

Alma Mater Studiorum Università di Bologna  
Archivio istituzionale della ricerca

Put yourself in my wheelchair: Perspective-taking can reduce prejudice toward people with disabilities and other stigmatized groups

This is the final peer-reviewed author's accepted manuscript (postprint) of the following publication:

*Published Version:*

Matera, C., Nerini, A., Di Gesto, C., Policardo, G.R., Maratia, F., Dalla Verde, S., et al. (2021). Put yourself in my wheelchair: Perspective-taking can reduce prejudice toward people with disabilities and other stigmatized groups. JOURNAL OF APPLIED SOCIAL PSYCHOLOGY, 51(3), 273-285 [10.1111/jasp.12734].

*Availability:*

This version is available at: <https://hdl.handle.net/11585/855709> since: 2022-02-10

*Published:*

DOI: <http://doi.org/10.1111/jasp.12734>

*Terms of use:*

Some rights reserved. The terms and conditions for the reuse of this version of the manuscript are specified in the publishing policy. For all terms of use and more information see the publisher's website.

This item was downloaded from IRIS Università di Bologna (<https://cris.unibo.it/>).  
When citing, please refer to the published version.

(Article begins on next page)

This is the post peer-review accepted manuscript of:

Matera, C., Nerini, A., Di Gesto, C., Policardo, G. R., Maratia, F., Dalla Verde, S., ... & Brown, R. (2021). Put yourself in my wheelchair: Perspective-taking can reduce prejudice toward people with disabilities and other stigmatized groups. *Journal of Applied Social Psychology*, 51(3), 273-285. <https://doi.org/10.1111/jasp.12734>

The published version is available at: <https://doi.org/10.1111/jasp.12734>

Rights / License:

© 1999-2022 John Wiley & Sons, Inc. All rights reserved

*Keywords:* perspective-taking; disabled people; prejudice reduction; empathy; secondary transfer effect; intergroup contact

Put yourself in my wheelchair: perspective taking can reduce prejudice towards people with disabilities and other stigmatised groups

Camilla Matera

Department of Education, Languages, Intercultures, Literatures and Psychology,  
University of Florence, Via di San Salvi, 12–Pad. 26, 50135, Florence, Italy  
camilla.matera@unifi.it

Amanda Nerini

Department of Education, Languages, Intercultures, Literatures and Psychology,  
University of Florence, Via di San Salvi, 12–Pad. 26, 50135, Florence, Italy  
nerini@psico.unifi.it

Cristian Di Gesto

Department of Health Sciences, Section of Psychology,  
University of Florence, Via San Salvi 12, Pad. 26, Florence, Italy  
cristian.digesto@unifi.it

Giulia Rosa Policardo

Department of Health Sciences, Section of Psychology,  
University of Florence, Via di San Salvi, 12–Pad. 26, 50135, Florence, Italy  
giuliarosa.policardo@unifi.it

Fabio Maratia

Department of Education, Languages, Intercultures, Literatures and Psychology,

University of Florence, Via di San Salvi, 12–Pad. 26, 50135, Florence, Italy

fabio.maratia@stud.unifi.it

Sara Dalla Verde

Psychologist, Florence, Italy

sara.dalla.verde@gmail.com

Ilaria Sica

School of Psychology

University of Florence, Via della Torretta, 16, 50137, Florence, Italy

Ilaria.sica@stud.unifi.it

Monica Paradisi

School of Psychology

University of Florence, Via della Torretta, 16, 50137, Florence, Italy

monica.paradisi@stud.unifi.it

Laura Ferraresi

Pedagogue, Florence, Italy

lauraferraresi62@gmail.com

Dag Kristian Pontvik

Adra Italia Onlus, Florence, Italy

d.pontvik@adraitalia.org

Milca Lamuraglia

Adra Italia Onlus, Florence, Italy

milcazanini@gmail.com

Francesca Marchese

Associazione Progetto Cucciolo, Florence, Italy

psi.marchese@gmail.com

Mauro Sbrillo

Adra Italia Onlus, Florence, Italy

mauro.sbrillo@gmail.com

Rupert Brown

Emeritus Professor of Social Psychology

r.brown@sussex.ac.uk

Corresponding author:

Camilla Matera

Department of Education, Languages, Intercultures, Literatures and Psychology,

University of Florence, Via di San Salvi, 12–Pad. 26, 50135, Florence, Italy

camilla.matera@unifi.it

## **Put yourself in my wheelchair: perspective-taking can reduce prejudice towards people with disabilities and other stigmatised groups**

### **Abstract**

This study aimed to compare perspective-taking with a hypothetical target and perspective-taking occurring during a real interaction with an outgroup member in reducing prejudice towards people with disabilities and other groups (e.g., immigrants, homosexual people), via increased empathy. We adopted an experimental design with two treatment groups (Hypothetical target versus Real target) and one control group (no intervention), one pre-test and two post-test measures. Participants, who were 437 students aged 11–17 years ( $M = 14.28$ ;  $SD = 1.17$ ), were randomly assigned to the various conditions on a classroom basis. Perspective-taking was facilitated asking participants to travel in a wheelchair on a path that simulated a real pavement in the presence (or not) of an individual with a motor disability. Findings showed that perspective-taking in the presence of a real target was more effective in reducing prejudice towards people with disabilities than perspective-taking task without encountering an outgroup member. Perspective-taking with a hypothetical target was not sufficient to increase participants' empathy towards people with disabilities, which instead was enhanced when the task was performed at the presence of a real member of that group. Positive effects produced by perspective-taking (with both a hypothetical and a real target) were transferred to immigrants and homosexuals. These findings suggest that, when possible, perspective-taking in the presence of the target, which can improve empathy by favouring a two-way exchange process, is highly recommended to improve attitudes towards different stigmatized groups, not necessarily targeted by the intervention.

*Keywords:* perspective-taking; disabled people; prejudice reduction; empathy; secondary transfer effect; intergroup contact

## **Introduction**

Physically disabled people are significant but under-studied stigmatised group. In the European Union it is estimated that approximately 80 million people are disabled (Kaminska, 2020). In Italy, the site for the research reported here, there are over 3 million physically disabled people (ISTAT, 2017). Even if most countries have clear policies and social norms to ensure equal treatment of people with disabilities, the daily life of disabled people is still characterised by numerous obstacles: for instance, in Italy only 25% of disabled people over 25 years have high school diploma and only 11% enter the job market (ISTAT, 2017). The data on life satisfaction and social inclusion are also disturbingly negative: the percentage of people with severe limitations who report being satisfied with their lives is 19.6%, much lower than in the rest of the population (44.3%). People with disabilities experience stigmatisation, discrimination and inequality; they are the object of many violations of their rights, as a consequence of acts of violence, abuse, prejudice and disrespect related to their disability (Kaminska, 2020).

In Western societies much importance is given to physical appearance, with strong norms favouring physical perfection and well-functioning bodies (Barnes, 1996). People with disabilities often appear to be unable to conform to these cultural norms and therefore are likely to be devalued (Krahé & Altwasser, 2006). Indeed, some data suggest that people with disabilities are one of the most stigmatized and marginalized minorities (Jahoda & Markova, 2004), which can lead them to experience negative psychological distress and difficulties in social adaptation. People with disabilities are likely to feel isolated, scared, lonely and devalued (Goodley, 2011; Jahoda & Markova, 2004; Schmitt, Branscombe, Postmes, & Garcia, 2014). The present study aimed at evaluating if prejudice towards people with disabilities and other secondary groups could be successfully reduced by fostering perspective-taking in the presence of an outgroup member (a disabled person).

## **Perspective-taking and prejudice reduction**

Perspective-taking allows a person to understand how a situation appears to someone else. It is a method that can be used to encourage people to imagine the suffering of a disadvantaged or stigmatized outgroup member (e.g., Batson, Eklund, Chermok, Hoyt, & Ortiz, 2007; Galinsky & Moskowitz, 2000). Perspective-taking can be defined as the cognitive capacity to consider the world from another individual's viewpoint (Galinsky, Maddux, Gilin, & White, 2008). It should be distinguished from empathy, which is the ability to connect emotionally with another individual. These abilities - to take others' perspective and empathically share their affect - can be differentiated conceptually, although they might interact in complex situations that require both functions simultaneously (Stietz, Jauk, Krach, & Kanske, 2019). Indeed, much research has documented increased empathic responding following perspective-taking (Batson, 2011). Besides promoting empathic responses, perspective-taking might favour shifts in attributional thinking and facilitate self-outgroup merging, which are cognitive rather than affective mechanisms (Todd & Galinsky, 2014). Research has shown that perspective-taking has positive effects on a variety of social behaviours and on attitudes towards several stigmatized groups (Berndsen, Thomas, & Pedersen, 2018). It can increase helping behaviour (Batson et al., 2007) and it might decrease negative stereotypes (Galinsky & Moskowitz, 2000), prejudice (Dovidio et al., 2004), stigma (Vescio, Sechrist, & Paolucci, 2003), and anger towards disadvantaged group members (Batson, Chang, Orr, & Rowland, 2002; Berndsen & McGarty, 2012).

