UNIVERSITÀ DI PARMA

UNIVERSITA' DEGLI STUDI DI PARMA

DOTTORATO DI RICERCA IN
"PSICOLOGIA"

CICLO XXXIV

A socio-constructivist approach to intercultural online relations: intergroup contact, Dialogical Self, and prejudice reduction

Coordinatore:
Chiar.mo Prof. Tiziana Mancini

Dottorando: Chiara Imperato

Anni Accademici 2018/2019 – 2020/2021

Abstract

The present research project is focused on the effectiveness of online intergroup contact in reducing prejudice towards the outgroup. By assuming a socio-constructivist perspective, we analyzed the role of the Dialogical Self in influencing the process by which online intergroup contact reduced ethnic / cultural prejudice, shifting from intergroup contact understood as inter-action, to intergroup contact understood as inter-subjectivity. With this in mind, we firstly conducted a meta-analytic analysis of the studies on the topic in order to test whether online intergroup contact reduced prejudice and which variables influenced such relation. Then, we tested the research design in a pilot study and successively applied it to two further studies, focusing respectively on dialogicity (i.e., the individuals' ability to shift between different self- and other-positions) and on power (i.e., objective and perceived) as variables capable of influencing the relations between online intergroup contact and ethnic / cultural prejudice reduction. Overall, the meta-analytic results showed that online intergroup contact moderately reduced prejudice towards the outgroup. Furthermore, the results highlighted the need to analyze other variables that might explain such relationship, paving the way for subsequent studies. As far as the role of the Dialogical Self, in our first study we have found that the individuals' ability to shift between positions while also moving towards more abstract levels of inclusiveness (i.e., human level) appeared to be a promising process for prejudice reduction, despite being controversial. On the contrary, to position themselves and others on the social level of inclusiveness limited the positive effects of the contact as a factor able to reduce prejudice. Furthermore, in our second study, we found that online intergroup contact had different effects depending on individuals' membership to a majority or a minority group (i.e., objective power), as well as the perceived commonalities or differences (i.e., perceived power). Specifically, we found that online intergroup contact could reduce prejudice more for minority group members than for majority, and that integrational (i.e.,

perceived power based on communalities between the interlocutors) but not confrontational (i.e., perceived power based on differences between the interlocutors) power favored individuals' dialogicity. Notwithstanding the reduced strength of some of the relationships observed, the present research project attempts to take a step towards a deeper understanding of what happens when two individuals from different groups interact online and how online intergroup contact appears to be an effective strategy in reducing prejudice, thanks to the seven specific features of the Internet outlined by the seminal work of Amichai-Hamburger and colleagues (i.e., anonymity, control over physical exposure, control over the interaction, finding similar others, accessibility and availability, equality and fun).

Table of Contents

Introduction

In the last decades, the role that Internet plays in our everyday life has become progressively relevant. Recent published reports (*World Internet Users Statistics and 2021 World Population Stats*, 2021) showed that 4.88 billions of people used Internet in 2021, and a great significant amount of time spent online involved communicating with others (e.g., MacInnis & Hodson, 2015). Consequently, Internet changed the way in which individuals communicate and relate to each other, increasingly blurring the boundaries between offline and online worlds (Cover, 2015; Mesch & Talmud, 2007). Scholars underlined that Internet allows individuals to safely experience their different identities (e.g., Turkle, 2011), to increase and (re-)create their social capital (e.g., Neves, 2013), to look for others similar to oneself (e.g., Mehra et al., 2016), and to find social support (e.g., Blight et al., 2017). For these reasons, Internet can be used to create and to join different groups from which people can derive all the benefits related to identification processes and social belonging. However, there are also several empirical evidence testifying that online relationships sometimes generate negative and worrying phenomena. Among these negative phenomena, the literature has identified several negative behaviors that allow us to distinguish between negative behaviors towards the individuals *per se* (e.g., cyberbulling; Aboujaoude et al., 2015), and negative behaviors towards the individuals due to their membership to a specific targeted social group. Among the latter, phenomena such as online harassment (e.g., Bossler et al., 2011), hate speech (e.g., Chetty & Alathur, 2018), social exclusion (e.g., Covert & Stefanone, 2020), and online discrimination (e.g., Tynes et al., 2008) have become significant social concerns. On the 31st of May 2016, the European Commission along with four multinational technological corporations (Facebook, Microsoft, Twitter, and YouTube) presented a Code of Conduct on Countering Illegal Hate Speech Online (*The EU Code of Conduct on Countering Illegal Hate Speech Online | European Commission*, 2016), in order to monitor and prevent

the spread of illegal hate speech online. The most recent report indicated that, although the frequency of hate speech has decreased compared to 2020 (90.4%), the average percentage of notifications of illegal hate speech reviewed within 24 hours remains high (81%). As the report show, the two social categories most commonly reported as a target of illegal hate speech were sexual orientation and xenophobia.

As a result, web platforms can become a vehicle used to discriminate individuals who belong to a different group other than one's own. What is important to underline is that online discrimination cannot simply be considered a by-product of the equivalent phenomena in offline contexts. Indeed, Schwab et al. (2019) found that intergroup relations that take place online were not linked to the offline world, showing that online intergroup relations possess specific characteristics and dynamics that differentiate them from face-to-face intergroup relations. Furthermore, Tynes et al. (2008) also found that discriminated minorities' online experience contribute in a unique way to the wellbeing of individuals, underlining the importance of analyzing online processes separately from the offline ones. Therefore, it became necessary to analyze online intergroup relations independently from the offline ones, in order to understand whether and how Internet can be used to promote harmonious relations between different groups, and which variables can facilitate said process. The objective of the present research project is exactly to provide a contribution to the studies of the processes that aims at promoting online harmonious relations between different groups. In particular, in our work we intended to focus on the psychosocial dynamics occurring online between different groups adopting and integrating two different perspectives and research traditions. Specifically, the attempt at theoretical integration that we made went in a double direction. On the one hand, from the epistemological point of view, we wanted to integrate the socio-constructionist perspective into the constructivist psychosocial theories that examined the relationships between groups (i.e., the Contact Hypothesis). On the other hand, from a

methodological point of view, we wanted to integrate the intersubjective level of psychosocial analysis into the intergroup level of psychosocial analysis of intergroup contact (Doise & Mapstone, 1986). Such shift in focus throughout our research allowed us to better understand the process that occurs when two groups interact online, conceptualizing and operationalizing the contact between two people belonging to different groups as an encounter between diverse inter-subjectivities.

One strategy to foster harmonious relations between groups: the Contact Hypothesis

The cognitive, affective, and behavioral reactions of people towards groups other than one's own are reflected respectively on stereotyping, prejudice and discrimination. Social psychology has long been concerned with finding effective strategies to reduce them. Among these strategies, the Contact Hypothesis (Allport, 1954) has been defined as one of the most successful ideas in the history of social psychology (Brown & Pehrson, 2019). In particular, a positive contact between groups helps to foster harmonious relations and to reduce intergroup conflicts by promoting positive attitudes towards the outgroup members. Moreover, Allport defined four optimal conditions that are crucial determinants of the positive effects of the contact: equal status, shared goals, cooperation, and authorities' support. Firstly, in the contact situation, individuals must have *equal status*; in contrast, an unequal or hierarchical one could in fact reinforce pre-existing stereotypes, increasing the perceived distance between groups, hindering the contact's positive effects as a result. Secondly, the individuals in contact have to *cooperate* with each other, working together in a non-competitive environment, and the cooperation must aim to achieve a *shared goal,* allowing group members to rely on each other. Lastly, the contact situation must receive *support by authorities* in a broader sense, or rather there should be social or institutional authorities that support positive contact between the diverse groups (Everett & Onu, 2013).

Since the contact hypothesis was presented, a great amount of empirical research have tested its validity, proving its effectiveness in reducing prejudice towards the outgroup and improving intergroup relations (e.g., Davies, Tropp, et al., 2011; Pettigrew & Tropp, 2006; Voci & Pagotto, 2010). However, such direct face-to-face contacts cannot be applied in many situations, such as when groups are geographically distant, or when they are numerically very unbalanced, or in the case of segregated groups. In these cases, the literature showed that forms of intergroup contacts other than direct and face-to-face are still useful to reduce prejudice towards the outgroup. Thus, different kinds of intergroup contact emerged (Dovidio et al., 2017): the extended contact, the vicarious contact, the imagined contact, and the online contact. The *extended contact* could be defined as the knowledge that one or more ingroup members have one or more friends who belongs to the outgroup (Turner et al., 2008; Wright et al., 1997). Some authors (Wright et al., 1997) have analyzed four variables that could explain the process by which extended contact could reduce prejudice – i.e., by reducing intergroup anxiety, by informing about positive ingroup and outgroup norms, and by including the outgroup in the self. Further empirical research confirmed the hypothesized effects of the abovementioned variables on reduction of prejudice (e.g., Turner et al., 2008). Another key point, strictly linked to the extended contact, is represented by the *vicarious contact*, an indirect form of contact, which consisted on the observation of one or more interactions between ingroup and outgroup members (e.g., Mazziotta et al., 2011). In other words, to simply observe positive interactions occurring between ingroup and outgroup members resulted in a reduction of prejudice towards the outgroup (Cocco et al., 2021; Vezzali et al., 2014). Furthermore, some authors also found that engaging in mental simulations of positive contact experiences with an outgroup member had positive effects on the intergroup relations by improving attitudes towards the outgroup. This form of contact has been defined as *imagined contact* (Turner et al., 2007), and its effects have been

confirmed through the meta-analysis of 72 field studies (Miles & Crisp, 2014). Furthermore, another relatively new form of intergroup contact that literature highlighted was the *parasocial contact*, which consisted on the observation of positive outgroup members through mass media (Schiappa et al., 2007). Literature underlined that mass media had an important role in helping the prejudice reduction by exposing individuals to representative members of the outgroup, interacting or not with the ingroup, for instance through watching a TV series (e.g., Schiappa et al., 2008). Lastly, in the past years a growing body of researches focused on *online contact* (Amichai-Hamburger & Furnham, 2007), or other form of intergroup contact involving Computer-Mediated Communication (CMC).

Intergroup contact in online contexts

Several authors (e.g., Amichai-Hamburger & Furnham, 2007; White & Abu-Rayya, 2012) applied the Contact Hypothesis (Allport, 1954) to online contexts, hypothesizing that to interact online with an outgroup member would reduce prejudice. The first attempt to apply Contact Hypothesis to the online context and to theoretically define differences between online and offline contact was made by Amichai-Hamburger and his colleagues (Amichai-Hamburger & Furnham, 2007; Amichai-Hamburger & Mckenna, 2006). The authors underlined that online contact allows to overcome some limitations related to geographical distance, to logistical obstacles, and to dangerous interactions in extremely conflictual and violent contexts (Hoter et al., 2009), making online intergroup contact particularly promising and easy to apply. Theoretically, in their studies, the authors (Amichai-Hamburger & Hayat, 2013) pointed out seven web's characteristics that promoted the efficacy of intergroup contacts held online: anonymity, control over physical exposure, control over the interaction, finding similar others, accessibility and availability, equality and fun. *Anonymity* refers to the individuals' perception to interact with other people without disclosing personal information (Amichai-Hamburger et al., 2015). It must be remembered

that anonymity was a controversial Internet's characteristic related to the online contact and prejudice reduction relation. Douglas and McGarty (2001) found that people's online anonymity could promote hostility as well as having a disinhibitory effect, which translated into less accountability and self-awareness. Nevertheless, online anonymity could reduce anxiety in interaction (Amichai-Hamburger & Furnham, 2007) allowing people to feel less worried about being judged by the outgroup. *Control over physical exposure* can be described as people's possibility of not revealing online their physical and social cues that generally are at the bottom of social labelling and stereotypes (Amichai-Hamburger et al., 2015). *Control over the interaction* applies to users' possibility to shape their messages or to start and stop their conversations whenever they choose, i.e., allowing users to stop unpleasant conversations before a negative interaction leads to outgroup discrimination or stereotyping. *Finding similar others* describes the possibility to identify and join people and groups based on mutual interests, enriching individual users' identities, and allowing people to reduce cognizance of members' outgroup membership (Lea et al., 2001). *Accessibility and availability* indicate the facility to be online wherever people are and whenever they want, therefore letting people feel that Internet is well integrated in their everyday lives. *Equality* pertains to the online lack of many non-verbal and social status cues. Such characteristic is strictly connected to the Allport's optimal condition of equal status among individuals that get in touch (Amichai-Hamburger et al., 2015). Lastly, *fun* refers to the web's entertaining function, which provides a unique form of casual leisure that involves play, active entertainment, and sociable conversations (Amichai-Hamburger & Hayat, 2013), henceforth favoring contacts with member of different groups. Taken together, the specific characteristics of online contacts could be very significant in facilitating intergroup interactions as well as lowering anxiety due to the interaction itself (Amichai-Hamburger & Mckenna, 2006).

In addition to the theoretical framework proposed by Amichai-Hamburger, other authors (e.g., White & Abu-Rayya, 2012) applied Contact Hypothesis to online contexts designing a new paradigm, namely the Electronic Contact or E-Contact. This protocol consisted of structured interventions aimed at reducing prejudice in which Allport's optimal conditions were controlled. Specifically, the E-Contact interventions were characterized by two main phases: in the first one, researchers introduced the group membership salience by asking individuals to share something personal with the outgroup member; in the second phase, researchers asked both ingroup and outgroup members to interact online with each other, cooperating and reaching common goals. White and colleagues applied E-Contact to different prejudice target, i.e., between Catholics and Protestants in Northern Ireland (White et al., 2018), to reduce transgender stigma (Boccanfuso et al., 2021), and to reduce social distancing against people with schizophrenia (Maunder et al., 2019), and they found that the prejudice reduction was maintained one year after E-Contact intervention (White et al., 2014).

Given that several empirical contributions have made on whether online contact affected prejudice reduction, the first objective of the present work was to compare the outcomes of these empirical contributions in order to measure the effects of online contact on prejudice reduction, including an analysis of which situations reinforced or weakened said effects. Thus, taking into consideration available empirical studies on the relation between online contact and prejudice reduction, the first aim of the present research project was to answer the following questions:

Does online intergroup contact reduce prejudice?

If so, in which conditions such reduction was stronger?

In order to find an answer to these questions we conducted a meta-analysis (see Chapter 1) including all published and unpublished studies in which researchers manipulated or observed intergroup contact in online contexts, testing a series of possible moderators of online intergroup contact and prejudice reduction relation. The meta-analysis' results will be presented in Chapter 1.

Further, as mentioned above, starting from meta-analysis' results, the intention of the present research project was to propose a "new" approach to the study of online contact effects on prejudice reduction. Thus, it wanted to analyze how what happens during online contact in terms of intersubjectivity can relate to prejudice reduction. For this purpose, we created an ad-hoc online environment that resembled as much as possible the same characteristics described by Amichai-Hamburger and Furnham (2007) (i.e., anonymity, control over physical exposure, control over the interaction, equality, and fun), in which people of different ethnic / racial groups were made to interact. We first tested the main research design through a pilot study (see Chapter 2). Then, we analyzed the role of the inter-subjectivity in influencing the relationship between online contact and prejudice reduction by considering the role of both dialogicity (Chapter 3) and objective (i.e., being members of majority or minority group) and subjective (i.e., perceived) power (Chapter 4) emerging during online intergroup contact.

Identity processes influencing the relation between intergroup contact and prejudice reduction

The literature on offline intergroup contact underlined the key role of identity processes in influencing intergroup relations. Overall, authors who have dealt with identity processes in intergroup relations have been based on two main classical theories of social psychology: the Social Identity Theory (SIT; Tajfel & Turner, 1979) and the Self-

Categorization Theory (SCT; Turner et al., 1987). SIT posits that "human interaction ranges on a spectrum from being purely interpersonal on the one hand to purely intergroup on the other" (Hornsey, 2008, p. 206). Therefore, individuals' social identity is formed starting from group membership, and ingroup favorable comparisons allows individuals to derive self-esteem. Strictly linked to SIT, SCT partially redefined the SIT interpersonal-intergroup continuum, underlining three levels of self-categorization – i.e., human, social, and personal identity -, and providing a cognitive explanation for how individuals identify themselves and act as group members (Hornsey, 2008).

These classical theories served as a starting point for further authors who identified self-categorization processes that could influence the intergroup contact process. Notably, Brewer and Miller (1984) underlined that people in contact could consider themselves and others as individuals, focusing on information that are relevant to the self rather than to the self as a group member. These kinds of interactions would decrease the intergroup bias when the contact is occurring between two individuals rather than between two individuals belonging to two different groups. Authors have defined this process as *decategorization*. For instance, when two people of different ethnic groups interact, they can share personal information that allow them to see each other as individuals. This process can result in the development of a cross-group friendship (e.g., Capozza et al., 2014), which leads to a reduction of the bias towards the outgroup. In the framework of said perspective, Allport's optimal conditions facilitate the decategorization process, promoting more individuated perceptions of one another (Gaertner et al., 2000). Furthermore, starting from the same assumption that reducing the salience of group membership had positive impact on intergroup relations, other authors (e.g., Dovidio et al., 1993) proposed the *recategorization* process. The recategorization consisted of the redefinition of the group membership as individuals in interaction, so that both ingroup and outgroup members belong to a superordinate category

group. In this case, the intergroup bias would be reduced by increasing the salience of crosscutting group memberships (Gaertner et al., 2000). As an illustration, when two students of different ethnic groups interact, the belonging of both to the higher category of students can be made salient, with the consequence of reducing the intergroup bias. Furthermore, based again on the categorization processes, some authors (e.g., Crisp et al., 2001) underlined that individuals do not belong only to one group, but they can be categorized in multiple ways. The aforementioned crossed categorization paradigm (Deschamps & Doise, 1978) or *multiple categorization* (Crisp et al., 2001; see Prati et al., 2020 for review) process would reduce intergroup bias by stressing on the individuals' membership to multiple groups. To give an example, when two people of different ethnic groups interact, gender-based categorization can be made salient, going beyond the white vs black distinction. Therefore, the introduction of further sub-groups (e.g., white females, white males, black females, black males) deriving from the intersection of the abovementioned categories (e.g., ethnicity and gender) could delineate differences and similarities between individuals, leading to a reduction of the intergroup bias.

Based on self-categorization processes, all these theories refer to a cognitive perspective of the self. In our perspective, considering only the cognitive level of self-categorization would mean adopting an intra-individual viewpoint applying it to a perspective (i.e., the intergroup contact) that implies the inter-personal level, in order to understand a construct (i.e., the prejudice) referring to inter-group level. In explaining the process by which intergroup contact reduces prejudice, some authors focused on a different perspective. Davies and Aron (2016) for example focused on the Inclusion of Other in the Self, finding that to include the other in the self, or rather to consider partially overlapping the self and the other, led to positive attitudes towards the outgroup. On the other hand, other authors (e.g., Shih et al., 2009) pointed out that the more individuals assumed the other's position by

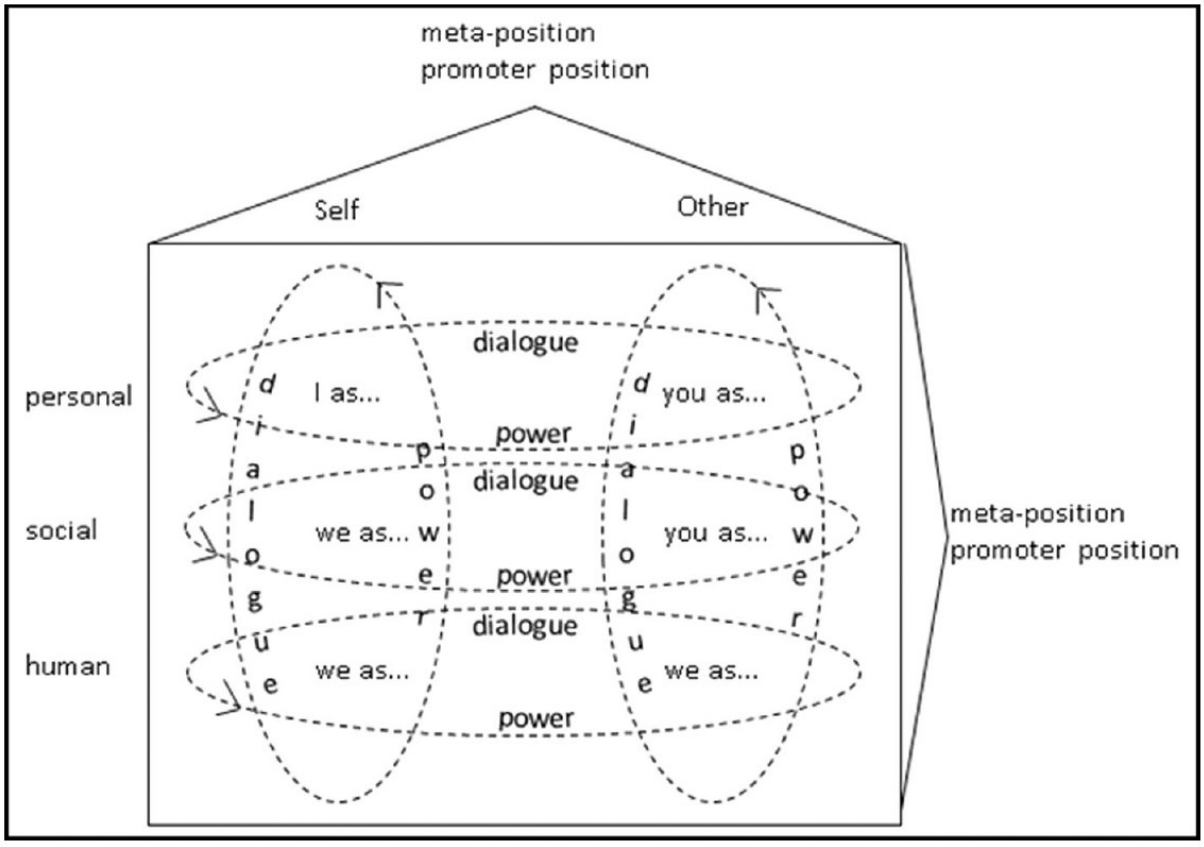
putting them in “the other's shoes”, the more intergroup contact was effective in reducing prejudice. Nevertheless, no theoretical or empirtical perspective in literature simultaneously analysed whether and how self-categorization processes, the perception of outgroup member’s similarity and the assumption of the positioning of the other all influence the process by which intergroup contact reduces prejudice. Thus, it remains unexplored what happens on both an intra-personal and on an inter-personal level during contact, or how the interaction during the contact takes place in terms of the exchange of belongings, meanings and subjectivities. Thus, to apply Dialogical Self Theory to online intergroup contact allows us to look inside the contact’s concept redefining it from interaction – i.e., the ways through which contacts occur, according to Allport – to intersubjectivity – i.e., the ways through which I-positions interact with Other positions in the landscape of the mind –. More specifically, by applying such sociocostrutionist approach in this research project we want to move from the idea that positive contacts need interdependent actions (i.e., interactions), to the idea that positive contacts require the inter-relation of I-positions (i.e., intersubjectivity), thus shifting the focus from users’ actions to users’ self. Since dialogue has the potential to activate new different I-positions in people’s minds, we argue that in fields of tension, such as during intergroup contact, individuals can learn and adopt new I-positions, including them in their own positions’ repertoire, thus contrasting (or favoring) prejudice toward outgroup.

Given these points, in the present research project we intend to integrate the perspective based on self-categorization processes with that based on inclusion of other in the self and with that based on the assumption of other positioning by exploring the Self processes that take place during online intergroup contact from an intersubjective point of view. In order to do so, we considered the Dialogical Self Theory (DST; Hermans et al., 1992) as a theoretical framework, which defined the Self as changing and multivoiced, and composed by both internal (I) and external (Other) positions. **Errore. L'origine riferimento**

non è stata trovata. shows the Hermans et al.'s (2017) Democratic Organization of the Self model that we chose as the theoretical framework for our research project.

Figure 1

Democratic Organization of the Self model.



Note: the figure was published in "Fields of Tension in a Boundary-Crossing World: Towards a Democratic Organization of the Self" (Hermans et al., 2017, p. 526).

In the next chapters, we will return back several times to the DST and specifically to its extension to the Democratic Organization of the Self (Hermans et al., 2017). At the moment, we would therefore briefly mention that according to this theoretical framework, in an internal or external dialogue individuals can shift between the Self and the Other-in-the-Self (horizontal movements) positions, and between different levels of self and other-categorization or inclusiveness (vertical movements; i.e., personal, social, and human). In such perspective, the more individuals shift among positions, the more multivoiced and

flexible they were, and such flexibility would foster harmonious intergroup relations. Furthermore, authors pointed out that in horizontal and vertical movements both dialogue and power can occur, therefore powerful others can both favor and hinder the free expression of the Self. Lastly, in the Democratic Organization of the Self model (Hermans et al., 2017) meta-positions and promoter positions emerged to be special positions that are useful to ensure coherence and organization of the Self.

Thus, starting from the DST, the second objective of the resent research project was to answer to the following research questions:

Does the Dialogical Self influence the relationship between intergroup contact and ethnic/racial prejudice?

Does individuals' ability to shift among different self-positions facilitate the reduction of ethnic/racial prejudice?

In order to find an answer, we developed a research procedure in which two members of different ethnic / racial groups interacted online in an anonymous chat room created ad-hoc. Through the use of a protocol, the aim of the contact was to achieve a growing intimacy between the two interlocutors. Following the online contact phase, we then used scales measuring Dialogical Self, prejudice, and further specific constructs based on the different objectives of the different studies. Accordingly, we planned two studies. In the first *pilot study* we mainly tested the pre-post research design. Specifically, participants from both majority and minority groups interacted online with each other in a controlled situation. We explored which positions emerged during intergroup dialogue, as well as whether and to what extent these positions were related with contact quality and prejudice. The pilot study' results will be presented in **Chapter 2**.

In addition, we conducted an *experimental study* with a sample of Italian students who interacted online with a fictitious outgroup member, and we explored how positioning themselves and the others at three levels of inclusiveness – i.e., personal, social, and human – associated with intergroup bias, and particularly whether individuals' ability to shift among positions would reduce intergroup bias in majority members. The first study' results will be presented in **Chapter 3**.

Intergroup contact and prejudice reduction in majority and minority members

Generally, studies on intergroup relations focused on the effect of intergroup contact in reducing prejudice in majority members. However, the literature on offline intergroup contact well underlined that the effects of intergroup contact were different in majority and minority members (e.g., Tropp & Pettigrew, 2005). In their meta-analysis, Tropp and Pettigrew (2005) observed relevant differences between majority and minority members on the effects of intergroup contact in reducing prejudice. Indeed, although the contact had the potential to reduce prejudice for both groups, such effect was generally weaker for minority members when compared to majority ones. Authors argued that for minorities the recognition of the devaluation of their group could act as a check, inhibiting the positive effects of contact. In addition, Dovidio et al. (2008) underlined that the differences between majority and minority in the contact-prejudice relation could be found in differences in perspectives and motivations of said two groups. In fact, while minorities tended to maintain their cultural identities, majorities tended to favor the assimilation of minorities into their dominant culture (Dovidio et al., 2008).

Therefore, starting from the differences between majority and minority members and adopting an inter-subjective approach, the third objective of the present research project was to answer to the following question:

What is the role of objective and perceived power in the relationship between online intergroup contact and prejudice reduction?

For the purpose of finding an answer, we conducted a *pre-post study design* in which majority and minority members interacted online with a fictitious outgroup member, while we explored the role of objective (Whites vs Blacks) and perceived (consonance vs dissonance) power in influencing the relationship between online contact and prejudice reduction. The results of the second will be presented in **Chapter 4**. Hence, the present research project intended to contribute to the debate on online intergroup relations by providing a socio-constructionist perspective that allows to understand more deeply how to promote less conflicting intergroup relations.

Chapter 1—Testing whether and when online intergroup contact reduced prejudice. Metanalytical literature review[1]

Intergroup conflict, a ubiquitous global phenomenon, is arguably the problem of the century (Al Ramiah & Hewstone, 2013). Characterized by the perception of incompatible goals or values and hostile disputes between groups that differ in ethnicity, religion, political or sexual orientation, among others, intergroup conflict has led to battles, genocide, terrorism and human rights violations throughout history (Woolf & Hulsizer, 2004). Allport's classic *contact hypothesis* (1954) maintains that positive contact with an outgroup member can lead to positive attitudes toward the outgroup. Positive contact is more successful when Allport's optimal contact conditions are met: equal status, common goals, cooperation and support by authority figures (e.g., Pettigrew & Tropp, 2013a). Authority support is achieved when both groups recognize an authority (e.g., a lecturer who organizes contact between two groups of students, as in Mustafa & Poh, 2019) that supports contact and interactions between groups.

Researchers have extended the concept of positive contact to indirect and distant forms of contact, demonstrating the potential of these modalities to improve inter-group relations (Dovidio et al., 2017). For example, Wright et al. (1997) found that people who know that an ingroup member has an outgroup friend develop more positive attitudes toward the target group than people who are unaware of any such friendships. Another indirect form of contact is *imagined contact* (Harwood et al., 2013; Turner et al., 2007), in which people engage in mental simulation of an interaction characterized by positive contact, which can reduce negative attitudes towards outgroups. Lastly, Dovidio et al. (2011) introduced the concept of *vicarious contact*, in which observing the actions of another person with whom one identifies helps people acquire new understanding about how they should behave towards

[1] The present study was published in Imperato, C., Schneider, B. H., Caricati, L., Amichai-Hamburger, Y., & Mancini, T. (2021). Allport meets internet: A meta-analytical investigation of online intergroup contact and prejudice reduction. *International Journal of Intercultural Relations*, *81*, 131-141.

outgroup members. Extensive research has demonstrated that vicarious contact improves attitudes and increases individuals' intent to engage in direct contact with outgroup members (e.g., Mazziotta et al., 2011).

