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TACT: Teaching sensitive And Controversial Topics

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What are sensitive and/or controversial topics?

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Sensitive and controversial issues (SCIs)

- SCIs in education
  - Natural sciences (NS)
  - Social sciences and humanities (SSH)
- Diversity
- Activism
- Social justice
- → **Classroom tension (CT)**

(Campbell, 2007, Geldof, 2018)

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Pedagogic frailty (PF)

- Propensity in teaching environment of applying protective teaching strategies when experiencing classroom tension (CT) (Kinchin et al., 2015)
  - Avoidance
  - Not relating to students' experiences
  - Taking more time
  - …

→ Teachers do not meet teaching goals

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Relevance

- Increase in research about teaching SCIs
  - Focus on teaching strategies and approaches
  - Focus on advantages, e.g., critical thinking skills
  - Confined to domain/discipline

→ Does topic itself cause tension?
→ Contextual influences?

Goal
Provide a tentative cohesive framework to facilitate future research and practice

Number of articles per year
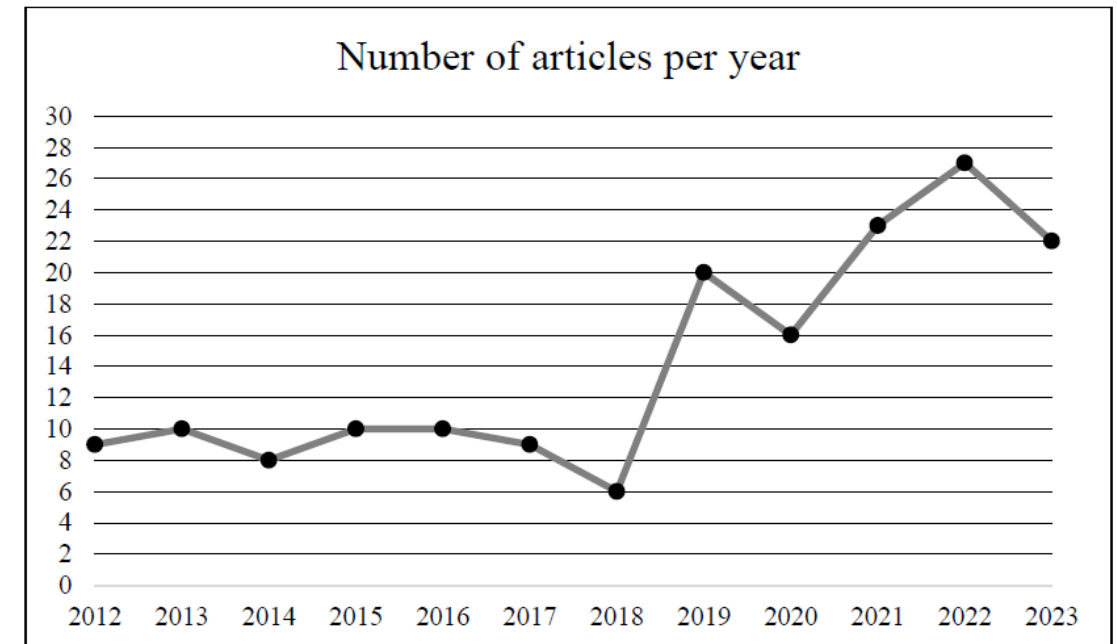
What causes these topics to be sensitive and/or controversial?