Despite its documented effects in reducing prejudice, some research has shown that perspective-taking might also lead to negative intergroup consequences, enhancing hostile attitudes towards the target group (Vorauer & Sucharyna, 2013). Indeed, the act of perspective-taking might increase individuals' tendency to think about themselves as objects of evaluation and to draw inferences about how they themselves are viewed. In some cases, negative metaperceptions could arise as a consequence of this mental process (Vorauer & Sucharyna, 2013). There is also emerging evidence that some people simply do not comply with the perspective-taking instructions, which results in no attitude change (e.g., Mooijman & Stern, 2016; Okimoto & Wenzel, 2011).

In a standard perspective-taking task, participants are first introduced to an individual group member either directly (Vorauer, Martens, & Sasaki, 2009) or indirectly – for instance, by reading a vignette (Finlay & Stephan, 2000), watching a video clip (Dovidio et al., 2004), listening to an audio recording (Batson et al., 1997), watching a photographed person (Galinsky & Moskowitz, 2000), experiencing or observing a virtual simulation experience (Sarge, Kim, & Velez, 2020). Relevant to the research reported here, Clore and Jeffery (1972) induced students to take the perspective of people with disabilities by asking them to travel about their campus in a wheelchair for an hour. In our study, perspective-taking was manipulated in a similar manner: nondisabled participants were asked to drive a wheelchair on a path that simulated a real pavement, which allowed them to take the perspective of the outgroup.

Both propensity and ability to take the perspective of others might depend not only on individual characteristics, but also on contextual factors (Gehlbach, 2004). Although no research has explicitly compared hypothetical and real perspective-taking targets, past research suggests that individual's propensity to take the perspective of others and their ability actually to decipher others' thoughts and feelings might be greater when a real interaction occurs (Gehlbach, 2004). For example, Bruneau and Saxe (2012) showed that when perspective-taking occurred during a dyadic interaction with an outgroup member, attitudes of dominant group members towards non-dominant groups significantly improved, even when conflict between the groups was present. Ahuja, Dhillon, Juneja, Deepak, and Srivastava (2019) showed that participants who were asked to take the perspective of an outgroup and had the opportunity to have contact with some outgroup members reported more positive attitudes towards that outgroup, compared to participants who did not take part in any intervention. People should be more accurate in their attempts to take the perspective of real than hypothetical targets, because there will be more informational cues to guide them in taking the perspective of real people (Gehlbach, 2004). Moreover, during a real interaction, individuals will have the opportunity to focus on the target for a longer period of time, to learn about his or her habits, background, and personality, which will help to draw accurate inferences about the target's

affective or cognitive states (Gehlbach, 2004). Based on these considerations, we hypothesized that an intervention strategy that aims to reduce prejudice by fostering perspective-taking during a real interaction with an outgroup member would be more effective than perspective-taking occurring with a hypothetical, but not actually present, target.

Such a prediction draws on intergroup contact theory (Allport, 1954), according to which contact with outgroup members can reduce hostility between groups and lead to the development of more positive intergroup attitudes if it takes place under certain conditions (i.e., same status within the contact situation; common goals and cooperation between groups; institutional support from authorities). A meta-analysis of 515 studies confirmed that there is a small but highly significant negative relationship between intergroup contact and prejudice (Pettigrew & Tropp, 2006). Notably, direct contact proved to be effective in improving attitudes towards the specific outgroup target in our study - namely, people with disabilities (Campbell, 2019; Pettigrew & Tropp, 2006). Some research showed that students who had the opportunity to have contact with disabled peers reported more positive attitudes towards people with disabilities (Clunies-Ross & O'Meara, 1989; Maras & Brown, 1996). Amsel and Fitchen (1988) found that nondisabled students, who had previous contact with disabled people, showed more comfort, more positive opinions and less negative thoughts towards them. Cameron, Rutland, Turner, Holman-Nicolas, and Powell (2011) found that nondisabled children who had to imagine a positive interaction with a disabled individual showed less prejudice towards people with disabilities compared to the control group (that had no imagined contact). A recent study with a large sample of 17,103 participants confirmed that intergroup contact improved attitudes towards people with disabilities (Campbell, 2019). Armstrong, Morris, Abraham, and Tarrant (2017) found that children who reported more contact experiences with disabled people showed less anxiety and higher empathy in interacting with them in the future. Thus, intergroup contact seems to be relevant in promoting greater levels of empathy, which in turn is an important predictor of prejudice reduction (Batson, Lishner, Cook, & Sawyer, 2005; Pettigrew & Tropp, 2008). Although intergroup anxiety is recognized as a relevant mediator

of the effects that contact has on intergroup attitudes, previous research did not find a significant association between perspective taking and anxiety towards people with disabilities (Vezzali & Giovannini, 2012).

### **Secondary Transfer Effect**

The Secondary Transfer Effect (STE) refers to the generalization of attitudes from one outgroup to another (Tausch et al., 2010). STE may largely depend on affective factors (Pettigrew, 2009), which are pivotal in promoting prejudice reduction (Brown & Hewstone, 2005; Pettigrew & Tropp, 2008).

Evidence on perspective-taking and STE is currently mixed. Pettigrew and Tropp (2006) have shown that intergroup contact can improve attitudes, not only towards the target group of the specific contact situation, but also towards other outgroups. Nell (2017) showed that positive intergroup contact between white and black South African students predicted improved attitudes towards both black and coloured South Africans students (secondary outgroup), via attitude and empathy generalisation (Lolliot, 2013). Also, Vezzali and Giovannini (2012) found that contact with immigrants affected attitudes towards secondary outgroups, such as disabled and homosexual people, via reduced anxiety and increased perspective-taking towards both the first and the secondary outgroup. These research findings, although limited, suggest that, under certain circumstances, perspective-taking might be responsible for the generalisation of attitudes from one group to another. However, some other research showed that the effects of perspective-taking tend to be group-specific (Todd & Galinsky, 2014). For example, Shih, Wang, Trahan Bucher, and Stotzer (2009) found that taking the perspective of Asians improved participants attitudes and levels of empathy towards other Asian targets, but these effects did not extend to other ethnic groups. Vescio et al. (2003) found that taking the perspective of an African American student led individuals to show more positive attitudes towards African Americans in general, but not towards other stereotyped groups such as homosexuals. Analogously, Wang, Kenneth, Ku, and Galinsky

(2014) showed that taking the perspective of a homeless man improved respondents' willingness to engage in contact with other homeless people, but these benefits did not generalize to other target groups.

### **The present study**

Previous research has shown that perspective-taking can contribute to prejudice reduction. Nevertheless, in some cases this strategy can be unsuccessful or even counter-productive (e.g., Skorinko & Sinclair, 2013; Tarrant, Calitri, & Weston, 2012). Some research showed that perspective-taking is group-specific (Shih et al., 2009; Vescio et al., 2003), which means that its positive effects do not generalize to different outgroups, while other research indicates that intergroup contact is useful in reducing prejudice towards secondary groups (e.g., Lolliot, 2013; Tausch et al., 2010). To the best of our knowledge, no previous research has explicitly compared hypothetical and real perspective-taking targets. The aim of the present study was to bridge this gap by comparing perspective-taking with a hypothetical target and perspective-taking occurring during a real interaction with an outgroup member in reducing prejudice towards people with disabilities. Perspective-taking was facilitated through the participation in the *Marciapiede Didattico*<sup>1</sup> (*Didactic Pavement*), an intervention through which participants were asked to travel in a wheelchair on a path that simulated a real pavement in the presence (or not) of an individual with a motor disability. It is our contention that to take the perspective of the outgroup during a real interaction with an outgroup member might enhance the ability of an individual to take the perspective of and empathize with outgroup members, which would be less likely with perspective-taking with a hypothetical target (Gehlbach, 2004). To drive a wheelchair at the presence of a person with a motor disability who habitually does the same thing might be more impactful than doing it, just *imagining* some people with disabilities driving their own wheelchair. Empathic responses should be higher in the former than the latter condition.