Given the increasing pervasiveness of electronic communication, the contact hypothesis also applies to the online world, based on the assumption that the Internet can be used to promote intergroup dialogue. The aim of this meta-analysis is to provide a synthesis of research conducted with the objective of demonstrating that online intergroup contact is a successful means of improving intergroup relations.

Online contact and prejudice reduction

The virtual environment may help communicators to overcome some of the limitations imposed by geographical distance (Amichai-Hamburger & Mckenna, 2006) and to maintain communication even in conflictual and violent contexts (Shonfeld et al., 2006). Amichai-Hamburger and McKenna (2006) posit that Internet allows people to feel comfortable and in control of the situation, to express themselves well and often and to develop close relationships. Online contact shares some features with face-to-face direct contact, providing an instantaneous and naturalistic form of communication (White et al., 2015). It also has specific characteristics that distinguish it from the offline context. Importantly, electronic communication facilitates contact between individuals who are similar in some important ways (Amichai-Hamburger & Hayat, 2013), even though they may belong to different groups that may be separated geographically. The characteristics of electronic communication may either promote or inhibit intergroup acceptance. Douglas et al. (2001) found that people's online anonymity could promote hostility, having a disinhibitory effect, which translated into less accountability and self-awareness. Nevertheless, online anonymity can reduce anxiety in interaction, allowing people to feel less worried about being judged by members of an outgroup (Amichai-Hamburger & Furnham, 2007). For this and

other reasons, online communication may facilitate self-disclosure in general and, more specifically, self-disclosure between members of different groups. Self-disclosure also encourages the development of friendly relationships (Davis, 2012). As Pettigrew and Tropp's meta-analysis (2006) highlighted, friendship is one of the most important factors of reducing prejudice.

Online intergroup contact may occur spontaneously, for example in social network sites, or may be induced in a laboratory context. It may bring together citizens of countries with hostile relations, immigrants and members of host countries or individuals of majority and minority sexual orientation. However, no studies have analyzed whether there are differences in prejudice reduction between spontaneous and induced contact.

Objectives of the current meta-analysis

The purpose of our study was to provide a meta-analysis of studies relevant to the reduction of intergroup prejudice by virtue of online content, considering both overall effects and possible moderating variables. As discussed earlier, we assumed that online contact reduces prejudice and that this effect is stronger when the virtual environment fits Allport's boundary conditions for effective contact that reduces prejudice.

Method

Inclusion criteria

We included studies if the following criteria were met:

a) The Web was the key context of intergroup contacts of the participants;

b) The researchers reported one or more measures of prejudice, including prejudice, intergroup bias, social distance, and acceptance and tolerance as outcome variables. *Intergroup bias* has been considered a specific form of traditional and contemporary prejudice (see Dovidio & Gaertner, 1999). *Social distance* is also considered a form of prejudice (e.g., Pettigrew, 1960) because the more prejudiced a person is towards a specific

group, the less he/she will interact with members of that group (Dawes, 1972). Finally, *tolerance and acceptance* are considered indicative of attitudes toward LGBTQ persons (e.g., LaMar & Kite, 1998). We excluded studies focusing on symbolic, realistic or general threat as outcomes of online contacts because these constructs are widely regarded as antecedents rather the indicators of prejudice (e.g., Riek et al., 2006);

c) The researchers reported one or more measures of contact (quantity/frequency or quality), or contact was experimentally induced; and

d) The researchers reported sufficient statistics for computing effect size.

Sample of studies

We searched both published and unpublished studies since November 2018 and until March 2020 using PsycInfo (Ebsco), Scopus, Psychological and Behavioural Sciences (Ebsco) and the core collection of the Web of Science. The search string included terms referring to the online context, the outcome of online contact and theoretical framework. The search terms are displayed in Table 1. We searched the title, abstract and keywords of each publication. We also searched for unpublished materials using Google, Google Scholar, GreyNet, Psych File Drawer, European Social Survey, using the same keywords and combinations that we used for published materials. We also requested materials from all members of the European Association of Social Psychology. We contacted the authors of the main articles requesting further data as needed. Finally, we checked the reference lists of the articles retrieved in order to identify further eligible studies. The studies in the final sample are displayed in Table 2 along with the main study features (i.e., that related to online contact) and global ES.

Table 1

Search string applied to title, abstract and keywords in four scientific databases.

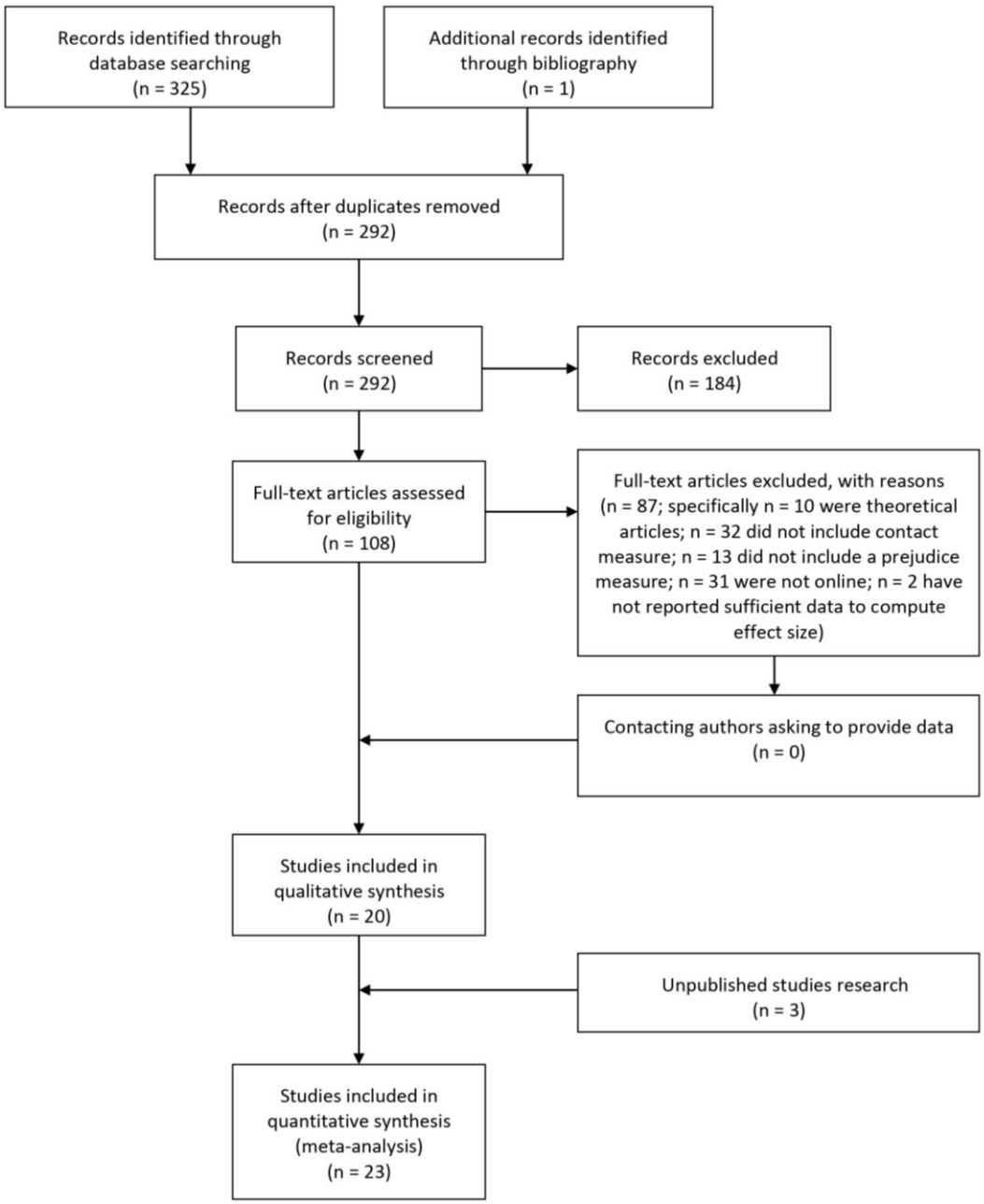
Context	Outcome	Theretical Framework
online OR	*prejudice* OR*	*social identity theory OR*
Internet OR	*discrimination* OR*	*SIT OR*
web OR*	*stigma* OR*	*intergroup relation* OR*
mow OR	*sexism* OR*	*social categorization theory OR*
SNS OR	*racism* OR*	*contact theory OR*
social netwok OR*	*islamophobi* OR*	*E-contact OR*
blog OR	*homophobi* OR*	*electronic contact OR*
chat OR*	*ageism**	*Allport OR*
*instant message**		*computer mediated contact*

The final pool of studies

This search strategy supplied 325 records (see Figure 2 for the PRISMA flowchart), including one pertinent publication from the reference list of a study in the original pool. Thirty-four records were duplicate reports of the same data and were eliminated, leaving a total of 292. We excluded 10 theoretical articles containing no original data; 32 records not including a contact measure; 13 records not including a prejudice measure; 31 records about studies in which intergroup contact did not occur online; and 2 articles without sufficient data to compute effect sizes (and whose authors did not respond to e-mail requests). We also located 3 unpublished reports: a poster presented at European Association of Social Psychology meeting in 2019, and two databases available upon request by authors. The final pool consisted of 20 published and 3 unpublished records.

Figure 2

Flowchart of records included in meta-analysis.



Effect size computation

We computed effect sizes (ES) using Cohen's *d* when means and standard deviations were reported or by converting Pearson correlation coefficients to Cohen's *d* when measure

of associations were reported. Thus, positive values of Cohen's *d* indicate that contact reduced prejudice.

Moderators

We considered following study features as potential moderators of the relationship between online contact and prejudice:

a) *Sample characteristics*. Mean age of participants; percentage of women; student status (i.e., only students or mixed);

b) S*tudy characteristics*. Publication year; publication status (i.e., published vs. unpublished); length of the prejudice measure (i.e., scale vs. single item); content of the measures (i.e., prejudicial attitude vs. other constructs, including social distance, outgroup avoidance, intergroup bias, tolerance and acceptance); target of prejudice (i.e., religious, ethnic, sexual orientation or other). We also coded the reliability of measurement. With only one exception (Mustafa & Poh, 2019), reliability was .80 or higher. Therefore, we did not retain this category for statistical analysis;

c) *Contextual characteristics*. We coded for *Country*, which we categorized based on: Hofstede clusters (https://www.hofstede-insights.com), i.e., into Anglo (k = 12; including Australia, Canada, Ireland and USA), West Europe (k = 6; including Italy and Belgium), Middle East (k = 9; including Israel and Serbia, Croatia and Cyprus) and Asia (k = 2; including China and Malaysia); frequency of Internet use based on Hofstede Insights (https://www.hofstede-insights.com); and Global Peace Index, based on Vision of Humanity (http://visionofhumanity.org).

We also coded the *modalities of electronic contact,* categorized in text-only (i.e. environments where interactions among users occurs through wrote texts, e.g. chat rooms, forums, blogs) and mixed-based (i.e. environments where users can interact using wrote texts,

photos, videos, music and other multimedia channels, e.g. social network sites, instant messaging) (White et al., 2015);

d) *Experimental vs survey studies.* In experimental studies, a structured online contact occurs: Participants interact with outgroup members in an experimental context contrived by the researchers with precise rules. In survey studies, an unstructured online contact occurs. Individuals freely choose to interact with people they have chosen in a virtual context with few rules. Typically, the researcher learns about the extent and nature of the online contact in surveys that asked participants to report their online contact experiences on platform such as social network sites;

e) *Intergroup contact properties.* We considered *group status*, i.e., whether the researchers collected data from majority (e.g., data collected from host-culture participants only) or both majority and minority groups (e.g., data collected from both host-culture and migrants). We could only code the absence or presence of Allport's optimal conditions for experimental studies. This is because the online platforms used in survey studies (i.e., Social Network Sites, MMORPG, blogs) were often unsupervised (Hasler & Amichai-Hamburger, 2013; White et al., 2015) and did not include ratings of the features. In the experimental studies, we coded: a) *common goals,* according to whether or not both online groups had to reach (presence) or not reach (absence) a common goal in working on a problem or a task; b) *intergroup cooperation,* according to whether or not both groups had to work together without competition (presence) or with competition (absence); c) *authority support*, according to whether or not both groups acknowledged some authority that supports the contact and interactions between the groups (presence) or did not acknowledge it (absence). For example, in Mustafa and Poh (2019) authors set the experimental procedure to fulfil authority support by granting the approval from participants' respective lecturers to participate in the experiment.

We coded the *number of interactions*. In experimental studies, we coded the number of interactions - i.e., the number of contact sessions of experimental protocol (one or more) -, while in survey studies, we considered the frequency of self-reported online contact. We could not code for *equality of status,* an important potential moderator mentioned by Allport, because the participants in all studies did not appear to differ in terms of status.

f) *Exploratory analysis of quality of contact and initial level of contact.* There were several variables with the potential to be important moderators of ES that could not be coded except for a small number of studies. These include several variables emphasized by Allport. Although we did not include these variables in our main analysis, we conducted exploratory analysis for heuristic value.

One such variable is the quality of contact. This variable was only coded for 7 studies. We present an exploratory analysis of the data from this small sample.

Another potentially important dimension concerns the initial level of conflict between the groups brought into contact. It would have been helpful if the researchers had asked the participants to rate the degree of initial conflict, but no study included it. Although we are not familiar with the levels of conflict between all of the groups in the studies and know of no reliable index to impute in this regard, our experiences indicate that the relations between Jews and Muslims in the Middle East is highly conflictual as are the conflicts between Protestants and Catholics in Ireland, and Israelis and Iranians. Thus, we considered this variable only in an exploratory analysis in which we compared the studies conducted with members of these groups that we believe to be high in conflict with the rest of the sample.

Table 2 contains the list of the studies, together with the study features, properties of intergroup contact for experimental and survey studies and ES.

Table 2

Summary of studies and contexts features, properties of intergroup contact, and effect sizes.

AUTHORS (YEAR)	*N*, COUNTRY, SAMPLE CHARACTERISTIC(S)	EXPERIMENTAL OR SURVEY STUDY	INTERACTING GROUPS	MAJORITY, OR BOTH MAJORITY AND MINORITY MEMBERS	COMMON GOALS	COOPERATION	AUTHORITY SUPPORT	NUMBER OF INTERACTIONS	FREQUENCY OF CONTACTS (range 1-5)	QUALITY OF CONTACTS (range 0-1)	ES
1. Contact among ethnic groups											
Abu-Riya (2017)	129, Israel, students	Experimental	Israelis and Ethiopians	Majority	Present	Present	Absent	More			.62
Andrews, Yogeeswaran, Walker & Hewstone (2018)	150, New Zealand, students	Experimental	New Zealanders and Russians	Majority	Absent	Absent	Absent	One			.02
Kim & Wojcieszak (2018) (B)	155, United States, mixed sample	Experimental	Americans and undocumented immigrants	Majority	Absent	Absent	Absent	One			.18
Mustafa & Poh (2019)	50, Malaysia, students	Experimental	Malaysians and Chinese	Both majority and minority	Present	Present	Present	More			-.29
Tawa, Ma & Katsumoto (2016)	64, United States, mixed sample	Experimental	Asians, blacks and whites	Both majority and minority	Absent	Absent	Absent	One			-.01
Imperato & Mancini (2019)	800, Italy, mixed sample	Survey	Italians and migrants	Both majority and minority					2.08		.26
Schwab, Sagioglou &	160, Israel, mixed sample	Survey	Iranians and Israelis	Both majority and minority					1.87		.50

Greitemeyer (2018)											
Imperato & Mancini, database made available by authors 2019	350, Italy, mixed sample	Survey	Italians and migrants	Both majority and minority					2.52	.29	.38
Zezelj, Ioannou, Franc, Psaltis & Martinovic (2017)	374, Serbia, Croatia, Cyprus, students	Survey	Serbs and Albanians, Greek Cypriots and Turkish Cypriot, Croats and Serbs	Majority					2.10		.95
2. Contact among different religious groups											
Walther, Hoter, Ganayem & Shonfeld (2015) (A)	17, Israel, mixed sample	Experimental	Religious Jews, and secular Jews and Muslims	Majority group	Present	Present	Present	More			.32
Walther, Hoter, Ganayem & Shonfeld (2015) (B)	23, Israel, mixed sample	Experimental	Secular Jews, and Religious Jews and Muslims	Majority group	Present	Present	Present	More			-.12
Walther, Hoter, Ganayem & Shonfeld (2015) (C)	31, Israel, mixed sample	Experimental	Muslims, and religious and secular Jews	Both majority and minority	Present	Present	Present	More			.49
White & Abu-Rayya (2012)	201, Australia, only students sample	Experimental	Muslims and Christians	Both majority and minority	Present	Present	Present	More			.42

White, Abu-Rayya, Bliuc & Faulkner (2015)	205, Australia, only students sample	Experimental	Muslims and Christians	Both majority and minority	Present	Present	Present	More			.61
White, Turnert, Verrelli, Harvey & Hanna (2018) (A)	43, Ireland, only students sample	Experimental	Catholics and Protestants	Both majority and minority	Present	Present	Present	One			.61
White, Turnert, Verrelli, Harvey & Hanna (2018) (B)	43, Ireland, only students sample	Experimental	Protestants and Catholics	Both majority and minority	Present	Present	Present	One			.91
Lissitsa & Kushnirovich (2018)	380, Israel, mixed sample	Survey	Israeli Jews and Palestinians	Majority					1.39	.44	.25
Lissitsa & Kushnirovich (2019)	450, Israel, only students sample	Survey	Jews and Muslims	Majority group					1.12		.19
Lissitsa (2017)	458, Israel, mixed sample	Survey	Jews and Muslims	Majority group							.87
3. Contact between persons of majority and minority sexual orientation											
Kim & Wojcieszak (2018) (A)	106, United States, mixed sample	Experimental	Heterosexuals and homosexuals	Majority	Absent	Absent	Absent	One			.42
MacInnis, & Hodson (2015) (A)	109, Canada, only students sample	Experimental	Heterosexuals and homosexuals	Majority	Present	Absent	Present	One		.84	.17
MacInnis, & Hodson (2015) (B)	105, Canada, only students sample	Experimental	Heterosexuals and homosexuals	Majority	Present	Absent	Present	One		.80	.13
White, Verrelli, Maunder & Kervinen (2019)	280, Australia, only students sample	Experimental	Heterosexuals and	Both majority and minority	Present	Present	Present	One			.09

			homosexuals								
Mancini, & Imperato, database made available by authors (2020)	407, Italy, mixed sample	Survey	Heterosexuals and homosexuals	Both majority and minority					2.62	.43	.53
Wu, Mou, Wang & Atkin (2017)	980, China, mixed sample	Survey	Heterosexuals and homosexuals	Both majority and minority					1.59		.32
4. Contact between other target groups											
Maunder, White & Verrelli (2018)	90, Australia, only students sample	Experimental	Schizophrenic and non-schizophrenic individuals	Majority	Present	Present	Present	One		.74	.34
Schumann, Klein, Douglas & Hewstone (2017) (A)	64, Belgium, only students sample	Experimental	Students who joined fraternities and not	Both majority and minority	Present	Present	Present	One			.5
Schumann, Klein, Douglas & Hewstone (2017) (B)	37, Belgium, only students sample	Experimental	Students from two different universities	Both majority and minority	Present	Present	Present	One		.77	.40
Mancini, Caricati, Balestrieri & Sibilla (2018)	315, Italy, mixed sample	Survey	Different game factions						0.65		.45

Results

Data analysis strategy

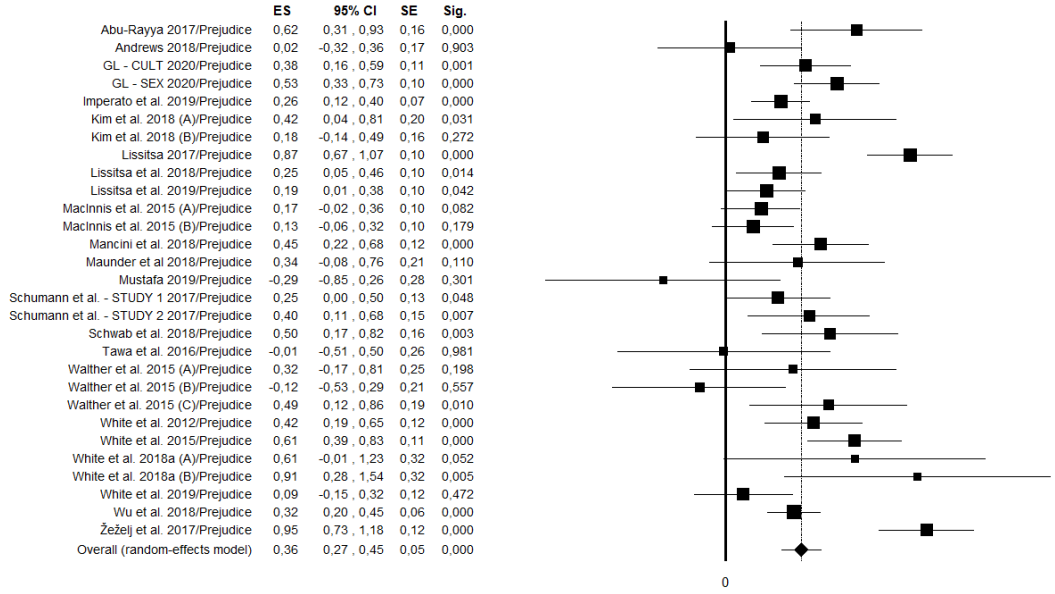
We performed all statistical analysis with the ProMeta v3.0 (*ProMeta*, 2019) meta-analysis software. We used the random effect model as a conservative approach to facilitate the generalization of the results obtained in the present meta-analysis beyond studies included. We assessed the heterogeneity among studies with Cochran's Q; significant Q values indicate no homogeneity of results among studies, and I^2 statistics index, the percentage of variance due to heterogeneity. To explain the heterogeneity among studies, we computed meta-regressions and moderation analysis and conducted sensitivity analysis to estimate the stability of study findings. This involves computing how the overall ES would change removing one study at a time. Lastly, we assessed publication bias using Egger's regression test, Begg and Mazumdar's rank correlation test, Trim and Fill analysis, and Rosenthal's Failsafe N.

Pooled results

The studies included in the final sample supplied 29 different effect sizes based on data from 6576 participants. The overall effect size was significant (d = 0.36, SE = 0.05, p < .001, 95% CI [0.27, 0.45]) indicating that online contact moderately reduced prejudice (see Figure 3 for forest plot). There was considerable heterogeneity among studies (Q (28) = 107.03, p < .001, I^2 = 73.84%), suggesting the presence of moderators, as expected. Furthermore, we tested whether the overall effect size changed by removing one at a time study; the overall effect size showed changes ranging from 0.34 to 0.37. This indicates that no single study influenced the overall results excessively. Figure 3 shows effect sizes, 95% confidence intervals, standard errors, and significance overall and for each study.

Figure 3

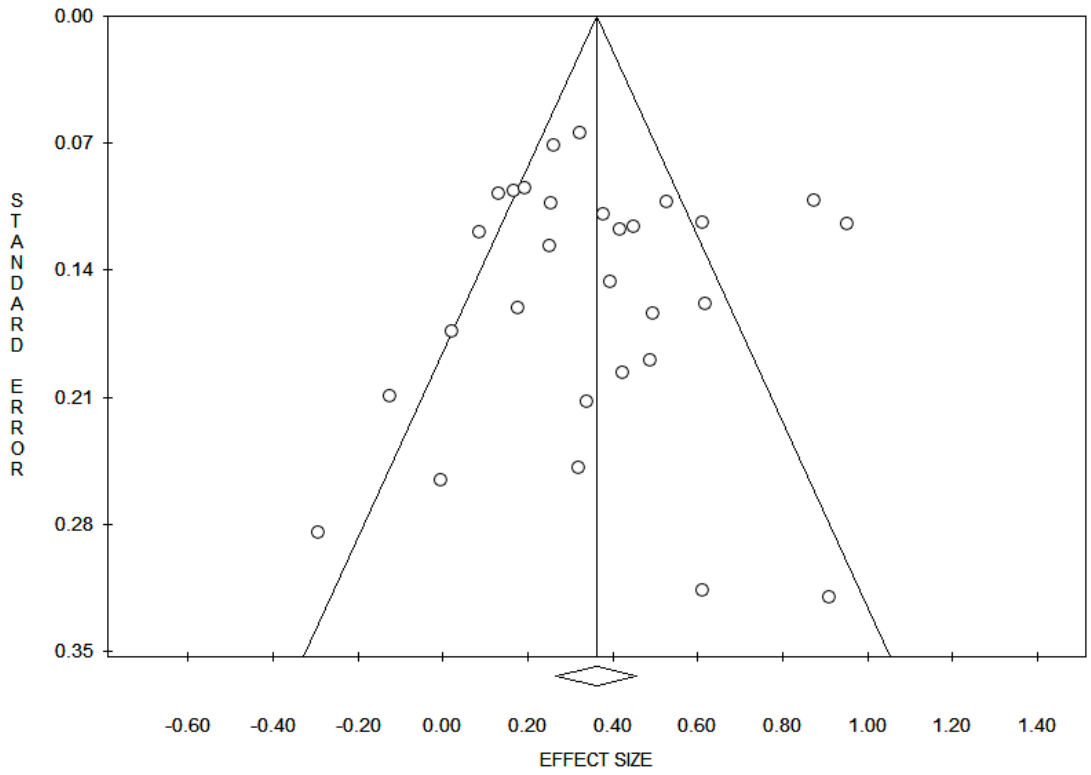
Forest plot of Effect Sizes (ES) for each study included.



Egger's regression test and Begg and Mazumdar's rank correlation test indicated no publication bias (Egger's test: 0.00, t = -0.00, p = 0.99; Begg's test: Z = 0.11, p = 0.91). Rosenthal's Failsafe N was 1582, thus the value is above Rosenthal's rule of thumb (5k + 10 = 155). Lastly, Trim and Fill analysis confirmed the absence of publication bias (see Figure 4 for funnel plot).

Figure 4

Funnel plot.



Moderator analysis

Sample characteristics. Mean sample age was 24.19 years (k = 27, two missing), ranging from 12.50 to 40.30. The overall sample consisted of more women (n = 4176) than men (n = 2400) (k = 28, one missing). Students were the sole participants in 15 studies (n = 2330), while 14 studies included both students and others (n = 4246). Meta-regression showed no significant effects of age (β = -0.003, p = 0.68), percentage of women (β = 0.001, p = 0.77) or student status (Q (1) = 0.05, p = 0.82).

Study characteristics. Studies were published from 2012 to 2019; 26 were journal articles and three unpublished studies. Most of the studies (k = 20) used Likert-type scales but some (k = 9) used a single item, the majority of which (k = 7) were emotional thermometers.

The majority of studies used prejudicial attitudes as an outcome variable (k = 20), 5 considered social-distance measures, 3 considered intergroup bias, and 1 considered a measure of tolerance and acceptance. The prejudice targets were religious (k = 10), ethnic (k = 9), sexual (k = 6), students who did or did not join fraternities (k = 2), belonging to a game faction (k = 1) and suffering from schizophrenia (k = 1). We did not use the categories with small frequencies in the analysis.

Moderator analysis showed no effects for publication year (β = -0.004, p = 0.88), publication type (Q (1) = 0.05, p = 0.83), outcome measurement (i.e., scale vs. single item; Q (1) = 0.56, p = 0.45), the nature of outcome considered (i.e., prejudicial attitudes, social distance, intergroup bias, and tolerance and acceptance; Q (1) = 1.02, p = 0.31) or prejudice target (i.e., religious, ethnic, sexual, and other; Q (2) = 2.03, p = 0.36).

Contextual characteristics. Studies were conducted in Anglo (k = 12), Middle Eastern (k = 9), West European (k = 6), and Asian (k = 2) cluster countries. Frequency of Internet use for each Country (M = 84.5, SD = 5.06), ranged from 72 to 91 and measure of Global Peace Index (M = 1.98, SD = 0.57), ranged from 1.22 to 2.73. With regard to different E-contact modality, 13 studies were text-only and 16 were mixed-based contact.

There were no specific effects for any of the country groupings we attempted: Hofstede clusters (Q (3) = 2.81, p = 0.42), frequency of Internet use in the country (β = -0.016, p = 0.08), and global index peace (β = 0.054, p = 0.55). There was no specific effect for mixed-based vs. text-based web contest (Q (1) = 2.08, p = .15).

Experimental vs survey studies. Most studies considered were experimental (k = 19) rather than survey (k = 10) studies. Only marginal differences (Q (1) = 3.46, p = 0.06) were found between the experimental (d = 0.29, SE = 0.06, p < .001, 95% CI [0.18, 0.39]) and survey studies (d = 0.46, SE = 0.08, p < .001, 95% CI [0.31, 0.62]).

Intergroup contact properties. The participants in the data collection in 13 studies were only majority group members whereas 15 involved both minority and majority groups. Information about Allport's optimal conditions was only reported in experimental studies (k = 19).

We found no differences between studies conducted with only majority group participants and studies in which the participants were both minority and majority group members (Q (1) = 0.03, p = 0.87). Moderator analysis showed no effects for common goals (Q (1) = 1.75, p = 0.19) or support by persons in authority (Q (1) = 0.03, p = 0.86). However, moderation analysis showed a significant effect for cooperation, (Q (1) = 4.59, p = 0.03), with stronger effects when participants were instructed to cooperate (k = 13; d = 0.35, SE = 0.07, p < .001, 95% CI[0.21, 0.50]) than in studies in which cooperation was not controlled (k = 6; d = 0.15, SE = 0.06, p < .01, 95% CI[0.05, 0.26]). Moderation analysis showed no significant effects for the number of experimental sessions (Q (1) = 1.38, p = 0.24). Moderation analyses showed no significant effect for contact frequency in survey contact studies (β = 0.116, p = 0.39).

