Initial evaluation of the implementation of the KiVa anti-bullying program in the Czech Republic

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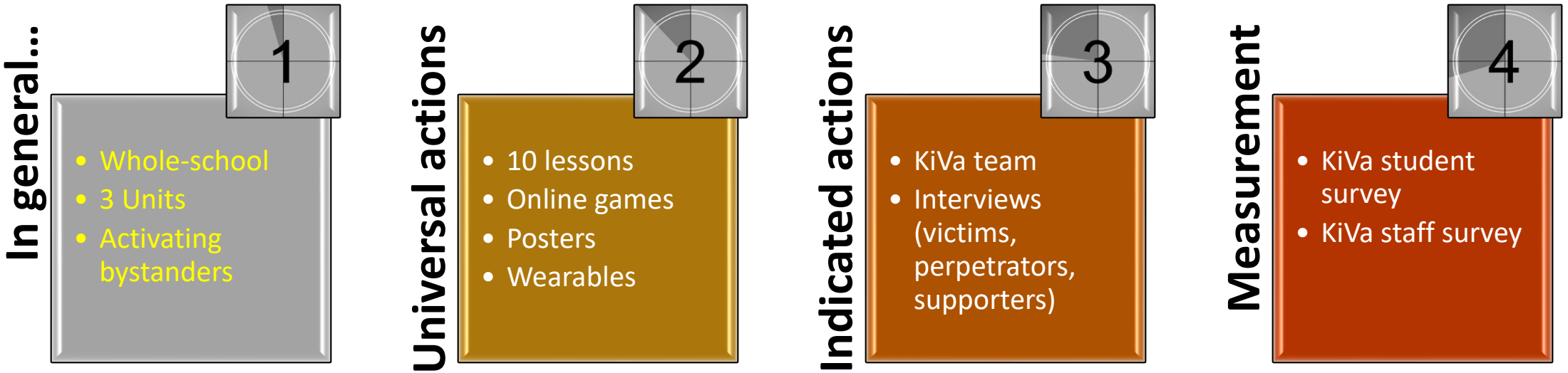
School bullying prevention

Bullying	• Group phenomenon • Repetition, intention, power imbalance
Consequences	• depression, social isolation (Barchia & Bussey, 2010) • worsened academic performance (Espelage et al., 2013) • other negative outcomes (cf. review from Hawker & Boulton, 2000)
Evidence-based (EB) programs in the world (Gaffney et al., 2021)	• Olweus Bullying Preventive Program (bullying & victimization, $p<.01$, largest mean ES) • KiVa (bullying & victimization, $p<.01$) • Positive Behavioral Interventions and Supports (bullying & victimization, $p<.01$)
Czech Republic	• PBIS (US program, only process evaluation in 3 schools in CZ, 2022-) • Dobronauti (original CZ program, RCT, 2021-2022) – 4. grades only (Cígler et al., 2022) • KiVa (Finnish program, RCT, 2021-)

Kiusaamista Vastaan (KiVa) anti-bullying



KiVa effectiveness (victimization)

previous research

RCT (+)

- Finland: Kärnä et al., 2011b (78 schools; *d* = from .21 to .31 dep. on outcome, *p* < .01)
- Netherlands: Huitsing et al., 2020 (98 schools; *d* = from .14 to .28 dep. on outcome, *p* close to .05)
- Italy: Nocentini & Menesini, 2015 (13 schools; *d* = .26, *p* < .01)
- US: Swift et al, 2017 (9 schools, *d* = .70, *p* < .05)
- Estonia: Treial, 2016 (39 schools, *d* = .12, *p* < .05)

RCT (0)

- UK: Axford et al., 2020 (21 schools; *d* = .15, *p* > .05)
- Netherlands: Huitsing et al., 2020 (98 schools; *d* = from .14 to .28 dep. on outcome, *p* close to .05)
- Chile: Valenzuela et al., 2022 (26* schools; *d* = .06, *p* > .05)
- South Africa: Senekal, 2020 (2 schools; *d* = -.21, *p* > .05)

* KiVa without online games (another 13 schools) was sig. different from control group with *d* = .13, but not the full KiVa program

Other (+)

- UK: Hutchings & Clarkson, 2015 (pilot 14 schools, no CG; pre-post t-test, p < .05)
- Finland: Kärnä et al, 2011a (888 schools, longi. cohort design, *d* = .11, *p* < .01)

Effect sizes *(d)*: from .06 to .70
Md = .28 (*weighted by number of schools*)

KiVa fidelity

previous research

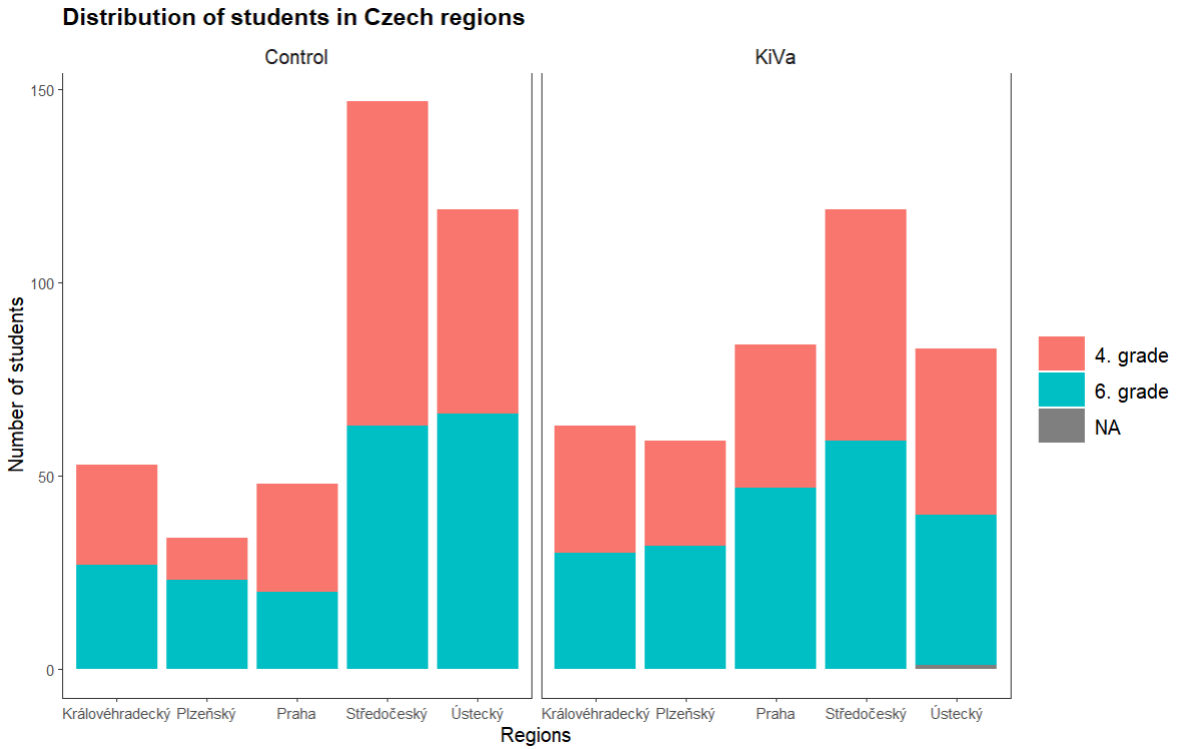
- Haataja et al. (2014): 76 schools; 9-moths KiVa program
  - → lesson adherence, lesson preparation time, lesson duration (effects on victimization reduction)
- Swift et al. (2017): 9 schools;
  - → Dosage (lessons, lesson duration, activities); teacher‘s characteristics (self-efficacy for teaching, professional burnout, perceived principal support, expected effectiveness of KiVa, perceived feasibility of KiVa).
- Axford et al. (2020): 21 schools; 10-months KiVa program
  - → lesson adherence (good but lesson duration was lower), school-wide elements observation (large variability) (only descriptive, not modelled)
- Herkama et al. (2022):
  - → facilitators and barriers to sustainable implementation