Furthermore, we predicted that perspective-taking in the presence of a real target would facilitate prejudice reduction not only towards the target group of the specific perspective-taking task, but also towards other outgroups (STE), via empathy. We thus tested the following hypotheses:

Hypothesis 1. Perspective-taking in the presence of a real target will be more effective than perspective-taking with a hypothetical target in reducing prejudice towards people with disabilities.

Hypothesis 2. Perspective-taking in the presence of a real target will reduce prejudice towards secondary groups more than perspective-taking with a hypothetical target.

Hypothesis 3. Increased empathy will mediate the effect of perspective-taking with a real target on prejudice towards people with disabilities.

Hypothesis 4. Increased empathy will mediate the effect of perspective-taking with a real target on prejudice towards secondary groups.

## **Method**

### **Participants**

Four different high schools and one middle school in Florence (Italy) agreed to participate in the study. The participants included 437 students (264 females, 172 males) aged 11–17 years ( $M = 14.28$ ;  $SD = 1.17$ ). Of these, 77.1% attended high school and 22.9% middle school. Most (86.3%) had Italian nationality, while 13.7% had a different nationality. Most of the participants (99.3%) reside in central Italy, 0.5% in northern Italy, and 0.2% in southern Italy or on islands.

### **Design and procedure**

A randomized controlled between-groups design was used with two treatment groups (Hypothetical target versus Real target) and one control group (no intervention), one pre-test ( $T_0$ ) and two post-test measures, one after one week ( $T_1$ ) and the other after two weeks ( $T_2$ ). Participants were randomly assigned to the various conditions on a classroom basis.

**Perspective-taking.** Perspective-taking was facilitated through the participation in the *Marciapiede Didattico*, an intervention designed to reduce prejudice by putting participants in the shoes of people with disabilities<sup>1</sup>. The main activity of this intervention consisted of a direct experience of travelling in a wheelchair on a path that simulated a real pavement, so that participants could experience directly the difficulties that people with disabilities encounter every day along any city street (see Clore & Jeffery, 1972). In order to recreate these difficulties, along the entire pavement there were daily obstacles: participants should try not to bump into a road sign and a bike parked right next to it. They had to avoid hitting the overhang of a window and some obstacles, such as holes and irregular shapes of the pavement. At the end of the simulation the participants were forced to get off the pavement from its highest part, due to a car parked right near the ramp for the disabled. Before and after this experience, students took part in a group discussion about equality/diversity, ability/disability, judgment/prejudice facilitated by a psychologist and an educator.

In the Hypothetical target condition, the experience of the *Marciapiede Didattico* was facilitated by some professionals without disabilities, while in the Real target condition, this experience took place at the presence of a person on a wheelchair as a facilitator during the different activities, including the discussion, through which personal details of this person could be disclosed. In the control condition, participants did not take part in any intervention (for ethical reasons, they were allowed to participate in the activities of the *Marciapiede Didattico* after the research had finished).

All participants were asked to complete a questionnaire assessing the variables of interest at three different times: before the intervention (pre-test, T<sub>0</sub>), after one week (post-test, T<sub>1</sub>) and after two weeks (T<sub>2</sub>). Participation in the study was voluntary and we did not provide incentives. The participants completed measures in paper-and-pencil format. The questionnaire was anonymous, did not ask for any personally identifiable information, and took about 30 minutes to complete. It was

administered in class at the presence of some researchers. Informed consent was provided by all the students and their parents before taking part in the study.

## **Measures**

*Attitudes.* Attitudes towards people with disabilities were measured through eight semantic differentials (e.g., “useless/useful”, “unpleasant/pleasant”) with answers from 1 (negative) to 7 (positive) (Matera, Stefanile, & Brown, 2011). High scores on this scale indicate positive attitudes towards people with disabilities ( $\alpha = .84$ ).

*Contact intention.* A twelve-item scale was used to measure participants willingness to engage in contact with disabled people. This scale was inspired by previous work (Tip et al., 2012). The participants were asked to imagine having a friend with a disability and to indicate their degree of agreement on a 7-point Likert scale (1 = not at all, 7 = very much) with some statements about possible contacts with him/her (e.g., “Suppose you want to go to a sport event. How likely is it that you invite Paola to come with you?” or “Suppose Paola invites you to a party at her house. How likely is it that you go there?”). High scores on this scale indicate more possibility to future contact with a disabled people ( $\alpha = .94$ ).

*Empathy.* A four-item scale (Capozza, Trifiletti, Vezzali, & Favara, 2013) was used to evaluate levels of empathy towards people with disabilities (e.g., “Do you feel in tune with them?”) on a 5-point Likert scale (1 = not at all, 5 = very much). High scores on this scale indicate high levels of empathy ( $\alpha = .81$ ).

*Secondary Transfer Effect.* Some feeling thermometers were used to measure attitudes towards secondary outgroups. A feeling thermometer enables respondents to express their attitudes towards a person, group, or issue by applying a numeric rating of their feelings to an imaginary scale (Lavrakas, 2008). We measured attitudes towards immigrants, homosexuals, obese people, homeless, and Roma. A rating of 0 (very cold) indicated that a respondent did not like the group at all, while a rating of 100 (very warm) indicated that a respondent liked the group very much.

Demographic variables (i.e., sex, nationality, age) and previous contact with people with disabilities were also assessed. Two items inspired by Voci and Hewstone (2003) were used to measure quantity (i.e., “How many people with disability do you know?”) and quality (i.e., “If you know people with disability, how many of these people have a good relationship?”) of direct contact with people with disabilities. For both items, responses were provided on a 6-point Likert scale (1 = none, 6 = many). The scores reported on the two items were multiplied. High scores on this scale indicate high levels of direct contact ( $\alpha = .66$ ).

## **Results**

### **Preliminary analyses**

In order to be sure that the randomization procedure was effective, preliminary analyses were performed to compare the experimental and control groups at baseline in terms of sex, nationality, age, prior direct contact and the dependent variables. The three groups were fairly balanced for the variables that we considered (sex, nationality, age, prior direct contact). None of the chi-square tests or ANOVAs yielded statistically significant results (all  $ps > .05$ ).

Subsequently, we tested if the three groups differed with respect to the dependent variables at pre-test (see Table 1). The ANOVAs revealed that differences between groups were statistically significant with respect to attitudes towards immigrants,  $F_{(2, 431)} = 3.02, p < .05, \eta^2 = .01$ , and attitudes towards obese people,  $F_{(2, 431)} = 7.03, p < .01, \eta^2 = .03$ . The ANCOVAs allowed us to control for these differences between groups at pre-test.

Insert Table 1 here

### **Prejudice towards people with disabilities**

In each ANCOVA, post-test means were included as the dependent variables and pre-test scores as covariates. ANCOVA allowed us to control for differences between groups at pre-test, which could be due to unequal conditions on the dependent variables pre-test, despite the efforts of

randomization (Kenny, 1979; Rausch, Maxwell, & Kelley, 2003). We used partial eta squared ( $\eta^2$ ) to assess the intervention's effect size; a small effect is typically around  $\eta^2 = .01$ , a medium effect is approximately  $\eta^2 = .06$ , and a large effect is about  $\eta^2 = .14$  (Cohen, 1988).

The statistical assumption of homogeneity of regression slopes in ANCOVA was tested by including an interaction term between pre-test scores and group (experimental condition) in the statistical model. The interaction term was found to be significant for two of our variables: attitudes towards Roma and attitudes towards homeless people, so that these variables could not be included in our analyses.

Descriptive statistics of the measured variables at T<sub>1</sub> and T<sub>2</sub> are displayed in Table 2 and 3 respectively.

Insert Table 2 here

Insert Table 3 here

In line with Hypothesis 1, the ANCOVAs showed statistically significant differences between the experimental and control groups' post-test means after controlling for pre-test scores on most of the variables we considered, with some differences between T<sub>1</sub> and T<sub>2</sub>.

