

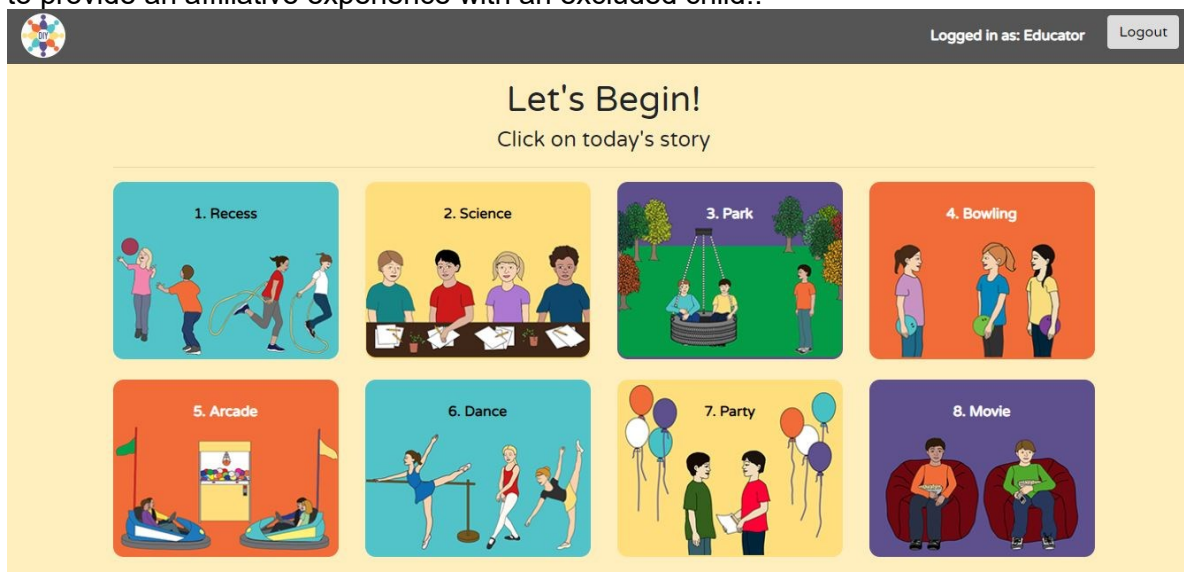
## An intervention to Promote Positive Peer Relationships and Reduce Prejudice and Bias in Childhood, July 16, 2025

### Study Protocol

The objectives of this project was to test the beneficial impacts of an intervention, *Developing Inclusive Youth (DIY)*, for outcome measures reflecting increasing school belonging, classroom support, and intergroup attitudes (reducing stereotypes and biases) relative to a counterfactual (the business-as-usual control condition). A multi-site within-school randomized control trial (RCT) intervention design was employed to promote positive intergroup relationships and to reduce prejudice in childhood. The program was implemented under routine conditions in authentic education settings (grades 3, 4, and 5) which in this case was a large ethnically diverse public school district in the Maryland suburbs of Washington, D.C. The program had two components to it: 1) individualized viewing of a web-based curriculum tool depicting peer inclusion and exclusion scenarios; and 2) a group experience in which the teacher led a classroom discussion session that immediately followed students' use of the tool.

The web-based curriculum tool developed by the P.I.'s research team was an opportunity to view depictions of peer groups discussing everyday situations involving inclusion and exclusion, with a focus on multiple target groups: race and ethnicity (African-American, Latino/a, Arab-American, Asian-American, European-American), wealth status (high/low), and immigrant-status (non-native student). These categories were selected based on the developmental science literature that has demonstrated that these target groups experience victimization and social exclusion in peer contexts during the elementary school years (Brown, 2017; Rutland & Killen, 2015). Other significant target groups that have experienced exclusion and discrimination, such as physical disability or gender non-conforming, were not included in the program due to the constraints of an 8-week curriculum program (with a limit of 8 target groups). However, by providing students with a variety of excluded groups it was expected that children would generalize the lessons learned to groups not covered explicitly by the program.

The goals of the program were to provide children with the experiences of viewing both inclusive and exclusive decisions by characters similar to their peers. Providing a range of target groups increases the chance that one of the groups would reflect children's own identity in order to provide an affiliative experience with an excluded child..



