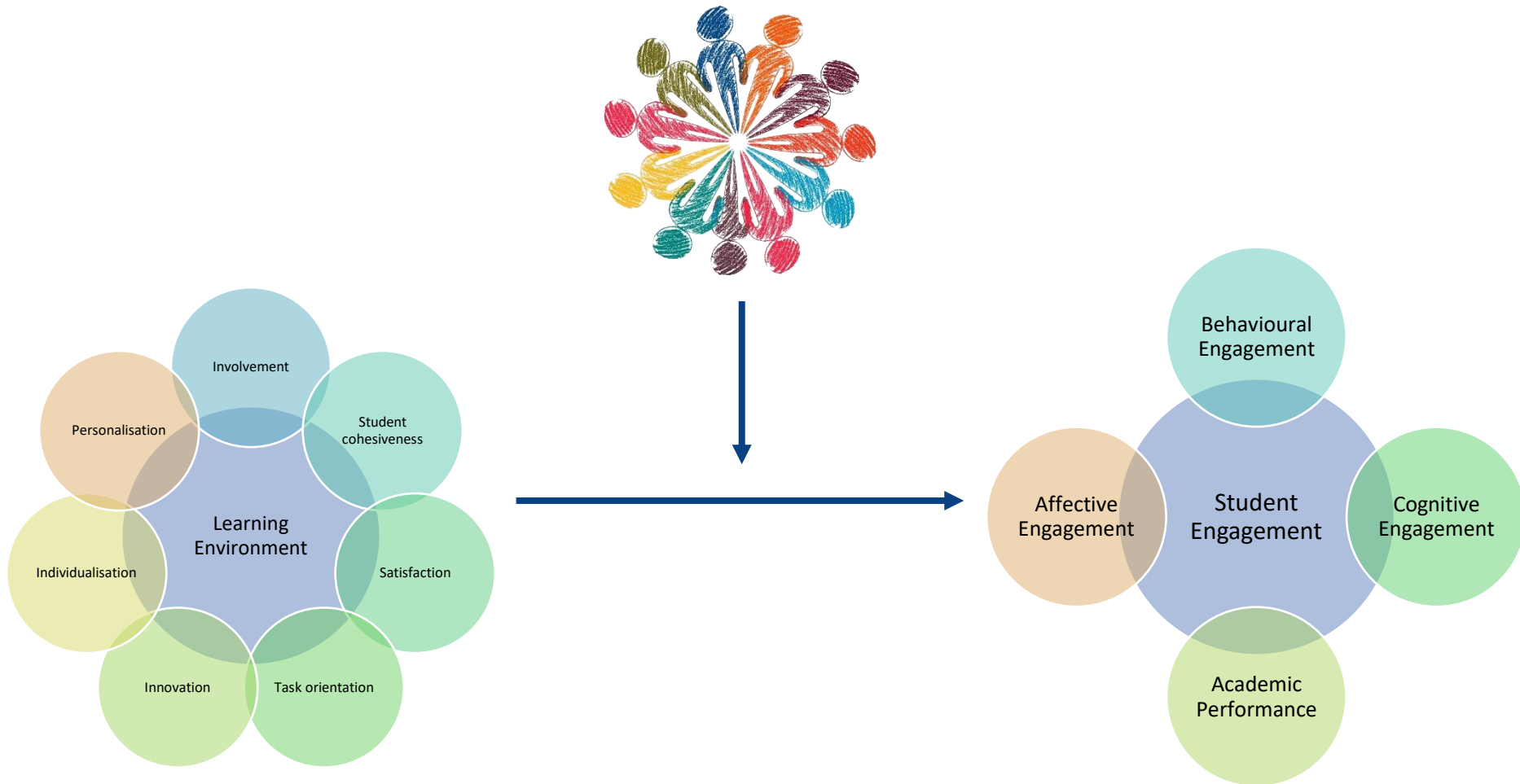
Culture



- Culture
 - National culture
 - Collective programming (Hofstede, 1991)
 - Shared meaning systems (Shweder & LeVine, 1984)
 - Adaptive and transmitted across generations (Triandis, 1994)

- Cultural Logics framework (Leung & Cohen, 2011)
 - Dignity, Face and Honour cultures
 - Relevant to education context: Online learning ameliorated **East-Asian students' (face culture)** underperformance relative to **American (dignity culture)** and **Central Asian students (honour culture)** in MBA classes (Lu et al., 2022).

Conceptual model





Student cohorts

Participants (300) were from different levels & courses within MDHS.