With respect to attitudes towards people with disabilities assessed after one week (T<sub>1</sub>), the effect of the experimental condition was significant,  $F_{(2, 347)} = 4.29, p = .05, \eta^2 = .02$ . Participants in the Real target condition showed more favourable attitudes ( $M = 5.39$ ) than participants in the Control one ( $M = 5.12$ ) ( $p < .05$ ), while no significant difference emerged between the Real and Hypothetical target ( $M = 5.27$ ) conditions ( $p = .17$ ). Attitudes were not significantly different in the Hypothetical target and Control conditions ( $p = .10$ ). However, when measured two weeks after the intervention (T<sub>2</sub>), the effect of the experimental condition was no longer significant,  $F_{(2, 326)} = 2.20, p = .11$ .

With respect to contact intentions assessed after one week (T<sub>1</sub>), the effect of the experimental condition was significant,  $F_{(2, 356)} = 4.17, p < .05, \eta^2 = .02$ . Participants in the Real target condition showed higher contact intentions ( $M = 5.23$ ) than participants in the Hypothetical target ( $M = 4.94$ )

( $p < .05$ ) and Control conditions ( $M = 4.95$ ) ( $p < .05$ ). No significant difference emerged between the Hypothetical target and the Control conditions ( $p = .93$ ). Notably, the effect of the condition was significant also after two weeks ( $T_2$ ),  $F_{(2, 335)} = 5.19$ ,  $p < .01$ ,  $\eta^2 = .03$ . Participants in the Real target condition showed higher willingness to engage in contact with people with disabilities ( $M = 5.30$ ) than participants in the Hypothetical target ( $M = 4.93$ ) ( $p < .05$ ) and Control conditions ( $M = 4.94$ ) ( $p < .05$ ). No significant difference emerged between the Hypothetical target and the Control condition ( $p = .93$ ).

The effect of the experimental condition on empathy assessed after one week ( $T_1$ ) was significant  $F_{(2, 371)} = 3.99$ ,  $p < .05$ ,  $\eta^2 = .02$ . Participants in the Real target condition showed more empathy ( $M = 3.59$ ) than participants in the Hypothetical target ( $M = 3.43$ ) ( $p < .05$ ) and Control ones ( $M = 3.37$ ) ( $p < .05$ ). No significant difference emerged between the Hypothetical target and the Control condition ( $p = .41$ ). When measured two weeks after the intervention ( $T_2$ ), the effect of the experimental condition was no longer significant,  $F_{(2, 341)} = .59$ ,  $p = .56$ .

### **Secondary transfer effect**

With respect to Hypothesis 2, there was a significant effect of condition after one week ( $T_1$ ) for attitudes towards immigrants,  $F_{(2, 374)} = 5.57$ ,  $p < .01$ ,  $\eta^2 = .03$ , and homosexuals,  $F_{(2, 373)} = 4.33$ ,  $p < .05$ ,  $\eta^2 = .02$ . After two weeks ( $T_2$ ), these effects were still significant (immigrants,  $F_{(2, 343)} = 3.10$ ,  $p < .05$ ,  $\eta^2 = .02$ , homosexuals,  $F_{(2, 344)} = 6.02$ ,  $p < .01$ ,  $\eta^2 = .03$ ).

At both  $T_1$  and  $T_2$  participants in the Real ( $T_1 M = 79.23$ ;  $T_2 M = 78.76$ ) and Hypothetical target ( $T_1 M = 79.55$ ;  $T_2 M = 78.60$ ) conditions showed more positive attitudes towards immigrants than participants in the Control condition ( $M = 73.16$ ) ( $T_1 p < .01$ ;  $T_2 p < .05$ ). No significant difference emerged between the Real and Hypothetical target conditions ( $T_1 p = .88$ ;  $T_2 p = .95$ ). As regards attitudes towards homosexuals, at  $T_1$  participants in the Real target condition ( $M = 85.77$ ) reported higher scores than participants in the Control condition ( $M = 80.12$ ) ( $p < .01$ ). Again, no significant difference emerged between the Real and Hypothetical target ( $M = 83.62$ ) conditions ( $p = .24$ ), while the difference between the Hypothetical target and the Control condition was

marginally significant ( $p = .06$ ). At T<sub>2</sub> differences among groups changed: participants in the Real target condition reported more favourable attitudes towards homosexual people ( $M = 86.94$ ) than participants in the Hypothetical target ( $M = 82.53$ ) ( $p < .05$ ) and Control conditions ( $M = 79.39$ ) ( $p < .01$ ). The difference between the Hypothetical target and the Control condition was not significant ( $p = .13$ ). The effect of the condition was not significant for attitudes towards obese people either at T<sub>1</sub>,  $F_{(2, 375)} = .35, p = .70$ , or at T<sub>2</sub>,  $F_{(2, 345)} = .15, p = .86$ .

### **Mediational hypotheses: the role of empathy**

To test our mediational hypothesis, we carried out regression analyses and used bootstrapping procedures to compute a 95% confidence interval around the indirect effect of empathy (Preacher & Hayes, 2004). If zero falls outside this interval, mediation can be said to occur. We did not test our mediational hypothesis with respect to those variables, assessed either at T<sub>1</sub> or T<sub>2</sub>, which were not affected by our experimental condition, namely attitudes towards obese people (at both T<sub>1</sub> and T<sub>2</sub>) and attitudes towards people with disability at T<sub>2</sub>. Given that empathy at T<sub>2</sub> was not affected by our experimental conditions, we excluded that it could be responsible for changes observed on our criterion variables at T<sub>2</sub> (see Baron & Kenny, 1986). Therefore, empathy assessed at T<sub>1</sub> was included as the mediator in all of the analyses.

First, we tested if empathy at T<sub>1</sub> could be responsible for changes on prejudice observed at T<sub>1</sub>; the experimental condition was the independent variable, attitudes and contact intentions at T<sub>1</sub> were (respectively) the criterion variables, and empathy at T<sub>1</sub> was the mediator; as we did for the ANCOVAs, pre-test scores (on both empathy and the criterion variable) were included as covariates.

We also tested if empathy at T<sub>1</sub> could mediate the effect of the experimental conditions on prejudice assessed at T<sub>2</sub>. In these analyses the experimental condition was the independent variable, contact intentions, attitudes towards immigrants, and attitudes towards homosexual people at T<sub>2</sub> were (respectively) the criterion variables, and empathy at T<sub>1</sub> was the mediator; again, pre-test scores were included as covariates.

We then tested our third and fourth hypotheses (Hypothesis 3 and 4), according to which empathy could mediate the effect of perspective-taking on prejudice. Intercorrelations among variables are presented in Table 4.

Insert Table 4 here

Results of the bootstrapping procedure revealed a 95% confidence interval ranging from -.049 to -.006 for attitudes towards people with disabilities at T<sub>1</sub>, from -.092 to -.004 for contact intentions at T<sub>1</sub> and from -.099 to -.008 for contact intentions at T<sub>2</sub>, which supported our prediction with respect to these criterion variables (see Tables 5 and 6).

Insert Table 5 here

Insert Table 6 here

Nevertheless, contrary to our hypothesis, the indirect effect of the experimental condition on attitudes towards secondary groups, such as immigrants (T<sub>1</sub>: -.587; .234; T<sub>2</sub>: -1.026; .009) and homosexual people (T<sub>1</sub>: -.399; .185; T<sub>2</sub>: -.833; .003) via empathy was not significant, because for all of these variables zero was included in the 95% confidence interval.

## **Discussion**

This study produced empirical evidence for the impact of an intervention that facilitated perspective-taking with a real target on prejudice towards people with disabilities. Findings supported our hypotheses, showing that to take the perspective of an outgroup while interacting with an outgroup member is more effective in reducing prejudice than taking the perspective of an outgroup without actually meeting any of its members. Perspective-taking in the presence of a real target led to higher levels of empathy and higher contact intentions towards people with disabilities than those reported by individuals who completed the perspective-taking task without encountering an outgroup member or those in the control condition. In line with some previous studies (e.g., Mooijman & Stern, 2016; Okimoto & Wenzel, 2011), perspective-taking was found to be almost ineffective when performed with a hypothetical target; indeed, for most of the dependent variables,

no difference was found between participants who engaged in this task and those in the control condition. It seems that to imagine the problems and difficulties experienced by people with disabilities is not sufficient to view them more favourably; such an experience could be unsuccessful if it is not made more concrete through the presence of a member of the outgroup. This presence could motivate individuals and offer them the cognitive skills they need to take the perspective of others (Gehlbach, 2004). Informational cues provided by the presence of the target could have guided participants in taking the perspective of people with disabilities, to focus on this target's habits, experiences, and internal state (Gehlbach, 2004). Our findings showed that perspective-taking with a hypothetical target was not sufficient to increase participants' empathy towards people with disabilities, which instead was enhanced when the task was performed at the presence of a real member of that group. The presence of the real target could have been especially important also during the discussion, through which the facilitator had the opportunity to disclose personal information about his life. Empathy was found to mediate the relationship between the experimental condition and attitudes towards people with disabilities immediately after the intervention, as hypothesised. Moreover, it mediated the relationship between the experimental condition and contact intentions both one and two weeks after the intervention.