**Figure 1.** Portal for beginning the DIY tool, revealing the 8 scenarios that are entered, one per week for 8 weeks: Recess, Science, Park, Bowling, Arcade, Dance, Party, and Movie. Illustrations © Joan Tycko.

The content of the DIY web-based interactive tool and teacher training manual drew on well-established theoretical and empirical lines of research on prejudice and social exclusion in childhood (Abrams & Killen, 2014; Brown, 2017; Cameron & Rutland, 2006; Killen, Lee-Kim, McGlothlin, & Stangor, 2002; Levy, et al., 2016; Rutland et al., 2024; Turner & Cameron, 2019).

Children progressed through 8 scenarios, one per week, all of which are available at the DIY portal (see Figure 1). The interactive design of the tool allows children to watch simulated peer interactions that involve social exclusion and then children are asked to make decisions, form judgments, and observe the outcomes of their own decision-making (these responses are recorded in the tool and produced as a .CSV file for statistical analyses).

After each child has had an opportunity in the classroom to individually complete the scenario of the week using the web-based curriculum tool, teachers led a guided discussion regarding the choices and decisions presented in the tool. Teachers lead this discussion without knowledge of, or reference to, student's own individual decisions. However, teachers were provided with a sequence of questions designed to foster discussion. Teachers asked students to discuss their own experiences relevant to the scenario. The issues surrounding each scenario are about social inclusion and exclusion, stereotypic expectations, biases, peer relationships, friendships, shared interests, and common goals. Thus, the scenarios depicted in the web-based curriculum tool provide the basis for substantive teacher-led face-to-face classroom discussions.

Overall, the intervention program created two types of intergroup contact, indirect and direct (Levy, et al., 2016; Tropp & Prenovost, 2008; Turner & Cameron, 2019). The *indirect contact* in the intervention program occurred with the use of animated intergroup scenarios in the web-based curriculum tool (which children viewed on their laptops in the classroom). Children watched peer exchanges in which children like themselves become friends with those from different backgrounds, and they learn that these peers have common goals and shared interests. The *direct contact* occurred in the program when children discussed their views of the peer scenarios in class with children from different backgrounds and when these discussions occurred among peers. The use of both direct and indirect intergroup contact as well as eight different target groups enabled the project to test a theory of change.

Thus, there were three central aims of this proposed project:

**Aim #1.** The first aim of the proposed project was to chart the grade-related, gender-related and ethnic-related differences regarding socioemotional well-being and prejudicial attitudes and behaviors of U.S. 3<sup>rd</sup>, 4<sup>th</sup> and 5<sup>th</sup> graders through the use of baseline data collected pre-intervention.

**Aim #2:** The second aim of this proposed project was to test whether the intervention (class-based curriculum tool with classroom discussion, *Developing Inclusive Youth (DIY)*) was effective in *enhancing sense of school belonging and well-being* for children, relative to children in the business as usual (control) condition.

**Aim #3:** The third aim of the proposed project was to test whether a class-based intervention (class-based curriculum tool with classroom discussion, *Developing Inclusive Youth (DIY)*) was effective in *reducing prejudicial attitudes and behaviors*, relative to children in the business as usual (control) condition.

## **Method**

**Settings and Participants.** Participants were 3<sup>rd</sup>, 4<sup>th</sup>, and 5<sup>th</sup> grade students (8 – 11 years of age), representing a range of racial and ethnic groups (European-American, African-American, Latino/a, Asian-American, and Multiracial),  $N = 885$ . The study was implemented in a large public school district in the Mid-Atlantic region of the U.S.

**Procedure and Scenarios.** The animated and narrated computer based tool was accessed through a password-protected internet link housed at the University of Maryland under the supervision of the P.I. Unique login IDs are distributed to children whose parents have given consent for participation. Participating students had a laminated card with the name and login ID

on it which was distributed to them at the beginning of each session (and retrieved at the end of each session). And these login IDs allowed for the tracking of responses over the course of the 10-week program.