Exploratory analysis of quality of contact and initial level of contact. These results may inform future studies but should not be considered conclusive.

With regard to contact quality, we computed a preliminary analysis of this data despite the lack of adequate statistical power. The results were somewhat counter-intuitive and should not be interpreted at this stage. A preliminary analysis showed that in 4 out 7 studies more positive contact was actually associated with lower effect sizes (β = -0.403 p = 0.13).

The mean ES of studies involving situations that are probably of high conflict – i.e., Jews and Muslims in Middle East, Protestants and Catholics in Ireland, and Iranians and Israelis – is .43 (k = 9, d = .43, SE = 0.12, p < .001, 95% CI[0.20, 0.66]), compared with

overall ES equal to .36, which includes studies of situations of relatively low conflict, such as membership in college fraternities. Although this difference does not appear large, it is in the expected direction. The variable of initial conflict should be measured systematically in future studies.

Discussion

Overall, results indicated that online contact moderately reduced prejudice towards outgroup members, in line with the literature on offline contact (e.g., Pettigrew & Tropp, 2006). We consider this an important finding because this is the first meta-analysis on the effects of online intergroup contact on prejudice. It is necessary to emphasize that the effects presented here are statistical effects that are not to be interpreted as causal effects of contact on prejudice reduction. It is not possible to infer a causal link in studies that analyzed spontaneous contact. In those studies, the contact may have reduced prejudice or pre-existing reduced prejudice may have motivated the contact.

Our meta-analysis also indicated considerable heterogeneity of effect sizes, which suggests that effect of online intergroup contact is highly variable and far from stable across settings; few significant moderators emerged. These results could be due to the specificity of online context (Schwab et al., 2019). Since online intergroup contact is not a simple by-product of offline contact, it may be inappropriate to apply moderating variables considered in the classic literature on prejudice. Moreover, some of these variables such as Allport conditions might be difficult to measure in survey studies, where there are different conditions that could explain when contact was more effective.

We discovered a marginal difference between studies experimentally inducing contact, for example in studies employing structured contact programs (i.e., DIEC program; White et al., 2015), and more "naturalistic" studies – i.e., survey studies – that considered spontaneous contact. The positive effect of contact on prejudice was slightly stronger in

survey studies, perhaps because in naturalistic contexts it was up to individuals to choose to dialogue with outgroup members. Moreover, enabling free choice of the outgroup member with whom to interact could lead participants to come in contact with people for reasons other than their outgroup membership, thus being able to trigger decategorization mechanisms (Gaertner et al., 2000). Conversely, in experimental studies, participants were prompted to interact with an outgroup member based on his/her membership to a specific target group. Online contact in survey studies often occurred in online contexts created for purposes other than intergroup contact, such as social network sites, including platforms used for self-promotion and self-expression (Ellison et al., 2007). Platforms of this nature are probably more appropriate for maintaining intergroup contact than initiating it (Hasler & Amichai-Hamburger, 2013).

It is important to emphasize that in 8 out 9 studies included in the meta-analysis the target of prejudice was religious. The role of religious prejudice is still controversial in the literature, because religion can both increase and reduce prejudice (see Hewstone et al., 2011). Religious groups considered in the studies included in this meta-analysis were characterized by high segregation of the religious communities caused by historical conflicts (i.e., Jews and Arabs - mostly Muslim - in Israel in Lissitsa, 2017; and in Walther et al., 2015; Catholics and Protestant in Northern Ireland in White et al., 2018). Offline physical segregation could lead the two groups to have fewer contact opportunities, therefore to have less chance of reducing prejudice. Since face-to-face contact could be impossible or difficult to manage due to physical or socio-structural barriers, online intergroup contact might have allowed these participants to overcome their physical segregation, acting as a bridge between two groups whose face-to-face contact opportunities were scarce.

With regard to Allport's optimal contact conditions, only cooperation between groups significantly moderated the relation between online contact and prejudice reduction although

we could not explore several other relevant conditions because of limited data in the original studies. In partial contrast with White and colleagues' suggestions (2015), the disinhibiting effect did not appear to act strongly enough to make Allport's conditions necessary for the prejudice reduction. Consistent with Pettigrew and Tropp's (2006) findings regarding face-to-face contact, the meta-analytical results suggested that Allport's conditions were not essential, but rather they acted as facilitating conditions that enhanced the tendency for positive contact outcomes to emerge. Interestingly, we found that cooperation but not common goals moderated the relationship between online intergroup contact and prejudice reduction. In fact, while common goals are abstract and more tied to a positive future outcome, cooperation is a process that takes place here and now, at the very moment in which the two group members interact.

This meta-analysis has some limitations. Despite the careful search of unpublished literature, we were able to include data from just three unpublished studies, all from the same research group. Although publication bias was not significant, the inclusion of other unpublished studies could decrease the strength of relationship found between online intergroup contact and prejudice reduction. Importantly, most of the original studies did not provide much information of the content of the contacts or their affective tone. Perhaps the absence of this information caused our general inability to explain the high heterogeneity between the studies. We also note the small cell sizes in some of our analyses, which we conducted in an effort to identify potential moderators that could be confirmed more confidently as the database increases in size. Furthermore, at the time the present meta-analysis was conducted, too few studies examined the relationship between offline and online intergroup contact in reducing prejudice, not making the inclusion of offline intergroup contact as a moderator variable possible. However, scholars interested in analysing the relationship between offline and online intergroup contact are increasing (e.g., Bouchillon,

2021), thus the analysis of how offline and online contact interplay could help to understand the prejudice reduction by taking advantage of both contexts.

Refinements in future studies may be useful in understanding the effects of online contact. For example, studies that may clarify how characteristics of computer-mediated communication (e.g., depersonalization, stereotypization, status equalization) interact with intergroup processes (e.g., intergroup anxiety reduction, increased empathy, inclusion of the other in the self) as well as with interpersonal dynamics (e.g., contact quality, need for identity exploration, dialogical I-Positions) in determining the effects of online contact on prejudice. More studies determining whether and how prejudice reduction following online contact may transfer to offline contexts will be needed in order to implement programs able to increase the Web potentiality for intergroup dialogue.

These are the reasons why it seems necessary to conduct new studies. Specifically, studies in which it could be possible to analyze intergroup or interpersonal dynamics occurring when two people belonging to two different groups interact online are needed. Based on results of the meta-analysis, we chosen to conduct a reseach project focused on online text-based contact between people belonging to ethnic/racial minority and majority groups, and we tried to analyze the intersubjective exchanges that was taking place during the conversation between such two groups. In order to detect the quality of these intersubjective exchanges, we chosen to focus on the Dialogical Self Theory (DST) by Hermans et al. (1992). DST had never been applied to intergroup contact studies, much less to online contact, which is why it was necessary to conduct a first pilot study that will be presented in the next chapter.

Chapter 2—Applying Dialogical Self Theory to online intergroup contact. A pilot study

As has already been pointed out in Chapter 1, since the seminal work of Amichai-Hamburger and McKenna (2006), it has been underlined that online intergroup contacts allow to overcome some limitations related to geographical distance or logistical obstacles, but also to dangerous contacts in particularly conflictual and violent contexts (Hoter et al., 2009). Nevertheless, despite the powerful role of digital media in promoting more peaceful and harmonious intergroup relations (White et al., 2015), there are still few studies on this topic, and more importantly it is still not clear which variables can influence the relationship between intergroup contact and prejudice reduction in online contexts. Imperato et al.'s meta-analysis (Imperato et al., 2021) showed moderated effects of online intergroup contact on prejudice reduction. However, moderation analysis failed to demonstrate that many of variables that classically influence contacts-prejudice reduction effect (e.g., time of interaction, Allport's optimal conditions) could also be considered in online environments. In line with Schwab et al. (2019) conclusions, these results seem to suggest that online intergroup contact is not a simple by-product of offline one: quite the opposite, online and offline contacts are partially overlapping, but distinct from each other.

Starting from these assumptions, focusing on processes occurring during an online intergroup contact, the research project aims to understand *how* intersubjectivity in an online contact reduces prejudice. Specifically, among variables that can influence the effect of online intergroup contact on prejudice reduction, this work focuses on the mediating role of the Self (see Introduction). Few studies demonstrated that an active involvement of the Self during contacts produced stable changes over time in terms of prejudice reduction (e.g., White & Abu-Rayya, 2012). According to White et al. (2015), Self-engagement is a key variable promoting positive intergroup relations. However, to the best of our knowledge, no studies have deeply analyzed the role the Self from a dialogical point of view, thus

considering what parts of the Self and of Other in the Seklf individuals put in place during dialogue.

The mediating role of the intersubjective Self

To better understand whether and to what extent the Self mediates the relationship between intergroup contact and prejudice reduction in online contexts, we considered the socio-constructionist approach of Hermans et al.'s Dialogical Self Theory (1992) as theoretical framework. Hermans defined the Self as multivoiced and dialogical, a "dynamic multiplicity of relatively autonomous I-positions in the (extended) landscape of the mind" (Van Loon, 2017, p. 8). In this perspective, there are no clear boundaries dividing what is "inside" the person (i.e., the Self) and what is "outside" the person (i.e., the Other), to the extent that what is external can become part of the person's identity (i.e., the Other-in-the-Self). Furthermore, people in dialogue strategically choose I-positions to achieve their goals in interaction (Antaki & Widdicombe, 1998).

In their recent work, Hermans et al. (2017) proposed the Democratic Organization of the Self model, useful when dialogue between people is characterized by tensions. As we mentioned above (see Introduction), the Democratic Organization of the Self model points out the shifts in I-positions occurring in dialogues, and it is composed by three dimensions: Self and Others-in-the-Self, dialogue and power, and levels of inclusiveness. *Self and Others-in-the-Self* refers to internal and external I-positions and it describes the horizontal movements in the Democratic Organization of the Self (for self-movements see Chapter 4). In this perspective and going beyond self-others dichotomy, the space of the Self is not limited to the internal I-positions (i.e., "I as Italian"), but also extended to the external I-positions (i.e., "The Italian people"). Thus, since I-positions could be both internal and external, others are in fact an extension of one's Self, or "another I" (p. 511), making such perspective inter-subjective. Furthermore, both *dialogue and power* between Self and Others-

in-the-Self can occur. Especially in fields of tensions and discrimination, the contact with powerful others or groups of others (i.e., majority ethnic group for minorities) could both facilitate or limit the free expression of one's Self, and the development of new cultural/ethnic I-positions in the Self, depending on whether dialogue or power emerged during contact. Lastly, based on Self Categorization Theory (SCT; Turner et al., 1987), *levels of inclusiveness* refers to the distinction between personal, social and human positioning level and it describes the vertical movements in the Democratic Organization of the Self. From the dialogical point of view, the personal, social and human levels have to be understood as the ability to give a dialogical answer from one's I-, we-, and human-positions (Hermans et al., 2017, p. 527). Since during dialogue people can shift between the three levels of inclusiveness, transitions to more abstract and inclusive levels (i.e., human) allows people to reduce both interpersonal and intergroup conflicts.

This pilot study aimed to explore the possibility to apply the Democratic Organization of the Self model to online intergroup (i.e., intercultural) contacts and to develop an empirical design to investigate it. Applying such intersubjective perspective to online intergroup contact could complexify what happens during the interactions between different groups, helping to understand the self implications of intergroup contact, that is, what people put in place on a self level when they dialogue with an outgroup member. While Dialogical Self Theory has been successfully applied to different fields (i.e., education, clinical psychology), very few studies applied it to cultural identities and even less to intergroup relations. O'Sullivan-Lago and De Abreu (2009) explored the impact of a cultural contact zone on self processes in a sample of Irish nationals, immigrants and asylum seekers, arguing that self repositionings could be a strategy to maintain identity continuity when interacting with a different culture. Furthermore, Sanchez-Rockliffe and Symons (2010) studied the impact of migrations on Dialogical Self, founding that the majority of individuals' I-Positions were

relatively stable whether they thought of themselves as Australians or whether as foreigners, and the differences found between the two different positionings were mostly related to cultural differences in the country of origin (i.e., political rights, civil liberties and levels of violence). Furthermore, using both focus groups and the Hermans' Personal Positions Repertoire (2001) in case studies, Krotofil (2013) explored I-Positions in a sample of Polish migrants, confirming their tendency to develop multiple and flexible selves, rather than one dominant position. Lastly and more specifically focused on intergroup contact, Puchalska-Wasyl (2019) found that to imagine interacting with an outgroup member (i.e., imagined intergroup contact) had a positive impact on individuals' internal dialogue, and that in turn internal dialogue reduced negative attitudes towards the interlocutor. Despite these findings, no study analyzed I-Positions engagement in online intergroup contact and their relationship with prejudice reduction.

The present study

A pilot study was conducted to investigate the process by which online intergroup contact reduces prejudice considering the dialogicity as variable that plays a role in the association between online intergroup contact and ethnic prejudice reduction. More specifically, the aims of this study were: (a) to give first evidence of which clusters of internal I-positions emerge during the online intergroup contact; (b) to explore whether and to what extent emerged clusters of I-positions and dialogicity relate to positive (vs negative) contact and to ethnic prejudice.

Methods

Participants

The study involved eight undergraduate students at a medium size North-Italian University (females: n = 4, 50%), ageing from 20 to 32 (M_{age} = 23.63, SD_{age} = 4.00). All were invited and agreed to participate in an experimental study where they were asked to dialogue

with a student via an online chat. Half of them (n = 4) were born in Italy from Italian parents, and half of them were foreign students (1 from Morocco, 1 from India, 1 from Cameroon, and 1 from Tunisia). Majority (i.e., Italians) and minority (i.e., non-Italians) groups differed on implicit ethnic prejudice ($t(3) = 3.264$, $p < .05$; $d = 1.14$), showing majority group greater level of preference to their own group ($M = .87$, $SD = .30$) rather than the minority preference levels for the majority ($M = .44$, $SD = .44$).

Procedure and measures

Participants were face-to-face recruited at the University's study rooms in November 2019 and data collection were interrupted because of Covid-19 pandemic crisis. Each experimental session provides for participation of two students of the same sex at a time, one Italian and one foreigner. After students showed interest in participation, they were accompanied to two offices located in different areas of the University and within few minutes of each other to avoid they could meet in person. Complying with Italian ethical standards, participants were informed about the aims of the study, confidentiality, anonymity, and data protection. After giving their consent to the study participation signing the informed consent form, students were asked to create an anonymous code to pair their answers to pre- and post-dialogue surveys.

Pre-dialogue

During pre-dialogue phase, the two students simultaneously filled out an online survey administered on Qualtrics platform (www.qualtrics.com), answering to socio-demographic questions (i.e., age and gender) and a measure of implicit ethnic prejudice. We used implicit ethnic prejudice measure to increase saliency of ingroup and outgroup cultural/ethnic backgrounds, and to control participants' a-priori level of implicit ethnic prejudice.

Implicit ethnic prejudice. Participants were asked to complete the *Implicit Association Test* (IAT; Greenwald et al., 1998) procedure. IAT procedure has been executed on Qualtrics platform, following guidelines suggested by Carpenter et al. (2019) and published by authors on the Open Science Framework (OSF). IAT assessed the degree to which target pairs (e.g., White people vs Black people) and categories (e.g., pleasant vs unpleasant) are mentally associated. We used images provided by Harvard's Project Implicit (www.implicit.harvard.edu) to assess White vs Black target, and adjectives provided by Dasgupta et al. (2000) to assess pleasant vs unpleasant categories. Participants completed seven blocks of stimuli sorting trials, alternating compatible blocks ("Whites" + "pleasant") to incompatible blocks ("Blacks" + "unpleasant"), and practice trials to critical trials. The seven blocks order was randomized among participants, thus presenting randomly compatible blocks or incompatible blocks first. IAT showed a good reliability (.92).

Dialogue

Participants were asked to chat online with another student; they were told only the other student's name, age and ethnicity. This information was real, so it was adapted according to the participants' characteristics. A private chatroom has been built on Chatzy platform (www.chatzy.com), and participants were asked to create a nickname, to log in and to chat with the other student. We fixed the interaction to 30 minutes, so that all couples interacted for the same time.

The Relationship Closeness Induction Task (RCIT; Sedikides et al., 1999) has been used during dialogue. RCIT consisted of three lists of questions with a growing level of intimacy. Questions were born to induce intimacy between two unknown individuals in offline contexts, and it was recently successfully applied to the online context (e.g., MacInnis & Hodson, 2015). A trained researcher located in a different office wrote questions that appeared simultaneously to both participants who answered. After 30 minutes passed, a

message of thanks appeared to both participants, who were asked to wait for further instructions from the researcher.

Post-dialogue

During post-dialogue phase, participants were asked to complete measures of dialogical Self, contact quality, implicit and explicit ethnic prejudice.

Dialogical Self. Participants were asked to complete the Hermans' Personal Position Repertoire (PPR; Hermans, 2001), thinking about dialogue took place with the other student. PPR was used to assess to what extent each internal I-position (rows) were connected to each external I-Position (columns). PPR was partly adapted to the characteristics of the participants (i.e., participants' name, gender, and ethnicity). As far as *external* I-Positions, we used the name of the student the participant chatted with (i.e., Federico), the other cultural/ethnic group (i.e., Moroccans), one category that included both participants (i.e., Students), and the more abstract level of being humans (i.e., Humans). Regarding *internal* I-Positions, we considered Hermans et al.'s (2017) three levels of inclusiveness, using selected personal, social and human I-positions. We selected internal personal I-Positions based on literature on intergroup contact in prejudice reduction. Specifically, we included positions linked to Big Five personality traits (I as a friendly person, I as a person open to experiences; Roccas et al., 2002), empathy (i.e., I as an empathic person; Batson, 2010), Right-Wing Authoritarianism (i.e., I as an anxious person, I as a traditionalist; Altemeyer, 1988), and Social Dominance Orientation (i.e., I as a person who needs stability, I as a person who needs order; Whitley, 1999). In addition to these positions, we included I as participant's name. Social target positions were I as participant's cultural group, I as a citizen of the city where I live, and I as European. Superordinate positions were I as student, I as man/woman, I as human being. Participants were asked to indicate on a scale ranging from 0 to 5 the extent to which each internal position was prominent in relation to each external position (0 = not at

all, 1 = very little, 2 = to some extent, 3 = quite a lot, 4 = considerably, and 5 = very considerably) in the chat dialogue. Furthermore, according to Hermans's suggestions (2001), participants were allowed to write some other internal and external I-positions, not considered in the following analyses.

Intergroup Contact Quality. It was assessed using Intergroup Contact Scale adapted from Islam and Hewstone (1993); the scale was composed by two couples of adjective ranging from a seven point scale ("pleasant/unpleasant" and "positive/negative"). We computed a composite score of positive contact quality (r = .90**).

Implicit ethnic prejudice. Participants completed the same IAT procedure administered in pre-dialogue. IAT procedure showed a good reliability (.92).

Explicit ethnic prejudice. We used six emotional thermometers ranging from 0 to 100 to assess attitudes at three different levels of inclusiveness. Specifically, groups that participants had to evaluate were the two cultural groups to which interacting people belonged (i.e., "Italians" and "Moroccans/Indians/Cameroonians/Tunisian") (first level), Europeans and non-Europeans (second level), and White people and Black people (third level).

Results

Hierarchical cluster analysis

To meet the first aim of the present pilot study, a first step of the analyses involved an agglomerative hierarchical cluster analysis in order to understand which groups of I-Positions emerged during online intergroup contact. We transposed PPR sheets of both Italian and not-Italian participants by constructing a single matrix whose rows represented external I-Positions of each participant (for a total of 32 – 4 X 8 participants – rows), and columns represented internal I-Positions (for a total of 14 columns corresponding to the 14 I-positions we included). Ward's clustering with squared Euclidean distances procedure on selected

variables (internal I-positions) for the whole sample was used, and values has standardized as Z scores. Given the exploratory nature of hierarchical cluster analysis, to decide how many clusters of I-positions to consider was strictly linked to the theoretical interpretability of emerging subsets (e.g., Saint-Arnaud & Bernard, 2003). In line with Yim and Ramdeen's suggestions (2015), to do so, we analyzed both dendrogram (see Figure 5) and the agglomeration coefficients. Specifically, the dendrogram allowed us to determine when the clustering process should be stopped (Bratchell, 1989). In addition, agglomeration coefficients allowed us to build the scree plot with the relative increases of the agglomeration coefficient across the stages (Figure 6) (Yim & Ramdeen, 2015).

Figure 5

Dendrogram for Ward's clustering with squared Euclidean distances procedure.

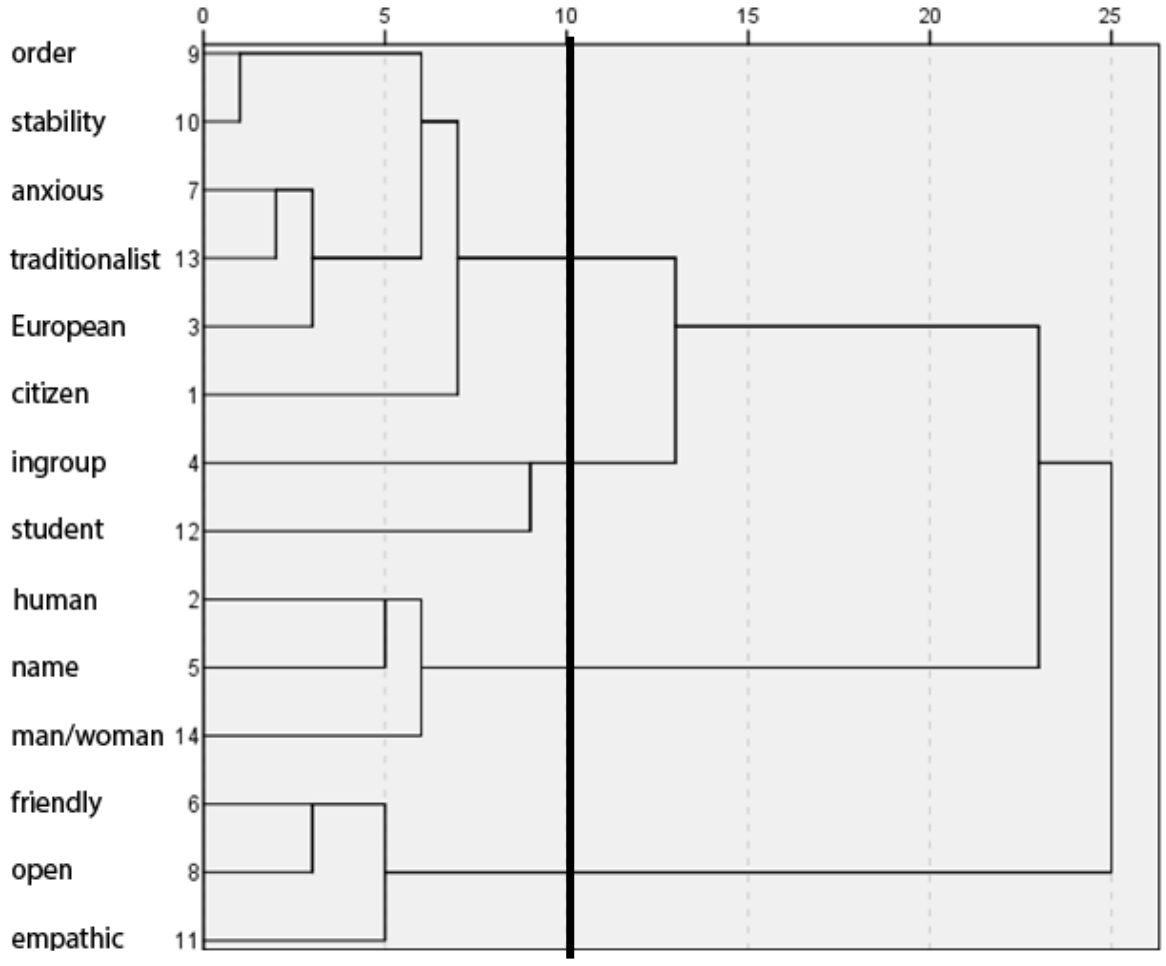
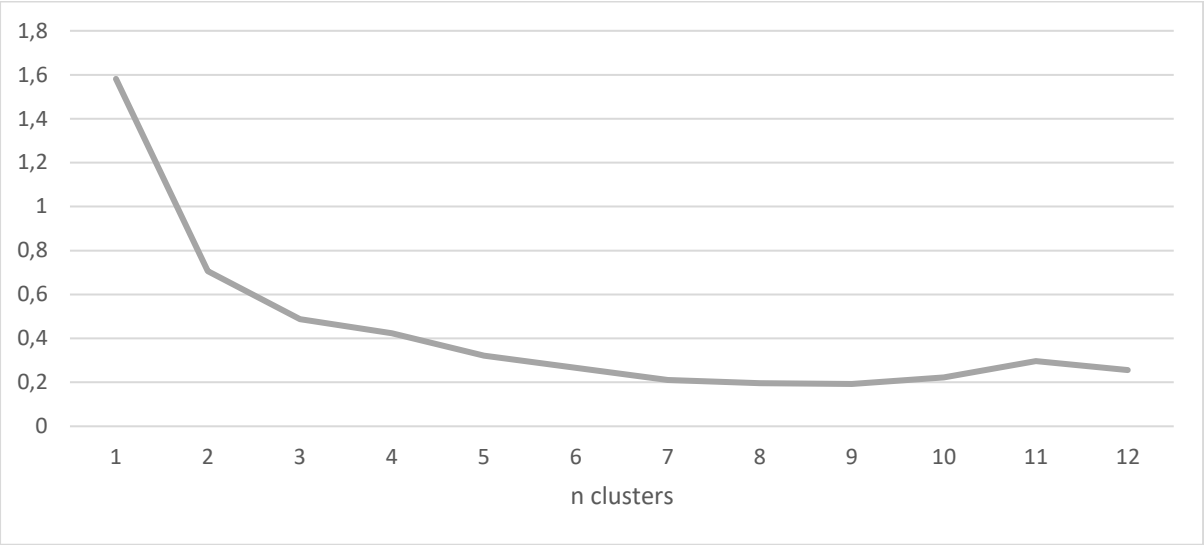


Figure 6

Scree plot of the relative increases of the agglomeration coefficient across the stages.



Analyzing both dendrogram and the agglomeration coefficient's relative increases, the more conservative approach suggests considering the existence of four clusters clearly interpretable. Emerged clusters were:

a) Personal I-Positions including I as friendly person, I as a person open to experiences, I as an empathic person;
b) Cultural I-Positions including I as a person in need of order, I as a person who needs stability, I as an anxious person, I as a traditionalist, I as European, I as a citizen of the city where I live;
c) Social I-Positions including I as participant's cultural group, I as student;
d) Human I-Positions including I as human being, I as participant's name, I as man/woman.

Thus, from the cluster analysis emerged the Hermans' three level of inclusiveness (i.e., personal, social, and human) specifying another subset of the social level of inclusiveness defined cultural internal I-Positions. The values (from 0 to 5) attributed to each

internal I-Position aggregated in each of the four clusters was then summed and after recoded in 1 to 100.

Furthermore, in order to analyze PPR, in line with Filip and Kovářová (2020) suggestions, we also computed a Principal Component Analysis on external I-Positions (i.e., other participant's name, target group, students, human being) for each PPR sheet separately (one sheet for each participant). To do this, we constructed 8 matrices whose rows were the single internal I-Positions of each participant, and columns were external I-Positions. Then, we considered the percentage of variance explained by the first latent factor of the model as an index of monologicity, including it in the analyses. In this sense, high levels of monologicity (vs dialogicity) indicated low levels of differentiation of relationships between I-Positions (Filip & Kovářová, 2020; for the debate on dialogicity indices see Appendix B).

Differences between groups and correlations

Data analysis strategy

In the second step of analysis, since the dialogue took place in pairs of two, we computed student's t-test for paired samples on each variable considered. Then, we computed Pearson's correlations between emerged clusters of I-positions and contact quality, implicit and explicit attitude for both majority and minority groups separately (i.e., Italians and non-Italians). Despite the extensive debate regarding Pearson's correlation assumptions (e.g., Binder, 1959; Schober et al., 2018), it is recently pointed out that data have to meet the following criteria to compute Pearson's correlation: both variables have to be normally distributed, there must be no relevant outliers, values have to be measured independently, and the two variables have to be continuous (Havlicek & Peterson, 1976; see Schober et al., 2018 for a discussion). Thus, we first checked the distribution of all variables considered running Shapiro-Wilk test for normality distribution (Shapiro & Wilk, 1965), and then we computed Pearson's correlation when both variables were normally distributed and Spearman's

correlation when the distribution significantly deviated from normality. The same debate involved also student's t-test on small samples, and the same necessary preconditions emerged in literature (Kim, 2015). Moreover, de Winter (2013) demonstrated that paired t-test was feasible and usable with small sample size (from 2 to 5) for normally distributed variables and equal sample sizes or equal variances. Thus, since two groups had equal sample sizes, paired t-test was used when variables were normally distributed and variance was equal, otherwise we used Wilcoxon signed rank test.

Regarding implicit ethnic prejudice and IAT procedure, according to Greenwald, Nosek and Banaji (2003), a within subjects standardized difference score (*D-Score*) was computed on critical trials, subtracting mean response latency in compatible blocks by the mean response latency in incompatible blocks for both pre- and post-dialogue measures. Thus, positive scores indicated preference for majority group (i.e., White people), zero indicated no preferences, and negative scores indicated preference for minority group (i.e., Black people) for both majority and minority groups. Given the oneshot and short time online interaction, we not expected differences between pre- and post-dialogue implicit ethnic prejudice. Thus, after controlling the lack of differences, only post-dialogue implicit ethnic prejudice was used in our analyses. We want to point out that we assumed implicit ethnic prejudice as a control variable. However, given the small sample size and the lack of normal distribution of some variables, it was not possible to compute partial bivariate correlations, so this measure was included for descriptive purposes.