Present study – design & sampling

- **Cluster RCT** (two-arms, 1:1 ratio)
- **KiVa** (12 schools), **Wait-list** (12 schools)
- **Randomization** (anticlustering, blinded)
- 5/13 Czech **regions**

- **Ethics**, ref. no.: PSU-241/Brno/2021
- **Informed consent** (active parent + child)
- **Preregistration**: https://osf.io/mrezb
- **Pilot** data collection (scales validation)

- **LimeSurvey** online platform
- **Measurement waves** (pre-post, Sep. 2021 – Jun. 2022, 10 months)
- **Sample**: 24 schools, 63 classes, 809 students
- **4th and 6th grades** students (8-12 y.o.)
- **Gender**: ~50% girls/boys



Measures (outcomes)

- **Bullying and victimization (primary outcome)**
  - Florence (Cyber-) Bullying/Victimization Scales (Palladino, 2013)
    - Bullying (10), victimization (10), cyberbullying (6), cybervictimization (6)
    - Example item: „I have been beaten up.“
    - Each scale unidimensional: victimization/bullying (fit: RMSEA = .069/.034, TLI = .991/.996); McDonald's ω total victimization/bullying (ω = .93/.90)
  - Olweus's general bullying and victimization item (1-5 Likert)

- **Well-being (secondary outcome)**
  - Stirling's Children Wellbeing Scale (Liddle & Carter, 2015)
    - Positive emotional state (6), positive outlook (6)
    - Example item: „I think good things will happen in my life.“
    - Factor structure two-dimensional; (fit: RMSEA = .031, TLI = .995); McDonald's ω total (PES = .73; PO = .79)

Measures (mechanisms of change)

- **School belonging**
  - Psychological Sense of School Membership Scale (Gaete et al., 2017)
    - Identification and participation at school, perception of fitting in among peers, generalized connection to teachers
    - 1-5 Likert; Example item: „Other students in this school take my opinions seriously.“
    - Scale unidimensional (fit: RMSEA = .043, TLI = .997); McDonald's ω total = .92

- **Social self-efficacy**
  - Self-efficacy Questionnaire for Children (social) (Muris et al., 2001)
    - 1-5 Likert; Example item: „How well can you find new friends?“
    - Scale unidimensional (fit: RMSEA = .070, TLI = .992); McDonald's ω total = .88

- **Attitudes againts bullying**
  - Attitudes againts bullying scale (Salmivalli & Voeten, 2004)
    - Some reversed items
    - Scale modified to 1-3 Likert; Example item: „Bullying is stupid.“
    - Scale essentially unidimensional (fit: RMSEA = .099, TLI = .912); McDonald's ω total = .83

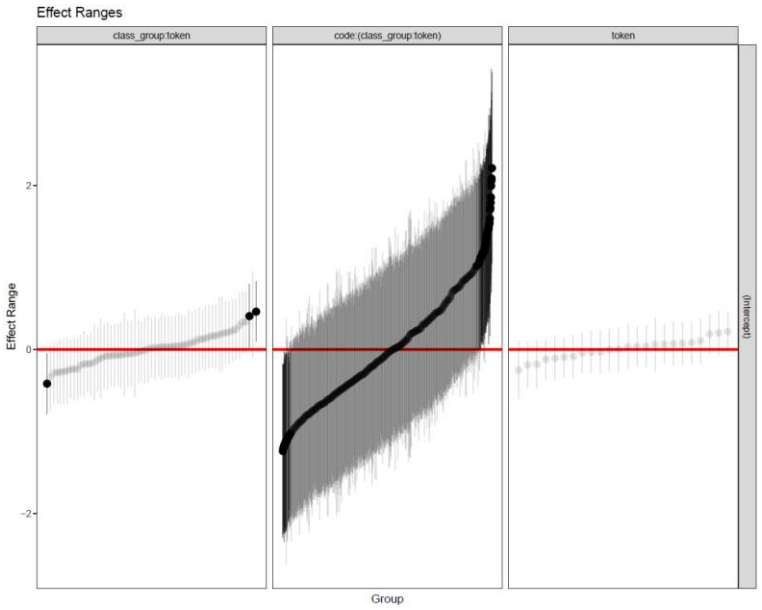
Measures (whole-school fidelity index)

- Fidelity control checklist (school-level)
  - Item responses: 0 = No; 1 = Partially; 2 = Yes
  - Context by open-ended commentary to every item
- Facets:
  - **Basic assumptions** (3): *support from school management; school agreement; KiVa team established*
  - **Action plan** (5): *e.g. creation of the plan for implementing each KiVa pillar; whole-school approach retained*
  - **Training** (7): *e.g. Kick-off meetings (staff, parents, students); training of all teachers; availability of enough KiVa manuals; booster training indicated actions with feedback*
  - **Universal actions** (11): *e.g. wearing KiVa symbols; visibly placed KiVa posters; usage of online KiVa games; KiVa lessons according to the manual; Intranet usage; measurement; presence in regular meetings with other coordinators…*
  - **Indicated actions** (5): *e.g. documentation of bullying cases; KiVa team office establishment; only non-confrontational and confrontational interviews used…*
- Whole-school fidelity index average over 31 items (0-2): M = 1.43; SD = .34; from .83 to 1.81