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Research questions

- What is the role of system dynamics, identity aspects, and topic when teaching SCIs?
    - How are they positioned in the ecological systems?
    - What is the role of identity in teaching SCIs?
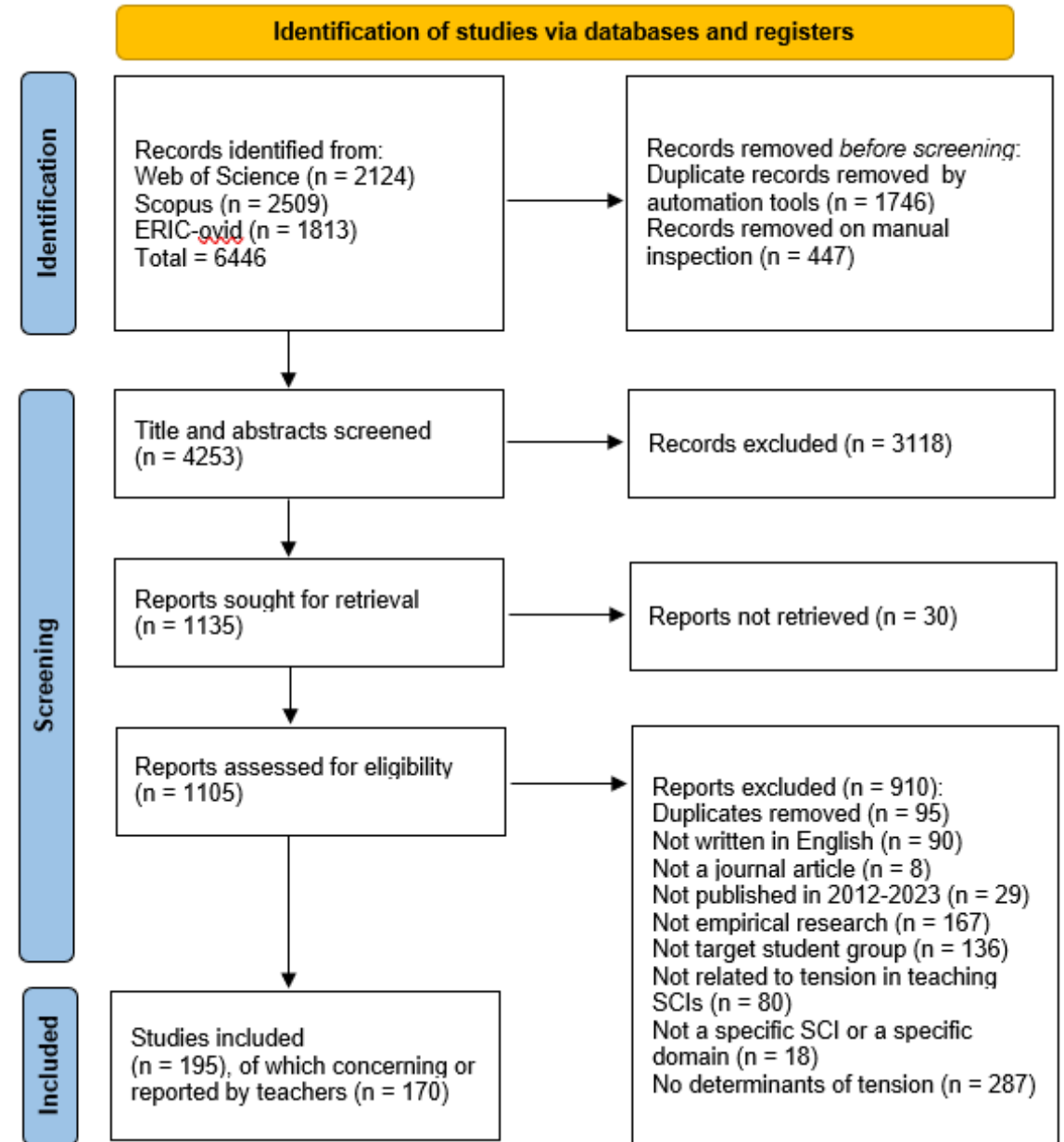   - What is the role of the topic in teaching SCIs?
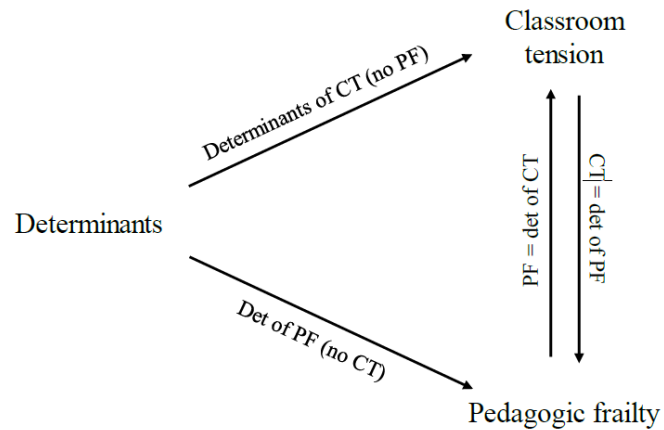
→ Domain-specific

    → What are the differences between NS and SSH?

→ Domain-general

    → What are the commonalities between NS and SSH?

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Method

- Systematic literature review
  - PRISMA guidelines
  - Literature 2012-2023
  - Mentioning determinants of CT
  - n = 170 articles

- Determinant of …?