Descriptive statistics, comparisons, and correlations

Since the PPR data was collected from both Italian (majority) and non-Italian (minority) groups at the same time and given the theoretical assumptions of dialogical Self, we explored the relations between emerged clusters of I-Positions and monologiocity index of majority and minority group. The basic idea that guided these analyses was that the

dialogue is constantly co-constructed by the two interacting participants, thus the I-Positions of the first one should be related to the I-Positions of the second one. Correlations between emerged clusters of I-Positions in majority group and the same variables in minority group showed a positive relation between majority' cultural I-Positions and minority' personal I-Positions ($r = .97$, $p < .05$). In other words, the more majority group activated cultural I-Positions, the more minority group activated personal I-Positions. Furthermore, the more majority group activated human I-Positions the less minority group activated human I-Positions ($r = -.97$, $p < .05$) and social I-Positions ($r = -.94$, $p < .10$), and monologicity ($r = -.95$, $p < .10$).

Descriptive statistics, Shapiro-Wilk test for normality and Student's t-test for paired samples (or Wilcoxon signed rank test) are presented in Table 3.

Table 3

Means, standard deviations, Shapiro-Wilk test for normality distribution and Student's t-test for paired groups (or standardized Wilcoxon signed rank test) of considered measures computed separately for majority and minority groups.

				Shapiro-Wilk		Comparisons between groups		
	range	M	SD	W	df	*t* (*df*)	*p*	*d*
1. Personal I-Positions	0-100					6.76 (3)	.007	3.38
Maj		87.92	9.17	.91	4			
Min		58.33	9.43	.83	4			
2. Cultural I-Positions	0-100					1.507 (3)	.229	.75
Maj		56.46	33.15	.96	4			
Min		28.54	9.29	.81	4			
3. Social I-Positions	0-100					.209 (3)	.848	.10
Maj		59.38	24.27	.98	4			
Min		55.63	23.40	.79	4			
4. Human I-Positions	0-100					1.029 (3)	.379	.51
Maj		75.00	16.67	.98	4			
Min		54.58	23.31	.90	4			
5. Monologicity	0-100					1.532 (3)	.223	.74
Maj		68.79	11.95	.93	4			
Min		56.34	20.48	.83	4			
6. Intergroup contact quality	0-7					Z = -1.826	.068	-1.72
Maj		1.50	.58	.73*	4			
Min		3.25	1.32	.95	4			

7. Implicit majority bias (pre-dialogue)	-2, 2					Z = -1.826	.068	1.14
Maj		.87	.30	.92	4			
Min		.44	.44	.72*	4			
8. Implicit majority bias (post-dialogue)	-2, 2					Z = -.365	.715	.37
Maj		.71	.39	.99	4			
Min		.55	.47	.68**	4			
9. Attitude towards Italians	0-100					1.905 (3)	.153	1.59
Maj		86.75	6.40	.95	4			
Min		66.25	17.02	.92	4			
10. Attitude towards target group	0-100					Z = -.365	.715	.53
Maj		86.00	9.42	.75*	4			
Min		69.00	44.55	.77	4			
11. Attitude towards Europeans	0-100					2.040 (3)	.134	.93
Maj		86.75	4.57	.79	4			
Min		71.67	22.55	1	3			
12. Attitude towards non-Europeans	0-100					1.993 (3)	.140	1.01
Maj		86.25	9.47	.79	4			
Min		68.75	22.50	.85	4			
13. Attitude towards White people	0-100					1.143 (3)	.336	.66
Maj		82.50	5.57	.96	4			
Min		71.67	22.55	1	3			
14. Attitude towards Black people	0-100					Z = -1.826	.068	1.16
Maj		86.75	8.85	.67**	4			
Min		67.50	21.79	.86	4			

* $p < .05$; ** $p < .01$

Participants belonging to the two groups (majority and minority) showed differences on personal I-positions, with majority significantly activating more personal I-Position than minority. On average, minority group during dialogue activated less cultural than personal ($t(3) = -3.719$, $p < .05$; $d = -3.18$) and social ($t(3) = -2.462$, $p < .10$; $d = -1.52$) I-Positions, and majority group activated less social than personal I-Positions ($t(3) = 2.646$, $p < .10$; $d = 1.56$). Furthermore, minority group showed higher evaluation of online intergroup contact quality, and this difference was almost significant, despite means for both groups were low. Interestingly, both groups showed an implicit majority intergroup bias, with higher values of implicit positive attitudes towards majority group for Italians. Difference between majority and minority groups was almost significant in the pre-dialogue, but not significant in the

post-dialogue. As expected, no differences were found between pre- and post-dialogue implicit ethnic prejudice for both groups, thus only post-dialogue measure was used for further analyses. Lastly, as to explicit attitudes, on average, majority group showed more positive attitudes towards all categories compared to minority group. However, a difference near to the significance ($p < .10$) was found for attitudes towards Black people.

The six thermometers were used to compute three intergroup bias indices subtracting attitude towards outgroup to attitude towards ingroup (i.e., Attitude towards Italians minus Attitude towards Moroccans, for majority group and the reverse for minority group), thus positive scores of intergroup biases indicated high preference for one's own group. Descriptive statistics for intergroup biases (national, continental-European, and Whites vs Blacks) measures are presented in Table 4. The two groups did not differ on intergroup biases. Furthermore, despite intergroup biases did not significantly differ from zero (majority group: national level: $t(3) = .10$, $p = .924$, $d = .05$; continental level: $t(3) = .13$, $p = .908$, $d = .06$; Whites vs Blacks level: $t(3) = -.64$, $p = .568$, $d = -.32$; minority group: national level: $t(3) = .12$, $p = .910$, $d = .06$; continental level: $t(2) = 1.00$, $p = .423$, $d = .58$; Whites vs Blacks level: $t(2) = 1.00$, $p = .423$, $d = .58$), both majority and minority group reported preferences for the outgroup on Whites vs Blacks level, whereas they both reported intergroup bias on national level, and majority but not minority group reported intergroup bias on continental level, while minority group reported no preferences on the same level.

Table 4

Means, standard deviations, Shapiro-Wilk test for normality distribution and Student's t-test for paired groups of bias indices computed separately for majority and minority groups.

				Shapiro-Wilk		Comparisons between groups		
	range	M	SD	W	df	t (df)	p	d
1. Intergroup bias - national	-100, 100					-.091 (3)	.934	-.06
Maj		.75	14.43	.87	4			
Min		2.75	44.88	.97	4			

2. Intergroup bias - continental	-100, 100					.120 (3)	.912	.06
Maj		.50	7.94	.97	4			
Min		0	8.16	.95	4			
3. Intergroup bias – Whites vs Blacks	-100, 100					-.417 (3)	.705	-.29
Maj		-4.25	13.30	.91	4			
Min		-1.25	6.29	.90	4			

Note: negative values = outgroup preference; 0 = no ingroup or outgroup preference; positive values = ingroup preference.

Correlations between emerged clusters of I-Positions and contact quality, implicit and explicit bias measures are presented in Table 5. Analyses were computed separately for majority and minority groups.

Table 5

Correlations between I-Positions and intergroup contact quality, implicit majority bias, and the three biases (national, continental, and Whites vs Blacks) for both majority and minority groups. Unless otherwise specified, all correlations are Pearson's correlations.

	Implicit majority bias	Intergroup contact quality	Intergroup bias - national	Intergroup bias - continental	Intergroup bias – Whites vs Blacks
Personal I-Positions					
Maj	.56	ρ = .00	-.96*	-.97*	-.94†
Min	ρ =.80	-.61	.11	-.56	-.36
Cultural I-Positions					
Maj	.49	ρ =.00	-.78	-.84	-.48
Min	ρ = -.20	-.05	-.53	.18	.08
Social I-Positions					
Maj	-.18	ρ = -.45	-.69	-.62	-.51
Min	ρ = .32	.21	.40	.92†	.80
Human I-Positions					
Maj	1.00**	ρ = .45	-.47	-.63	-.31
Min	ρ = .40	.27	.57	.91†	.81
Monologicity					
Maj	-.24	ρ = .00	.76	.78	.48
Min	ρ = .40	.34	.47	.88	.76

† p < .10; * p < .05; ** p < .01

Results showed some significant correlations among emerged clusters of I-Positions and considered variables especially for majority group. As to majority group, the implicit majority bias measured in the pre-dialogue positively related to personal, cultural and first of all and significantly to human I-Positions, while negatively but weakly related to social I-positions and monologicity. Intergroup contact quality negatively but not significantly associated with social I-positions and positively associated with human I-positions. Finally, explicit intergroup biases negatively and significantly or almost significantly related to personal I-Positions. We found similar but not statistically significant relations regarding

emerged cultural, social, and human I-Positions, while monologicity positively but not significantly associated with intergroup biases.

Concerning minority group, the implicit majority bias measured in the pre-dialogue positively but not significantly related to personal, social, and human I-Positions, and to monologicity, whereas it negatively related to cultural I-Positions. Intergroup contact quality positively but not significantly related to social and human I-Positions and monologicity, while it negatively but not significantly related to personal I-Positions. Lastly, explicit intergroup biases positively and significantly or almost significantly related to social and human I-Positions, and to monologicity. We also found not statistically significant relations regarding emerged personal and cultural I-Positions, whose relations depended on the level of intergroup bias considered (i.e., personal I-Positions positively related to national level of intergroup bias, and negatively related to continental and Whites vs Blacks level of intergroup bias; cultural I-Positions negatively related to national level of intergroup bias, and positively related to continental and Whites vs Blacks level of intergroup bias).

Discussion

The present pilot study explored the application of the Democratic Organization of the Self model to online intergroup (i.e., intercultural) contact with the aim of developing an empirical design to investigate it. Specifically, it investigated the role of the dialogical Self in the relationship between online intergroup contact and prejudice reduction in four couples of undergraduate students belonging to majority (Italian) and minority (non-Italian). Specifically, we first tried to understand which clusters of I-Positions emerged during dialogue with an outgroup member, and then we explored whether and to what extent these clusters were related to contact quality and implicit and explicit ethnic prejudice.

Results of cluster analysis suggested four clusters of I-Positions: personal, cultural, social, and human. Thus, our results were in line with the three levels of inclusiveness

theorized by Hermans et al.'s (2017) Democratic Organization of the Self model, specifying a new cultural dimension that cluster analysis suggested as a subcluster of the social level of inclusiveness. More specifically, personal I-Positions cluster included some personality characteristics linked to being an open minded person; cultural I-Positions cluster included some characteristics that can come into play in dialogue with the outgroup that could obstruct the prejudice reduction (i.e., anxiety, traditionalism); social I-Positions cluster was linked to the membership to specific social groups; and human I-Positions cluster was related to abstract categories that included both individuals in dialogue. Interestingly, for both groups the most relevant level of inclusiveness emerged during dialogue was the personal one and the least relevant level was the cultural one. This might suggest that, although the membership to different cultural/ethnic groups had been made salient, the dialogue took place largely at an interpersonal level ("I" vs "you"), and the personal characteristics that could activate a defensive position for one's group were not particularly decisive. The differences were instead between social and human level. In fact, while the majority activated more human than social positions, for the minority group it was the opposite. Not surprisingly, for the minority social level ("we" vs "you") had a greater relevance perhaps because of the difference in group status, while the majority tended to include ingroup and outgroup the more abstract level of human being.

Once emerged clusters, we analyzed whether the subsets of I-Positions related to contact quality and to cultural/ethnic prejudice. Despite the exploratory nature of the present study, it was possible to detect different trends for majority and minority groups. In line with Tropp and Pettigrew's (2005) findings in offline contexts, it seems that online contact between different cultural/ethnic groups had different effects depends on the societal status of groups, showing positive effect only for the majority one. Furthermore, observing these trends within groups, it was possible to argue that to dialogue with the other – i.e., to include

the external positions into the Self – favoured positive relations by reducing intergroup biases in majority group and that it significantly occurred when personal I-positions were taken into account. Although the observation of these relationships should be cautious and only indicative due to the limited sample size of the present study, we can argue that individuals who dialogued on a personal level of inclusiveness may have activated decategorization processes, developing a more complex and differentiated perception of the outgroup member not only based on categorical membership (e.g., Ensari & Miller, 2001). On the other hand, to dialogue at social and human levels related to a more defensive position – i.e., to a preference for its own group – for minority group compared to the personal and cultural ones. Since social level of inclusiveness referred to dialogues in which social categorization was particularly salient, we can assume that for minority group members to interact at this level with an outgroup member could activated a protective position, based on the recognition of their group's devaluation (e.g., Tropp & Pettigrew, 2005) and the perception of prejudice from majority group (e.g., Monteith & Spicer, 2000). As to human level, since human positions were the most inclusive and abstract ones, including both individuals in dialogue at the human level, we supposed a positive relationship between human I-Positions and the attitude towards the outgroup. Nevertheless, contrary to what we expected, the more minority individuals activated human I-Positions, the more they expressed intergroup biases. Moreover, this counterintuitive tendency was observed also for the majority group at implicit prejudice level, and it certainly needs further investigations (see Chapter 3). However, assuming a circular perspective and analyzing relations between majority and minority group positioning, it was possible to observe that the more one of the two participants activated human I-Positions, the less the other activated the same positions. Despite the explorative nature of our results, it was seen that the activation of the human level, maybe due to its

abstract nature, generated a defensive counter-reaction on the part of the other individual, who therefore tended to use less abstract levels of inclusiveness, such as cultural and social ones. This insight was in line with Brewer's (2003) optimal distinctiveness. Assuming this, the dialogue had taken place between people who positioned themselves differently to each other, and this lack of coordination between groups' positions could be linked to greater prejudice.

Consistent with what we might have expected, monologicity positively related to intergroup biases for both groups. Conversely and in line with Hermans et al. (2017), the shift between the different levels of inclusiveness favoured positive relationships between groups by reducing intergroup bias. Thus, to move between the different levels of inclusiveness e between internal and external positions could have helped harmony between groups of different cultures and ethnicity.

To the best of our knowledge, this is the first study that explore the role of dialogical Self in online intergroup contact and prejudice reduction relationship. Nevertheless, the present study has many limitations first of all related to the sample size. We analyzed data from only eight participants, which did not allow us to generalize our results. Certainly, further studies are needed to understand the role of self positioning in online contact-prejudice relation. Moreover, another limitation is that in the present study we considered race IAT as a measure of implicit prejudice, thus including pictures portraying White and Black target. While majority participants may have identified themselves in a "White" ingroup, minority participants, belonging to different ethnicities, may have identified less with the "Black" ingroup. However, there are several studies in the literature using the race IAT for measure implicit bias towards White and Black targets with heterogeneous samples (e.g., Kubota et al., 2017), as we did in the present pilot study, thus we believe that using this type of IAT did not affect the results.

Despite its limitations, this study takes a small step towards understanding the dialogical identity processes involved in online intergroup contact and its relationships with ethnic prejudice. Our results suggested that dialogicity in online intergroup contact in general tended to be associated with more harmonious relations in both majority and minority groups. However, the salience of personal, social, cultural, or human positions could be linked to positive or negative outcomes depending on individuals' membership to majority or minority group. More specifically, in majorities personal positions were related with positive outcomes, whereas in minorities social positions were related with negative ones. In addition, an ambivalent role of the human positions was found.

The present study also offered a first and valuable attempt to operationalize the intersobjective conception of contact we wanted to implement. Therefore, based on the procedure, methodology and results obtained from this pilot study, we implemented two further studies that the advent of the pandemic forced us to conduct entirely online. The two studies will be presented in the next two chapters. The first (Chapter 3) involved students belonging to the majority group and it aimed to consolidate the procedure and the results obtained in the present study. The second (Chapter 4) involved both Black minority and White majority students and it aimed to deeply analyze the role of power (versus dialogue) in online intergroup contact-prejudice reduction relationship.

Chapter 3—Testing dialogicity and levels of inclusiveness in online intergroup contact. Study 1[2]

Intercultural relations in digital societies, especially when characterized by phenomena such as flaming and hate speech, is an issue of pregnant social and political relevance. For this reason, it is urgent that political agenda and psychosocial research focuses on strategies useful for reducing these negative online phenomena. Among strategies highlighted in literature to promote positive intergroup relations, Allport's contact theory (1954) seems to be one of the most successfully (Pettigrew & Tropp, 2013b). Since its formulation, many scholars applied the contact theory in order to reduce prejudice towards different target groups (i.e., ethnicity, sexual minorities, people with illness), and in different contexts (i.e., schools, workplaces). Moreover, as we have already highlighted in both Introduction and Chapter 1, given the difficulty in making people from different groups meet face-to-face, and given the growing Internet pervasiveness, contact theory has been effectively applied to online contexts too. Since direct face-to-face contact may be threatening and anxious provoking (e.g., Allport, 1954; White et al., 2020), to have an online interaction with an outgroup member allows not only to overcome physical barriers (Hoter et al., 2009), but also to make people feel more comfortable and in control of the situation (Amichai-Hamburger & Mckenna, 2006). In Chapter 1 we saw how despite some authors (e.g., White et al., 2015) have well underlined the efficacy of online intergroup contact in reducing prejudice, it is still not clear which mediation or moderation variables could influence this relation. Our meta-analysis demonstrated that many moderation and mediation variables classically considered in literature on offline intergroup contact could not explain

[2] The present study was published in Imperato, C., & Mancini, T. (2021). Intergroup Dialogues in the Landscape of Digital Societies: How Does the Dialogical Self Affect Intercultural Relations in Online Contexts?. *Societies*, *11*(3), 84.

the variability of contact-prejudice relationship founded in online environments, so that we do not yet well know the process by which online contact reduces prejudice.

Our previous study (see Chapter 2) suggested that I-Positions individuals choose during online intergroup contact could play a role in prejudice reduction, especially for minority members. Therefore, in this study we want to analyse the relation between online intercultural contact and ethnic prejudice specifically focusing on the role of Self levels of inclusiveness – i.e., personal, social, and human – people activate during an online intercultural dialogue. In literature, there were burgeoning array of different theories defining the Self. For instance, Mancini (2010) distinguished modern and post-modern theories; modern Self theories generally defined the Self located inside individuals' minds and as a propriety of individuals (i.e., Identity status model; Meeus, 1996), while post-modern Self theories generally defined the Self located outside individuals' minds and as a propriety of social interaction (i.e., Dialogical Self; Hermans et al., 1992). Starting from post-modern Self perspective, the goal of the present study was to give a new theoretical contribution to the literature on online intergroup dialogue, by considering the intersubjective perspective proposed by the Dialogical Self theory (Hermans et al., 1992). Moreover, by proposing an experimental design totally implemented online, our goal was to suggest a methodology that facilitates researchers to collect data on online intergroup dialogue. Lastly, since the growing level of conflict, flaming and hate speech phenomena that characterizes online environments, our practical purpose was to collect empirical evidence useful not only to sensitize web users, but also to provide managers and web designers with useful ideas for designing digital societies that can favour intercultural dialogue and more generally positive contacts between people belonging to different social groups.

The role of Self in prejudice reduction

In the studies related to offline contexts, some authors (e.g., Bodenhausen, 2009; Branković et al., 2020; Verkuyten & Martinovic, 2012) underlined the central role of the Self, seen as a variable that could partially explain the prejudice reduction. Considering the concept of social identity complexity – i.e., the relationship among individuals' multiple memberships (Roccas & Brewer, 2002) –, the literature highlighted that individuals who perceived their multiple memberships strongly overlapping (e.g., low social identity complexity) compared with individuals who perceived their multiple memberships as distinct and cross-cutting (e.g., high social identity complexity), tended to be less inclusive and tolerant towards the outgroup (e.g., Brewer & Pierce, 2005), increasing both explicit and implicit negative racial attitudes (e.g., Miller et al., 2009; Schmid et al., 2009). Furthermore, studying the conflict relations between young people from Bosnia and Herzegovina and Serbia, Brankovic et al. (2020) found that the relationship between intergroup contact and prejudice reduction was partially mediated by the social identity inclusiveness and complexity. Nevertheless, the literature that focused on identity processes that could mediate the relationship between intergroup contact and prejudice reduction is still lacking in offline contexts, and even scarcer in the online ones. White et al. (2015) pointed out that the Self may be a variable key to understand how an online intergroup contact can reduces prejudice. Moreover, classical literature on Computer Mediated Communication (CMC) also focused on the identity processes that take place in online interactions. The Social Identity Model of Deindividuation Effects (SIDE) (Postmes et al., 1998; Spears et al., 2000) assumed that on one hand Internet provides a context in which people can develop new social identities, while also breaking down social boundaries between ingroups and outgroups, and on the other hand, an anonymous CMC increases the group's influence, stereotyping and discriminations. Despite both literature about online intergroup contact and CMC underlined the importance

to consider the Self, to the best of our knowledge only few studies until now (Mancini et al., 2018; Mancini & Imperato, 2020; White & Abu-Rayya, 2012) considered the role of the Self in influencing the contact-prejudice relation in online contexts. In the present study we focused on Hermans et al.'s (1992) theory, which considered the Self a product of social interactions.

Hermans' theory has already been presented in Chapter 2. Briefly, the Dialogical Self, as defined by Hermans et al. (1992) is multivoiced and composed by a multiplicity of internal and external positions. Therefore, no clear boundaries divide what is typically inside the person (i.e., the Self; internal positions) and what is typically outside the person (i.e., the Other-in-the-Self; external positions), so what is external is considered part of the person's identity. In other words, individuals' identities are literally defined by the dialogue that takes place between internal positions (or voices) and external positions (or voices). As has already been pointed out, studying intergroup contact in light of Dialogical Self theory allows to give a new theoretical contribution to the literature on online intergroup contact because it redefines *interaction* – i.e., the ways through which contacts occur – in terms of *intersubjectivity*, moving from the idea that contact requires interdependent actions, to the idea that contact requires inter-related positions. Therefore, Dialogical Self allowed to analyse an intergroup phenomenon in the light of Self processes, in order to empirically understand whether and to what extent the Dialogical Self explains the process by which the intercultural contacts reduce ethnic/racial prejudice in online contexts.

Levels of inclusiveness and intergroup contact

In studying contacts between different groups, the social identity approach highly influenced the way in which many intergroup and group-based dynamics are observed, considering both Social Identity Theory (SIT; Davies & Aron, 2016; Tajfel et al., 1979) and Self Categorization Theory (SCT; Park & Judd, 2005; Turner et al., 1987). These two

theories allowed to better understand how individuals identify themselves and act as a group member, and since their formulation, they led a considerable amount of empirical research (e.g., Hogg & Terry, 2000). Based on SCT assumptions, one could categorize himself or herself on a personal, social, or human level of inclusiveness. The levels at which individuals categorize themselves has implications both for the intergroup relations as well as prejudice towards the outgroup.

Some studies showed that interacting on a personal level might favour the overlapping perception between the Self ingroup and the Other outgroup, hence, a great number of traits used to describe the Self will be attribute to the outgroup member (Kenworthy et al., 2005). Furthermore, this attribution will be likely to lead a more positive evaluation of the other, which however was not generalized to the outgroup as a whole (Hewstone & Brown, 1986). On the other hand, Pettigrew (1998) and Pettigrew and Tropp (2006, 2008) pointed out that interpersonal processes, as intergroup friendship – i.e., based on personal level of inclusiveness – had positive impact on the intergroup relations. Davies and Aron (2016) identified some interpersonal friendship processes that led to positive attitudes towards the outgroup: reciprocal caring, reciprocal trust, intimacy, affection, self-disclosure, inclusion of other in the Self, and behaviours related to friendship. Through two studies, other authors (Davies & Aron, 2016) found that these processes, when occurred between two different group members, resulted in more positive attitudes towards the outgroup as a whole, thus the positive evaluation was generalized towards the entire group. Consequently, summarizing these results, it emerged that when individuals interact on a personal level without developing an intergroup friendship, the positive attitude towards the outgroup member with whom they have interacted were not attributed to the outgroup as a whole, whereas individuals who interacted with an outgroup friend tended to extend positive attitudes also to the entire outgroup.

When individuals interact categorizing themselves and others on social level of inclusiveness, the group membership become salient. As it is well known, social categorization allows individuals to accentuate perceived differences between groups and similarities between members of the same group (e.g., Hogg, 2002), to such an extent that the mere categorization held in maintaining prejudice towards the outgroup (e.g., Park & Judd, 2005). Moreover, social categorization strengthen positive identification with one's ingroup norms and values, which, in line with SIT, positively affects prejudice towards the outgroup (Tajfel et al., 1979). Scheepers et al. (2002) experimentally found that the individuals' tendency to categorize and differentiate groups had both an identity and an instrumental function. The identity function was linked to the individuals' need to distinguish one's meaningful social identity to the other ones, while the instrumental function was linked to the achievement of the group goals. Based on their results, the authors (Scheepers et al., 2002) proposed to consider theoretically both functions in interplay when analysing the people's need of categorization, as well as the interaction at social level of inclusiveness.

Lastly, when people categorized themselves and others based on a superordinate membership, they activate the human level of inclusiveness. The literature underlined that the more inclusive and abstract level of categorization (e.g., human identity) facilitated intergroup relations (Turner et al., 1987). In fact, this level of categorization could be considered as a social identity shared both by the ingroup and the outgroup (Reynolds et al., 2003). For instance, Levine et al. (2005) experimentally induced a shift in the salience of social categorization and observed participants' helping behaviours. The authors have found that when the category boundaries were more inclusive, helping behaviours were extended also to the outgroup members, as long as they were part of a superordinate category inclusive of both ingroup and outgroup members. Furthermore, Wohl and Branscombe (2005) experimentally found that a greater abstract level of human categorization increased the

positive responses towards the outgroup, concluding that "negative group-based feelings toward (outgroup) can be reduced with more inclusive levels of categorization" (p. 301). Thus, to interact at a human level could favoured intergroup relations by including both the Self (ingroup) and the Other (outgroup) in a common, more general and abstract ingroup. In addition, this was also consistent with the common ingroup identity model (Dovidio et al., 1993).

Democratic Organization of the Self

Starting from SCT (Turner et al., 1987), Hermans et al. (2017) recently proposed the model of the Democratic Organization of the Self, considering it as particularly useful when a dialogue take place in conflicting situations. It is well known that conflict phenomena such as discrimination (e.g., Mancini & Imperato, 2020; Yu & Blain, 2019), hate speech (e.g., Chetty & Alathur, 2018) and misinformation (e.g., Vicario et al., 2016) widely occur online, to the extent that it is possible to argue that Internet could both facilitate (e.g., Glaser & Kahn, 2005) and obstruct (e.g., Kahn et al., 2013) harmonious relations. Thus, to apply the Democratic Organization of the Self model to online dialogues could be particularly useful. In this model, starting from the SCT three levels of inclusiveness (Turner et al., 1987), the authors focused on three different levels at which dialogue took place, here considered as three different levels of responsibility: personal, social and human. In this perspective, the personal level of responsibility was defined by the ability to give a dialogical answer to others and to oneself from a personal position (i.e., "I as an empathic person"). The social level of responsibility has defined the ability to give a dialogical answer to others and to oneself from a social we-position, considering the groups to which someone belongs (i.e., "I as an Italian"). Lastly, the human level of responsibility has defined the ability to give a dialogical answer to other and to oneself from an inclusive and abstract human position (i.e., "I as a human being). These three levels of inclusiveness / responsibility, together with the

cultural level also emerged from the dialogical positions of the participants in the pilot study (Chapter 2).

Since during a dialogue the individuals could move through personal, social, and human levels of inclusiveness, the model of the Democratic Organization of the Self predicted that shifting towards a more abstract and inclusive levels (e.g., human) could reduce conflicts. Furthermore, the ability to shift among different levels of inclusiveness itself, i.e., the ability to re-positioning one's self in the dialogue, could foster higher harmonious interpersonal and intergroup relations. In particular, this happens in conflicting situations, according to what Hermans et al. (2017) theoretically pointed out and to what we explored in Chapter 2.

Despite the promising premises of Hermans' theoretical model, to date, except for our pilot study (Chapter 2) no studies have analysed intergroup relationships in the light of the Democratic Organization of the Self Theory. However, results obtained from the pilot study showed that to apply the Democratic Organization of the Self to intergroup contacts can complexify the understanding of what happens during the interactions between different groups: this helps to better understand the Self implications of the intergroup contacts, namely, what people put in place in terms of Self levels of inclusiveness and intersubjectivity when they dialogue with an outgroup member.

Furthermore, to the best of our knowledge, very few studies analysed individuals' positionings and re-positionings in dialogue with an outgroup member (e.g., O'Sullivan-Lago & de Abreu, 2009). In pilot study we presented in the Chapter 2, we found that individuals activated different positions (i.e., different levels of inclusiveness/responsibility) based on their membership to the majority or minority ethnic/cultural group, though personal positions were the ones more activated during dialogue for both majority and minority group. We also found that while salience of personal and to some extent cultural I-positions positively related

to prejudice reduction in majority members, salience of social and human I-positions negatively related to prejudice reduction in minority members. Moreover, monologicity – i.e., the lack of shifts among positions during dialogue – (vs dialogicity) positively related to intergroup bias for both groups. Consequently, going beyond the specific levels of inclusiveness, the individuals' ability to circularly shift among personal, social, and human level could foster more harmonious intergroup relations. In order to consolidate these explorative results, in this study we aimed to deeply analyze the role of the dialogue that takes place between internal positions and external positions in online intergroup contacts when one level of inclusiveness / responsibility is primed before the dialogue start, and its relations with ethnic prejudice towards different ethnic/cultural groups.