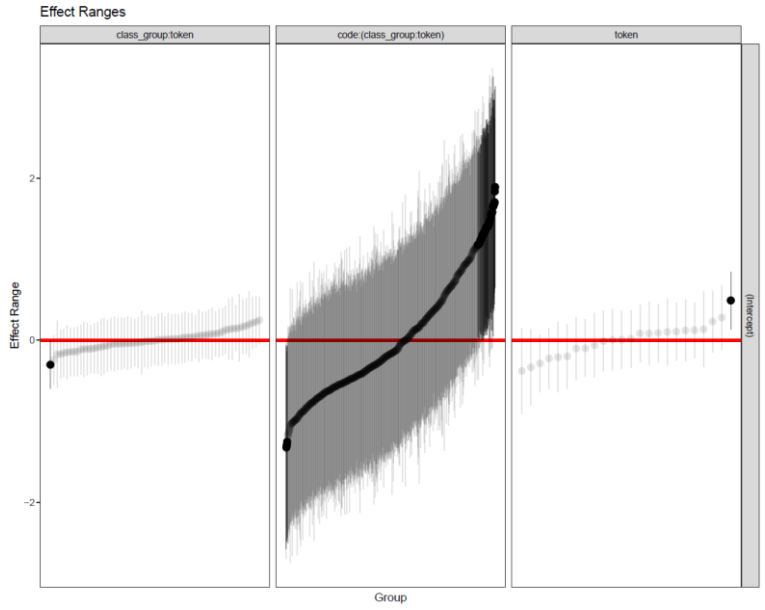
Hierarchical nested structure of data

victimization example

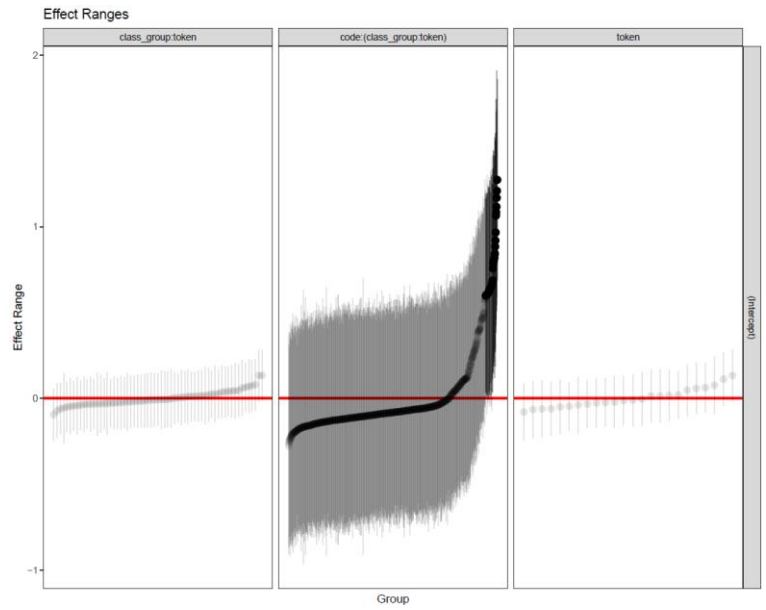
Victimization (FBVS factor scores)



Victimization (ordinal maximum)



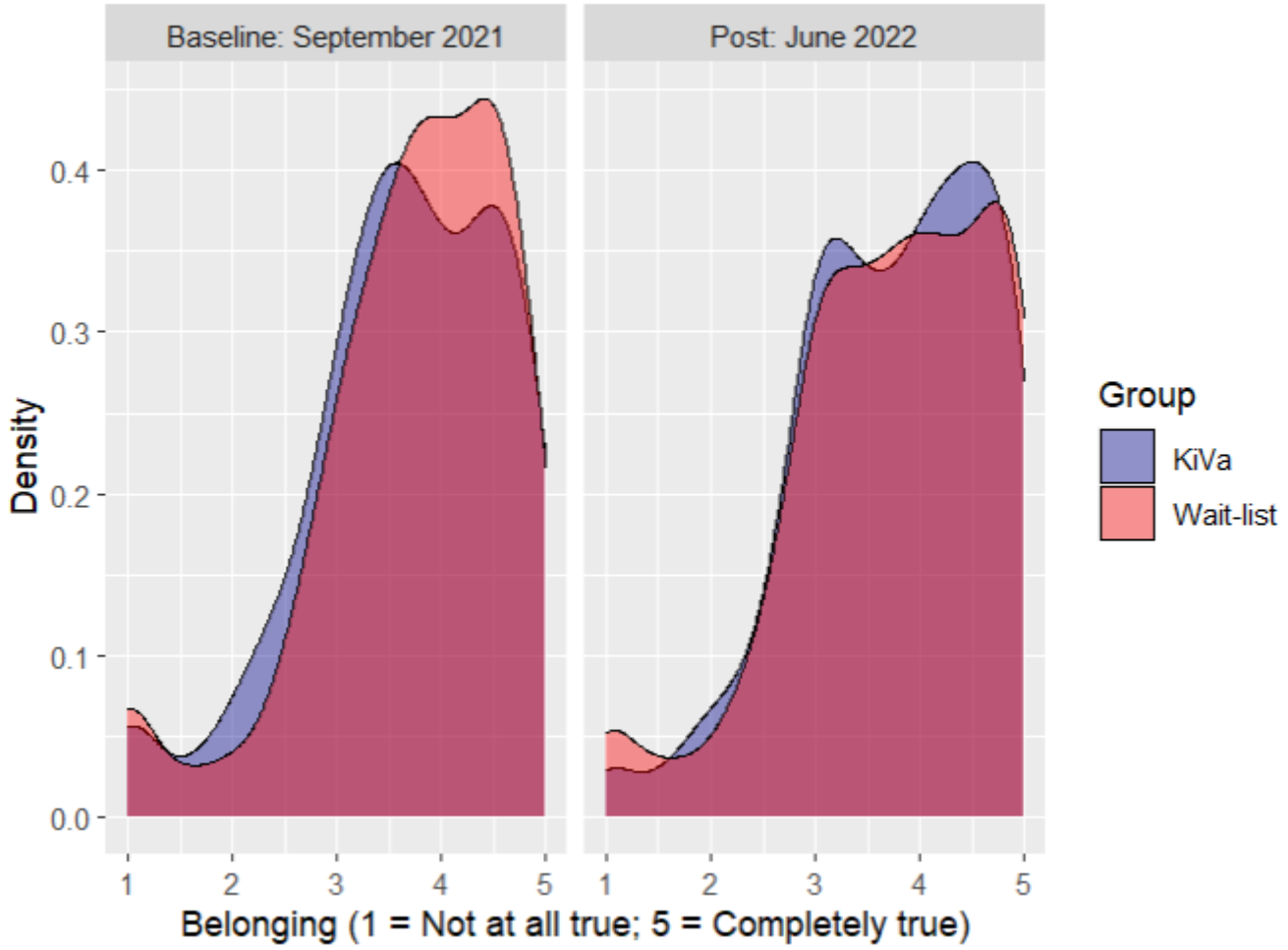
Victimization (ordinal general 1-item)