Importantly, perspective-taking proved to be effective in reducing prejudice towards secondary groups that were not directly mentioned during the intervention. Contrary to previous research findings, we observed that perspective-taking, with both a real and a hypothetical target, was sufficient to produce some STEs. Positive effects obtained on attitudes towards people with disabilities were transferred to immigrants and homosexuals (see also Vezzali & Giovannini, 2012). Attitudes towards immigrants were more favourable in the perspective-taking conditions than in control, and this effect proved to be stable. After one week, attitudes towards homosexuals were more favourable in the perspective-taking conditions than in control, but after two weeks only the effect produced by perspective-taking with a real target was found to be durable. These findings

suggest that perspective-taking with a hypothetical target, although almost ineffective in reducing prejudice towards the target of the intervention, did have some positive collateral effects.

We should acknowledge that the effects of perspective taking and real contact with the target cannot be perfectly disentangled in our design. To get a better understanding of the results, future research should add an experimental condition in which participants are put in contact with an outgroup member without performing the perspective taking task. Unfortunately, due to the restrictions posed by the school context in which we conducted the study, it was not possible to include this further condition in our design. Future research could also examine the combined effects of perspective taking with a hypothetical target and imagined contact with an outgroup member, in order to test if an imagined encounter could be as effective as a real contact opportunity during perspective taking.

We should also recognize that the effect produced by our perspective-taking task was small and, in some cases, disappeared after a two-week period. Similar findings were obtained in previous interventions aimed at reducing prejudice among students (e.g., Aronson et al., 2016). Small effect sizes could be due to the fact that participants already held positive attitudes towards people with disabilities, before the intervention was implemented. Although international data suggest that people with disabilities are one of the most stigmatized and marginalized minorities, in our sample this seemed not to be true. With respect to the stability of the effects we observed, what proved to be steadier was the change produced in contact intentions and attitudes towards some secondary groups. These findings are quite reassuring if we consider that intentions are supposed to be a more direct predictor of behaviour than attitudes (Ajzen, 1991). It is quite surprising that after two weeks the effect of the intervention on attitudes towards people with disability, which was the effective target of the intervention, disappeared, while attitudes towards immigrants or homosexual people, which were not targeted by the intervention, continued being more positive. This result could be explained taking into account pre-existing attitudes. It may be that attitudes towards people with disabilities were stronger than those towards homosexuals and immigrants. Strong attitudes are

more persistent over time and more resistant to change (Fazio, 1989; Krosnick & Petty, 1995). It may be that the effects of the intervention were maintained only for the groups towards which the attitudes of the participants were less strong and, therefore, more subject to change.

From our findings it is quite clear that empathy was responsible for the positive effect of perspective-taking with a real target on attitudes and contact intentions towards people with disabilities, which is in line with previous research findings (Batson et al., 1997; Shih et al., 2009; Vescio et al., 2003). Nevertheless, it is not clear which mechanisms drove positive changes after perspective-taking on secondary groups, as the supposed mediational role of empathy was not confirmed in this case. Other psychological processes should be identified in order to understand why perspective-taking enhanced attitudes towards secondary outgroups. Tausch et al. (2010) suggested that attitude generalization and ingroup reappraisal could be responsible for STE, providing evidence for the former, but not for the latter. Collective self-esteem could be another mechanism explaining STE (Brylka, Jasinskaja-Lahti, & Mähönen, 2016). Taking the perspective of others and having contact with an outgroup which is generally marginalized could improve positive attitudes towards one's ingroup and collective self-esteem, thanks to downwards social comparison (Festinger, 1954). Furthermore, while taking the perspective of others, we might imagine that outgroup members have a favourable view of our group, which could enhance positive metastereotypes, with beneficial outcomes on intergroup attitudes (e.g., Matera, Stefanile, & Brown, 2015). Future studies could explore the role of collective self-esteem and metastereotypes in explaining the positive effects of perspective-taking on attitudes towards the outgroup, including secondary groups.

This study has some limitations. First, participants were randomly assigned to the various conditions on a classroom basis. Second, we did not administer a long-term follow-up questionnaire which could allow a better understanding of the temporal stability of perspective-taking effects. Third, ethno-cultural differences among participants, which could affect attitudes towards people with disabilities and secondary groups (Murdick, Shore, Gartin, & Chittooran, 2004), were not

assessed. Moreover, we used a convenience sample of students belonging to schools which allowed students to participate in the study, so that our findings are not generalizable to the entire population. Finally, social desirability could have affected our findings, given that students are educate to show favourable attitudes towards certain social categories, such as people with disabilities. Even though we did try to control such a bias by keeping separate the intervention and the questionnaire administration, which were conducted by different figures and in different moments, further studies could assess attitudes through indirect measures, so that social desirability could be controlled even better.

In spite of these limitations, the present study was the first showing that perspective-taking with a real target can be more effective than perspective-taking with a hypothetical target in reducing prejudice towards people with disabilities. The implementation of interventions with a real target are not without difficulties. First of all, organizational difficulties can deem them impractical. Furthermore, contexts characterized by high levels of conflict represent an obstacle for their implementation. When groups are highly segregated, physically or socially, or when there is little motivation to engage in contact, the benefits of real target intervention may not be achieved (Crisp & Turner, 2009). However, when possible, perspective-taking in the presence of the target is highly recommended for reducing prejudice. Interactions with a real target give the opportunity to speak, and be heard, thus increasing perception of fairness. Moreover, if present during the intervention, outgroup members, who often feel disempowered, objectified and voiceless (Bruneau & Saxe, 2012), may benefit from exercising their voices (Halabi, 2004). Interventions involving a real target could thus favour a two-way exchange process which might enhance perspective-taking itself. Future research could investigate how to make the effects of perspective-taking stronger and more lasting. Probably, these strategies should not be realised in a single session, as we did through our *Marciapiede Didattico*, but they should be implemented during multiple sessions over a longer time frame. Future studies could test if a longer intervention, with multiple interactions, could produce more enduring effects. Moreover, similar interventions with other outgroups could be planned and

their efficacy could be tested. For instance, individuals could be asked to experience the daily difficulties that an immigrant might experience because of language barriers, or the problems that obese people have to face in moving and completing common tasks. As for the intervention we presented here, these situations could be experienced with either a real or hypothetical member of the target group.

### **Author contributions**

All authors listed have made a substantial, direct and intellectual contribution to the work, and approved it for publication.

### **Conflict of Interest**

The authors declare that they have no conflict of interest.

### **Data availability statement**

The data that support the findings of this study are available from the corresponding author upon reasonable request.

**Funding** This study was funded by Fondazione Cassa di Risparmio di Firenze and ADRA.

### **Ethical Approval**

All procedures performed in studies involving human participants were in accordance with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

### **Informed Consent**

Informed consent was obtained from all individual participants and their parents before taking part in the study.

## **Endnotes**

<sup>1</sup>The format of the intervention, planned by Adra Association, was modified and reduced in order to manipulate perspective-taking while controlling for confounding variables.

Table 1.