Three theoretical frameworks

1. Biglan (1973) → classification of topics

- Hard – soft
  - = Teacher approach
    - E.g., facts only versus discussion

- Life – non-life
  - Concerning living or non-living systems

- Applied – pure
  - Subjects mostly pure
  - Topics mostly applied

TABLE 2. Classification of Disciplines

| | Hard | | Soft | |
	Life	Nonlife	Life	Nonlife
Pure	Anatomy Zoology Biology Physiology Biochemistry Virology	Mathematics Statistics Geology Chemistry Physics	Psychology Anthropology Political Science Sociology Theology	English Languages Literature History Philosophy
Applied	Agriculture Forestry	Engineering Chem Eng. Civil Eng. Elec. Eng. Mech. Eng.	Ed. Admin. Ed. Psych. Ed. Found.	Economics

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Three theoretical frameworks

2. The ecological system theory (Bronfenbrenner, 1979)

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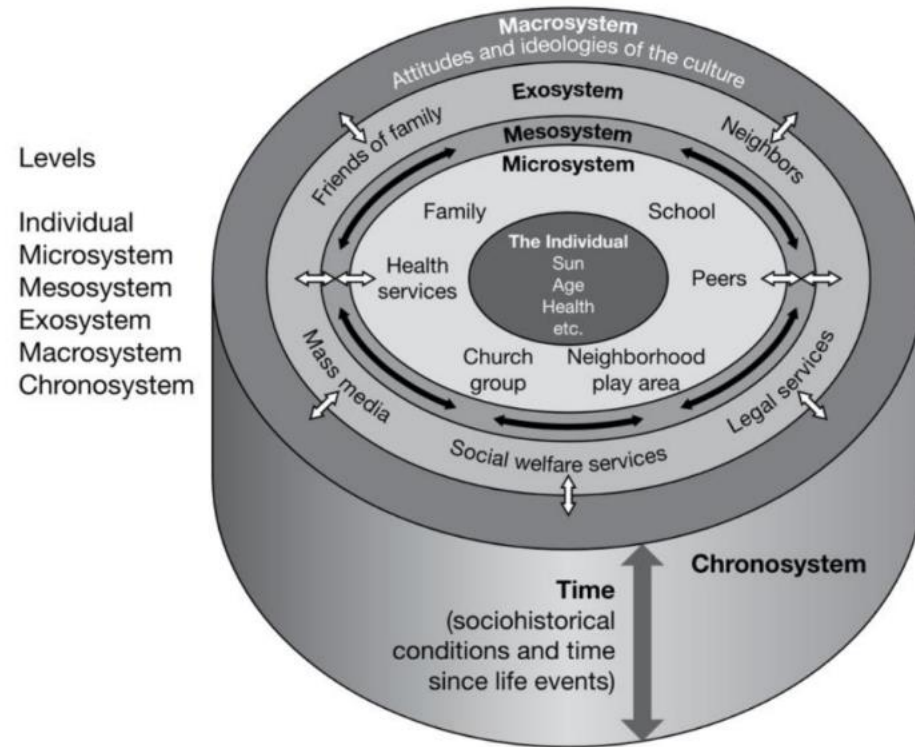
Three theoretical frameworks

3. The identity theory (Schwartz et al., 2011)

- Cultural identity
- Ethnic identity
- Gender identity
- National identity
- Political identity
- Occupational identity
- Spiritual identity

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Results – DS determinants in NS