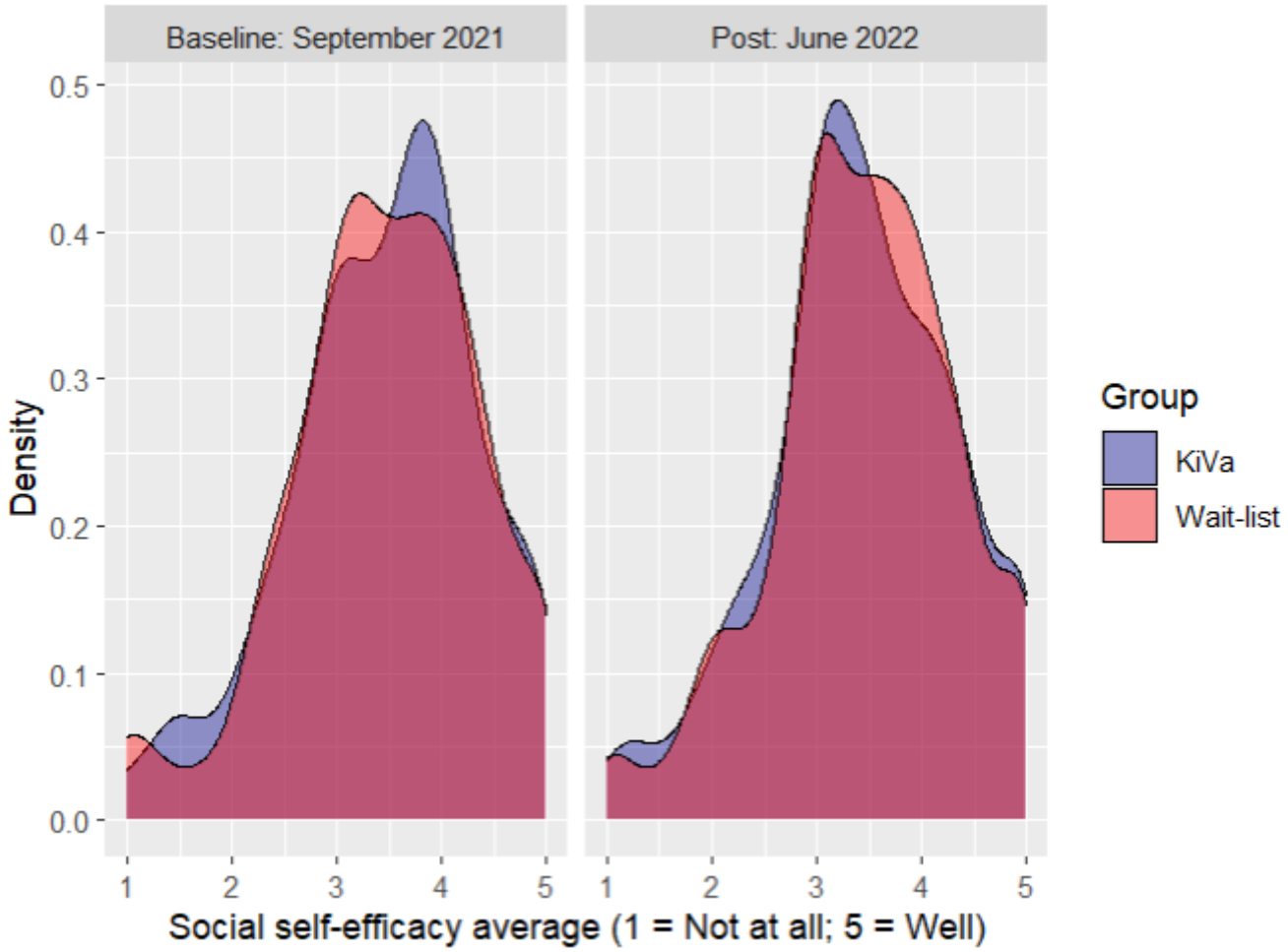
Linear mixed models

- Formula: *outcome ~ wave*group + gender + grade + time (1|school/class/students)*
- **Victimization (fscores):** ICC = .02/.05/.42; victimization increased in time; boys more victimized than girls; faster students more victimized.
- **Victimization (maximum):** ICC = .04/.02/.40; victimization increased in time; boys more victimized than girls; faster students more victimized.
- **Victimization (general):** ICC = .01/.01/.23; students in 6th grade more victimized than in 4th grade.
- **Bullying (fscores):** ICC = .01/.06/.41; bullying increased in time; boys more bullied others than girls; interaction *wave*group* almost significant (AMD = -.14; p = .05).
- **Bullying (maximum):** ICC = .02/.04/.33; bullying increased in time; boys more bullied others than girls.
- **Bullying (general):** ICC = .00/.03/.05; boys more bullied others than girls.
- **Positive emotional state, positive outlook, attitudes against bullying, social self-efficacy, belonging**: no effects

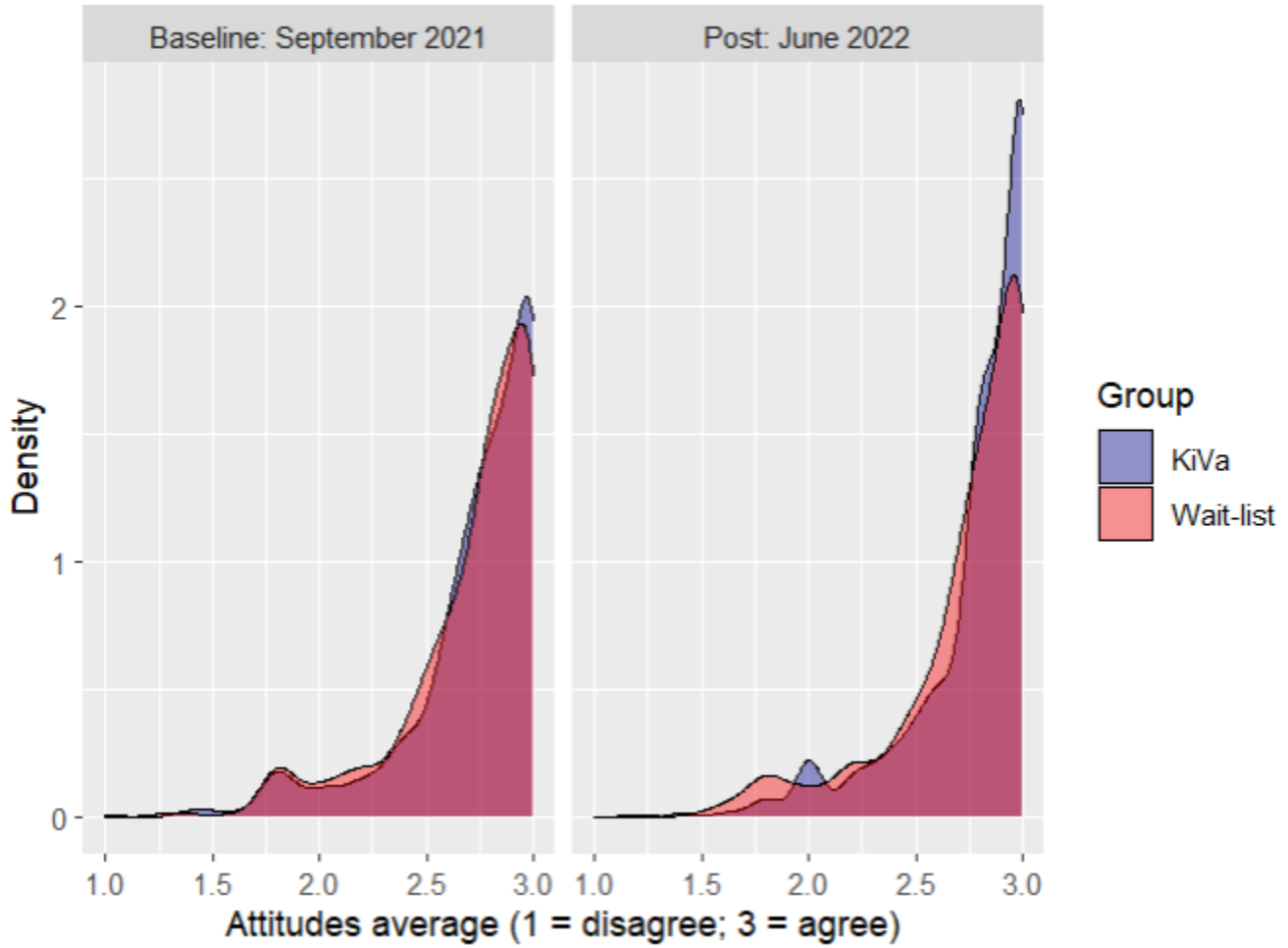
Psychological sense of school membership