*Descriptive statistics (Mean and Standard Deviation) at pre-test (T<sub>0</sub>)*

<i>Experimental condition</i>	<i>Attitudes towards people with disabilities (T<sub>0</sub>)</i>	<i>Contact intentions (T<sub>0</sub>)</i>	<i>Empathy (T<sub>0</sub>)</i>	<i>Attitudes towards immigrants (T<sub>0</sub>)</i>	<i>Attitudes towards homosexual people (T<sub>0</sub>)</i>	<i>Attitudes towards homeless people (T<sub>0</sub>)</i>	<i>Attitudes towards obese people (T<sub>0</sub>)</i>	<i>Attitudes towards Roma (T<sub>0</sub>)</i>
Real target	5.36 (1.15)	5.27 (1.43)	3.53 (.91)	83.01 (21.82)	83.41 (28.55)	77.29 (24.25)	80.59 (22.30)	71.34 (27.66)
Hypothetical target	5.25 (1.01)	5.03 (1.34)	3.44 (.93)	77.59 (23.56)	83.13 (25.23)	71.10 (26.39)	71.48 (23.65)	65.68 (27.50)
Control	5.39 (1.03)	5.06 (1.34)	3.58 (.86)	76.77 (23.00)	83.68 (22.65)	73.83 (23.67)	72.11 (22.05)	67.24 (27.97)

Table 2.

*Descriptive statistics (Mean and Standard Deviation) at post-test (T<sub>1</sub>)*

<i>Experimental condition</i>	<i>Attitudes towards people with disabilities (T<sub>1</sub>)</i>	<i>Contact intentions (T<sub>1</sub>)</i>	<i>Empathy (T<sub>1</sub>)</i>	<i>Attitudes towards immigrants (T<sub>1</sub>)</i>	<i>Attitudes towards homosexual people (T<sub>1</sub>)</i>	<i>Attitudes towards homeless people (T<sub>1</sub>)</i>	<i>Attitudes towards obese people (T<sub>1</sub>)</i>	<i>Attitudes towards Roma (T<sub>1</sub>)</i>
Real target	5.40 (1.10)	5.30 (1.47)	3.59 (.99)	83.23 (23.67)	86.10 (25.72)	76.67 (25.41)	79.76 (20.89)	69.26 (29.84)
Hypothetical target	5.25 (1.03)	4.93 (1.40)	3.40 (.97)	77.74 (23.07)	83.21 (24.91)	73.21 (22.77)	72.55 (21.25)	67.65 (25.60)
Control	5.13 (1.01)	4.87 (1.34)	3.41 (.85)	70.97 (26.32)	80.27 (25.27)	68.83 (21.35)	72.28 (21.62)	60.90 (27.45)

Table 3.

*Descriptive statistics (Mean and Standard Deviation) at post-test (T<sub>2</sub>)*

<i>Experimental condition</i>	<i>Attitudes towards people with disabilities (T<sub>2</sub>)</i>	<i>Contact intentions (T<sub>2</sub>)</i>	<i>Empathy (T<sub>2</sub>)</i>	<i>Attitudes towards immigrants (T<sub>2</sub>)</i>	<i>Attitudes towards homosexual people (T<sub>2</sub>)</i>	<i>Attitudes towards homeless people (T<sub>2</sub>)</i>	<i>Attitudes towards obese people (T<sub>2</sub>)</i>	<i>Attitudes towards Roma (T<sub>2</sub>)</i>
Real target	5.31 (1.17)	5.36 (1.42)	3.61 (.99)	83.08 (24.93)	87.48 (23.39)	77.50 (25.87)	78.88 (22.50)	70.09 (29.78)
Hypothetical target	5.13 (1.10)	4.87 (1.50)	3.53 (.92)	77.17 (23.57)	81.95 (23.68)	73.67 (22.48)	72.56 (22.54)	66.09 (27.24)
Control	5.12 (1.00)	4.96 (1.32)	3.52 (.83)	70.83 (26.95)	79.54 (26.15)	69.63 (23.39)	73.30 (22.61)	62.34 (27.08)

Table 4.  
Correlations among variables

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.
1. Attitude towards people with disabilities ( $T_0$ )	-																
2. Empathy ( $T_0$ )	.49***	-															
3. Contact intentions ( $T_0$ )	.47***	.53***	-														
4. Attitudes towards people with disabilities ( $T_1$ )	.76***	.50***	.55***	-													
5. Empathy ( $T_1$ )	.47***	.73***	.51***	.55***	-												
6. Contact intentions ( $T_1$ )	.47***	.45***	.78***	.56***	.59***	-											
7. Attitudes towards people with disabilities ( $T_2$ )	.73***	.51***	.51***	.84***	.53***	.57***	-										
8. Empathy ( $T_2$ )	.48***	.72***	.51***	.55***	.84***	.58***	.57***	-									
9. Contact intentions ( $T_2$ )	.45***	.49***	.74***	.53***	.58***	.88***	.60***	.58***	-								
10. Attitudes towards obese people ( $T_0$ )	.21***	.17***	.17***	.20***	.12*	.19***	.19***	.13*	.19**	-							
11. Attitudes towards immigrants ( $T_0$ )	.27***	.23***	.28***	.26***	.23***	.31***	.24***	.26***	.25***	.37***	-						
12. Attitudes towards homosexual people ( $T_0$ )	.24***	.12*	.24***	.17**	.07	.20***	.16**	.11*	.19**	.32***	.44***	-					
13. Attitudes towards obese people ( $T_1$ )	.32***	.25***	.30***	.34***	.25***	.37***	.35***	.29***	.36***	.52***	.38***	.31***	-				
14. Attitudes towards immigrants ( $T_1$ )	.29***	.25***	.37***	.32***	.30***	.46***	.31***	.33***	.40***	.21***	.70***	.43***	.49***	-			
15. Attitudes towards homosexual people ( $T_1$ )	.26***	.23***	.27***	.25***	.22***	.35***	.21***	.23***	.30***	.29***	.41***	.75***	.43***	.54***	-		
16. Attitudes towards obese people ( $T_2$ )	.32***	.21***	.23***	.28***	.18***	.30***	.31***	.25***	.32***	.63***	.32***	.33***	.75***	.36***	.40***	-	
17. Attitudes towards immigrants ( $T_2$ )	.28***	.26***	.41***	.30***	.26***	.46***	.29***	.34***	.38***	.19***	.73***	.40***	.46***	.87***	.48***	.42***	-
18. Attitudes towards homosexual people ( $T_2$ )	.25***	.21***	.28***	.23***	.15**	.30***	.21***	.17**	.27***	.26***	.46***	.81***	.36***	.55***	.84***	.42***	.55***

\*\*\* $p < 0.001$  \*\* $p < 0.01$  \* $p < 0.05$

Table 5.

*Regression analyses: experimental condition and empathy at T<sub>1</sub> predicting prejudice at T<sub>1</sub>*

<i>Experimental condition</i>	<i>Attitudes towards people with disabilities T<sub>1</sub> (Y)</i>	<i>Contact intentions T<sub>1</sub> (Y)</i>	<i>Attitudes towards immigrants T<sub>1</sub> (Y)</i>	<i>Attitudes towards homosexual people T<sub>1</sub> (Y)</i>
Pre-test score on the criterion variable	.69***	.70***	.75***	.83***-
T <sub>0</sub> ( $\beta$ )				
Pre-test score on the mediator T <sub>0</sub> ( $\beta$ )	-01	-.20**	1.46	2.07-
Experimental condition ( $\beta$ )	-.11*	-.11*	-2.80*	-2.79**
Empathy T <sub>1</sub> ( $\beta$ )	.22***	.51***	1.42	.78
Indirect effect of X on Y (CI 95%)	-.049;-.006	-.092;-.004	-.587;.234	-.399;.185

\*\*\* $p < 0.001$  \*\* $p < 0.01$  \* $p < 0.05$

Table 6.