The present study

The main aim of this study was to focus on the role of the Dialogical Self in intercultural relations occurring in online contexts. Specifically, we aimed to analyze how positioning themselves and others at three levels of inclusiveness – i.e., salience of personal, social, and human positions – and shifting from one level of inclusiveness to another during the dialogue – i.e., from monologicity to dialogicity and from coordination of one's position to lack of coordination – associated with intercultural outcomes of inclusion of other in the self, ethnic/racial identity, attitude toward the outgroup member with whom users dialogued, and the explicit (intergroup bias) and implicit prejudice. In order to reach this aim, an experimental study was conducted online with a sample of Italian undergraduate students who were induced to position themselves and the "other", i.e., a member of a cultural/ethnic outgroup, at different levels of inclusiveness/responsibility in online dialogue. Those levels included the personal, the social and human indicated by the Democratic Organization of Self, and they were experimentally manipulated by the way the "other" was introduced in the

online dialogue and measured in pre-dialogue and post-dialogue procedure. Based on literature previously reviewed, we formulated four hypotheses.

H1. Given the central role of dialogism in Hermans et al.'s model (2017) in fostering harmonious relations and results from our pilot study (see Chapter 2), we expect that dialoguing with an outgroup member can favour the individuals' ability to shift among personal, social and human levels of inclusiveness, i.e., to decrease monologicity regardless of the level of inclusiveness we manipulated. Thus, we hypothesize that online intergroup contact per se decreases from pre-dialogue to post-dialogue the monologicity, regardless of the experimental condition. For instance, through the online contact, participants dialogue shifting between personal, social, and human I and other positions, regardless of the experimental conditions.

H2. As a consequence of monologicity, we expect that to dialogue with the outgroup member disfavours individuals' ability to coordinate the I and the other positions. In other words, we hypothesize that online intergroup contact per se decreases from pre-dialogue to post-dialogue the coordination of positions, regardless of the experimental condition.

H3. As far as different levels of inclusiveness we manipulated (personal, social, human), we expect the salience of the I and other Positions to follow the level of inclusiveness we manipulated, so participants position themselves (internal positions) and the other (external positions) in line the experimental conditions. Specifically, we hypothesize that participants report in Personal condition higher levels of individuation (i.e., greater salience of internal and external personal positions; H3.1), in Social condition higher levels of categorization (i.e., greater salience of internal and external social positions; H3.2), and in Human condition higher levels of humanization (i.e., greater salience of external human positions; H3.3).

H4. In line with the findings on different level of inclusiveness from SIT and SCT perspectives (Hogg & Terry, 2000; Kenworthy et al., 2005; Levine et al., 2005) and since we expected the salience of the positions followed the level of inclusiveness we manipulated (H3), we assume some associations among dialogue monologicity, dialogue coordination, and salience of the three level of inclusiveness in the dialogue on one hand, and inclusion of other in the Self, ethnic/racial identity, attitude toward the outgroup member, intergroup bias, and prejudice among different conditions on the other hand. More specifically, we hypothesize that Monologicity associates with negative intercultural outcomes, i.e., with lower level of inclusion of other in the Self and of positive attitude towards the outgroup member, and with higher level of ethnic/racial identity, intergroup bias, and prejudice. Based on the Hermans et al.'s Democratic Organization of the Self, we assume that these associations are higher in social condition than in personal and human conditions (H4.1). As far as Coordination, we expect the same associations: we assume that dialogue coordination negatively associates with inclusion of other in the Self, and with the attitude towards the outgroup member, while it positively associates with ethnic/racial identity, intergroup bias, and prejudice. Yet, based on SIT, we assume that these associations are higher in social condition than in personal and human conditions (H4.2).

Regarding the salience of the three levels of inclusiveness during the dialogue, we hypothesize that high levels of individualization (i.e., greater salience of internal and external personal positions) positively relate to attitude towards the outgroup member. Thus, based on studies on SCT, we assume that such association is higher in personal, medium in human and lower in social condition (H4.3). Furthermore, high levels of categorization (i.e., greater salience of internal and external social positions) positively relate to ethnic/racial identity, intergroup bias, and prejudice. Yet, we assume that these associations are higher in social, medium in personal and lower in human condition (H4.4). Lastly, high levels of

humanization (i.e., greater salience of internal and external human positions) positively relate to both the inclusion of other in the Self and ethnic/cultural identity, as well as to positive attitude towards the outgroup member, and negatively relate to intergroup bias and prejudice. Following studies on human level of inclusiveness, we assume that these associations are higher in human condition than in personal and social conditions (H4.5).

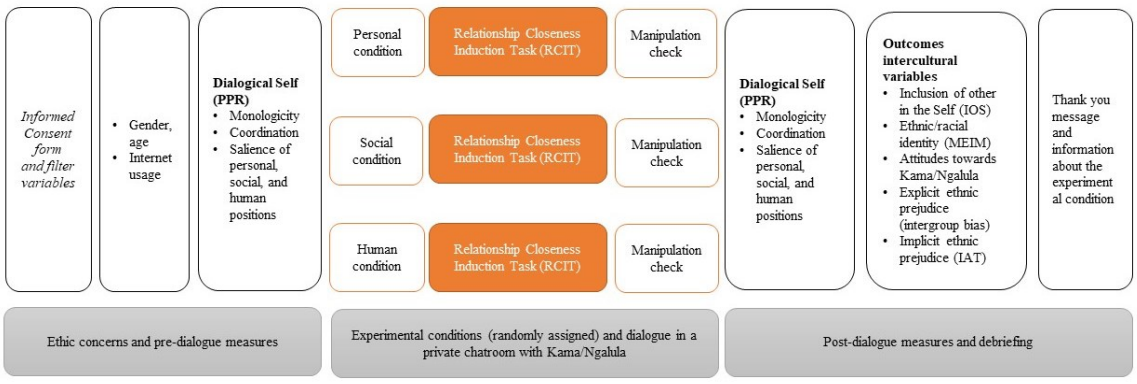
Methods

Design, procedure, and measures

An experimental design was implemented on Qualtrics platform. Taking advantage of the possibility to use JavaScript code on Qualtrics, a private chatroom was programmed in which participants had to dialogue online with a fictitious outgroup member and to answer a series of questions. Fictitious outgroup member's answers were programmed based on real online intergroup dialogues occurred in the pilot study (Chapter 2). The design procedure included: Informed Consent form, pre-dialogue measures, the implementation of three experimental conditions, dialogue, post-dialogue measures, and debriefing. Design and measures are presented in Figure 7.

Figure 7

Design and measures used.



Informed Consent form

Complying with both GDPR and University ethical standards, and in line with the Italian Psychology Association's (AIP) research's ethics code, the first page of the questionnaire contained an Informed Consent form presenting information about the aim of the study, confidentiality, anonymity, and data protection. Participants were asked to give their consent to participate in the study by clicking 'yes, I agree to participate' (or 'no') at the end of the informed consent form. Participants who did not give their consent were automatically redirected to the acknowledgment page. Through a filter, participants who claimed to be under 18 years old or who claimed they were not undergraduate students were led to the final "thank you" message placed at the end of the questionnaire. Furthermore, the participants had to have a keyboard to complete the Implicit Association Test measure, those who connected from smartphones were shown a message asking them to change their device.

Pre-dialogue

During the pre-dialogue phase, after some socio-demographic questions (i.e., gender, age, nationality, and profession), participants were asked to complete scales related to their Internet usage and their Dialogical Self.

Internet usage. The participants were asked to complete the Internet Intensity Scale (IIS). The scale was adapted from Ellison et al.'s (2007) Facebook Intensity Scale, translated in Italian and in this study adapted to refer not only to Facebook, but also to social platforms in which users can interact each other (i.e., Social Networks, forums and chatrooms). The scale was composed of eight items. The first two items measured online contacts and the frequency of Internet usage (e.g., "How many of your online contacts are also your friends in real life?"; "In the past week, approximately how many minutes have you spent with these people online (on social network, chat, or forum)?"). The other six items measured the

intensity of Internet usage on a 5-point Likert-type scale (1 = completely disagree, 5 = completely agree; e.g., "*Chatting online is one of my daily activities*"; α = .80).

Dialogical Self (pre-dialogue). Participants completed a short version of Hermans' Personal Positions Repertoire (PPR; 2001). In this pre-dialogue version, participants were asked to think about an undergraduate student like them and to complete the PPR. PPR was used to assess to what extent each internal position (rows) was connected to each external position (columns). The positions were adapted to the participants' characteristics (i.e., participants' name and ethnicity/race). In line with Hermans et al.'s Democratic Self Model (2017) and with pilot study cluster analyses findings (Chapter 2), we chose the positions referring to: personal, social and human level of inclusiveness. According to Filip and Kovářová (2017), despite the great PPR flexibility, it requires the respondent a great cognitive effort and time, having to rate relationships between every internal position with every external position. Also considering that the procedure took place online, therefore in a fairly ecological context without the researcher control, we decided to use PPR, i.e., a short version of the sheet, including a single position for each level of inclusiveness. Specifically, the internal positions were I as participants' name, I as Italian, I as human being; external positions were other student's name, Senegalese, the human beings. Participants were asked to indicate on a scale ranging from 0 to 5 the extent to which each internal position was prominent in relation to each external position (0 = not at all, 5 = very considerably).

Experimental conditions

Regardless of experimental condition, all users were told they were about to chat online with Kama or with Ngalula, depending on participants' gender, a 22-year-old Senegalese undergraduate student. Then, participants were randomly assigned to one of the three experimental conditions – personal, social, or human. We constructed the experimental manipulations based Hermans et al.'s levels of inclusiveness (2017), then three experts in the

field approved them. Thus, based on the experimental condition, the interlocutor was introduced as follows:

a) Personal condition: “Kama/Ngalula really likes to chat online, especially to get to know the people he talks to in a "deep" way. Kama/Ngalula is in fact a boy/girl who is very attentive to the needs and characteristics of the people he interacts with. People who know him/her praise him/her as a friendly, open and empathetic guy/girl.”
b) Social condition: “Kama/Ngalula really enjoys chatting online, especially to meet other people who come from his own country. Kama/Ngalula is in fact a boy/girl very eager to learn about Senegalese traditions, customs, and habits. People who know him/her praise him/her as a boy/girl who is very attached to his family and his country of origin.”
c) Human condition: “Kama/Ngalula really enjoys chatting online, especially to get to know people regardless of their affiliations or diversity. Kama/Ngalula is in fact a boy/girl very desirous to know the human side of people. People who know him/her praise him/her as a boy/girl who feels himself/herself as a citizen of the world and loves justice and equality.”

We did not give any further indication on how participants should interact other than the experimental manipulation. Subsequently, a private chatroom opened.

Dialogue

With the help of a computer scientist, a private chatroom has been implemented within the questionnaire in Qualtrics platform, and participants had to chat with a “fake” outgroup member. The usage of a bot to simulate the outgroup member was widely used in literature on online intergroup contacts. Notably, it has been shown that even contact with a fake outgroup member can reduce prejudice toward the outgroup (e.g., Bagci et al., 2021).

Since establishing a cross-groups friendship favours prejudice reduction, according to Davies et al. (2011) and to contact literature results (e.g., Pettigrew & Tropp, 2006), the Relationship Closeness Induction Task (RCIT; Sedikides et al., 1999) has been used during dialogue. RCIT consisted of three lists of questions with a growing level of intimacy (i.e., "*How old are you?*" for the first list; "*If you could travel anywhere in the world, where would you go and why?*" for the second list; "*What is your biggest fear?*" for the third list). In order to reduce participants' dropout, we only asked 18 of the 29 questions of the original protocol used in the pilot study. The questions were initially written with the aim of inducing intimacy between two unknown individuals in offline contexts, and they were recently applied successfully to the online context (MacInnis & Hodson, 2015). RCIT questions appeared to participants who were asked to read the outgroup members' answers and then answer to the same question. To make the dialogue as plausible as possible, the bot's responses appeared with a slight pre-programmed latency. Furthermore, the answers were based on real dialogues occurred between two students of different ethnicity/races in the pilot study.

Attention checks. To check that participants were attentive to the instructions of the experimental procedure, three attention checks were presented immediately after the dialogue. The questions were: "*What is the name of the person you dialogue to?*", "*Where did the person you dialogue with come from?*", and "*Why does the person you dialogue with love to chat?*".

Post-dialogue

During post-dialogue phase, the participants completed the measures of Dialogical Self, inclusion of others in Self, a measure of their ethnic/racial identity, and implicit and explicit ethnic prejudice measures.

Dialogical Self. The participants completed a short version of PPR (Hermans, 2001) very similar to the one presented in the pre-dialogue phase. They were asked to think about

the dialogue that took place with the other student and to give an answer about. Also, in this PPR internal positions were “I as participants’ name”, “I as Italian”, “I as human being”, while external positions were other student’s name (e.g., Kama or Ngalula, based on participants’ gender), Senegalese, the human beings. Participants had to indicate on a 0-5 scale the extent to which each internal position was prominent in relation to each external position.

Inclusion of Other in the Self. It was measured through the Inclusion of Other in the Self scale (IOS; Aron et al., 1992). IOS was composed by two increasingly overlapping circles. In our version, one circle represented the participants (i.e., “Me”) and the other circle represented Kama or Ngalula (i.e., “He” or “She”). Participants were asked to assess their relationship with the outgroup member with whom they interacted, selecting one out of seven couples of circles. IOS was successfully used in studies on prejudice reduction, i.e., considering inclusion of other in the Self as mediating variable of the relationship between compassionate love and prejudice toward immigrants (Sinclair et al., 2016).

Ethnic/racial identity. It was measured through an Italian and cultural adaptation of the Multigroup Ethnic Identity Measure – Revised (MEIM-R; Phinney & Ong, 2007). The MEIM-R is composed of six items on a 5-point Likert-type scale (1 = strongly disagree, 5 = strongly agree) measuring ethnic/cultural exploration and commitment (e.g., “*I spent some time trying to find out more about my culture, my history, my traditions*.”; $\alpha = 0.86$).

Attitudes towards Kama/Ngalula. It was measured through an emotional thermometer ranging from 0 (= extremely unfavourable) to 100 (= extremely favourable) to assess the attitudes towards outgroup member with whom participants interacted.

Explicit ethnic prejudice (intergroup bias). It was measured through two emotional thermometers ranging from 0 (= extremely unfavourable) to 100 (= extremely favourable) to assess attitudes towards the ethnic/cultural group to which the interlocutor with whom

participants interacted belonged (i.e., Senegalese), and the participants' ethnic/cultural group (i.e., Italians). An intergroup bias measure was computed subtracting the attitude towards the outgroup (i.e., Senegalese) to the attitude towards the ingroup (i.e., Italians), thus positive scores indicated high preference for participants' ingroup.

Implicit ethnic prejudice. Participants were asked to complete the Implicit Association Test (IAT; Greenwald et al., 1998) procedure. IAT procedure has been executed on Qualtrics platform, following guidelines suggested by Carpenter et al. (2019) and published by authors on the Open Science Framework (OSF). IAT assessed the degree to which target pairs (e.g., White people vs Black people) and categories (e.g., pleasant vs unpleasant) are mentally associated. We used images provided by Harvard's Project Implicit (www.implicit.harvard.edu) to assess White vs Black target, and adjectives provided by Dasgupta et al. (2000) to assess pleasant vs unpleasant categories. Participants completed seven blocks of stimuli sorting trials, alternating compatible blocks ("White people" + "pleasant") to incompatible blocks ("Black people" + "unpleasant"), and practice trials to critical trials. The seven blocks order was randomized among participants presenting randomly compatible blocks or incompatible blocks first. The same procedure was used in our pilot study, showing no differences between pre- and post- dialogue, for this reason we decided to present it only in post-dialogue phase.

Debriefing

At the end of the questionnaire, participants were thanked and informed that they did not chat with a real person, and that they could contact the researcher in case they had any questions or felt upset.

Data collection process and dataset composition

A power analysis using G*Power v3.1 (Faul et al., 2009) was computed to determine sample size. Results from Imperato et al.'s meta-analysis (Imperato et al., 2021) have been

used to set effect size. Thus, in order to detect an effect size of Cohen's d = .39 with 80% power (alpha = .05), we needed 118 participants. Inclusion criteria were being university students, Italian citizenship, and users of Social Networks, forums and chatrooms. Exclusion criteria was being under 18 years old.

The participants were recruited between October 2020 and January 2021, in three stages: the first stage, from October to November 2020, involved undergraduate students from the psychology master's degree of the University of Parma. The experiment link was sent to the students before they were given any instruction other than those contained in the survey. The students did not receive any extra credit for their participation. In the second stage, the participants were recruited from Amazon's Mechanical Turk subject pool in December 2020 and in January 2021, and they received a compensation of 2,50 euros. Only those of Italian citizenship, on age (older than 18), and undergraduate students were allowed to participate. MTurk was extensively used to recruit participants for online surveys, as the literature demonstrated that these samples reflect the general population's characteristics (e.g., Hauser & Schwarz, 2016). Given the lack of many Italian users on MTurk panels, almost in the same period, in January 2021, we started with the third stage, recruiting participants from Prolific platform (www.prolific.ac). The criteria to be eligible to participate in the study were the same used in MTurk recruitment, and participants received a compensation of 3 euros. Despite Prolific is a relatively new subject pool, literature highlighted its utility to distribute online questionnaire (e.g., Palan & Schitter, 2018).

After collecting data, we merged the three databases into a unique dataset, and we computed a recruitment stage variable to identify participants recruited in stages 1, 2, and 3. A total sample of 207 participants opened the questionnaire and gave their consent to participate in the study (n = 99 in recruitment stage 1, n = 35 in stage 2, and n = 73 in stage 3). However, 5 were excluded because they were not Italians born in Italy, and 15 were

excluded because they were not undergraduate students. In the remaining sample of 187 participants, 66 were excluded because they failed the attention checks, and 3 because of missing values on Dialogical Self measure.

Sample characteristics

The final sample was composed of 118 Italian participants (80 females, 67.8% and 38 males, 32.2%) aged between 18 and 35 (M = 23.58, SD = 2.79). As far as social platform use, 101 participants (85.6%) declared they often used Social Networks, forums, and chatrooms, while only 17 (14.4%) declared they sometimes used the same platforms. On average, the majority of the sample (n = 99, 83.9%) declared they had approximately 100 or less online friends who were also friends in the offline context, 18 (15.3%) declared they had approximately from 101 to 400 online friends, and only 1 (0.8%) declared to have more than 400 online friends. Regarding the time spent online, 23 (19.5%) spent less than an hour in a week chatting, 43 (36.4%) spent about 5 hours in a week, 25 (21.2%) spent about 15 hours in a week, 11 (9.3%) spent about 20 hours in a week, 12 (10.2%) spent about 30 hours in a week, and only 4 (3.4%) spent 40 hours or more in a week.

Results

Data analysis strategy

Analysis was computed using SPSS v.27. To test the study's hypotheses and analyse pre- and post- dialogue PPRs, an index of monologicity vs dialogicity was first computed. To do so, Filip and Kovářová (2017, 2020) suggested to run a Principal Component Analysis on external positions for each PPR sheet separately, and to consider the percentage of variance explained by the first latent factor of the model as an index whose high values indicated monologicity and low values indicated dialogicity. We succefully used this method in pilot study. However, since in this study we used in both pre- and post- dialogue short versions of PPR, it was not possible to compute PCA given the lack of variance in too many cases. Thus,

inspired by this procedure, we computed a coefficient of variation for each participant, considering the ratio of the standard deviation of all nine cells of the matrix to the mean of all nine cells of the matrix. In this sense, the resulting index could be interpreted as well as the index presented by Filip and Kovářová (2020). Consequently, high levels of this index indicated high levels of monological dialogue, and vice versa. Furthermore, to assess the extent to which people positioned themselves and the other at the same level of inclusiveness, we computed a dialogue coordination of positions index, subtracting the values of the cells outside the diagonal (i.e., internal personal position-external social position) from the values of the cells on the diagonal (i.e., internal personal position-external personal position). As a result, high levels of this index indicated high levels of dialogue coordination (for dialogicity indices construction and their validity see Appendix B). Moreover, we also computed indices of salience of internal and external Personal, Social, and Human positions, by the arithmetic means of the cell values, as in Hermans et al. (2001).

As far as IAT procedure, according to Greenwald, Nosek and Banaji (2003), a standardized difference score within subjects (D-Score) was computed on critical trials, subtracting mean response latency in compatible blocks by the mean response latency in incompatible blocks for both pre- and post-dialogue measures. Therefore, positive scores indicated preference for majority group (i.e., White people), zero indicated no preferences, and negative scores indicated preference for minority group (i.e., Black people).

Descriptive analysis

Given that the participants' recruitment took place in different stages, we tested whether there were differences between participants recruited in stages 1, 2 and 3 on participants' characteristics and on pre-dialogue design variables. Comparing all three recruitment stages, no differences were found between the second and the third stage (e.g.,

MTurk and Prolific recruitment stages). For this reason, we compared the first stage (e.g., undergraduate students from University of Parma) with the second and third together.

The participants' characteristics, pre-dialogue descriptive statistics and zero-order correlations are presented in Table 6. Since some of these variables were not normally distributed (i.e., monologicity and dialogue coordination), we transformed these variables according to Tabachnick and Fidell (1989) suggestions. Specifically, we computed square root for monologicity, given that the skewness was between |1| and |2|, and reciprocal transformation for dialogue coordination, given that the skewness was positive and greater than 2. Given the reciprocal transformation, in order to not confuse the reader, we changed the name of dialogue coordination in lack of coordination.

Table 6

Descriptive statistics and Pearson's correlations among pre-dialogue variables (n = 118).

	M	*SD*	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.
1. Gender (1 = F)	0.68	0.47	1										
2. Age	23.58	2.79	-.01	1									
3. Internet usage	3.42	0.68	-.05	-.13*	α .80								
4. Internal Personal positions	2.91	1.41	.15	.03	-.00	α .75							
5. Internal Social positions	2.12	1.39	-.05	.05	.00	.23*	α .75						
6. Internal Human positions	3.89	1.47	.02	-.01	-.12	.13	.25**	α .90					
7. External Personal positions	3.20	1.09	-.04	.06	-.01	.51**	.61**	.62**	α .35				
8. External Social positions	2.51	1.16	.15	.05	-.10	.58**	.56**	.58**	.57**	α .39			
9. External Human positions	3.21	1.20	.04	-.03	-.04	.57**	.64**	.55**	.60**	.56**	α .54		
10. Monologicity (square root)	.76	.24	-.05	-.08	.08	-.46**	-.73**	-.32**	-.61**	-.68**	-.59**	1	
11. Lack of coordination	1.78	0.44	-.00	-.10	-.07	.23**	.17	.34**	.26**	.28**	.39**	-.28**	1
12. Recruitment stage (1 = MTurk and Prolific)	0.50	0.50	-.44**	-.17	.24**	-.25**	-.11	-.20*	-.23*	-.32**	-.15	.26**	-.08

* $p < .05$; ** $p < .01$; alpha scores in diagonal.

Results showed a small negative correlation between participants' age and internet usage, indicating that the younger the participants were, the more they used Internet. As expected, all indicators of internal and external positions' salience were related to each other, except for the relation between internal personal positions and internal human position. As far as the two PPR indices computed, pre-dialogue monologicity was negatively related to each internal and external positions' salience. Therefore, it indicates that monologicity decreased with the salience of I and Other positions, regardless of the inclusiveness' level. Finally, pre-dialogue lack of coordination was positively related to internal personal and human positions' salience, external personal, social, and human positions, and negatively associated with monologicity. Therefore, it indicates that coordination decreased with the salience of internal and external positions and increased with monologicity.

Regarding the socio-demographics and participants recruitment stage, gender was significantly related to the recruitment stage. Indeed, female participants were overrepresented in recruitment stage 1. Participants in recruitment stage 1 were undergraduate psychology students, thus the difference in the percentage of males and females in the sample may be related to the higher percentage of females attending the faculty of psychology where the data were collected. Recruitment stage was significantly related to the internal personal and human, as well as external personal, social positions' salience, and monologicity.

Table 7 shows the descriptive statistics between post-dialogue variables. Since some of these variables were not normally distributed (i.e., monologicity, dialogue coordination, intergroup bias and attitude towards the outgroup member), we have transformed these variables according to Tabachnick and Fidell (1989) suggestions. Specifically, we computed reciprocal transformation for dialogue coordination and intergroup bias variables, given that the skewness was positive and greater than 2. We also computed the square root

transformation for monologicity and attitude towards the outgroup member variables, given that the skewness was between |1| and |2|. As well as for pre-dialogue, we changed names of variables reciprocally transformed in order to not confuse the reader. Thus, we changed dialogue coordination in lack of coordination, and intergroup bias in outgroup favoritism.

Table 7

Descriptive statistics and Pearson's correlations among post-dialogue variables (n = 118).

	M	*SD*	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.
1. Internal Personal positions	3.09	1.23	α .63												
2. Internal Social positions	2.36	1.50	.54**	α .80											
3. Internal Human positions	3.80	1.29	.34**	.33**	α .78										
4. External Personal positions	3.33	1.08	.61**	.67**	.58**	α .51									
5. External Social positions	2.48	1.42	.66**	.70**	.56**	.49**	α .74								
6. External Human positions	3.44	1.32	.68**	.67**	.59**	.55**	.48**	α .69							
7. Monologicity (square root)	.69	.30	-.65**	-.85**	-.36**	-.57**	-.81**	-.59**	1						
8. Lack of coordination	1.94	.72	-.01	.07	-.13	-.20*	.03	.07	-.06	1					
9. Inclusion of other in the Self	3.26	1.53	.25**	.22*	.13	.26**	.14	.26**	-.15	-.16	1				
10. Ethnic/racial identity[1]	3.38	.72	.24**	.31**	.10	.11	.33	.23*	-.31**	.09	-.04	α .86			
11. Positive attitude towards Kama/Ngalula (square root)	3.90	1.90	-.08	-.03	-.06	-.06	-.04	-.08	.11	.23*	-.40**	.03	1		
12. Outgroup favoritism	1.06	.38	-.19*	-.14	-.06	-.08	-.15	-.17	.12	.27**	-.03	-.31**	-.01	1	
13. Prejudice[1]	.57	.33	.10	.11	-.01	-.01	.05	.16	-.08	.01	.01	.21*	-.19*	.02	1
14. Recruitment stage	.50	.50	-.21*	-.13	-.02	-.15	-.15	-.09	.16	.16	-.04	-.18*	.23*	.04	.04

* $p < .05$; ** $p < .01$; alpha scores in diagonal.
[1] Missing values of ethnic/racial identity (n = 4) and prejudice (n = 6) were replaced with expectation-maximization (EM) method.

As for pre-dialogue variables, also post-dialogue indicators of internal and external positions' salience were all positively related to each other. Furthermore, monologicity was negatively related to all positions' salience, while lack of coordination was significantly and negatively related only to external personal positions' salience. When it comes to the inclusion of other in the Self, it was positively related to internal personal and social, and external personal and human positions' salience. Ethnic/racial identity was positively related to internal personal and social, and external human positions' salience, and negatively related to monologicity. Additionally, the attitude towards the outgroup member was positively related to lack of coordination and negatively related to inclusion of other in the Self. The outgroup favoritism was negatively related to internal personal positions' salience, and ethnic/racial identity, while it was positively related to lack of coordination; thus, it indicates that intergroup bias increased with the salience of internal positions, with ethnic/racial identity, and with dialogue coordination. Lastly, the prejudice was negatively related to the attitude towards the outgroup member, and it was positively related to ethnic/racial identity.

As to the recruitment stage, it was significantly associated with internal personal positions' salience, ethnic/racial identity, and attitude towards the outgroup member.

Testing the hypotheses

Since recruitment stage variables were significantly related to some design variables (see Table 7), we used recruitment stage as covariate when considering their interaction. Testing the hypotheses, we used transformed indicator for variables that were not normally distributed.

To test the hypotheses 1, 2 and 3, we run repeated measures ANOVA, considering the dummy recruitment stage variable (1 = MTurk/Prolific) as covariate, and the experimental condition as factor. In all ANOVA models, Bonferroni adjusted confidence intervals was used.

Analysing repeated measures ANOVA results, emerged that monologicity generally decreased in post-dialogue as we expected, but differences between pre - (M = .76, SD = .24) and post-dialogue (M = .69, SD = .30) were not significant. This is valid also considering the interaction with experimental condition and recruitment stage variable, hence not confirming our hypothesis 1. As far as lack of coordination, it generally increased in post-dialogue as we expected, but differences between pre- (M = 1.78, SD = .44) and post-dialogue (M = 1.94, SD = .72) were not significant, although close to the statistical significance (p = .053), also giving the interaction with the experimental condition, hence not confirming our hypothesis 2.

Furthermore, we hypothesized that individuals positioned themselves and other accordingly with the experimental condition, considering both internal and external positions' salience (hypothesis 3). However, no effects of experimental condition were found on the salience on either internal or external personal (H3.1), social (H3.2) and human (H3.3) positions, therefore they were not confirming our hypotheses 3.