System (%)	Determinant	Elaboration
Individual (69%)	Class composition	Teachers' personal beliefs on class composition, e.g., teacher feeling overwhelmed by large classroom size (e.g., Ado, 2015)
	Implementation of issues	When teachers cannot find appropriate SCIs (e.g., Tannebaum, 2020)
	Rating	When teachers find it difficult to rate a discussion on SCIs (e.g., Lee, 2022)
	Resources	When finding resources depend on teachers themselves, e.g., research skills, filtering good resources, developing resources (e.g., Stouthart et al., 2023)
	Solving SCIs	When teachers themselves do not have a clear answer to the SCI (e.g., Ozbugutu, 2022)
	Students' CK	When teacher does not know the level of students' CK, and this brings along tension (e.g., Bossér et al., 2015)
	Teacher training	The teachers do not feel like they have enough knowledge/experience/training to be able to give a certain sensitive or controversial topic, they do not feel ready to teach the topic, afraid of responsibility, being up-to-date, afraid of teaching the material poorly (e.g., Subiantoro et al., 2021)
Microsystem (60%)	Age students	Whether topic is appropriate for the age group or whether students are mature enough to discuss e.g., the nature of science (e.g., Öztürk, & Erabdan, 2019)
	Class composition	E.g., diversity of students (e.g., Hand & Levinson, 2012)
	Implementation of issues	When implementation of issues would engage students less (e.g., Eikeland & Frøyland, 2020)
	Resources	When students misinterpret resources (e.g., Ramnarain & Moleki, 2017)
	Solving SCIs	Students experience tension because of wanting to solve SCIs, e.g. feeling helpless/overwhelmed (e.g., Dawson, 2023)
	Students' argumentation	Students lack the capacity to argue/express or form their opinion in classroom discussions (e.g., Pitiporntapin et al., 2015)
	Students' CK	Whether the students have sufficient content knowledge about a certain sensitive or controversial topic or have difficulties understanding the SCI (e.g., Ekborg et al., 2012)
	Teacher training	When teachers do not have the skills to engage students (e.g., Faisal & Martin, 2022)
	Time constraint	When during the lesson, there is not enough time to go into a certain topic. (e.g., Pitiporntapin et al., 2015)
Exosystem (31%)	**Class composition**	E.g., number of students, ratio male-female students, etc. (e.g., Chowdhury et al., 2022)
	Resources	Not enough/no reliable resources to implement SCIs in school. (e.g., Ozbugutu, 2022)
	Solving SCIs	When personal experiences of students influence their decision on the solving of SCIs (e.g., Rose & Barton, 2012)
Macrosystem (52%)	**Implementation of issues**	When aligning SCIs with the curriculum is difficult (e.g., Lee, 2022)
	Resources	Not enough/no reliable general resources to implement SCIs (e.g., Siani & Yarden, 2021)
	Solving SCIs	When culture of students influences their decision on how to solve SCIs (e.g., Rose & Barton, 2012)
	Teacher training	Deficiencies in teacher education, when teachers find it difficult to link SCIs to the curriculum (due to CK) (e.g., Ozbugutu, 2022)
	Time constraint	When curriculum allocates too little time for a specific issue (e.g., Eidin & Shwartz, 2023)
Chronosystem (2%)	Teacher training	When teacher must update their knowledge to current SCIs, e.g., COVID-19 (e.g., Huang & He, 2023)

Results – DS determinants in NS

- Determinants positioned across systems, with overlap between systems
  - E.g., class composition

- Purely DS determinants in NS
  - Class composition
  - Implementation of SCIs
  - Rating
  - Solving SCIs
  - Students' argumentation

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Results – DS determinants in SSH

System (%)	Determinant	Elaboration
Individual (16%)	Emotions	Teachers prefer to remain in emotional comfort zone. Some topics can trigger emotions and emotional reactions (e.g., Garrett et al., 2020).
	Ethnic identity	The teacher's ethnic identity or background (e.g., Delale-O'Connor & Graham, 2018).
Microsystem (84%)	Classroom atmosphere	The atmosphere within the classroom. Whether there is a safe space to talk about SCIs, whether students feel supported in class discussions. A safe atmosphere makes teaching SCIs less risky (e.g., Tannebaum, 2020).
	Emotions	Teachers fear hurting students' feelings or inducing emotions or stress (e.g., Cassar et al., 2023).
	Ethnic identity	Students' ethnic identity or background (e.g., Woolley, 2017).
	Students' reactions	Students can react emotionally or aggressively (e.g., Geller, 2020).
Mesosystem (3%)	Touching personal experiences	The topic speaks to a certain experience of the teacher (e.g., Kaarlõp et al., 2022).
Exosystem (28%)	Touching personal experiences	The topic speaks to a certain experience of the student (e.g., Tribukait, 2021).
	Ethnic identity	Parents' ethnic identity or background (e.g., Delale-O'Connor & Graham, 2018)

Results – DS determinants in SSH

- Purely DS determinants in SSH = 0

- Emotions

- Identity

- Determinants in the macrosystem = 0
    - Indication of a more personal component
        - → Identity

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Results – SCIs in NS

	Soft	Hard
Life	Abortion, discrimination (e.g., racism), diseases (e.g., covid-19, HIV-AIDS, mad cow disease), environment (e.g., bacterial resistance, climate change), evolution, fertility, genetics (e.g., stem cells), sex and nudity (e.g., pregnancy), surgeries (e.g., organ donation or transplantation)	Diseases (e.g., HIV-AIDS, mad cow disease), environment (e.g., climate change, sustainability), evolution, genetics (e.g., gene technology, stem cells), LGBTQ communities, sex and nudity (e.g., pregnancy), syndromes
Non-life	Environment (e.g., climate change), fire retardants, fracking, hazards of humidifier sterilizer, nuclear energy, space research	Big Bang, environment (e.g., climate change), fire retardants, fracking, nuclear energy, radiation