Undergraduate level 2

- PSYC20006 (Biological Psychology)

Undergraduate level 3

- NEUR30002 (Neurophysiology: Neurons and Circuits)
- PATH30002 (Techniques for Investigation of Disease)

Honours program

- PSYC40006 (Ethics and Evidence-Based Practice)

Graduate coursework

- PSYC90101 (Advanced Social Psychology)





Data collection and composition

Semester 1 2024

Frequencies for Subject

Subject	Frequency	%
NEUR30002	33	13.580
PATH30002	12	4.938
PSYC20006	163	67.078
PSYC40006	22	9.053
PSYC90101	13	5.350
Total	243	100.000

Frequencies for Gender

Gender	Frequency	%
Male	44	18.107
Female	194	79.835
Non-binary	2	0.823
Self ID	3	1.235
Total	243	100.000

Frequencies for Culture

Culture	Frequency	%
Dignity	111	45.679
Face	89	36.626
Honour	43	17.695
Total	243	100.000

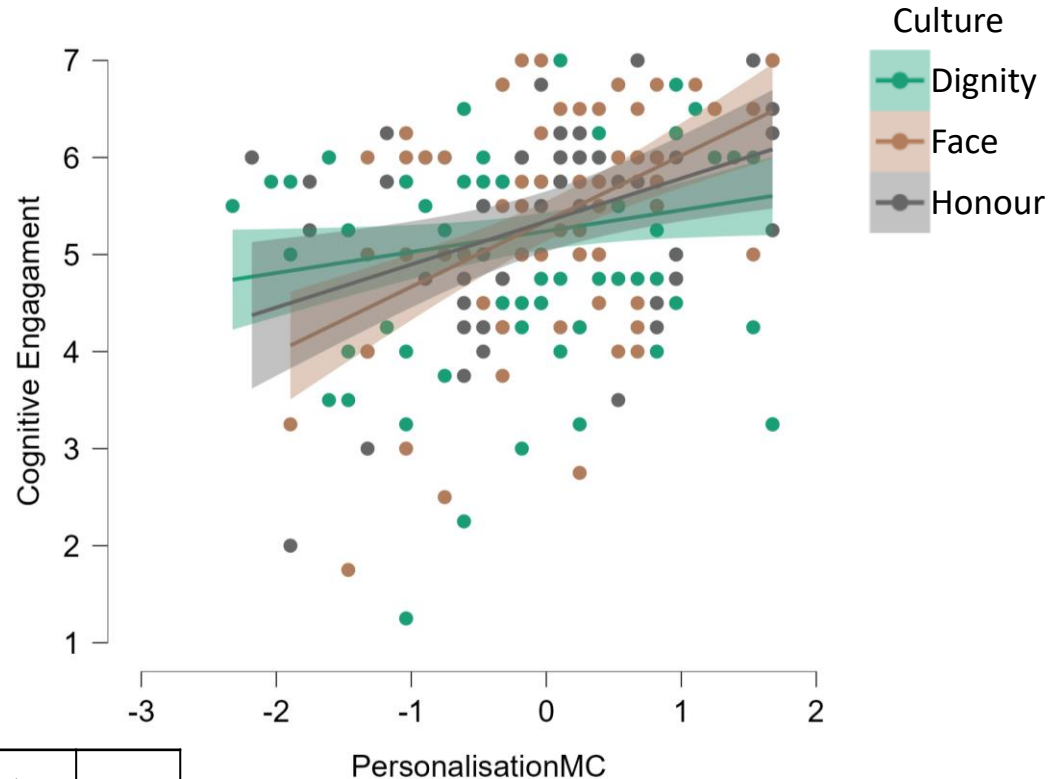


Overview results regression analyses

- Main effect of Learning environment on self-report Engagement :
 - Almost all Learning Environment measures (except Competition) significantly predicted more self-reported Student Engagement.
- Main effect of Learning environment on LMS Engagement :
 - Competition significantly predicted more LMS page views.
 - No other LE measure predicted any other LMS Engagement.
- Main effect of Learning environment on Overall grade :
 - No Learning Environment measures significantly predicted overall grade