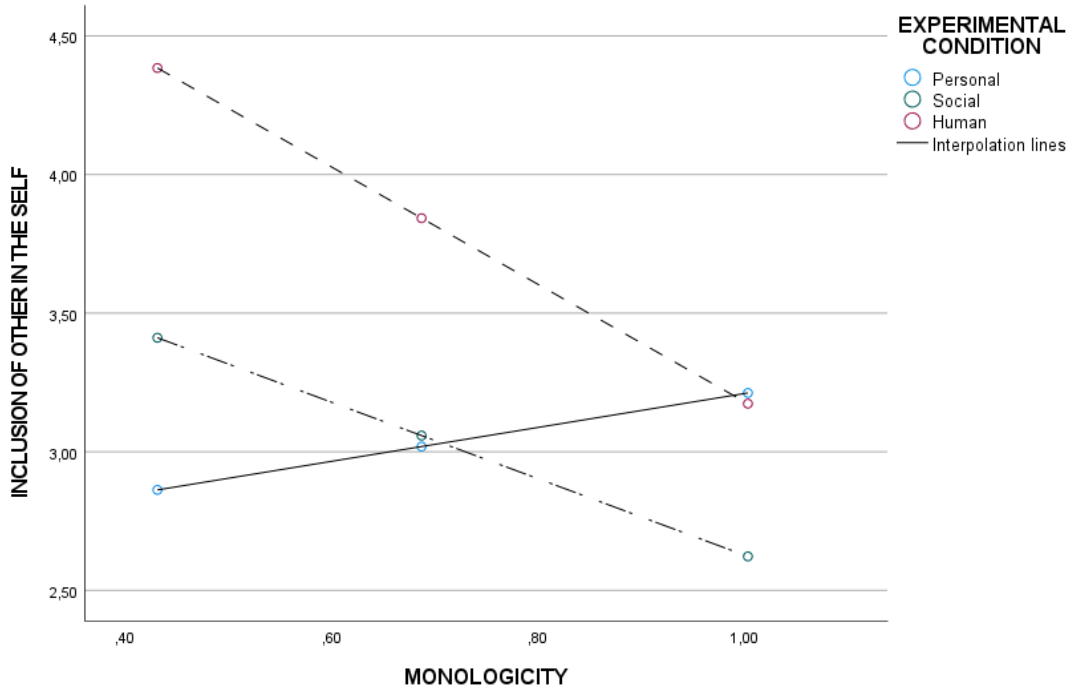
To test our hypotheses 4, we performed a series of simple moderation analyses using Hayes' PROCESS v3.5 macro for SPSS (Hayes, 2012), adding recruitment stage as a covariate for the variables correlated with it (i.e., internal personal positions' salience, ethnic/racial identity and outgroup favoritism). Since the moderator, i.e., the given experimental conditions, was a categorical variable, we set the coding system in line with the hypotheses, thus using indicator method to test H4.1 and H4.2, and effect method to test the remaining hypotheses (Darlington & Hayes, 2016).

It emerged that *monologicity per se* (H4.1) did not significantly relate with inclusion of other in the Self, while the interaction with experimental condition was significant (β = -2.73, SE = 1.18, p = .02). Specifically, analysing conditional effects the results showed that the relation between monologicity and inclusion of other in the Self was negative and it was

significant only for the participants in human condition (β = -2.11, *SE* = .91, *t* = -2.34, 95%CI [-3.91, -.32], *p* = .02), thus in the expected direction (see Figure 8).

Figure 8

Scatterplot of the relations between monologicity (square root) and inclusion of other in the Self for each experimental condition.



Note: experimental condition 1 = personal level of inclusiveness; experimental condition 2 = social level of inclusiveness; experimental condition 3 = human level of inclusiveness.

No significant main or interaction effects were found between monologicity and the attitude towards the outgroup member, ethnic/racial identity, outgroup favoritism, and prejudice, thus monologicity did not relate with these variables regardless of experimental condition. Therefore, moderation analyses only partially confirmed our H4.1.

As far as H4.2, the results showed that the *lack of coordination* did not significantly relate to inclusion of other in the Self, attitude towards the outgroup member, ethnic/racial identity, outgroup favoritism, and prejudice regardless of experimental conditions, therefore not confirming our H4.2.

Concerning the I and other personal positions' salience, the results showed that *individualization* (i.e., internal and external personal positions) did not significantly related to attitudes towards the outgroup member as expected. Considering the interaction with experimental condition, it did not confirm our H4.3.

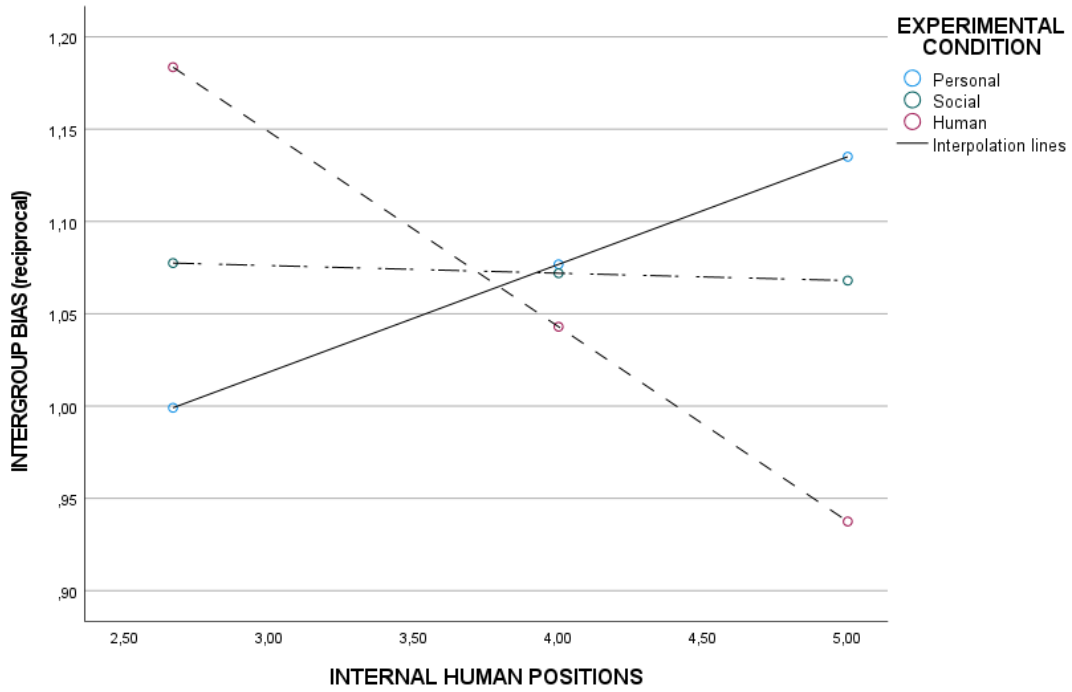
When we analysed the I and other social positions' salience, the results showed positive relations between *categorization* of both internal (β = .14, *SE* = .04, *p* = .001) and external (β = .16, *SE* = .05, *p* < .001) positions and ethnic/racial identity; however, no significant interaction with the experimental condition emerged, showing that salience of both participants' and interlocutor's social Self positively associated with participants' ethnic/racial identity, regardless of the experimental conditions. Furthermore, the results showed a significant interaction effect of the experimental condition on the relationship between internal social positions and outgroup favoritism (β = .07, *SE* = .03, *p* = .02). However, the conditional effects were not significant. No significant relations emerged between external social positions and intergroup bias. Lastly, no significant results were found on prejudice. Thus, moderation analyses very partially confirming our H4.4.

As far as *humanization* (I and other human positions' salience), results showed only external and not internal human positions' salience positively related to inclusion of other in the Self (β = .27, *SE* = .10, *p* = .01). At the same time, no significant interaction effect emerged, showing that salience of interlocutor's human identity positively associated with inclusion of other in the Self regardless of experimental conditions. Furthermore, results indicated only external and not internal human positions' salience positively related to ethnic/racial identity (β = .11, *SE* = .05, *p* = .03). However, no significant interaction was found, indicating that salience of interlocutor's human identity positively associated with awareness of participants' ethnic/racial identity regardless of the experimental conditions. No significant results were found between humanization and the attitude towards the outgroup

member. Finally, as far as the relation between internal human positions' salience and outgroup favoritism, the analyses showed a significant interaction effect (reciprocal: β = -.09, *SE* = .04, *p* = .02). Conditional effects were significant only for participants in human condition (β = -.11, *SE* = .05, *t* = -2.16, 95%CI [-.20, -.01], *p* = .03) in the opposite direction to what we expected (see Figure 9): in human condition outgroup favoritism decreased with internal human positions' salience, while the reverse occurred in personal condition although not in a statistically significant way. No relations of external human positions' salience were found. Lastly, no significant results were found on prejudice. Therefore, mediational analyses partially confirmed our H4.5.

Figure 9

Scatterplot of the relations between internal human positions' salience and intergroup bias (reciprocal) for each experimental condition.



Note: experimental condition 1 = personal level of inclusiveness; experimental condition 2 = social level of inclusiveness; experimental condition 3 = human level of inclusiveness

Discussion

We sought to examine the Dialogical Self role in explaining the processes by which the intergroup contact can foster harmonious relations between different ethnic groups and reduce prejudice in online contexts. The theoretical framework that guided the present investigation was found in Hermans et al.'s (2017) Democratic Organization of the Self, and particularly in the three levels of inclusiveness/responsibility identified by the authors and derived from Self Categorization Theory (Turner et al., 1987). We experimentally manipulated these three levels of inclusiveness (i.e., personal, social, and human), and we analysed the differences between experimental groups in terms of dialogue monologicity, dialogue coordination, salience of personal, social, and human internal and external positions in the dialogue, as well as in terms of inclusion of other in the Self, ethnic/racial identity, attitude towards the outgroup member with whom participants interacted, intergroup bias, and prejudice.

We found that there were no significant differences among the experimental conditions on salience of personal, social, and human internal and external positions. Given these results, we can conclude that the experimental manipulation was not strength enough to determine changes on positions' salience, and therefore their relations with the outcome variables we considered. Nevertheless, by generalizing and analysing our results in the light of a constructivist perspective, we can assume that the individuals strategically chose their positionings during the dialogue with the outgroup member, regardless of how the other could be introduced to them or is perceived by them. In other words, from a constructivist perspective it is precisely during the dialogue that people activate different levels of inclusiveness, also - and perhaps above all - based on the interlocutor's answers, circularly. With this in mind, in our study inducing individuals to position themselves on a specific level did not work, since the effect of the dialogue with an outgroup member itself was stronger

than the experimental introduction of the outgroup member as a person, as a social category member, or as a human being. Moreover, this results' explanation could be partially confirmed by the fact that we found relations between salience of individualization, categorization, and humanization positions and some of the outcome variables not mediated by the experimental condition. In other words, considering the positions spontaneously chosen by participants lead to different conclusions.

Furthermore, through the present study we analysed the extent to which online intergroup contact per se decreased the monologicity and the dialogue coordination of positions and how monologicity and coordination were related to our outcome variables. We found that monologicity only slightly and not significantly decreased from the pre- to the post-dialogue. Similarly, the dialogue coordination only slightly decreased from the pre- to the post-dialogue, close to the statistical significance. This occurred regardless of the three experimental conditions, which may have at least partially confused the effect of the mere contact we expected. In fact, having introduced the partner as a person or as a human being rather than as a member of a group, i.e., Senegalese, may have respectively activated a lower or a greater monologicity, with the result of calming the effect of contact on monologicity. However, the less individuals shifted among different levels of inclusiveness during dialogue (i.e., high levels of monologicity), the less they included the other in the Self. It must be remembered that results showed that this relationship was significant only for those in human condition. Therefore, introducing the outgroup member as a human being facilitated the perception of a greater overlap between the Self and the other, especially when individuals shifted among levels of inclusiveness/responsibility. Thus, coherently to Hermans et al.'s (2017) theorization, our results confirmed that both the ability to shift across different levels of inclusiveness/categorization and the ability to shift from more concrete levels of personal and social identity to higher abstract level of the human beings increased the inclusion of

other in the Self. Some authors (e.g., Dovidio et al., 1993) affirmed that individuals in human condition considered both themselves and the interlocutor belonging to a more general and abstract ingroup. Thus, some literature results (Dovidio et al., 1993) showed that when individuals did not anchor their identities to one specific level of inclusiveness/responsibility, they perceived numerous similarities with the outgroup member. However, our study did not confirm these results: dialogicity and humanization, i.e., human positions' salience, did not relate with prejudice, even if they related with inclusion of other in the Self. We must not forget that according to the literature reviewed (e.g., Davies & Aron, 2016; Hewstone & Brown, 1986), the greater inclusion of the other in the Self mediates the relationship between contact and the variables linked to the quality of intergroup relationships (e.g., Davies & Aron, 2016). Returning to our study, this could mean that to shift among positions considering the interlocutor as human being could influence the prejudice only by including the other in the Self. Although this interpretation is in line with other studies on online intergroup contact (e.g., MacInnis & Hodson, 2015), our results showed a lack of relation between humanization and prejudice that could be also due at least partially to the limited time of dialogue interaction.

Analysing the salience of the different levels of inclusiveness/responsibility introduced by Hermans et al. (2017), we also found that individuals who activated social positions during dialogue tended to strongly identify themselves as members of their ethnic/racial group, and to report high levels of intergroup bias, regardless the experimental condition. This result is in line with those of literature based on SCT (Turner et al., 1987) and therefore allows us to confirm that categorization activate a defensive position by the outgroup, bringing people to strongly identify themselves with their ethnic/racial group and to evaluate better their group when compared with the other group also in digital societies.

Lastly, we found that humanization (high internal and external human positions' salience) was positively related to the inclusion of other in the Self. Thus, in line with both classical studies on common ingroup identity model (Dovidio et al., 1993) and Hermans et al. (2017) insights, results confirms that human positions can foster harmonious relations because individuals shared membership to the more abstract group of the human beings. For this reason, our participants perceived themselves and the member of the outgroup partially overlapping, regardless of the experimental condition. Nevertheless, we also found that, regardless of the experimental condition, seeing the other as a human being associated with ethnic/racial identity. Ethnic/racial identity was a precondition for the activation of an intergroup comparison process as the interaction effect we have found in human condition between internal human positions' salience and ingroup bias showed. When the interlocutor was presented as a human being and internal human positions was made salient, people felt the need to differentiate their ingroup (i.e., Italian) from the outgroup (i.e., Senegalese). In agreement with what SIT stated, they did so by increasing the unfavourable bias towards the outgroup. Scholars well underlined that high ingroup identification was generally an obstacle to harmonious intergroup relations, by positive affecting ethnic prejudice (e.g., Kaiser & Wilkins, 2010), perception of outgroup threat (e.g., Nesdale et al., 2005) and emotional negative responses to discrimination (e.g., Mccoy & Major, 2003). Therefore, the human level, being extremely abstract and including literally every person, did not always allow individual to answer to their needs of distinctiveness (Leonardelli et al., 2010), acting in some cases (Badea et al., 2010), as well as in our study, as a "threat" towards which individuals reacted strongly, identifying themselves with their own group and strongly preferring their own group when compared to the outgroup. When the intersubjective dimension of intergroup contact, i.e., a dialogic perspective, is taken into account, the dialogue occurring between two human beings can obstacle the identity function of categorization (Scheepers et al., 2002), and

individuals can react anchoring themselves to their social memberships to protect who they think they are.

To the best of our knowledge, this is the first study in which the role of Dialogical Self in online intergroup contact was experimentally analysed. Although the present work has certainly some limitations, its results suggest new insights for contact theory and its application both in digital and analogical societies. Moreover, from a methodological point of view results of this study suggest that an experimental manipulation of level of Self inclusiveness was not completely in line with a complex, dialogical, and co-constructed conception of Self, and we think this is the reason why manipulation worked poorly in inducing the salience of different levels of inclusiveness. With this in mind and considering that what happens during a "dialogue" is that individuals' positions are more relevant compared to how the interlocutor is introduced, further studies should explore the spontaneous individuals' positionings, by deeply analysing the singular positionings during an online and offline intergroup dialogue. Furthermore, despite this is not the first study that use a fictitious outgroup member, it is possible that the low ecological validity participants perceived reduced the magnitude of the expected effects. Further studies should analyse the sense of presence in the fictious dialogues and / or the intergroup dialogue Self positions in more ecological online context such as social network sites and virtual worlds. Further studies should also take in consideration a social level of inclusiveness more abstract than social group belonging and more concrete that human group belonging, i.e., a social level of inclusiveness that explicitly includes both ingroup and outgroup members, in order to understand whether and to what extent this level of abstraction affect the outcome variables. Moreover, further studies should consider other indirect measures and techniques to assess online prejudice (e.g., Camerino et al., 2020). Despite its limitations, the present study is useful to increase the knowledge of the Dialogical Self as a variable that influences the

relationship between online intergroup contact and prejudice. It demonstrated that to analyse how online intergroup contact occurs by considering an intersubjective dialogical perspective it can provide information on which processes should be encouraged or downloaded to foster harmonious relationships between people belonging to different and sometimes conflicting groups. Overall, in this study we have shown that during online dialogues categorization mechanisms hinder dialogism and prejudice reduction, while humanization mechanisms both strengthen and hinder the prejudice reduction.

Given that intergroup contact had different effects depending on individuals' membership, we conducted a second study (Chapter 4) analysing differences in Dialogical Self between majority and minority members. Therefore, in the following chapter we focused on the role of objective (i.e., majority vs minority) and perceived power in influencing the process by which online intergroup contact reduced prejudice.

Chapter 4—Analysing the role of power in online intergroup contact between majority and minority members. Study 2

Starting from literature that underlined that online intergroup contact is a successfully strategy for prejudice reduction (Amichai-Hamburger & Furnham, 2007; White et al., 2015), on results of our meta-analysis (Chapter 1), and on results of our pilot and crosssectional studies we described in Chapters 2 and 3, the present study aimed to continue to focus on the role of the Self in understanding online intergroup contact (e.g., Mancini & Imperato, 2020; White et al., 2015), by considering it as a society in mind (Hermans et al., 1992). Nevertheless, because it is still not clear the role of the Self in influencing online intergroup contact - prejudice reduction relationship, in minorities group members, in this study we aimed to introduce the concept of being a majority or a minority by specifically considering the role of both objective and subjective power in online intergroup contact. Literature on offline intergroup contact (Tropp & Pettigrew, 2005) clearly highlighted that intergroup contact had different effects on prejudice reduction, depending on individuals' membership to the majority or minority group, showing more limited effects for minorities compared to majorities. Starting from results of our previous studies, and using a Dialogical perspective of the Self (e.g., Hermans et al., 1992), in the present pre-post design study, we therefore focused on both majority (i.e., White people) and minority (i.e., Black people) racial groups. Specifically, we analysed the impact of both the objective power - the participants belonging to a group considered to be of high (White) or low (Black) status - and of the power perceived by the participants during the online dialogue with an outgroup member, on the *dialogicity*, i.e., on the ability to shift from a Self-position to another during online intergroup dialogue. Further, as the the studies presented above, we considered the relationship between dialogicity during the online dialogue (intergroup contact) and prejudice reduction variables in both majority and minority members.

The Dialogical Self Theory and the Democratic Organization of the Self

Also in the present study we focused on Hermans et al.'s Dialogical Self Theory (DST; 1992) as theoretical framework. As we have already mentioned, Hermans and colleagues defined the Self as a multiplicity of positions in dialogue in the landscape of the mind (Van Loon, 2017), where there are no boundaries between what is classically considered inside the person and what is classically considered outside the person; therefore, the individuals' self is composed by internal and external positions in dialogue. Let us remember that the theoretical objective of this research project was to apply DST to online intergroup contact in order to redefine intergroup contact in terms of inter-subjectivity, so moving from the analysis of group members' actions (e.g., to achieve common goals) to the analysis of group members' Self's positionings. Such theoretical shift allows to understand what happens from the dialogical self point of view during online intergroup contact and it enables to analyse the extent to which the Other (i.e., the outgroup member) is included in the Self.

According to the Democratic Organization of the Self model proposed by Hermans et al. (2017), two different self-movements could be particularly useful in conflicting situations, and therefore very useful for analyse online intergroup dynamics, characterized by high levels of conflict and discrimination (e.g., Chetty & Alathur, 2018): the vertical movements consisting of movements among *different self-level of inclusiveness* and the horizontal movements consisting of movements between Self and Other positions at the different levels of inclusiveness. Both vertical and horizontal movements are stretched by power (Hermans, 2017).

Vertical and horizontal Self movements: individuals' positionings, dialogicity, coordination, and total salience

Starting from Self Categorization Theory (Turner et al., 1987), Hermans et al. (2017) pointed out that individuals could position themselves and the Other at three different levels

of inclusiveness or responsibility - i.e., personal, social, and human -, these defined as the ability to give a dialogical answer to others and oneself. In such perspective, the *personal level* of inclusiveness refers to the ability to provide a dialogical answer to the Other and to Oneself from a personal position (i.e., "I as an empathic person"). The social level refers to the ability to give a dialogical answer to the Other and to Oneself from a joint social position, considering the groups to which one belongs (i.e., "I as an Italian"). Lastly, the human level of inclusiveness refers to the ability to give a dialogical answer to the Other and to Oneself from an inclusive and abstract human position (i.e., "I as a human being"). According to DST, individuals' self-positioning is not fixed, so that individuals could shift among different levels of inclusiveness (vertical movements) and re-positioning their internal (I) and external (Other) I-positions (horizontal movements), as we presented in the Introduction of the present research project. Such flexible ability to shift from a position to another is defined *dialogicity* (vs monologicity). As theoretically pointed out by Hermans et al. (2017), in conflicting situations, dialogicity could foster harmonious relationships between different people and different groups, more than to position the Self according to the Other's level of inclusiveness. We proposed to name this last phenomenon self-positions' *coordination*, and our study results (see Chapter 3) showed that coordination negatively associated with dialogicity in majority members. In other words, in this perspective, coordinating one's positions with those of the other prevents free movements between different level of inclusiveness, so that individuals position themselves and the other in a coordinated and symmetrical way. Furthermore, as DST stated (e.g., Hermans et al., 1992), individuals could include or not the Other (i.e., the outgroup member) in one's self during the dialogue. Moreover, such inclusion could be more or less strong (salient), depending on dialogue situation. In other words, the other could be more or less important in the definition of individual's self. For instance, in Chapter 3 we found differences on intergroup bias

depending on individuals' personal, social, and human salience positions. Indeed, for majority members more harmonious relations were linked to the personal positions, for minority members negative outcomes were related to social positions, whereas human positions showed an ambivalent role. Starting from Hermans et al.'s Democratic Organization of the Self model (2017), it is possible to argue that horizontal movements between I- and Other-positions could be represented by the degree to which the dialogue between internal and external positions is made salient. Thus, *total salience* could be considered an influential variable in the context of intergroup relations.

As for the differences between majority and minority on vertical and horizontal Self's movements, literature just underlined that during intergroup dialogue majority members tended to less think themselves in terms of group membership compared with minority members (Pinel, 1999). Minorities were more likely to be evaluated in terms of group membership and to receive inferior treatment (e.g., Swim et al., 2016). Indeed, Tropp and Pettigrew metanalytic results (2005) showed that the positive effects of intergroup contact were significantly weaker for minorities compared to majorities. Still, no studies specifically analysed the role of dialogicity, coordination and salience in the context of online intergroup contact and prejudice reduction. Through the experimental study we presented in Chapter 3 we experimentally manipulated the level of inclusiveness at which majority members positioned themselves (i.e., personal, social, and human), and we analysed relations between dialogicity, coordination, and salience and outcome variables such as intergroup bias. The experimental manipulation failed to activate the specific level of inclusiveness we intended to activate, thus partially confounding the effects of online intergroup contact on dialogicity, coordination and salience and leaving partially unclear the extent to which online intergroup contact per se affected individuals' identities. Nevertheless, results showed that both

monologicity (vs dialogicity) and coordination slightly decreased following intergroup contact and that salience.

Thus, starting from Hermans et al.'s (2017) theorization, our results (Chapter 2 and Chapter 3), and differences found between majority and minority members (Tropp & Pettigrew, 2005), in this study we expected that:

H1. Online intergroup contact per se decreased intergroup bias, and such decrease would be stronger in majority group (i.e., White people) compared to minority group (i.e., Black people)

H2. Participants' Self's horizontal and vertical movements (measured respectively through dialogicity, lack of coordination and total salience of I- and Other- positions) would increase after online intergroup dialogue, and such increase would be stronger in the majority group (i.e., White people) compared to the minority group (i.e., Black people).

The role of power: integration and confrontation during dialogue

The role of power is an essential topic in intergroup relations, given that high difference in power caused psychological distance from others (Magee & Smith, 2013), disfavouring harmonious relations among different groups (Gordon, 2015). Literature defined power in different ways, although there was consensus on the idea that power implied an asymmetrical control over resources (Galinsky et al., 2014). For instance, some scholars referred to power as the ability to influence someone (e.g., Hoggy & Terry, 2000), as dominance or control over others (Fiske, 1993), as a way for satisfying survival needs (Pratto et al., 2011), as the ability to cause effects and to have an impact on things (Turner, 2005).

Some scholars also analysed the role of perceived power in influencing relations between group of different races (e.g., Subašic et al., 2008). Fiske et al. (2016) found that both Black and White people implicitly and explicitly associated Black people with low-status positions, and White people with high-status positions. Furthermore, in accordance with

Social Identity Theory (Tajfel & Turner, 1979), such associations predicted the pursuit of higher status by Blacks, and the maintenance of current status by Whites. In addition, through two studies on the relations between groups of different ethnicities, Saguy et al. (2008) found that minority members had a stronger desire to talk about power and disparities compared to majority members, and that majority members were more prone to talk about commonalities with the outgroup members. Moreover, according to the theory of aggregate and collection groups (e.g., Lorenzi-Cioldi, 2017), majority members tended to see themselves as a collection rather than an aggregate of individuals and to protect their status by spreading ideologies that gave priority to individuals' merit over societal structure, and such mechanism allowed majorities to legitimize their status denying the collective support to their privileges (Iacoviello & Lorenzi-Cioldi, 2019).

Hermans et al. (2017) stressed the role of power in their Democratic Organization of the Self model and they discussed how power (versus dialogue) could limit, or block the free expression of individuals' positions, also hindering horizontal and vertical self-movements, therefore hindering the positive effect of intergroup contact. Subsequently, Hermans (2018) proposed a distinction between consonant (dialogue) and dissonant (power) form of generative dialogue. The consonant form is based on commonalities between individuals in interaction, and it would produce communalities and efficiency. The dissonant form is based on differences and contradictions between individuals in interaction, and it would stimulate change and innovation. Ideally, consonance and dissonance would alternate each other, creating a space in which people could cope not only with their commonalities but also with their differences. Literature on consonance and dissonance form of generative dialogue is still lacking. However, some authors (e.g., Puchalska-Wasyl & Paul, 2016) analysed the role of two similar processes that could influence generative dialogue, applying them to the internal dialogues. Specifically, authors (Puchalska-Wasyl & Paul, 2016) defined *integration* as the

ability to be open to the interlocutor's viewpoints, to favourably consider the other's arguments, and to modify consequently one's own positions. On the other hand, *confrontation* was defined as the tendency to perceive an imbalance of power between oneself and the interlocutor, so that individuals perceived a winner and a loser during dialogue. Puchalska-Wasyl and Paul (2016) pointed out that those who perceived integration were prone to minimize negative feelings and to stress the positive feelings towards the other, also perceiving the interlocutor more attractive. On the other hand, those who perceived confrontation were prone to exhibit willingness to gain an advantage over their opponent. Recently, Puchalska-Wasyl (2019) applied integration and confrontation processes to imagined intergroup contact, founding that both processes decreased following imagined contact with an outgroup member. However, in this study groups considered did not differ in terms of power (e.g., individuals for or against tattoos), triggering other groups (i.e., different racial groups) stronger emotions. In addition, author did not test outcome variables related to attitudes towards the outgroup considered, thus it was not possible to understand whether changings in integration and confrontation occurring during contact with an outgroup were related to prejudice.

Thus, starting from the distinction between integration and confrontation (e.g., Puchalska-Wasyl, 2016) as expression of power in the Democratic Organization of the Self model (Hermans et al., 2017) and from literature on intergroup power relations (e.g., Saguy et al., 2008), in the present study we expected that:

H3. Perceived integration during online intergroup dialogue would be higher in the majority group (i.e., White people) compared to the minority group (i.e., Black people), and vice versa for the perceived confrontation.

H4. Belonging to majority or minority group and perceiving integration and confrontation during the online intergroup dialogue would moderate shifts from pre-dialogue

to post-dialogue dialogicity, lack of coordination and total salience. Specifically, we expected that integration would positively moderate the relationship between pre- and post- dialogue measures of dialogicity, lack of coordination, and total salience for both majority and minority members in the same direction: i.e., that to perceive higher integration associated with an increase in dialogicity, lack of coordination, and total salience from pre- and post-dialogue in both racial groups (H4.1). We also expected that confrontation would moderate the relationship between pre- and post-dialogue measures of dialogicity, lack of coordination, and total salience in minority and majority members in a different direction: i.e., in majority group, we expected that to perceive higher confrontation decreased dialogicity, lack of coordination, and total salience; in minority group, we expected that to perceive higher confrontation would increase dialogicity, lack of coordination, and total salience (H4.2).