Results – SCIs in SSH

	Soft	Hard
Life	Abortion, capitalism, discrimination (e.g., racism), environment, gun violence, history (e.g., Israel vs Palestine, socialism, terrorism (e.g., Paris attacks), war), identity, law (e.g., gun rights), LGBTQ communities, mental health, migration, monument removal, oppression, politics, race, religion, sex and nudity (e.g., polygamy, sexual abuse)	/
Non-life	History (e.g., 1965 affair, Estonian history, Israel vs Palestine, slavery, socialism, terrorism, war (e.g., WWII)), migration, patriotism	/

NS versus SSH

Determinants

- NS: single paradigm versus SSH: multiperspectivism

- Class composition versus classroom atmosphere
  - SSH: attach more importance to classroom being a safe space
  - NS: confined to more superficial characteristics of the classroom
- Hardly any determinants in mesosystem
- **!!** Teacher training

Topics
- Overlap between NS and SSH: interdisciplinarity
- NS: hard and soft
- SSH: soft

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Results – DG determinants

System (%)	Determinant	Elaboration
Individual (18%)	Spiritual identity	Teacher's religious beliefs and values (e.g., Stahi-Hitin & Yarden, 2022).
	Teacher neutrality	The teacher finds it difficult to disclose their own beliefs or values, nor do they want to indoctrinate the students (e.g., Reyes et al., 2021).
	Teaching method	Teacher approaches SCI according to their own authenticity and personality, e.g., inducing emotions (e.g., Boyd et al., 2023)
Microsystem (53%)	Class management	Teacher loses control over the classroom. The teacher is not able to handle the situation. There is chaos and the discussion goes in all directions (e.g., Flensner, 2020.
	Different perspectives	Teacher and students have different perspectives on certain SCI (e.g., Hammer, 2023).
	Spiritual identity	Students' religious beliefs and values (e.g., Savenije & Goldberg, 2019).
	Teacher neutrality	Tension in the classroom arises because teacher does not disclose their own beliefs or values (e.g., Halabi, 2022).
	Teaching method	Teacher adapts the teaching style based on certain student, class atmosphere, or composition (e.g., Zembylas & Loukaides, 2021).
Mesosystem (33%)	School environment	The culture within the school (e.g., Lin et al., 2015).
	Spiritual identity	The religious beliefs, values, and identity of the school (culture) (e.g., Siani & Yarden, 2020).
	Stakeholders' reactions	Reactions from parents and administrators. For example, parents disapprove of teachers teaching or discussing certain SCI and complain to the teacher directly (e.g., Pace, 2021).
	Teaching method	Teachers adapts teaching style to the school culture. The school culture can support more teacher-centred or student-centred teaching, or the teaching of SCIs in general (e.g., Shepler & Williams, 2017).
Exosystem (24%)	Family influences	Political allegiance of parents, parents' occupation, dominant values or beliefs within the family (e.g., Chowdhury & Siddique, 2017).
	School environment	The culture and environment outside and surrounding the school (e.g., Reilly & Niens, 2014).
	Spiritual identity	Parents' religious beliefs and values (e.g., Hanley et al., 2014).
	Stakeholders' reactions	Fear of reactions from parents or administrators. For example, teachers fear that parents disapprove of them teaching or discussing certain SCI. Or parents disapprove of teacher teaching or discussing SCI and they are notified indirectly through principal or students (e.g., Walker & Langan, 2016).
	Teaching method	Teachers adapt their teaching approach to, e.g., job of students' parents (Gibbs, 2022).
Macrosystem (59%)	Curricular expectations	The way in which the teacher follows, fits, or interprets the curriculum or exams (e.g., Hayosh & Paul-Binyamin, 2023).
	Religion	Teacher's or students' religious beliefs cause conflict with SCI, (e.g., Quartermaine, 2017).
	Teaching method	Teacher adapts teaching style to textbook or curriculum expectations, (e.g., Siegel-Stechler & Callahan, 2022).
	Topic	The topic itself is sensitive and controversial, and, therefore, leads to CT and/or PF (e.g., Hansson et al., 2023).
Chronosystem (2%)	Religion	The evolution of the extent to which people find religion important (Tribukait, 2021).
	Topic	SCIs are dynamic and change over time. They evolve with societal changes that are sensitive or controversial (Nation & Feldman, 2021).