Social Self-efficacy

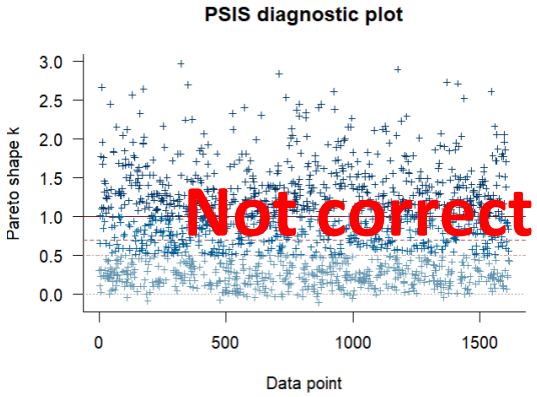


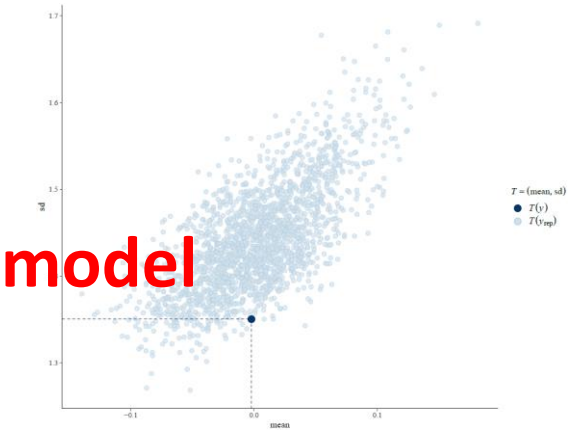
Attitudes against Bullying



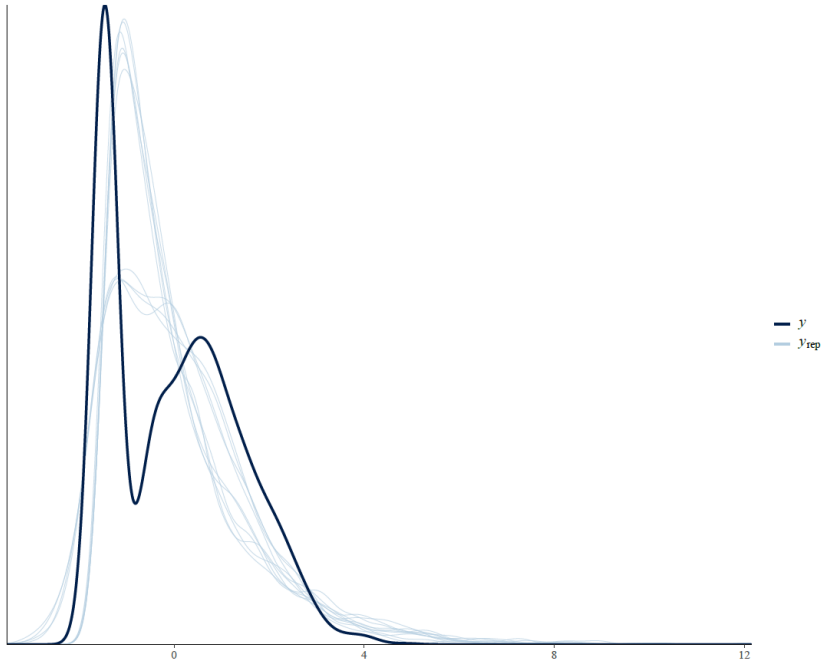
Victimization

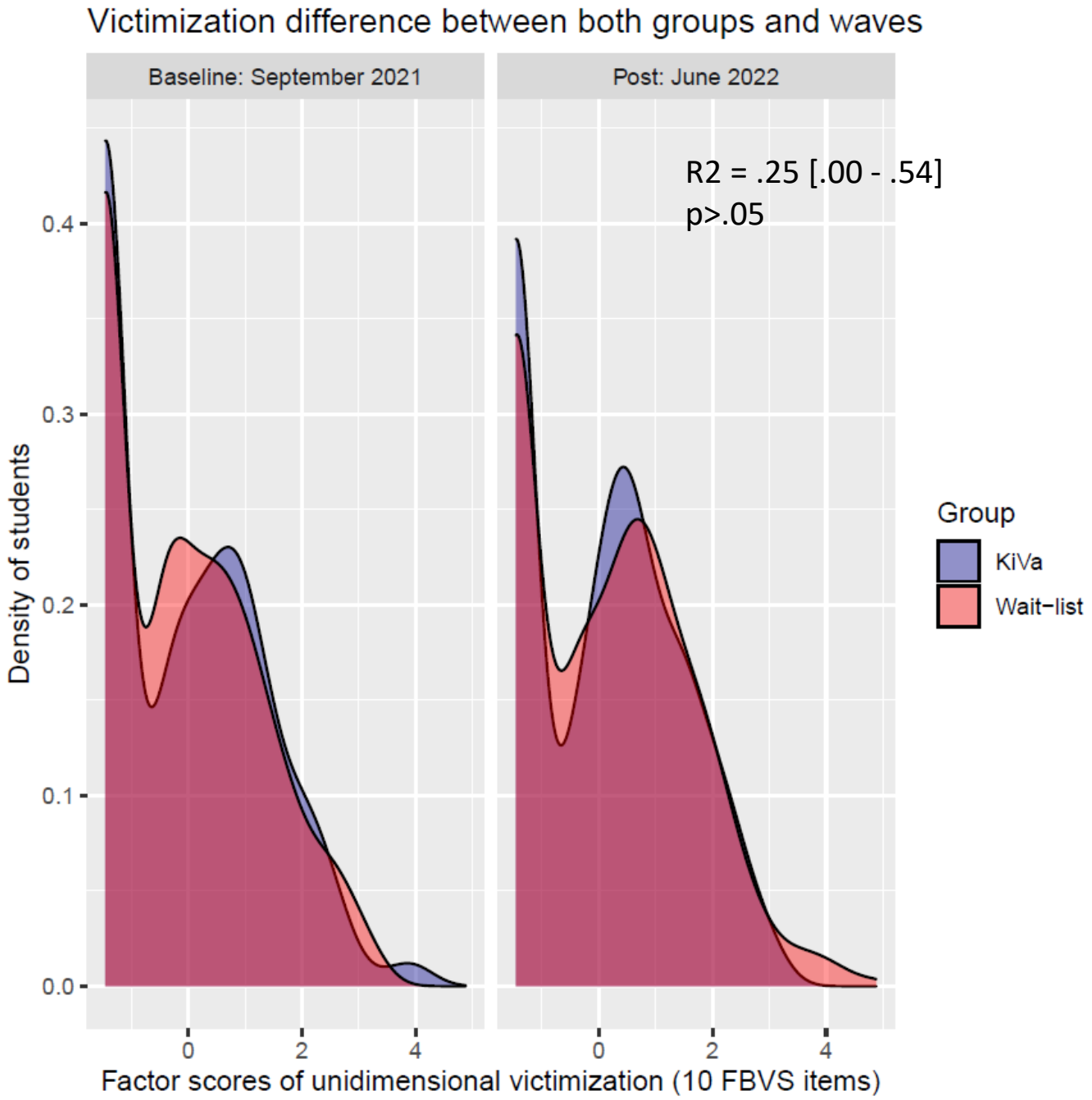
(fscores, brms; exponentially modified Gaussian distribution; weakly informative prior)