Inclusion of other in the self and ethnic identity – two processes for bias reduction

Beyond variables relate to the Dialogical Self that could explain online intergroup contact process (i.e., dialogicity, coordination, power), the effects of online intergroup contact on prejudice reduction could be also related to other identity variables widely analysed in the offline intergroup contact research. In the present study, we specifically focused on the Inclusion of Other in the Self and on ethnic identity considered as mediators of the effects of online intergroup contact on the prejudice reduction. Indeed, starting from our results presented in Chapter 3, it emerged that Inclusion of Other in the Self and ethnic identity played a contradictory role in their relationship with the salience of I-positions: e.g., it emerged that to dialogue with the others considering them "as Human beings" positively associated both with Inclusion of Other in the Self and with majority's ethnic identity. Inclusion of Other in the Self could be defined as "treating another person's identity, perspectives, and resources as if they were one's own" (Aron et al., 2013; Sinclair et al., 2016, p. 177). In literature, there is substantial evidence that Inclusion of Other in the Self led to

more positive attitudes towards the outgroup member (e.g., Davies & Aron, 2016), and also towards the outgroup as a whole, generalizing people the positive evaluation towards the entire group (e.g., Brody et al., 2009). Conversely, studies showed ethnic identity to influence the relationship between intergroup contact and prejudice reduction, mitigating or hindering the positive effect of contact on prejudice reduction (e.g., Masson & Verkuyten, 1993). Thus, it was possible to argue that two different processes could be activated in an online intergroup dialogue: on one hand, Inclusion of Other in the Self could bring individuals to mitigate the psychological distance they felt with the outgroup member, leading to more positive attitudes towards the outgroup member and less intergroup bias; on the other hand, ethnic identity could bring individuals to strongly accentuate differences between groups, leading to less positive attitudes towards the outgroup member and stronger intergroup bias. Despite our discussion, we did not test such two different processes in our first study (Chapter 3). Nevertheless, based on metanalytic results of Tropp and Pettigrew (Tropp & Pettigrew, 2005) and on results on the chronically salient social identities of minorities (e.g., Turner et al., 1987), we could expect two different processes between majority and minority group. Thus, in the present study we aimed to tested online contact-prejudice reduction relation through Inclusion of Other in the Self and ethnic identity. Specifically, we expected that:

H5. Among post-dialogue variables, Inclusion of Other in the Self (i.e., closeness) and ethnic identity would mediate the relationship between dialogicity and lack of coordination, and attitude towards the outgroup member and intergroup bias. Specifically, we expected that both dialogicity and lack of coordination would be positively related to attitude towards the outgroup member (H5.1), and negatively related to intergroup bias (H5.2). Furthermore, we expected that both dialogicity and lack of coordination would be positively related with closeness (H5.3), which in turn would be positively related to attitude towards the outgroup member (H5.4). On the other hand, dialogicity and lack of coordination would be negatively

related with ethnic identity (H5.5), which in turn would be positively related to intergroup bias (H5.6). In addition, we expected that the hypothesized mediation of closeness would be stronger for majority members, whereas the hypothesized mediation of ethnic identity would be stronger for minority members (H5.7).

Methods

Procedure

An online questionnaire was administered on Qualtrics platform (www.qualtrics.com). A power analysis using G*Power v3.1 (Faul et al., 2009) was computed to determine sample size. Thus, in order to detect an effect size of f = .10 with 80% power (alpha = .05) with two groups and two measurements (pre- and post- dialogue), G*Power suggests we would need 238 participants, 119 participants per group (minority and majority).

Participants were recruited from 22 July 2021 to 26 July 2021 through Prolific platform (www.prolific.ac). Literature highlighted Prolific utility to distribute online questionnaire (Palan & Schitter, 2018) and to collect data with characteristics similar to conventional cohort (Kothe & Ling, 2019). Furthermore, given that Prolific allows researchers to pre-screen participants according to specific socio-demographic characteristics, in a first step, only those who were European, Blacks, older than 18, undergraduate students, and fluent in English were allowed to participate. Once collected data from such minority sub-sample, we changed ethnicity eligibility criteria in Whites, leaving the other characteristics unchanged. Participants who completed the entire procedure were rewarded with £2.50.

Complying with the Italian and University ethical standards and in line with the Italian Psychology Association's (AIP) ethics code in the research, the first page of the questionnaire contained an Informed Consent form presenting information about the aim of the study, confidentiality, anonymity, and data protection. Participants were asked to give their consent

to participate in the study by clicking 'yes, I agree to participate' (or 'no') at the end of the informed consent form. Participants who did not give their consent were automatically redirected to the acknowledgment page. The entire procedure was administered on Qualtrics platform, and it was very similar to the one administered in our pilot study and study 1 (Chapter 2 and Chapter 3). A private chatroom was programmed in javascript code on Qualtrics, and participants had to online dialogue with a fictitious outgroup member and to answer a series of questions before and after the online textual dialogue.

Measures

Once given their consent, participants were asked to complete an anonymous questionnaire composed by different scales and measures.

Pre-dialogue

During pre-dialogue phase, after some socio-demographic questions (i.e., age, gender, nationality, and profession), participants were asked to complete scales related to their race, intergroup ideologies, attitudes towards ingroup and outgroup, and their dialogical Self.

Race (group membership control). Participants were asked to indicate their membership to the majority (e.g., White) or the minority (e.g., Black) group on a single-item scale (e.g., "*Which of these two groups best describes you*?").

Intergroup bias (attitudes). It was measured through two emotional thermometers ranging from 0 (= *extremely unfavorable*) to 100 (= *extremely favorable*) to assess attitudes towards Black and White people. An intergroup bias measure was computed subtracting attitude towards outgroup (i.e., Whites for Black participants and vice versa) to attitude towards ingroup (i.e., Blacks for Black participants and vice versa), thus positive scores indicated high preference for participants' ingroup.

Dialogical Self (pre-dialogue). Participants completed a short version of Hermans's Personal Positions Repertoire (PPR; 2001). PPR was used to assess to what extent each

internal position (rows) was connected to each external position (columns). Similarly to the procedure used in Chapter 2 and in Chapter 3, positions were selected following Hermans et al.'s (2017) levels of inclusiveness, including one internal and external position per level (i.e., one personal internal and external position, one social internal and external position, and one human internal and external position). In order to make the PPR as personalized as possible, we first asked participants to indicate their name or nickname, using it as internal personal position. Specifically, internal positions were I as participants' name, I as Black/White depending on ethnicity, I as human being; external I-Positions were university colleague, White/Black people, the human beings. Participants were asked to indicate on a scale ranging from 0 to 5 the extent to which each internal position was prominent in relation to each external position (0 = not at all, 5 = very considerably).

Dialogue

With the help of a computer scientist, a private chatroom has been implemented within the questionnaire in Qualtrics platform, and participants had to chat with a "fake" outgroup member. Participants were instructed to chat with another undergraduate student, and they initially knew only his/her name, age, and ethnicity. Race and gender of the outgroup member were assigned based on participants' characteristics, so that participant dialogued with student of different race (Black or White) and same gender. Thus, we pre-programmed four fictitious outgroup members: Kama, a Senegalese male, James, a Scottish male, Ngalula, a Senegalese female, and Mary, a Scottish female.

Similarly to the procedure used in Chapter 3, the Relationship Closeness Induction Task (RCIT; Sedikides et al., 1999) has been used during dialogue. RCIT consisted of three lists of questions with a growing level of intimacy (i.e., "*How old are you*?" for the first list; "*If you could travel anywhere in the world, where would you go and why?*" for the second list; "*What is your biggest fear?*" for the third list). In order to reduce participants' dropout,

we only asked 18 of the 29 questions of the original protocol. Questions were born to induce intimacy between two unknown individuals in both online and offline contexts (e.g., MacInnis & Hodson, 2015). RCIT questions appeared to participants who were asked to read outgroup members' answers and then answer to the same question. To make the dialogue as plausible as possible, the fake outgroup member's responses appeared with a slight pre-programmed latency, depending on the length of sentences. Fictitious outgroup member's answers were programmed based on real online intergroup dialogues occurred in our pilot study (Chapter 2). However, in the present procedure, we added some additional cultural references in order to highlight the different cultural backgrounds of the interlocutor (i.e., "[…] *there are many Senegalese students, so I feel at home*.") (see Appendix A for the entire protocol).

Attention checks. To check that participants were attentive to the instructions of the experimental procedure, two attention checks were presented immediately after the dialogue. The questions were: "*The person you chatted with is… (Black or White)*", "*What is the name of the person you chatted with?*".

Post-dialogue

During post-dialogue phase, participants completed measures of Dialogical Self, power during dialogue, closeness to other, ethnic identity, attitude towards the outgroup member, and intergroup bias.

Dialogical Self. Participants completed a short version of PPR (Hermans, 2001) very similar to PPRs presented in the pre-dialogue phase. They were asked to think about the dialogue took place with the other student and to answer. Internal and external positions were the same used in pre-dialogue PPR, and they were adapted based on participants' characteristics. For instance, internal positions of a White female participant who chatted with Ngalula were "I as [participant name]", "I as White", "I as human being". External positions

of the same participant were “Ngalula”, “Black people”, “Human beings”. Participants had to indicate on a 0-5 scale the extent to which each internal position was prominent in relation to each external position.

Power. It was measured through Integration-Confrontation scale (ICON; Puchalska-Wasyl, 2016). The scale originally assessed to what extent individuals perceived power in their internal dialogues, considering two kinds of power, or rather integration and confrontation. We adapted the scale referring to the dialogue that effectively took place between two different group members, and it was used to assess to what extent participants perceived integration and confrontation during online intergroup dialogue. The scale was composed by 8 items on a 7-point Likert-type scale (1 = Does not describes this dialogue at all, 7 = Describes this dialogue very well). The first four items measured Integration (e.g., “*Under the influence of new content heard in the dialogue, I changed my stance and took [outgroup member]’s arguments into account*.”), and the last four items measured Confrontation (e.g., “*I feel I have won the discussion, thanks to the force of my arguments.*”). In line with Puchalska-Wasyl’s (2016) suggestions, we computed the integration index by the sum of the related items ($\alpha = .85$), and the confrontation index by subtracting the sum of item6 and item7 from the sum of item5 and item8, in absolute values ($\alpha = .83$).

Closeness to other. It was measured through both the Inclusion of Other in the Self scale (IOS; Aron et al., 1992) and the We-Scale (Cialdini et al., 1997; Gächter et al., 2015). IOS was composed by two increasingly overlapping circles. In our version, one circle represented participants (i.e., “Me”) and the other circle represented the outgroup member participants chatted with. Participants were asked to assess their relationship with the outgroup member with whom they interacted, selecting one of seven couples of circles. We-Scale is composed by a single-item on a 7-point Likert-type scale (1 = not at all, 7 = very much). The item was “*To what extent you would use the term “WE” to characterize you and*

[outgroup member name]?". A single closeness indicator was computed by the mean of IOS and We-Scale ($r = .53$, $p < .001$).

Ethnic identity. It was measured through the Multigroup Ethnic Identity Measure - Revised (MEIM-R; Phinney & Ong, 2007). The MEIM-R is composed of six items on a 5-point Likert-type scale (1 = *strongly disagree*, 5 = *strongly agree*) measuring ethnic exploration and commitment (e.g., "*I spent some time trying to find out more about my culture, my history, my traditions.*"; $\alpha = 0.86$).

Attitudes towards the outgroup member. It was measured through one emotional thermometer ranging from 0 (= *extremely unfavorable*) to 100 (= *extremely favorable*) to assess attitudes towards outgroup member with whom participants interacted.

Intergroup bias. It was measured through two emotional thermometers ranging from 0 (= *extremely unfavorable*) to 100 (= *extremely favorable*) to assess attitudes towards the ethnic group to which the interlocutor with whom participants interacted belonged (i.e., Black people), and the participants' ethnic group (i.e., White people). An intergroup bias measure was computed subtracting attitude towards outgroup to attitude towards ingroup, thus positive scores indicated high preference for participants' ingroup.

Debriefing

At the end of the questionnaire, participants were informed that they did not chat with a real person, and that they could contact the researcher in case they had any questions or felt upset.

Participants

A total of 275 participants gave their consent to participate in the study. However, 8 were excluded because they failed the attention checks, leading to a total sample of 267 participants, 137 belonging to the majority group (i.e., White people), and 130 belonging to the minority group (i.e., Black people). Most of the participants was female (n = 162, 60.7%;

males: n = 100, 37.5%; other: n = 5, 1.9%), ageing between 18 to 51 (*M* = 22.19, *SD* = 4.90). As far as student status, 165 participants (61.8%) declared to be fulltime student, while 102 (38.2%) declared to be student and worker. Moreover, 113 participants (42.3%) declared to study humanities disciplines and 153 (57.3%) declared to study scientific ones. As far as nationality, the majority of White people was born in Portugal (n = 23, 16.8%), Germany (n = 22, 16.1%), United Kingdom (n = 13, 9.5%), and Poland (n = 12, 8.8%), whereas 8 White participants were born in Hungary (5.8%) and Spain (5.8%), 7 were born in Ireland (5.1%), and 6 in Belgium (4.4%) and Italy (4.4%), 5 were born in France (3.6%) and in Netherlands (3.6%), 4 were born in Greece (2.9%), 3 were born in Estonia (2.2%), and the remaining participants (n = 15, 11%) were born in other European countries. As far as minority group members, among second generation Black people, 43 (33.1%) were born in United Kingdom, 6 (4.6%) in Portugal, 3 (2.3%) in Ireland, and 14 (10.7%) in other European countries; among first generation participants, 27 (20.8%) were born Nigeria, 10 (7.7%) in Zimbabwe, 4 (3.1%) in Ghana and in Italy (3.1%), 3 (2.3%) in Kenya, and in South Africa, and the remaining participants were born and in other African countries (n = 13, 10%).

Results

Descriptive statistics

Analysis was computed using SPSS v.27 in testing H1, H2, H3, and H4, and using Mplus v.8.1 in testing H5. We computed monologicity (vs dialogicity) index according to the same procedure we used in Chapter 3 (see Appendix B for details), thus considering the ratio of the standard deviation of all nine cells of the PPR's matrix to the mean of all nine cells of the same matrix. Furthermore, we computed coordination (vs lack of coordination) index according to the same procedure used in Chapter 3, or rather subtracting the values of the cells outside the PPR's diagonal from the values of the cells on the PPR's diagonal. In addition, we computed the total salience index by the sum of all values in each PPR's matrix.

Since the departure from normality for monologicity and coordination variables in both pre- and post-dialogue was statistically significant, we computed the reciprocal transformation according to Tabachnick and Fidell's (1989) suggestions. Thus, it is important to notice that both monologicity and coordination should be interpreted in reverse. In order to not confuse the reader, we changed these variables names, so that the reciprocal of monologicity corresponded to "dialogicity", and the reciprocal of coordination corresponded to "lack of coordination".

Means, standard deviations, and Pearson's correlations for both majority and minority group, and differences between majority and minority on pre-dialogue variables are presented in Table 8.

Table 8

Means, standard deviations, Pearson's correlations for majority and minority group, and differences between majority (n = 137) and minority (n = 130) group on pre-dialogue variables.

		Pearson's correlations						Differences between groups	
	M (*SD*)	1.	2.	3.	4.	5.	6.	t(266)	Cohen's *d*
1. Gender[1]								-1.09	-.13
Maj	.66 (.48)	-							
Min	.59 (.49)	-							
2. Age								3.33**	.41
Maj	21.24 (3.41)	.00	-						
Min	23.20 (5.94)	-.27**	-						
3. Dialogicity								-1.08	-.14
Maj	3.83 (2.94)	-.22*	-.09	-					
Min	3.46 (2.30)	-.08	.11	-					
4. Lack of Coordination								3.54***	.44
Maj	1.81 (.51)	-.24**	-.03	.41**	-				
Min	2.05 (.55)	.08	.11	-.09	-				
5. Total salience								1.05	.13
Maj	28.47 (12.89)	-.04	-.03	.70**	.59**	-			
Min	29.91 (9.04)	-.14	.06	.69**	-.04	-			
6. Intergroup bias								9.21***	1.13
Maj	-2.51 (15.55)	-.23**	-.04	.15	.04	.12	-		
Min	18.37 (21.20)	.19*	-.13	-.15	.24**	-.07	-		

* $p < .05$; ** $p < .01$; *** $p < .001$

[1] Gender: 0 = male, 1 = female.

As far as pre-dialogue variables, descriptive analysis showed that in majority group and not in minority group, gender (1 = female) significantly and negatively related with dialogicity, lack of coordination, and intergroup bias. Regarding minority group, gender significantly and negatively related with age, and it significantly and positively related with intergroup bias. Furthermore, dialogicity significantly and positively related with lack of coordination in majority group and with total salience in both groups. Lastly, lack of coordination significantly and positively related with total salience in majority group.

As far as differences between majority and minority members, we found differences on age, lack of coordination, and intergroup bias, showing that minority group reported higher levels of these variables compared with majority group.

Table 9 shows means, standard deviations, and Pearson's correlations for both majority and minority group, and differences between majority and minority on post-dialogue variables.

Table 9

Means, standard deviations, Pearson's correlations for majority and minority group, and differences between majority (n = 137) and minority (n = 130) group on post-dialogue variables.

		Pearson's correlations									Differences between groups	
	M (SD)	1.	2.	3.	4.	5.	6.	7.	8.	9.	t(266)	Cohen's d
1. Dialogicity											-.44	-.06
Maj	3.53 (2.66)	-										
Min	3.38 (2.57)	-										
2. Lack of Coordination											2.20*	.28
Maj	1.88 (.44)	.29**	-									
Min	2.01 (.50)	.06	-									
3. Total salience											1.63	.20
Maj	27.36 (12.65)	.74**	.39**	-								
Min	29.52 (8.39)	.71**	.08	-								
4. Integration											-2.15*	-.26
Maj	10.31 (5.04)	.15	.06	.21*	-							
Min	8.97 (5.14)	.14	.08	.08	-							
5. Confrontation											.84	.10
Maj	.87 (1.85)	.13	.00	.11	.17*	-						
Min	1.06 (1.94)	-.00	.01	-.05	.20*	-						
6. Closeness											-2.66**	-.33
Maj	3.44 (1.38)	.04	-.02	.06	.14	-.02	-					
Min	3.00 (1.35)	.23*	.02	.24**	.43**	.16	-					
7. Ethnic identity											7.46***	.91
Maj	3.14 (.77)	.26**	.18*	.12	.07	-.07	.07	-				
Min	3.84 (.75)	.02	-.02	.13	-.05	.19*	.17	-				
8. Attitude towards outgroup member											-7.16***	-.88
Maj	86.20 (17.02)	.16	-.10	.12	.16	-.00	.47**	.04	-			
Min	68.98 (22.09)	.22*	-.06	.30**	.27**	-.08	.41**	.08	-			
9. Intergroup bias											8.82***	1.08
Maj	-3.01 (14.92)	.03	.08	-.02	-.03	-.16	-.27**	.11	-.42**	-		
Min	16.11 (20.23)	-.17	.21*	-.08	-.13	.12	-.13	.24**	-.25**	-		

* $p < .05$; ** $p < .01$; *** $p < .001$

As far as post-dialogue variables, descriptive statistics showed that dialogicity, lack of coordination and total salience significantly and positively related each other in majority group, while only dialogicity and total salience positively associated in minority group. With the exception of the association between integration and total salience for majority group, none of the three self-movements' dialogicity indicators significantly correlated with the two forms of perceived power (integration and confrontation), which significantly and positively correlated each other in both samples. Among the outcome variables, dialogicity and lack of coordination significantly and positively related with ethnic identity in majority group, whereas dialogicity and total salience significantly and positively associated with closeness and attitude towards the outgroup member in minority group, and lack of coordination significantly and positively related with intergroup bias. As far as correlations between perceived power and outcome variables, no relations were found for majority group, whereas integration significantly and positively related with closeness and attitude towards the outgroup member, and confrontation significantly and positively related with ethnic identity in minority group. Lastly, as far as outcome variables, in both majority and minority group closeness significantly and positively related with attitude towards the outgroup member, which significantly and negatively associated with intergroup bias. Furthermore, closeness significantly and negatively related with intergroup bias in majority group, and ethnic identity significantly and positively related with intergroup bias in minority group.

As far as differences between majority and minority group on considered variables, majority members reported higher levels of integration, closeness, and attitude towards the outgroup member, compared with minority members. On the other hand, minority members reported higher levels of lack of coordination, ethnic identity, and intergroup bias, compared with majority members.

Testing the hypotheses on online intergroup contact and vertical and horizontal movements (H1, H2)

In order to test our H1 and H2, we run two repeated measures ANOVA. Specifically, in testing our H1, we included pre- and post-dialogue intergroup bias, and considered the group variable (1 = Black people, 2 = White people) as a factor. Furthermore, in testing our H2, we included pre- and post-dialogue dialogicity, lack of coordination, and total salience, and considered the group variable (1 = Black people, 2 = White people) as a factor. Bonferroni adjusted confidence intervals was used in both models.

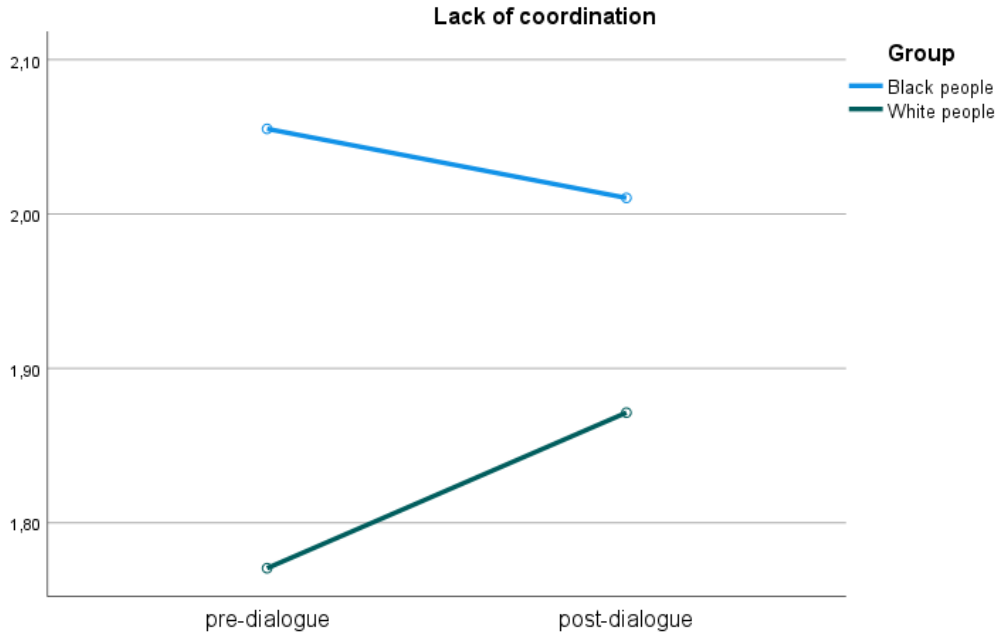
As far as H1, results showed that intergroup bias significantly decreased after online intergroup contact ($F(1, 265) = 11.937$, $p = .001$, $\eta^2_p = .04$). Furthermore, we also found that the interaction with the group membership was significant ($F(1, 265) = 4.957$, $p < .05$, $\eta^2_p = .02$). Post-hoc analyses showed that intergroup bias significantly decreased from pre-dialogue ($M = 18.37$, $SD = 21.20$) to post-dialogue ($M = 16.11$, $SD = 20.23$) for minority members ($t(129) = 3.102$, $p < .01$, $d = .27$). On the other hand, intergroup bias weakly decreased from pre-dialogue ($M = -2.52$, $SD = 15.55$) to post-dialogue ($M = -3.01$, $SD = 14.92$) for majority members, and such decreasing was not significant. Thus, results partially confirmed our H1: intergroup bias decreased following online intergroup contact, but such effect was stronger for minority group, instead of majority group.

As far as H2, results showed that the overall model was not significant, Wilks' Lambda = .982, $F(3, 219) = 1.370$, $p = .253$, $\eta^2_p = .02$, also considering the interaction with the group membership, Wilks' Lambda = .976, $F(3, 219) = 1.818$, $p = .145$, $\eta^2_p = .02$. Analysing pre- post-effects of each variable, results showed that dialogicity did not significantly change during online dialogue. In other words, no differences were found between pre- and post-dialogue dialogicity, also taking the group into account. Furthermore, we found no significant differences between pre- and post-dialogue lack of coordination per

se. However, the interaction between pre- and post-dialogue lack of coordination and the group was significant, $F(3, 219) = 4.687$, $p < .05$, $\eta^2_p = .02$, showing that in Black people lack of coordination decreased from pre-dialogue ($M = 2.05$, $SD = .57$) to post-dialogue ($M = 2.01$, $SD = .52$), while in White people lack of coordination increased from pre-dialogue ($M = 1.77$, $SD = .55$) to post-dialogue ($M = 1.87$, $SD = .47$) (Figure 10). Lastly, total salience did not significantly increase following online intergroup dialogue, also considering the interaction with the group. Thus, results partially confirmed our H2: the online dialogue increased self-movements for White and decrease these movements for Black, but this only happened when the coordination level was considered.

Figure 10

Differences between pre- and post-dialogue in lack of coordination between Black people and White people.



The role of power (H3, H4)

In order to test our H3, we run a MANOVA model, including integration and confrontation as dependent variables and group membership as a factor. Multivariate test showed that such two variables significantly changed depending on group membership, $F(2, 262) = 3.440$, $p < .05$, $\eta^2_p = .03$. Results showed that majority group members ($M = 10.31$, $SD = 5.04$) perceived significantly higher levels of integration compared to minority group members ($M = 8.88$, $SD = 5.06$), $F(1) = 5.268$, $p < .05$, $\eta^2_p = .02$. However, no differences were found between majority and minority members' perception of confrontation. Thus, results partially confirmed our H3: perceived integration during online intergroup dialogue was higher in majority group, but we found no differences on perceived confrontation.

In order to test our H4, we used a series of moderation analyses in which the relationship between pre- and post-dialogue self-movements' measures (i.e., dialogicity, lack of coordination, total salience), and intergroup bias were moderated by perceived power (i.e., integration or confrontation), and such moderation was moderated by group (i.e., majority and minority). Analyses were performed using Hayes' PROCESS v3.5 macro for SPSS (2017), model 3.

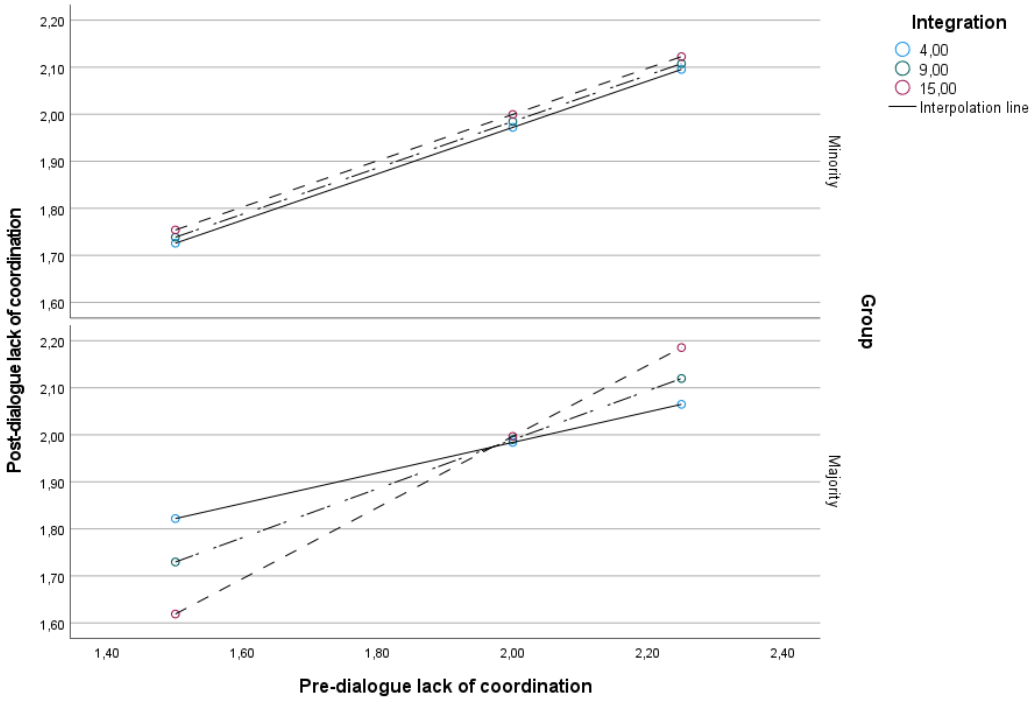
As far as *integration*, in line with what we expected, results showed that it significantly and positively moderated the relationship between pre- and post-dialogue *dialogicity* ($b = .08$, $SE = .04$, $p < .05$, 95%CI[.00, .17]), whereas no interaction with the group membership was found, showing that regardless of whether majority of minority group members, the more individuals perceived integration, the more they increased their dialogicity following online intergroup dialogue. Regarding *lack of coordination*, results showed a significant and positive interaction between lack of coordination, integration, and group ($b = .04$, $SE = .02$, $p < .05$, 95%CI[.00, .08]), showing that the more majority group members perceived integration, the more their lack of coordination increased in post-dialogue, whereas

for minority members integration did not affect such increasing (see Figure 11). Lastly, results showed no significant interactions on the dialogic indicator of *total salience,* thus only partially confirming our H4.1.

As far as *confrontation*, results showed no significant interactions with *dialogicity*, *lack of coordination*, and *total salience*, thus not confirming our H4.2.

Figure 11

Pre- and post-dialogue lack of coordination, integration, and groups (moderation model).



Two processes for bias reduction (H5)

In order to test our H5, we performed a multi-group path analysis model. Specifically, using a step-down sequential approach, we first tested a model in which all structural parameters were constrained to equality across groups (constrained model). Then, we tested a model in which all structural parameters were allowed to vary across groups (unconstrained model), and we compared chi-square of such two models. A significant chi-square difference would indicate that to constrain parameters to equality significantly worsen the model.

Furthermore, in order to test whether the mediation of closeness was stronger for majority members and the mediation of ethnic identity was stronger for minority members, we tested the structural invariance of each indirect effect using Wald's chi-squared test. Wald's chi-squared test allows researcher to evaluate a constraint (equality of indirect effect across groups) in a model in which the constraint is not imposed (e.g., Ryu & Cheong, 2017).

In our model, we considered dialogicity and lack of coordination (post-dialogue) as exogenous variable[3], and closeness, ethnic identity, attitude towards the outgroup member and intergroup bias as endogenous variables. In addition, we fixed to 0 covariation between closeness and ethnic identity to identify the model.

Since the departure from normality was statistically significant, we performed Maximum likelihood estimation – robust (MLR). In order to assess the goodness of fit of our model, we considered Multiple indices of Comparative fit index (CFI), Tucker Lewis index (TLI), Root mean square error of approximation (RMSEA) and Standardized root mean square residual (SMSR). According to Kenny's (2015) suggestions, CFI and TLI values greater than .95 and SMSR value lower than .05 denote an excellent model fit; values of CFI higher than .90 and of RMSEA smaller than .08 indicate of an acceptable fit.