Results – DG determinants

- Teaching method
  - At play in all systems based on:
    - The teacher's emotions
    - The classroom atmosphere
    - The school culture
    - The curriculum

  - Related to occurrences of PF
    - Adapting teaching method to student/class composition
    - Taking more time for a certain SCI

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Results – DG determinants

- Mesosystem
  - School culture
  - Direct parents' reactions
→ School's responsibility to provide safe teaching environment
→ Need for parental inclusion and involvement

- Barely any determinants positioned in chronosystem
  - SCIs evolve with societal changes and fluctuations in time
  - Societal changes associated with changes in student traits, increased activism, social media, increased critical thinking, increased attention for SCIs.
    → Chronosystem = inherent to SCIs?

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Results - SCIs

	Soft	Hard
Life	**Abortion**, **animal rights**, capitalism, coffee industry, discrimination (e.g., racism), diseases (e.g., **HIV-AIDS**), **environment** (e.g., **bacterial resistance**, **climate change**), euthanasia, **evolution**, fertility, **genetics** (e.g., cloning, stem cells), history (e.g., Catholic vs Protestantism, Cyprus vs Turkey (e.g., peace education program), **Israel vs Palestine**, Socialism, **terrorism** (e.g., Paris attacks), war), law (e.g., causes of crime, gun rights), **LGBTQ communities** (e.g., **homophobia**), mental health, migration, monument removal, politics, poverty, **race**, **religion** (e.g., Islam), **sex and nudity** (e.g., **pregnancy**, sexual abuse), stereotypes, surgeries (e.g., artificial retinal transplant, organ donation or transplantation), Umbrella movement	Discrimination (e.g., racism), diseases (e.g., **HIV-AIDS**), **environment** (e.g., **climate change**, sustainability), **evolution**, **genetics** (e.g., GMOs), **sex and nudity** (e.g., **pregnancy**), syndromes
Non-life	Conspiracy theories, earthquakes, **environment** (e.g., **climate change**), fracking, history (e.g., 1965 affair, colonialism, early ancient history, Estonian history, **Israel vs Palestine**, Middle Ages, slavery, **terrorism** (e.g., Paris attacks), war (e.g., civil war, nuclear weapons, Vietnam war, **WWII**)), migration, patriotism, **politics**, violence	Age of the world, big bang, **environment** (e.g., **climate change**), fracking, history (e.g., Estonian history)

Discussion

- Many DG determinants of CT and/or PF
  - shared story for teachers
  - Implications for teacher training: create common language
- Mental health views
  - COVID-19
  - Increased importance discussing SCIs
- Topic = DG determinant of CT and/or PF
  - "Hot" topics (e.g., gender equality)
  - Mostly soft
  - NS: soft and hard depending on intention
  - SSH: only soft

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Take home messages

- The sensitive and/or controversial nature of SCIs can stem from context and/or topic.

- Identity = determinant of CT and/or PF

- Pedagogic frailty = a potential determinant of CT.

- Future research can focus on the role of emotions in the teaching and learning process of SCIs.

- Not only teachers but the school, environment, and policy are responsible for a safe teaching environment in which discussing SCIs is supported.

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Thank you for your attention!

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Extra slides

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Cut-off determinants

Term	Formula	Explanation
Domain-general	SSH ≥ 5% and NS ≥ 5% and (NS < 2·SS or SSH < 2·NS)	When a determinant is present in at least five percent of the articles in both domains, the difference is smaller than twice the smallest.
Mainly domain-specific for Natural Sciences	NS ≥ 10% and NS ≥ 2·SSH	When a determinant is present in at least ten percent in the natural sciences and at least in twice as many articles (relatively) compared to the social sciences and humanities.
Mainly domain-specific for Social Sciences and Humanities	SSH ≥ 10% and SSH ≥ 2·NS	When a determinant is present in at least ten percent in the social sciences and humanities and at least in twice as many articles (relatively) compared to the natural sciences.
Purely domain-specific for Natural Sciences	NS ≥ 5% and SSH = 0	When a determinant is absent in the social sciences and humanities, and present in at least five percent of articles in the natural sciences.
Purely domain-specific for Social Sciences and Humanities	SSH ≥ 5% and NS = 0	When a determinant is absent in the natural sciences and present in at least five percent of articles in the social sciences and humanities.
Not considered	All values that do not follow the formulas above	Any other scenario is not considered.

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