*Regression analyses : experimental condition and empathy at T<sub>1</sub> predicting prejudice at T<sub>2</sub>*

<i>Experimental condition</i>	<i>Contact intentions T<sub>2</sub> (Y)</i>	<i>Attitudes towards immigrants T<sub>2</sub> (Y)</i>	<i>Attitudes towards homosexual people T<sub>2</sub> (Y)</i>
Pre-test score on the criterion variable T <sub>0</sub> ( $\beta$ )	.63***	.75***	.71***-
Pre-test score on the mediator T <sub>0</sub> ( $\beta$ )	-.02	.18	1.44-
Experimental condition ( $\beta$ )	-.13*	-2.50*	-3.23**
Empathy T <sub>1</sub> ( $\beta$ )	.42***	3.49*	2.67*
Indirect effect of X on Y (CI 95%)	-.099;-.008	-.1.03;.009	-833;.003

\*\*\* $p < 0.001$  \*\* $p < 0.01$  \* $p < 0.05$

## References

- Ahuja, K. K., Dhillon, M., Juneja, A., Deepak, S., & Srivastava, G. (2019). Subverting Heteronormativity: An Intervention to Foster Positive Attitudes Toward Homosexuality Among Indian College Students. *Journal of homosexuality, 66*(6), 746-768. DOI: 10.1080/00918369.2018.1484230
- Ajzen, I. (1991). The Theory of Planned Behavior. *Organizational Behavior and Human Decision processes, 50*(2), 179-211. DOI:10.1016/0749-5978(91)90020-T
- Allport, G.W. (1954). *The nature of prejudice*. Reading, MA: Addison-Wesley.
- Amsel, R., & Fichten, C.S. (1988). Effects of contact on thoughts about interaction with students who have a physical disability. *Journal of Rehabilitation, 54*, 61-65. DOI:10.1007/BF01098950
- Armstrong, M., Morris, C., Abraham, C., & Tarrant, M. (2017). Interventions utilizing contact with people with disabilities to improve children's attitudes towards disability: A systematic review and meta-analysis. *Disability and Health Journal, 10*(1), 11-22. DOI: 10.1016/j.dhjo.2016.10.003
- Aronson, K., Stefanile, C., Matera, C., Nerini, A., Grisolaghi, J., Romani, G., Massai, F., Antonelli, P. (2016). Telling tales in school: extended contact interventions in the classroom. *Journal of Applied Social Psychology, 46*(4), 229-241. DOI: 10.1111/jasp.12358
- Barnes, C. (1996). Theories of disability and the origins of the oppression of disabled people in western society. In L. Barton (Ed.), *Disability and society: Emerging issues an insight* (pp. 43–60). London: Longman. DOI: 10.4324/9781315841984-4
- Baron, R. M., & Kenny, D. A. (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of personality and social psychology, 51*(6), 1173-1182. DOI: 10.1037//0022-3514.51.6.1173
- Batson, C. D. (2011). *Altruism in Humans*. New York, NY: Oxford University Press.

- Batson, C. D., Chang, J., Orr, R., & Rowland, J. (2002). Empathy, attitudes, and action: Can feeling for a member of a stigmatized group motivate one to help the group? *Personality and Social Psychology Bulletin*, 28(12), 1656-1666. DOI: 10.1177/014616702237647
- Batson, C. D., Eklund, J. H., Chermok, V. L., Hoyt, J. L., & Ortiz, B. G. (2007). An additional antecedent of empathic concern: valuing the welfare of the person in need. *Journal of Personality and Social Psychology*, 93(1), 65-74. DOI: 10.1037/0022-3514.93.1.65
- Batson, C. D., Lishner, D. A., Cook, J., & Sawyer, S. (2005). Similarity and nurturance: Two possible sources of empathy for strangers. *Basic and Applied Social Psychology*, 27(1), 15-25. DOI: 10.1207/s15324834basp2701\_2
- Batson, C. D., Polycarpic, M. P., Harmon-Jones, E., Imhoff, H. J., Mitchener, E. C., Bednar, L. L., ... & Highberger, L. (1997). Empathy and attitudes: Can feeling for a member of a stigmatized group improve feelings toward the group? *Journal of Personality and Social Psychology*, 72(1), 105-118. DOI: 10.1037//0022-3514.72.1.105
- Berndsen, M., & McGarty, C. (2012). Perspective-taking and opinions about forms of reparation for victims of historical harm. *Personality and Social Psychology Bulletin*, 38(10), 1316-1328. DOI: 10.1177/0146167212450322
- Berndsen, M., Thomas, E.F., & Pedersen, A. (2018). Resisting perspective-taking: Glorification of the national group elicits non-compliance with perspective-taking instructions. *Journal of Experimental Social Psychology*, 79, 126-137. DOI: 10.1016/j.jesp.2018.07.007
- Brown, R., & Hewstone, M. (2005). An integrative theory of intergroup contact. *Advances in Experimental Social Psychology*, 37, 255-343. DOI: 10.1016/S0065-2601(05)37005-5
- Bruneau, E. G., & Saxe, R. (2012). The power of being heard: The benefits of “perspective-giving” in the context of intergroup conflict. *Journal of Experimental Social Psychology*, 48, 855–866. DOI: 10.1016/j.jesp.2012.02.017

- Brylka, A., Jasinskaja-Lahti, I., & Mähönen, T. A. (2016). The majority influence on interminority attitudes: The secondary transfer effect of positive and negative contact. *International Journal of Intercultural Relations*, 50, 76-88. DOI: 10.1016/j.ijintrel.2015.12.007
- Cameron, L., Rutland, A., Turner, R., Holman-Nicolas, R., & Powell, C. (2011). "Changing attitudes with a little imagination": Imagined contact effects on young children's intergroup bias. *Anales de Psicologia*, 27(3), 708-717.
- Campbell, K. (2019). *Intergroup Contact Theory and Disabilities*. University of Utah. Retrieved from <http://www.wpsanet.org/papers/docs/Disability%20and%20Intergroup%20Contact%20Theory.pdf>
- Capozza, D., Trifiletti, E., Vezzali, L., & Favara, I. (2013). Can intergroup contact improve humanity attributions? *International Journal of Psychology*, 48(4), 527-541. DOI: 10.1080/00207594.2012.688132
- Clore, G. L., & Jeffery, K. M. (1972). Emotional role playing, attitude change, and attraction toward a disabled person. *Journal of Personality and Social Psychology*, 23(1), 105-111. DOI: 10.1037/h0032867
- Clunies-Ross, G., & O'meara, K. (1989). Changing the attitudes of students towards peers with disabilities. *Australian Psychologist*, 24(2), 273-284. DOI: 10.1080/00050068908259566
- Cohen J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed). Hillsdale, NJ: Erlbaum. DOI: 10.4324/9780203771587
- Crisp, R. J., & Turner, R. N. (2009). Can imagined interactions produce positive perceptions?: Reducing prejudice through simulated social contact. *American Psychologist*, 64(4), 231-240. DOI: 10.1037/a0014718
- Dovidio, J. F., Ten Vergert, M., Stewart, T. L., Gaertner, S. L., Johnson, J. D., Esses, V. M., ... & Pearson, A. R. (2004). Perspective and prejudice: Antecedents and mediating mechanisms. *Personality and Social Psychology Bulletin*, 30(12), 1537-1549. DOI: 10.1177/0146167204271177

- Fazio, R. H. (1989). On the power and functionality of attitudes: The role of attitude accessibility. In A. R. Pratkanis, S. J. Breckler, & A. G. Greenwald (Eds.), *Attitude structure and function* (pp. 153–179). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Festinger, L. (1954). A theory of social comparison processes. *Human Relations*, 7(2), 117-140. DOI: 10.1177/001872675400700202
- Finlay, K. A., & Stephan, W. G. (2000). Improving intergroup relations: The effects of empathy on racial attitudes. *Journal of Applied Social Psychology*, 30(8), 1720-1737. DOI: 10.1111/j.1559-1816.2000.tb02464.x
- Galinsky, A. D., Maddux, W. W., Gilin, D., & White, J. B. (2008). Why it pays to get inside the head of your opponent: The differential effects of perspective-taking and empathy in negotiations. *Psychological science*, 19(4), 378-384. DOI: 10.1111/j.1467-9280.2008.02096.x
- Galinsky, A. D., & Moskowitz, G. B. (2000). Perspective-taking: Decreasing stereotype expression, stereotype accessibility, and in-group favouritism. *Journal of Personality and Social Psychology*, 78(4), 708–724. DOI: 10.1037//0022-3514.78.4.708
- Gehlbach, H. (2004). A new perspective on perspective-taking: A multidimensional approach to conceptualizing an aptitude. *Educational Psychology Review*, 16(3), 207-234. DOI: 10.1023/B:EDPR.0000034021.12899.11
- Goodley, D. (2011). Social psychoanalytic disability studies. *Disability & Society*, 26(6), 715-728. DOI: 10.1080/09687599.2011.602863
- Halabi, R. (2004). *Israeli and Palestinian identities in dialogue*. New Brunswick, New Jersey: Rutgers University Press.
- Istat, S. (2017). *Censimento Popolazione Istat*, 2016.
- Jahoda, A., & Markova, I. (2004). Coping with social stigma: People with intellectual disabilities moving from institutions and family home. *Journal of Intellectual Disability Research*, 48(8), 719-729. DOI: 10.1111/j.1365-2788.2003.00561.x