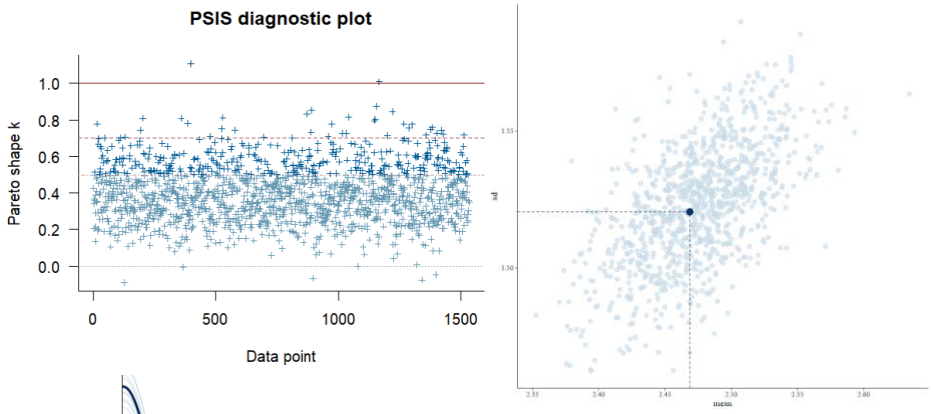
Not correct model

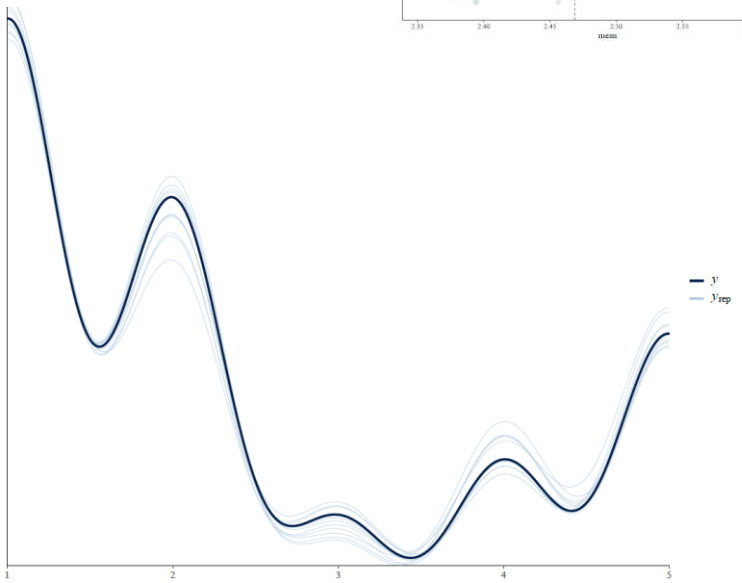


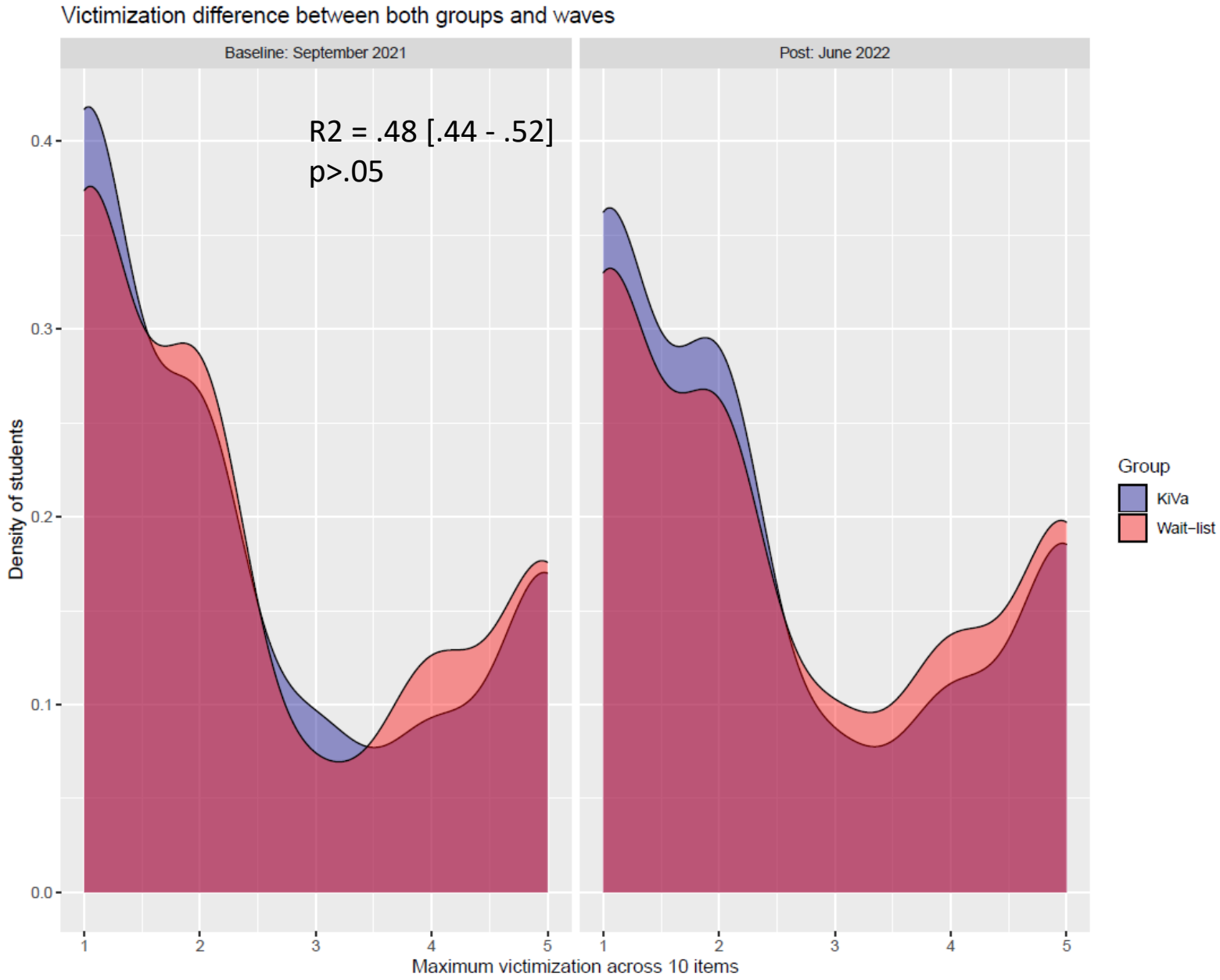


Victimization

(*maximum, brms; cumulative ordinal distribution; weakly informative prior)*