**Table 1.** Design of the Pre-test, Intervention Program, BAU Group, and Post-test

Design	Screening 1	Block A	Screening 2	Block B	Screening 3
	Week 1	Weeks 2- 9	Week 10	Weeks 11-17	Week 18
<b>Intervention Program</b>	Pretest Administered	Program	Posttest I Administered	BAU	Posttest II Administered (follow-up)
<b>Control Group (Business as Usual)</b>	Pretest Administered	BAU	Posttest I Administered	BAU	Posttest II Administered (follow-up)

The **control group** was Business-As-Usual. The **intervention program** included children using the web-based curriculum tool for 15 minutes in the classroom followed by a 30-minute discussion period once a week for eight weeks. During each intervention session children would respond to one of the eight scenarios (with a new target group each week). This was a 10-week program.

All participating students respond to four types of prompts in the web-based curriculum tool to keep students engaged as they viewed the scenarios: *Feeling Attributions* (for each character), *Evaluations*, *Reasons*, and *Decisions*. The specific questions and response options are the following: 1) *Feeling attributions*: “How good or bad do you think X feels when [exclusion happens]?” [options are from Very good to Very bad with smiley to frowny faces (1 – 6 scale); 2) *Evaluations*: “Is it okay for X to [exclude Y]?” [options are Okay or Not Okay]; 3) *Reasons*: “You’re chosen X, why is that? Choose the reason that you think is most important [options are one of four reasons, moral, group functioning, stereotypes, personal choice]”; 4) *Decision to include or exclude*: “What do you think? Should X and Y [exclude or include]” [options are Exclude or Include]. For example, for the Recess scenario, the Decision options are “Keep playing with just the two of them” or “Invite Sophie to join” which reflect Exclude or Include, respectively.

After completing the 15-minute scenario, the teacher generated discussion in the classroom for 30 minutes using the *Teacher Manual*. Teachers ask the students to sit in a circle on the floor in the front of the classroom for the discussion immediately following the students’ completion of the tool. Teachers use a picture card depicting the characters in the story with their name on it to facilitate the discussion. Following the teachers guidelines, teachers covered four areas for discussion, which included soliciting the students’ interpretations of the scenario, their selections for the characters’ emotions and perspectives, their evaluations of the characters’ choices, and connections between the scenarios and the students’ daily experiences. The teacher wrapped up the discussion with a summary of the main message of the week for the scenario.

The 8 target groups were as follows: 1) new kid at school; 2) gender; 3) Latino peer; 4) immigrant status; 5) high/low wealth status; 6) African-American peer; 7) European-American peer at an Asian party; and 8) Arab peer (more details about the scenarios are provided below). These contexts and groups were identified for the program based on research

on social inclusion and exclusion and extensive pilot testing over the past 3 years (Brown, 2017; Killen & Rutland, 2011; Rivas-Drake, et al., 2014; Ruck, Peterson-Badali, & Freeman, 2016). It is important to note the goal of this program is not to fully address any one group but to discuss exclusion more generally as research has demonstrated that reducing biases and prejudice about one group generalizes to other biases about other groups (Rutland & Killen, 2015).

The first scenario “New Kid” depicted an exclusion context that was not associated with group membership identity. This started off the 8-week session with an exclusion experience that was not targeted at stereotypes associated with groups but with a general experience (being new) that most children can identify with. The scenarios were drawn from every-day school and home peer encounters and based on vignettes used in developmental science research (see Killen & Rutland, 2011). Each of the 7 subsequent scenarios depicted a dyad or a group discussing whether or not to exclude a target child from one of the groups identified: a science project assignment in class in which boys discuss not including a girl to join them, a discussion at the park around turn-taking on a tire swing in which boys discuss excluding a Latino boy from having a turn, a bowling outing in which girls discuss not including a girl who has an accent and is newly arrived to the country, low-wealth peers at an arcade who are hesitant to play with high wealth peers, a ballet club that is unsure about admitting a new girls who is African-American, an Asian birthday party in which boys discuss whether to invite a European-American boy who would be the only non-Asian at the party, and two boys, one Arab and one not discussing whether to watch a movie with Arabs portrayed as the “bad guys”. The scenarios in the web-based curriculum tool drew from an extensive database of peer exclusion scenarios reported by children from a wide range of backgrounds (Killen & Rutland, 2011).

**American Disability Act (ADA) Compliance.** The tool meets American Disability Act compliance because all information is presented visually (words on the screen) as well as through auditory means (voice-over) and meets 508 Compliance consistent with the University of Maryland guidelines.