Personalisation > Cognitive Engagement

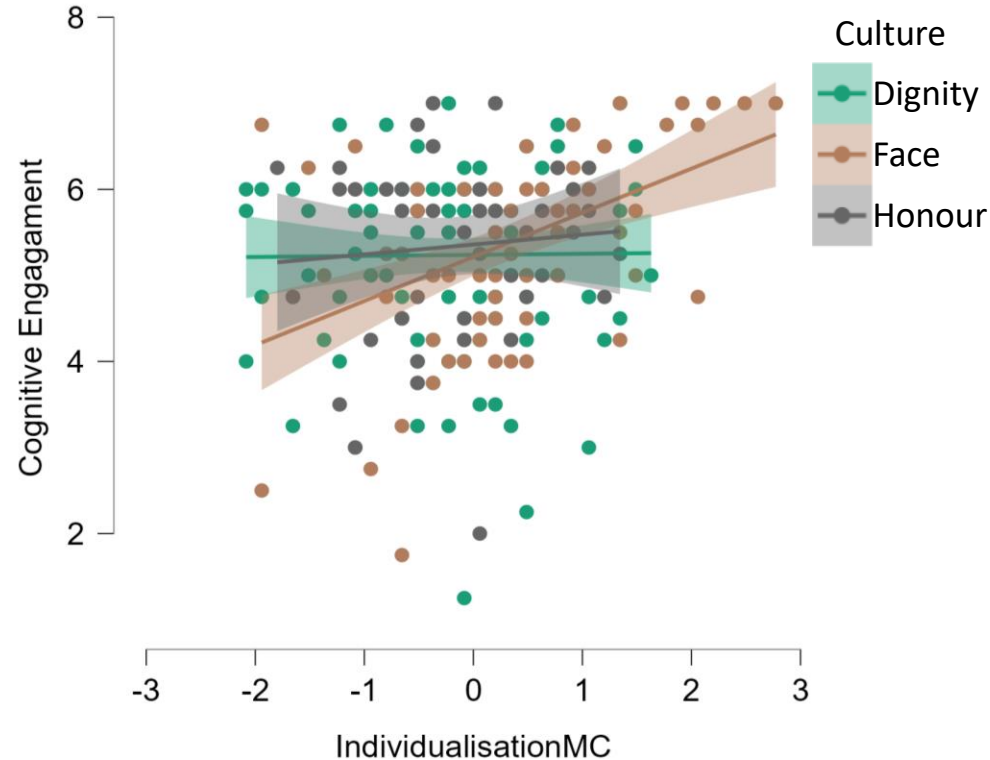
- Personalisation positively associated with cognitive engagement in all groups.
- But significantly more so among honour and face culture students



	B	SE	t	p
(Intercept)	5.242	0.095	55.077	< .001
Personalisation	0.216	0.103	2.085	.038
Dignity v Face	0.102	0.143	0.715	.475
Dignity v Honour	0.099	0.180	0.551	.582
Personalisation*Dignity v Face	0.461	0.172	2.671	.008
Personalisation*Dignity v Honour	0.228	0.186	1.222	.223

Individualisation > Cognitive Engagement

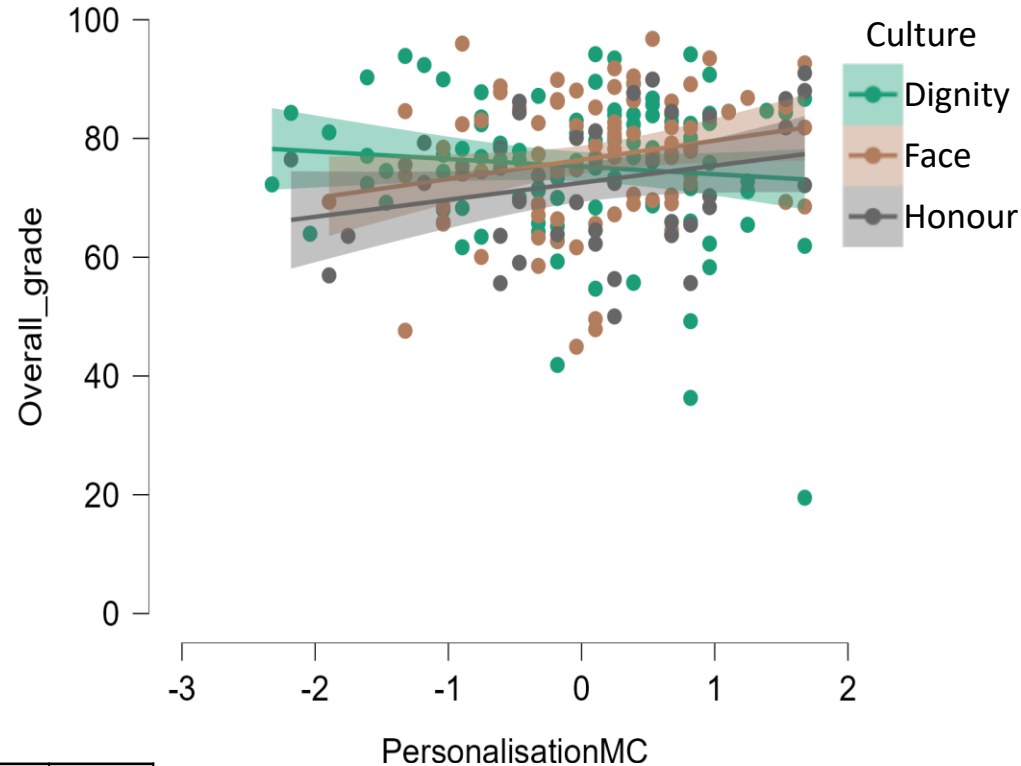
- Individualisation not associated with cognitive engagement among dignity and honour students.
- But positively associate with cognitive engagement among face culture students