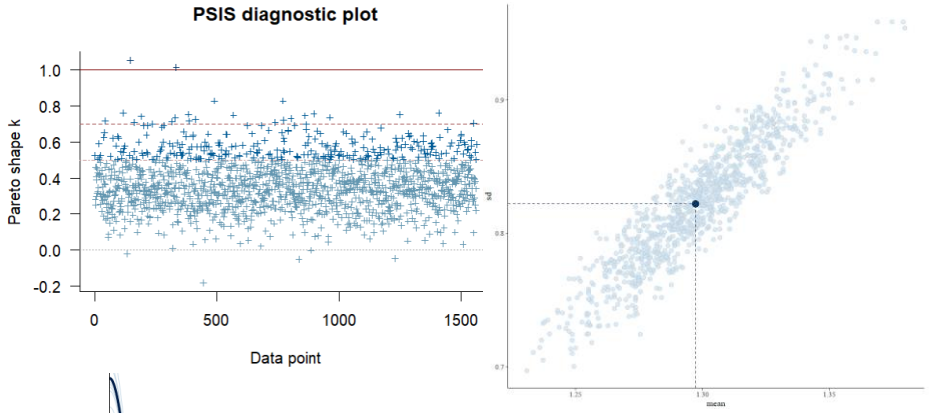


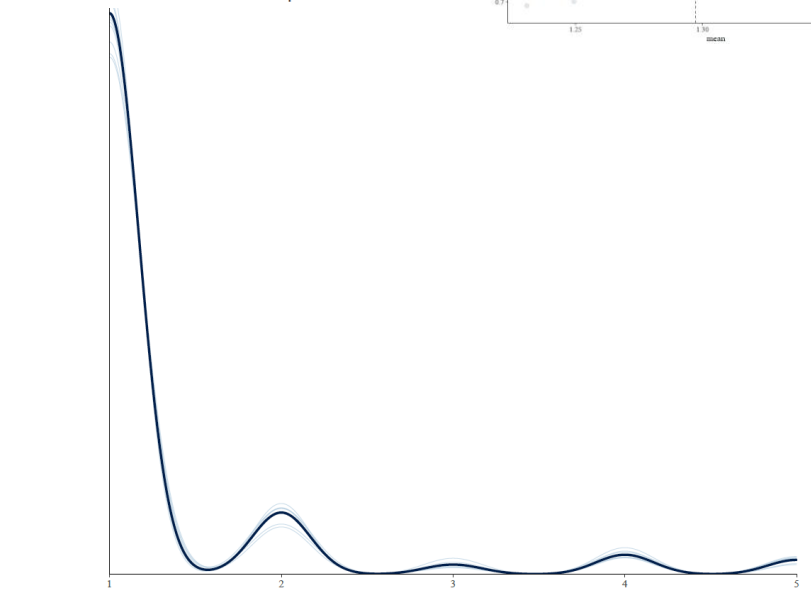


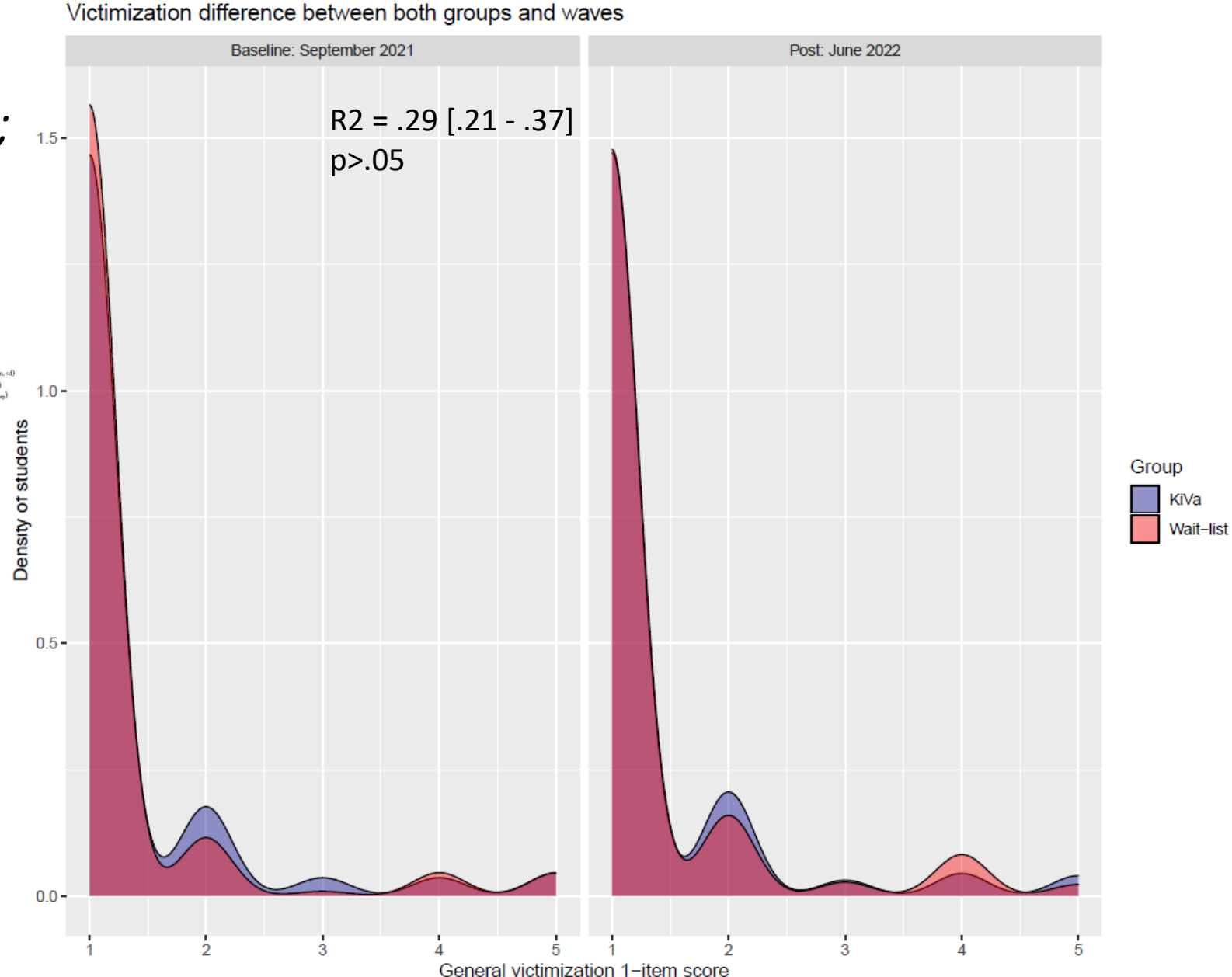


Victimization

(general item, brms; cumulative ordinal distribution; weakly informative prior)