- Kaminska, M. (2020). Standards of quality of life for people with disabilities in the European Union's policy. *Continuing Professional Education: Theory and Practice*, 62(1), 99-107. DOI: 10.28925/1609-8595.2020.1.15
- Kenny, D. A. (1979). *Correlation and Causality*. New York: Wiley. DOI: 10.1177/014662168100500215
- Krahé, B., & Altwasser, C. (2006). Changing negative attitudes towards persons with physical disabilities: An experimental intervention. *Journal of Community & Applied Social Psychology*, 16(1), 59-69. DOI: 10.1002/casp.849
- Krosnick, J. A., & Petty, R. E. (1995). Attitude strength: An overview. In R. E. Petty & J. A. Krosnick (Eds.), *Attitude strength: Antecedents and consequences* (pp. 1–24). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Lavrakas, P. J. (2008). *Encyclopedia of survey research methods*. Sage Publications. DOI: 10.4135/9781412963947
- Lolliot, S. D. (2013). *The secondary transfer effect of contact*. Doctoral dissertation. Oxford University, UK.
- Maras, P. & Brown, R. J. (1996). Effects of contact on children's attitudes toward disability: a longitudinal study. *Journal of Applied Social Psychology*, 26, 2113-2134. DOI: 10.1111/j.1559-1816.1996.tb01790.x
- Matera, C., Stefanile, C., & Brown, R. (2011). The role of immigrant acculturation preferences and generational status in determining majority intergroup attitudes. *Journal of Experimental Social Psychology*, 47(4), 776-785. DOI: 10.1016/j.jesp.2011.03.007
- Matera, C., Stefanile, C., & Brown, R. (2015). Majority–minority acculturation preferences concordance as an antecedent of attitudes towards immigrants: The mediating role of perceived symbolic threat and metastereotypes. *International Journal of Intercultural Relations*, 45, 96-103. DOI: 10.1016/j.ijintrel.2015.02.001

- Mooijman, M., & Stern, C. (2016). When perspective-taking creates a motivational threat: The case of conservatism, same-sex sexual behavior, and anti-gay attitudes. *Personality and Social Psychology Bulletin*, 42(6), 738-754. DOI: 10.1177/0146167216636633.
- Murdick, N., Shore, P., Gartin, B., & Chittooran, M. M. (2004). Cross-cultural comparison of the concept of “otherness” and its impact on persons with disabilities. *Education and Training in Developmental Disabilities*, 39(4), 310-316.
- Nell, A. (2017). *The secondary transfer effect of intergroup contact: Attitude and empathy generalisation amongst white South African students at Stellenbosch University*. Doctoral dissertation. Stellenbosch University.
- Okimoto, T. G., & Wenzel, M. (2011). The other side of perspective-taking: Transgression ambiguity and victims’ revenge against their offender. *Social Psychological and Personality Science*, 2(4), 373-378. DOI: 10.1177/1948550610393032
- Pettigrew, T. F. (2009). Secondary transfer effect of contact: Do intergroup contact effects spread to noncontacted outgroups? *Social Psychology*, 40(2), 55-65. DOI: 10.1027/1864-9335.40.2.55
- Pettigrew, T. F., & Tropp, L. R. (2006). A meta-analytic test of intergroup contact theory. *Journal of Personality and Social Psychology*, 90(5), 751-783. DOI: 10.1037/0022-3514.90.5.751
- Pettigrew, T. F., & Tropp, L. R. (2008). How does intergroup contact reduce prejudice? Meta-analytic tests of three mediators. *European Journal of Social Psychology*, 38(6), 922-934. DOI: 10.1002/ejsp.504
- Preacher, K. J., & Hayes, A. F. (2004). SPSS and SAS procedures for estimating indirect effects in simple mediation models. *Behavior Research Methods, Instruments, & Computers*, 36(4), 717-731. DOI: 10.3758/BF03206553
- Rausch, J. R., Maxwell, S. E., & Kelley, K. (2003). Analytic methods for questions pertaining to a randomized pretest, posttest, follow-up design. *Journal of Clinical Child and Adolescent Psychology*, 32(3), 467-486. DOI: 10.1207/S15374424JCCP3203\_15

- Skorinko, J. L., & Sinclair, S. A. (2013). Perspective taking can increase stereotyping: The role of apparent stereotype confirmation. *Journal of Experimental Social Psychology, 49*(1), 10-18. DOI: 10.1016/j.jesp.2012.07.009
- Sarge, M. A., Kim, H. S., & Velez, J. A. (2020). An Anti-Sim Intervention: The Role of Perspective Taking in Combating Public Stigma with Virtual Simulations. *Cyberpsychology, Behavior, and Social Networking, 23*(1), 41-51. DOI: 10.1089/cyber.2019.0678. DOI: 10.1016/j.jesp.2012.07.009
- Schmitt, M. T., Branscombe, N. R., Postmes, T., & Garcia, A. (2014). The Consequences of Perceived Discrimination for Psychological Well-Being: A Meta-Analytic Review. *Psychological Bulletin, 140*(4), 921-948. DOI: 10.1037/a0035754
- Shih, M., Wang, E., Trahan Bucher, A., & Stotzer, R. (2009). Perspective-taking: Reducing prejudice towards general outgroups and specific individuals. *Group Processes & Intergroup Relations, 12*(5), 565-577. DOI: 10.1177/1368430209337463
- Stietz, J., Jauk, E., Krach, S., & Kanske, P. (2019). Dissociating empathy from perspective-taking: evidence from intra-and inter-individual differences research. *Frontiers in Psychiatry, 10*. DOI: 10.3389/fpsyt.2019.00126
- Tarrant, M., Calitri, R., & Weston, D. (2012). Social identification structures the effects of perspective taking. *Psychological science, 23*(9), 973-978. DOI: 10.1177/0956797612441221
- Tausch, N., Hewstone, M., Kenworthy, J. B., Psaltis, C., Schmid, K., Popan, J., Cairns, E., & Hughes, J. (2010). Secondary transfer effects of intergroup contact: Alternative accounts and underlying processes. *Journal of Personality and Social Psychology, 99*, 282-302. DOI: 10.1037/a0018553
- Tip, L. K., Zagefka, H., González, R., Brown, R., Cinnirella, M., & Na, X. (2012). Is support for multiculturalism threatened by... threat itself? *International Journal of Intercultural Relations, 36*(1), 22-30. DOI: 10.1016/j.ijintrel.2010.09.011

- Todd, A.R., & Galinsky, A.D. (2014). Perspective-taking as a strategy for improving intergroup relations: Evidence, mechanisms, and qualifications. *Social and Personality Psychology Compass*, 8(7), 374-387. DOI: 10.1111/spc3.12116
- Vescio, T. K., Sechrist, G. B., & Paolucci, M. P. (2003). Perspective-taking and prejudice reduction: The mediational role of empathy arousal and situational attributions. *European Journal of Social Psychology*, 33(4), 455-472. DOI: 10.1002/ejsp.163
- Vezzali, L., & Giovannini, D. (2012). Secondary transfer effect of intergroup contact: The role of intergroup attitudes, intergroup anxiety and perspective taking. *Journal of Community & Applied Social Psychology*, 22(2), 125-144.
- Voci, A., & Hewstone, M. (2003). Intergroup contact and prejudice toward immigrants in Italy: The mediational role of anxiety and the moderational role of group salience. *Group Processes & Intergroup Relations*, 6(1), 37-54. DOI: 10.1177/1368430203006001011
- Vorauer, J. D., & Sucharyna, T. A. (2013). Potential negative effects of perspective-taking efforts in the context of close relationships: Increased bias and reduced satisfaction. *Journal of Personality and Social Psychology*, 104(1), 70-86. DOI: 10.1037/a0030184
- Vorauer, J. D., Martens, V., & Sasaki, S. J. (2009). When trying to understand detracts from trying to behave: Effects of perspective-taking in intergroup interaction. *Journal of Personality and Social Psychology*, 96(4), 811-827. DOI: 10.1037/a0013411
- Wang, C. S., Kenneth, T., Ku, G., & Galinsky, A. D. (2014). Perspective-taking increases willingness to engage in intergroup contact. *PloS one*, 9(1). DOI: 10.1371/journal.pone.0085681