	B	SE	t	p
(Intercept)	5.329	0.100	52.12	< .001
Personalisation	0.012	0.115	0.108	.914
Dignity v Face	-0.024	0.153	0.000	.878
Dignity v Honour	0.120	0.189	0.154	.527
Personalisation*Dignity v Face	0.500	0.166	3.017	.003
Personalisation*Dignity v Honour	0.102	0.234	0.437	.663

Personalisation > Grade

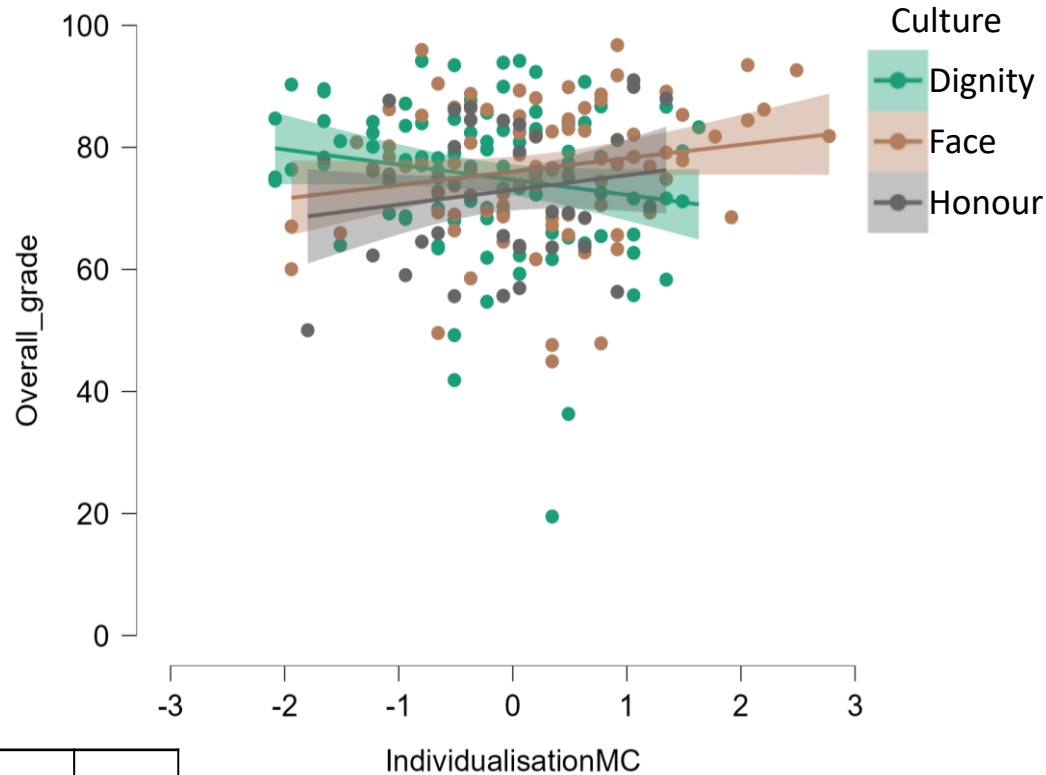
- Personalisation not associated with overall grade among dignity culture students.
- But positively associated with overall grade among (honour and) face culture students.



	B	SE	t	p
(Intercept)	75.257	1.158	64.976	< .001
Personalisation	-1.281	1.257	-1.019	.309
Dignity v Face	1.151	1.709	0.674	.501
Dignity v Honour	-2.706	2.122	-1.275	.204
Personalisation*Dignity v Face	4.514	2.106	2.143	.033
Personalisation*Dignity v Honour	4.155	2.236	1.858	.065

Individualisation > Grade

- Individualisation not associated with overall grade among dignity culture students.
- But positively associate with overall grade among (honour and)face culture students.