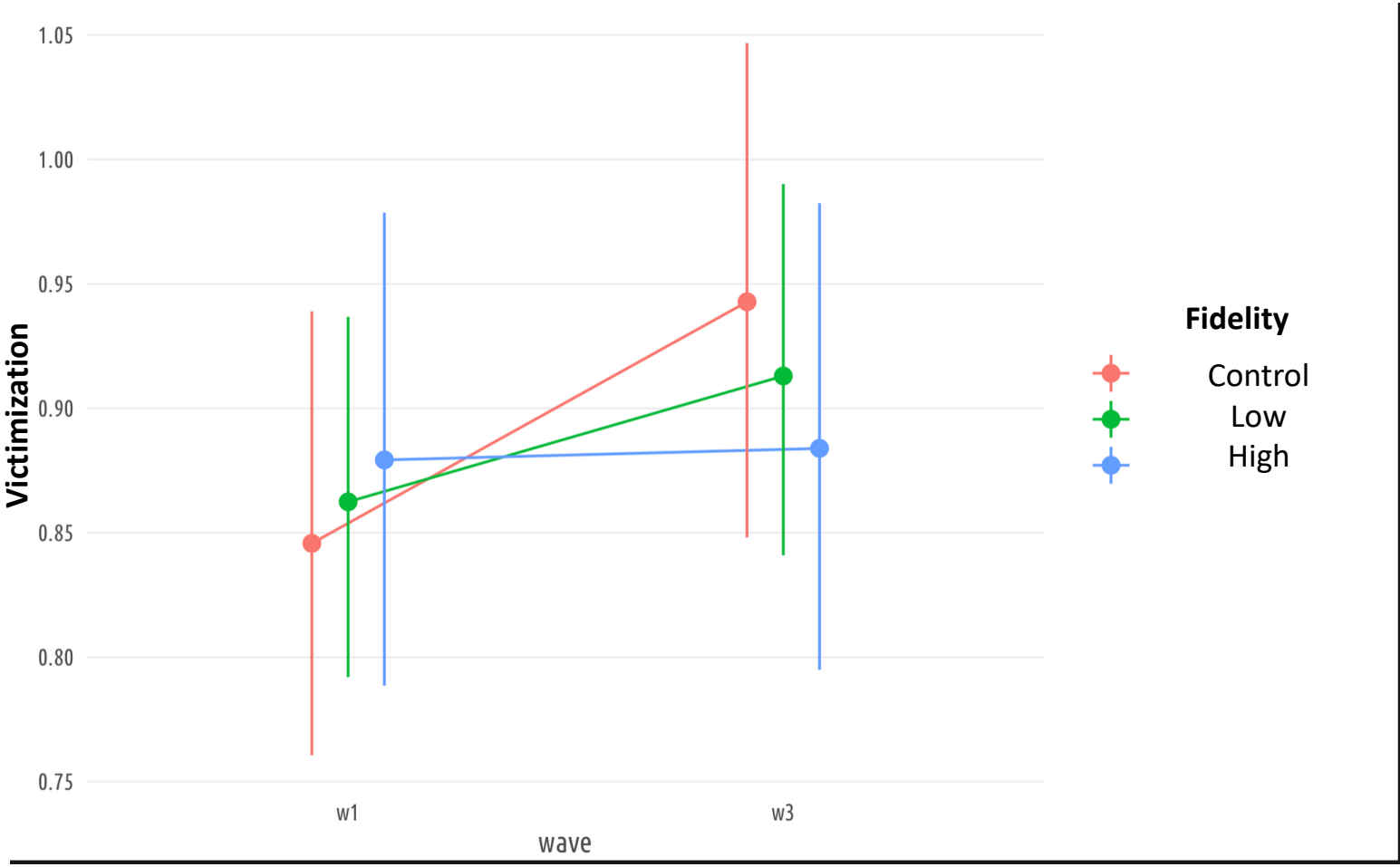






Low fidelity might be the explanation

- Whole-school fidelity index average (0-2): 31 items
- Schools implementing in high quality – no increase of victimization
- Still not significant effect



Experiences from school KiVa coordinators

focus groups

Needs

1) Support from school management (necessary), support from colleagues (ideally)
2) More time to prepare before school year begins
3) Normal school year without Covid restrictions
4) Realistic evaluation of the range to implement KiVa in the first year
5) Colleagues‘ motivation and attitudes (are more important than their age; and are varying through the year)

Experiences from school KiVa coordinators

focus groups

KiVa perceived contributions

1) Unification of what bullying is and is not
2) Students know where to go in case of troubles
3) Setting a system of dealing with indicated bullying
4) School is not only about performance but also about wellbeing and soft-skills
5) Interactivity, group work, games, dramatization of topics… usage beyond KiVa lessons
6) Flexibility to tailor activities, option to prioritize certain KiVa aspects in school
7) Long-term and sustainable (no external experts needed)

Other effects

Focus groups with school KiVa coordinators

1) Students are more looking forward to school X students are upset about skipping the PE lessons
2) Both students and teachers more think and talk about bullying (less stigma X more joking and bullying check-list)
3) KiVa branding: mark of quality X source of mistrust – „western dictate“ (parents/teachers)
4) Better perceived effect in younger students
5) Program helps increase contact with teachers overall
6) Program improves classroom climate

Closed and open-ended items in final survey (students)

1) Students liked the KiVa program (4th graders 132 liked and 13 disliked; 6th graders 86 liked and 24 disliked)
2) Students liked: KiVa games, opportunity to tell somebody, lessons free of teaching, respect to students, approach of teachers, fun, videos
3) Students disliked: questionnaires, waste of time (skipping arts, PE lessons), boring, KiVa games

Conclusions

- KiVa-CZ **after 1 year**: not significant findings yet but promising trends
- Potential **sensitization** effects
- Teachers and students mostly **liked** KiVa
- Schools differed a lot in **fidelity** and fidelity seems to matter
- **Implementation** was **difficult** (short preparation time, Covid-19, Ukraine children, motivation and measurement burden)

Future steps

- **Other fidelity** indicators (dosage, adherence to manual in KiVa lessons, preparation)
- **Follow-up measurement** (21 months after baseline, 12 months after post-measurement) – longitudinal effect
- **Middle measurement** wave usage (but low retention rate)
- **Comparison** of the first and second **focus groups** (and between groups)
- **Potential scaling** to more schools after further adaptation based on process evaluation results (→ continuing evaluation)

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