	B	SE	t	p
(Intercept)	74.695	1.188	62.886	<.001
Personalisation	-2.477	1.335	-1.856	.065
Dignity v Face	1.331	1.767	0.753	.452
Dignity v Honour	-1.660	2.161	-0.768	.443
Personalisation*Dignity v Face	4.685	1.887	2.482	.014
Personalisation*Dignity v Honour	4.888	2.632	1.857	.065



Preliminary conclusions + next steps

- Culturally diverse students may thrive more when they subjectively experience that the education is tailored to their “cultural” needs (not required for students from local culture)
 - Alternatively, there may be a variable we haven't captured yet
- Surprising and counter to expectations based on individualism-collectivism frameworks of culture
- This was highly exploratory and a confirmatory approach in a more controlled setting is required to substantiate initial results
 - Running a study with new cohorts focused on specific measures of learning environment and cognitive engagement



Group discussion



Which personalisation and individualisation strategies have you implemented effectively in your teaching?

Personalisation: Emphasis on opportunities for individual students to interact with the instructor and on concern for students' personal welfare.

- The instructor considers students' feelings.
- The instructor talks individually with students.
- The instructor goes out of his/her way to help students.
- The instructor helps each student who is having trouble with the work.
- The instructor seldom moves around the classroom to talk with students. (R)
- The instructor isn't interested in students' problems. (R)
- The instructor is unfriendly and inconsiderate towards students. (R)

Individualisation: Extent to which students are allowed to make decisions and are treated differentially according to ability, interest or rate of working.

- All students in the class are expected to do the same work, in the same way and at the same time. (R)
- Students are generally allowed to work at their own pace.
- Students have a say in how class time is spent.
- Students are allowed to choose activities and how they will work.
- Teaching approaches allow students to proceed at their own pace.
- There is little opportunity for a student to pursue his/her particular interest in this class. (R)
- It is the instructor who decides what will be done in our class. (R)

Which personalisation and individualisation strategies have you implemented effectively in your teaching?

Nobody has responded yet.

Hang tight! Responses are coming in.



Group discussion



What challenges or limitations have you experienced implementing personalisation and individualisation strategies in your teaching?

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What possible solutions can you think of to address these challenges to personalisation and individualisation in teaching?

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Thank you!

(also looking out for an RA!)



Constructs at item level

Personalisation

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Cognitive Engagement

Cognitive Engagement

- When I study for this class, I try to connect what I am learning with my own experiences.
- I try to make all the different ideas fit together and make sense when I study for this class.
- When doing work for this class, I try to relate what I am learning to what I already know.
- I make up my own examples to help me understand the important concept I study for this class.



Cultural logics

	Dignity culture	Face culture	Honour culture
What is it	Inherent worth each possesses, which is equal to that of every other person	Sense of worth derived socially , from one's position in hierarchy and fulfillment of social duties	Worth of a person in his own eyes, but also in the eyes of his community , based on one's claim and right to pride
Who has it	Everyone , inalienable (stable), individual	Everyone , unless they lose it (relatively stable), shared with community	Some , can be gained, lost or taken away (unstable), shared with close knit group
Values	Autonomy, independence, egalitarianism, individualism	Conformity, interdependence, loyalty, collectivism	Reputation of strength and social integrity, respect, vigilant defence of honour
Untrustworthy people are	Without a sturdiness coming from a strong internal sense of dignity .	Without a concern for face , opinions of others	Without a concern for honour , opinions of others
Geography	North America, West and North Europe, Australia, New-Zealand	East and South-East Asia	Middle-East, Central Asia, Latin America, Mediterranean



Analytical strategy

- Scale and measurement construction
 - Compute composite scales for all LE and SE subscales
 - Mean-centre LE composite scores
 - Dummy code culture: DFHN2= Dignity vs Face, DFHN3=Dignity vs Honour
 - Calculate interaction terms: Interaction 1= $LE * DFHN2$, Interaction2= $LE * DFHN3$
- Regression analyses for each individual LE measure on individual SE (self-report and LMS) and Overall grade
 - Main effect of LE
 - Two main effects of culture
 - Two interaction terms for culture and LE



Overview results regression analyses

- Culture ---> Outcome measures
 - Culture as a main effect predicted page views consistently (higher in Face than in Dignity) and emotional engagement more variably (higher in Face and Honour than in Dignity).
 - Culture (Dignity vs Face) only moderated the relationship between Personalisation, Individualisation, Cooperation and Cognitive Engagement/Grade
- SE ---> Overall grade
 - Only cognitive engagement positively correlated with overall grade (small positive correlation)



Important caveats

- Highly exploratory
- Data do not yet support moderated mediation (IMM non-significant for both LE measures)
- LE Measures generic, perhaps imprecise and not assessed for measurement invariance
- Relatively small Honour culture group
- Different classes and cohorts
- More confirmatory approach in a more controlled setting required to substantiate initial results.