The tested fully constrained model showed an adequate fit (Byrne, 2012; Kenny, 2015), $\chi 2$ (14) = 19.596, p = .143, CFI = .95, TLI = .90, RMSEA = .06, p = .367, 90%CI [.000, .115], SRMR = .067. Then, we computed chi-square difference between fully constrained model and unconstrained model. Results showed that chi-square difference was not significant ($\Delta\chi^2$ (12) = 14.009, p = .300), thus the hypothesized model did not depend on individuals' membership to the majority or minority group. Model results are reported in Table 10 and in Figure 12. In the majority group, the model explained the 31.0% for the

[3] We also tested the same model including total salience as exogenous variable. However, total salience was not related to the other variables in the tested model, and the model fit $\chi 2$ (18) = 26.728, p = .084, CFI = .93, TLI = .86, RMSEA = .07, p = .293, 90%CI [.000, .113], SRMR = .067 was worst compared to the model fit without total salience.

attitude towards the outgroup member, and the 13.9% for intergroup bias. In the minority group, the model explained the 18.2% for the attitude towards the outgroup member, and the 10.7% for intergroup bias.

Table 10

Standardized model estimates for both majority and minority group, constrained model.

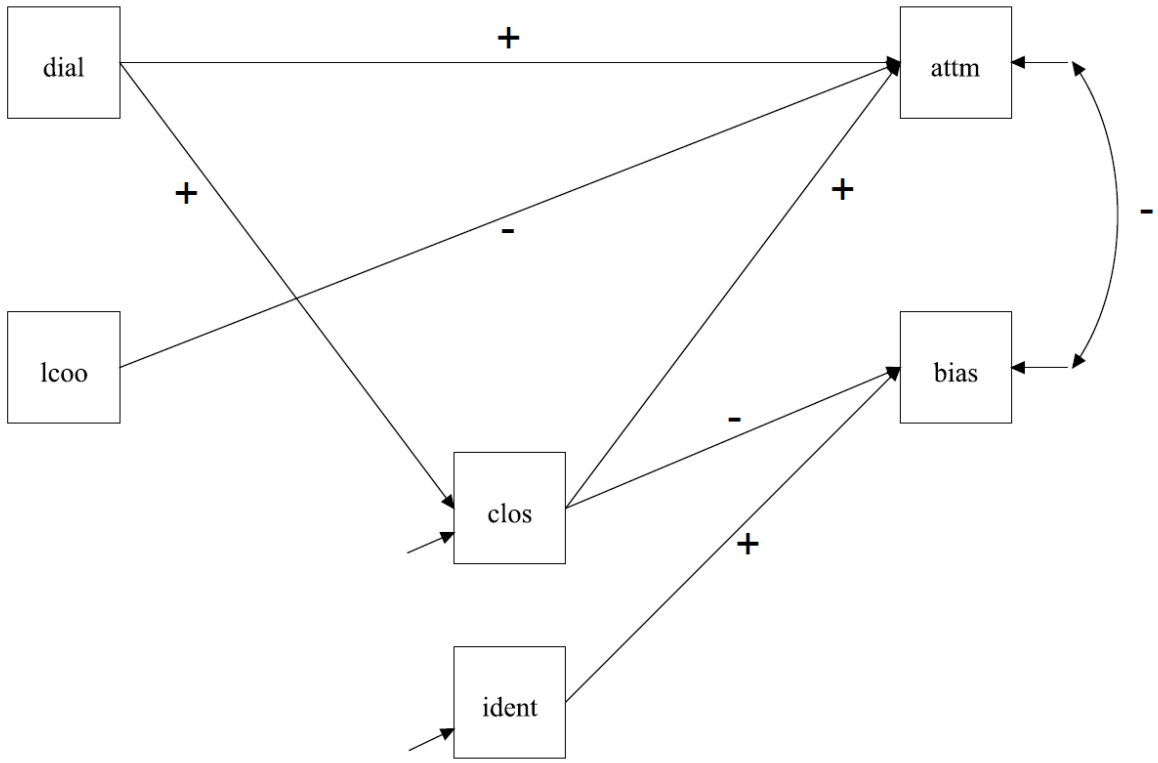
	Majority (n = 113)				*Minority (n = 120)*			
	B	*SE*	*Z*	*95%CI*	*B*	*SE*	*Z*	*95%CI*
AttM ON								
Clos	.496	.051	9.731***	.396, .596	.362	.059	6.168***	.247, .477
Ident	-.037	.083	-.441	-.200, .127	-.031	.071	-.436	-.169, .108
Lcoo	-.135	.063	-2.146*	-.258, -.012	-.117	.057	-2.062*	-.228, -.006
Dial	.190	.058	3.264**	.076, .304	.146	.048	3.004**	.051, .241
Bias ON								
Clos	-.267	.068	-3.953***	-.399, -.135	-.211	.060	-3.543***	-.328, -.094
Ident	.209	.068	3.089**	.077, .342	.190	.070	2.717**	.053, .327
Lcoo	.142	.081	1.742	-.018, .301	.133	.080	1.671	-.023, .289
Dial	-.093	.053	-1.764	-.197, .010	-.077	.045	-1.712	-.166, .011
Clos ON								
Lcoo	-.020	.053	-.373	-.124, .084	-.024	.063	-.375	-.147, .100
Dial	.159	.067	2.364*	.027, .291	.167	.073	2.271*	.023, .310
Ident ON								
Lcoo	.062	.060	1.019	-.057, .180	.064	.063	1.013	-.060, .187
Dial	.136	.073	1.853	-.008, .280	.124	.064	1.938	-.001, .250
Bias WITH								
AttM	-.379	.119	-3.199**	-.612, -.147	-.237	.086	-2.756**	-.406, -.069
Indirect effects:								

Lcoo → clos → bias	.005	.014	.374	-.022, .033	.005	.013	.374	-.021, .031
Lcoo → ident → bias	.013	.013	.974	-.013, .039	.012	.013	.958	-.013, .037
Dial → clos → bias	-.042	.021	-1.974*	-.085, .000	-.035	.019	-1.888	-.072, .001
Dial → ident → bias	.029	.017	1.632	-.006, .063	.024	.015	1.599	-.005, .053
Lcoo → clos → attm	-.010	.026	-.376	-.061, .041	-.009	.023	-.375	-.053, .036
Lcoo → ident → attm	-.002	.006	-.407	-.013, .009	-.002	.005	-.401	-.012, .008
Dial → clos → attm	.079	.035	2.237*	.010, .148	.060	.029	2.069*	.003, .117
Dial → ident → attm	-.005	.011	-.456	-.027, .017	-.004	.009	-.450	-.021, .013

Note: AttM attitude towards the outgroup member; Clos closeness; Ident ethnic identity; Lcoo lack of coordination; Dial dialogicity; Bias intergroup bias.
* $p < .05$; ** $p < .01$; *** $p < .001$

Figure 12

Model results



Note: dial, dialogicity; lcoo, lack of coordination; clos, closeness; ident, ethnic identity; attm, attitude towards the outgroup member; bias, intergroup bias.

Results showed that post-dialogue dialogicity positively related to attitude towards the outgroup members, as we expected. However, contrary to what we hypothesized, lack of coordination was negatively related to attitude towards the outgroup member, thus partially confirming H5.1. Furthermore, neither dialogicity nor lack of coordination related to intergroup bias, thus not confirming our H5.2. As far as mediation variables, dialogicity but not lack of coordination positively related to closeness (H5.3), which in turn positively related to attitude towards the outgroup member (H5.4), thus partially confirming our H5.3 and confirming our H5.4. Results also showed closeness to be negatively related to intergroup bias. Interestingly, we

found that closeness significantly mediated the relationship between dialogicity and intergroup bias in majority group, but not in minority group. Furthermore, neither dialogicity nor lack of coordination related to ethnic identity, thus not confirming our H5.5. However, ethnic identity positively related with intergroup bias, as we predicted (H5.6).

Lastly, we expected the mediation of closeness to be stronger for majority members, and mediation of ethnic identity to be stronger for minority members. However, Wald's test computed for each indirect effect (8) showed no significant differences between majority and minority members on such effects, thus not confirming our H5.7.

Discussion

In the present study we examined the role of the Dialogical Self in the relationship between online intergroup contact and prejudice reduction. The theoretical framework that guided this work was found in the Democratic Organization of the Self model (Hermans et al., 2017), and it focuses on both the vertical (i.e., through personal, social, and human levels of inclusiveness) and the horizontal (i.e., through Self and Other positions) self-movements, and on the role of power vs dialogue Hermans and colleagues pointed out. Firstly, in the present pre-post design we tested whether online contact affected intergroup bias in both majority (i.e., White people) and minority (i.e., Black people) groups. Secondly, starting from our previous results and focusing on vertical and horizontal self-movements, we explored whether and to what extent dialogicity, coordination, and total salience changed following online intergroup dialogue in both majority and minority members. Further, focusing on the role of power, we explored whether and to what extent dialogicity, coordination, and total

salience changed following online intergroup contact, and whether and to what extent such changing was moderated by the power perception in both majority and minority members. Lastly, starting from results of our study 1 (Chapter 3), we explored two specific processes through which self-movements related to attitude towards the outgroup member and intergroup bias, analysing the role of closeness with the other and ethnic identity in both majority and minority members.

As far as changing in intergroup bias, results showed that to online dialogue with an outgroup member decreased intergroup bias especially for minority members compared to majority ones. Literature focused on offline contexts (e.g., Tropp & Pettigrew, 2005) well underlined that the positive effects of intergroup contact were stronger for majority group, thus such result was contrary to what we expected. It must be remembered that participants in the present study were undergraduate students, and the fake outgroup member was introduced as undergraduate student too, and the protocol used to make the two students interact stressed on individuals' university experience. Furthermore, literature (Amichai-Hamburger & Furnham, 2007) highlighted that to interact with an outgroup member in online contexts minimize the status differences between individuals in interaction. According to Reduced Social Cues theory (RSC; Sproull & Kiesler, 1986), online interactions were characterized by a lack of social cues, which weaken social influence, undermining social influence on both groups and individuals. Thus, it is possible to argue that, unlike what happened in face-to-face contacts, in online intergroup interactions even minority members can derive positive effects from contact, due to equality status and reduced social cues guaranteed by computer-mediated communication.

Regarding self-movements, overall, results showed that online intergroup contact partially modified individuals' self-positionings. As far as vertical and horizontal self-movements in Hermans et al. (2017) model, we found that positions' coordination decreased following online intergroup contact, depending on whether individuals were majority or minority members. In other words, majority members tended to coordinate less their positions with interlocutor's positions following online intergroup contact, showing flexibility in moving though their different I- and Other-positions. Contrary, minority members tended to more coordinate their positions with the interlocutor's ones, positioning themselves and others in similar ways, i.e., at the same level of inclusiveness. It is possible to argue that for majority members the flexibility among positions represented a lower risk, given their privileged position compared to minority members (e.g., Hossain, 2015). On the other hand, for minority members could be a protective factor to position themselves according to the other majority member's position. Indeed, given their status, minorities might tend to make their identity converge with the other majority member's identity, in line with assimilation theories (Platt, 2013).

Furthermore, as far as the role of perceived power, we found differences in perceiving integration depending on group membership: results showed that majority group members perceived more integration compared to minority members. In line with Saguy et al.'s results (2008), our finding supported the idea that majority members were more prone to stress on communalities with minority members compared to the minorities. In fact, for majority members, perceiving integration could limit the perceived distance with the outgroup member, by being open to the other's perspective, considering the other's arguments and being open to modify one's own viewpoint

(Puchalska-Wasyl, 2017). Interestingly, we found no differences on perceived confrontation between majority and minority group. Such lack of perceived imbalance of power between individuals in interaction could be due to computer-mediated communication's characteristics. Indeed, as abovementioned, given the status equality and the reduced social cues (e.g., Sproull & Kiesler, 1986) characterizing online interactions, it is possible to argue that online intergroup dialogue did not activate mechanisms aimed at obtaining an advantage over the opponent, favouring mechanisms based on communalities. Moreover, the key role of integration was also supported by the moderation models' results. In fact, our findings suggested that the more individuals perceived integration, the more they shifted among different positions, regardless of whether majority or minority members. Literature well underlined that Internet could be considered a safe place in which individuals interact with others (e.g., Amichai-Hamburger & Furnham, 2007), and it is known that online interactions favoured the individuals' identity experimentation (e.g., Turkle, 2011). Thus, when individuals belonging to different groups online interact, such interaction affected their identities, stimulating greater change when they perceive integration. In other words, to be open to the other's viewpoint favoured individuals' ability to choose multiple and changing positions, not anchoring their identities on a specific level of inclusiveness. Furthermore, coherently, integration was also found to influence changings in lack of coordination. However, such effect involved only majority members. Literature highlighted that while majority members tended to perceived themselves and be perceived as unique individuals, minority members tended to perceived themselves and be perceived as an aggregate of undifferentiated individuals of a larger group (Lorenzi-Cioldi, 2017). Thus, on one hand, when majority members online interacted with an

outgroup member being open to the other's viewpoint, they coordinated less their Self positions with the Other's ones. Perceiving themselves and being perceived as unique individuals and given their privileged status, majority members could feel freer to position themselves non-symmetrically with respect to the minorities. Indeed, given that the more majority members shifted among positions, the more they reported high levels of ethnic/racial identity, and given that their ethnic/racial identity occupied a privileged status, such privileged status could have made majority members feel both more flexible in positioning differently from the minority members and more prone to affirm their ethnic identity. On the other hand, regardless of whether they perceived integration or not, it could be risky for minority members to position themselves non-symmetrically with respect to the other majority member. Thus, to be open to the other's viewpoint (i.e., to perceive integration) did not affect minorities positionings, and this might be because such positions' changing could threaten the individuals' recognition as members of an aggregate of undifferentiated individuals. Nevertheless, neither dialogicity nor coordination correlated with ethnic identity in minority members, showing that ethnic/racial identity only changed – i.e., increased – when they perceived confrontation in the dialogue.

As far as our third and last goal, starting from our discussion in Chapter 3, we analysed two different processes through self-movements linked to positive attitude towards the outgroup member and intergroup bias, analysing the role of closeness with the other and ethnic identity in both majority and minority groups. Interestingly, we did not found differences between majority and minority, or rather the same processes could be applied to both groups, despite the percentage of variance explained by our model was very different between the groups, showing higher levels of variance explained for

majority group compared to the minority one. Thus, regardless of whether majority or minority members, results showed that closeness to the other played an important role in such process. Specifically, the more individuals shifted among horizontal and vertical movements, the more they perceived closeness with the outgroup member, and closeness in turn was positively related with attitude towards the outgroup member and negatively related with intergroup bias. In line with previous findings on extended intergroup contact (e.g., Turner et al., 2008), when individuals considered themselves and the outgroup member as partially overlapping, they not only evaluated more positively the interlocutor, but they also generalized such positive effect to the outgroup as a whole, reducing intergroup bias (see Aron et al., 2013 for review). Notably, we also found that dialogicity per se was positively related to attitude towards the outgroup member, while only a direct relation was found with intergroup bias in majority group, while attitude towards the outgroup member and intergroup bias were negatively related in both groups. In other words, dialogicity was directly and indirectly related to attitude towards the outgroup member, and only indirectly related to intergroup bias in majority members. Thus, dialogicity could be considered as a sign of flexibility and openness for majorities, and a protective factor in the face of societal stigma and more generally negative intergroup relations for minorities, as well as literature on cognitive flexibility highlighted (e.g., Brewster et al., 2013). Furthermore, contrary to what we expected, we also found that lack of coordination, here intended as another indicator of self-movements, negatively related with attitude towards the outgroup member; i.e., the positive attitude toward the outgroup member increased when the coordination increased. One possible explanation for such result could be found in assimilation theories (e.g., Platt, 2013). Indeed, majority group members could feel threatened when

interact with minority members who did not position themselves symmetrically to them, or rather who did not align their identities with their own one's, evaluating the outgroup member worse. On the other hand, minority members who tended to make their positioning converge with the majority member's positioning could feel themselves more protected, evaluating the outgroup member better. In this sense, to position themselves according to the other positioning could be a protective factor for minorities.

Lastly, according to Social Identity Theory (Turner et al., 1987), we found that individuals who strongly identified themselves with their ethnic group tended to evaluate their own group better than the outgroup. In literature there are consensus about the role of high ingroup identification, considered as an obstacle to intergroup relations (e.g., Kaiser & Wilkins, 2010). However, contrary to what we expected, ethnic identity linked neither to dialogicity nor to lack of coordination, leaving further exploration of such construct needed.

To the best of our knowledge, this is the first study examining the role of Dialogical Self in explaining the process through which online intergroup contact reduced prejudice, also taking power, closeness with the outgroup member, and ethnic identity into account. However, the present study was not without limitations. Firstly, some of our hypotheses were tested only on post-dialogue measures, thus the correlational nature of such models did not allow to infer causal relationships between the variables considered. In addition, due to the limited sample size, it was not possible to compute a unique model that would respond to both the hypotheses relating to power and to closeness and ethnic identity. Despite its limitations, the present study was useful to increase the knowledge of the self-processes that influenced the relationship between intergroup contact and prejudice reduction in online contexts, showing that Dialogical

Self, dialogicity, positions' coordination, and power could be considered key variables in explaining the process by which online intergroup contact reduced prejudice both directly, and indirectly (e.g., through the mediation of closeness with the outgroup member).

Conclusion

Starting from the evidence that Internet can both foster and hinder harmonious relations between groups (Amichai-Hamburger & Furnham, 2007; Tynes et al., 2008), it seems increasingly urgent to analyze how online platforms can be used to promote positive group relationships, by favoring dialogue between different groups and therefore reducing prejudice. This is the reason why, in our research project, we focused on the Contact Hypothesis (Allport, 1954), which in psychosocial literature is considered a successful strategy when it comes to reduce conflict between groups. Henceforth, we applied it to the online contexts. To date, the studies analyzing the effects that online intergroup contact can have on the reduction of prejudice mostly refer to two lines of research: the first one can be identified in the works of Amichai-Hamburger and his collaborators (e.g., Amichai-Hamburger & Furnham, 2007) and it is mostly of theoretical nature, whereas the second one can be identified in the works of White and her collaborators (e.g., White & Abu-Rayya, 2012) and it is mostly of applicative nature. However, the existing literature lacks an explorative perspective regarding what happens spontaneously online. Specifically, we can include contexts in which people are not guided by tasks aimed at creating positive interdependence and relations, but rather by natural need to interact with others, as well as belonging to groups, and also to express their identities. The literature showed that satisfying these needs led to positive processes (i.e., membership, relational bonds, activism), but also to negative ones (i.e., hate, discrimination, spread of fake news and conspiracy ideas) (e.g., Amichai-Hamburger & Mckenna, 2006; Tynes et al., 2008). Therefore, the present research project, although online intergroup contact was controlled by researchers, tried to adapt to these spontaneous virtual contexts' characteristics by focusing on an

interaction protocol aimed at stimulating the natural processes of knowledge of the other, namely to simulate what happens spontaneously in that context. For this purpose, we created an ad-hoc chatroom that presented the basic characteristics of the Computer-Mediated Communication (i.e., anonymity, control over physical exposure, control over the interaction, equality, and fun; Amichai-Hamburger & Furnham, 2007) in order to better understand the specificity of the processes that encourage or hinder prejudice following online intergroup contact. In fact, it clearly emerges that online intergroup contact cannot be considered a by-product of offline direct intergroup contact, making it necessary to study these constructs separately and independently. Thus, in the present work, we first attempt to answer to the following questions: *does online intergroup contact reduce prejudice? And, if so, in which conditions such reduction was stronger?* The results from our meta-analysis (Chapter 1) showed that intergroup contact, even when it occurred in online contexts, had moderate effects on prejudice reduction, and such effect tended to be stronger for spontaneous contact when compared to esperimentally induced contact. However, we have also found that variables classically considered able to moderate the relationship between intergroup contact and prejudice reduction in offline contexts could not be applied with the same effectiveness to the online ones. Therefore, it was necessary to investigate further variables that could explain the process by which online contact is able to reduce prejudice, understanding not only what happened in terms of interactions, but also what the intergroup contact implied in terms of positioning of the self. In particular, since online contact studies have not gone beyond its operationalization in terms of quantity and quality to date, with quality being measured only in terms of positive / negative contact, our intention was to enter deeply into the online intergroup contact construct, by focusing on the role

of the Dialogical Self as defined by Hermans et al. (1992). Thus, we shifted from intergroup contact understood as the interaction of two or more individuals, towards an intergroup contact understood as inter-subjectivity among different internal and external voices or positions, adopting a socio-constructivist perspective as a result. Therefore, we applied the Democratic Organization of the Self model (Hermans et al., 2017), in order to answer to the following questions: *does the Dialogical Self influence the relationship between intergroup contact and ethnic/racial prejudice?* And, more specifically, *does individuals' ability to shift among different self-positions facilitate the reduction of ethnic/racial prejudice?* The results of the research conducted allow us to give a positive answer. Using a research design previously tested in our pilot study (Chapter 2), overall, the results from our first study (Chapter 3) firstly showed that we failed to experimentally manipulate the individuals' positionings. We believe that the lack of differences among experimental conditions indicated that the individuals strategically chose their positionings during the dialogue with the outgroup member, regardless of the level of inclusiveness we manipulated. The analyses carried out to answer the second question showed that individuals' ability to shift among positions favoured the prejudice reduction, especially when individuals moved from more concrete positions (i.e., personal and social level) to more abstract ones (i.e., human level), although too abstract positions produced conflicting results. More specifically, results showed that stressing the categorization mechanisms during online dialogues could hinder the prejudice reduction. Therefore, individuals who interacted online with an outgroup member positioning at the social level of inclusiveness (i.e., when they activated categorization mechanisms) reported both high levels of ethnic / racial identity and intergroup bias. In other words, according with Social Identity Theory (Hogg, 2002;

Tajfel & Turner, 1979), when the salience of one's membership in a group was high, the online intergroup contact prove to be less effective in reducing prejudice towards the outgroup. On the other hand, we also found that stressing humanization mechanisms both strengthen and hinder the prejudice reduction. Henceforth, individuals who online dialogued with an outgroup member positioning at the human level of inclusiveness (i.e., when they activated humanization mechanisms) reported high levels of inclusion of other in the Self, ethnic / racial identity, as well as intergroup bias. These results were partially in line with the literature, underlining that the more inclusive and abstract level of categorization (e.g., the human one) could facilitate intergroup relations (e.g., Turner et al., 1987b; Wohl & Branscombe, 2005). However, they also highlighted that human level of inclusiveness could hinder the individuals' need of distinctiveness (Brewer, 2003; Leonardelli et al., 2010).

Furthermore, starting from the evidence that intergroup contact had different effects depending on individuals' membership, we hypothesized that said difference could be linked to both objective and perceived power. Therefore, we attempt to answer to the following question: *what is the role of objective and perceived power in the relationship between online intergroup contact and prejudice reduction?* Overall, results from our second study (Chapter 4) showed that both objective and perceived power affected the prejudice reduction following online intergroup contact. As far as objective power, we found that online intergroup contact reduced prejudice especially when it comes to minority members. The result was in contrast to the existent literature on offline intergroup contact effects (e.g., Tropp & Pettigrew, 2005), emphasizing the potential of intergroup contact in contexts that could be able to minimize the differences between the status of individuals in interaction, and where interactions were

characterized by a lack of social cues (Sproull & Kiesler, 1986). Furthermore, the results proved that majorities tended to position themselves and others in a more dissimilar and less coordinated way, showing greater dialogicity flexibility (i.e., the individuals' ability to shift between self- and other- positions, and between personal, social, and human levels of inclusiveness). On the contrary, minorities tended to strongly coordinate their self-positions with the other-positions, because for the minority members, this coordination could represent a factor of identity protection. As far as perceived power, we used the Integration-Confrontation scale (Puchalska-Wasyl & Paul, 2016), measuring integrational power (i.e., based on communalities between the interlocutors) and confrontational one (i.e., based on differences between the interlocutors). The results showed that majority group perceived greater integration than the minority one, supporting the idea that majorities were more likely to emphasize similarities rather than differences with the outgroup, in line with literature on offline intergroup relations (e.g., Saguy et al., 2008). In conclusion, integration favored dialogicity which is potentially a factor able to favor the inclusion of the other in the self and therefore a positive attitude towards the outgroup member and the reduction of intergroup bias.

Theoretical implications

Going beyond the specific results, by considering the intersubjective perspective proposed by the Dialogical Self Theory, in our project we attempted to give a new theoretical contribution to the literature on online intergroup contact. The integration of perspectives allows us to enter into what happens during the dialogue from the participants' point of view, reconstructing what people put into play in a spontaneous and strategic way when encountering with the other. For this reason, we did not intend

to replace the classic approaches to intergroup contact, but rather to integrate them, allowing to have a more 360-degree vision of the phenomenon (i.e., intergroup contact). In other words, our purpose was to elaborate a deeper reflection, starting from the assumption that the individualities (subjectivities) are not distinct from each other, but instead circularly linked, to the extent that the other becomes part of the individual's Self. In this perspective, the dialogue becomes the real motor of individuals' identities, feeding the Self on co-constructed and negotiated meanings in the relationships with others. It is important to realize that both abovementioned co-construction and negotiation take place in the broader context of the society. Therefore, given that the Self also extends to voices external to the person, identities are strictly interconnected with the characteristics of the social and cultural context. Online intergroup relations enter fully into this thought, since they are an often overlook phenomenon which is recently arising to the center of social interest due to the discriminatory and hate processes emergence. As showed above, on one hand online intergroup contact can be the turning point for promoting more harmonious relationships between groups, although it is necessary to understand how to study this process. In fact, taking into consideration only the construct in itself (contact) or what happens inside the individuals singularly (self-categorization) means neglecting a "third space" of intersection between the two selves. Specifically, the third space deriving from the online intergroup contact could represent a place of ambivalence that allows individuals to create, to choose, to learn, to move, and to experience positions, subverting and recreating existing identities as a result. In addition, shifting the focus on intersubjectivity allows us to underline a change in positionings, favored also by the context (i.e., the online one) that support individuals' identity experimentation. The

transition from a definition of the self as an intra-psychic process to a definition of it as an intersubjective one, while providing a complex viewpoint on identity applied to intergroup relations, has made systematic study difficult. Methodologically, the present work aspired to take a first step in this direction, proposing a research design that would allow to understand how the Dialogical Self influences the relationship between online intergroup contact and prejudice reduction.

Despite their theoretical relevance, these results could be useful to deepen the understanding of the Self's implications during a dialogue between different ethnic / cultural groups in online contexts. In fact, some characteristics of the online contexts could favor dialogicity, making Internet a useful tool when it comes to prejudice reduction. Notably, unlike what happens offline, Internet was considered as a place in which individuals could safely experience their different identities (e.g., Turkle, 2011), while also expand their repertoire of positions, or learning new ones and moving between sheltered from social judgment and influence. The impact of social influence was partially less online, due to the reduced presence of social cues (Sproull & Kiesler, 1986), making people's selves potentially more flexible in adopting different positions.

Practical implications

From an application point of view, our results can represent the starting point for the creation of virtual places and platforms that promote less conflictual relationships between different groups. We believe that it is not possible to promote online harmonious relationships between groups without understanding first what happens when two people interact on a Self-level. If people interact online freely and spontaneously, then it is useful to understand which Self processes are activated during the dialogue, therefore encouraging those related to the prejudice reduction (dialogicity,

lack of coordination and integrational power) and dissuading those related to prejudice (ethnic identity). Consequently, the results could be socially useful, addressing relevant issues pertaining to both online social platforms designers and Internet users. More specifically, designers could find new instruments in order to reduce the hate speech in social media. On one hand, this could eventually lead to the design of social platforms in which the users are encouraged to explore different ways to relate with others, increasing the positive forms on intercultural dialogue. On the other hand, Internet users could be sensitized to a more functional use of online platforms, going beyond the easy path of the mere social categorization, i.e., considering themselves and the others both group members and human beings.

Limitations and further research

The present research project was not without limitations. Firstly, in our studies we focused on given positions based on only three levels of inclusiveness, without letting the participants free to indicate the positions that most described them during online dialogue, i.e., asking participants to indicate both internal and external positions that emerged during dialogue. Secondly, we assumed that intergroup relations considered in the present research project were conflictual or at least problematic for nature, given that our participants belonged to a White majority group and to a Black minority group. However, we collected data from European undergraduate students, who may have not perceived a degree of intergroup conflict. Thus, the limited effects we found could be linked precisely to the limited perception of conflict between different ethnic / racial groups. Thirdly, the limited time of interaction might have partially mitigated the effects of intergroup contact on prejudice. In addition, despite the chatroom we created presented many of the basic characteristics of the Computer-

Mediated Communication, the online context examined was not a naturalistic context. It means that individuals were not allowed to make future contacts, nor to infer characteristics about the interlocutor based on other features (i.e., profile photos). Further studies could analyze the role of the Dialogical Self in more ecological contexts, such as Social Network Sites, testing whether individuals could choose new positions during intergroup dialogue. Moreover, additional research is required to systematically test which features of the online platforms encourage people to shift among different positions. Equally important, further studies could analyze the role of meta-positions, or rather positions providing an overview of more specific positions (Hermans et al., 2017) in facilitating individuals' dialogicity and prejudice reduction. In conclusion, despite its limitations, it is our hope that the present research project will serve as a foundation for further studies and discussions concerning the positive effects of online intergroup contact in a socio-constructivist perspective.

References

Aboujaoude, E., Savage, M. W., Starcevic, V., & Salame, W. O. (2015). Cyberbullying: Review of an Old Problem Gone Viral. *Journal of Adolescent Health*, *57*(1), 10–18. https://doi.org/10.1016/J.JADOHEALTH.2015.04.011

Al Ramiah, A., & Hewstone, M. (2013). Intergroup contact as a tool for reducing, resolving, and preventing intergroup conflict: Evidence, limitations, and potential. *American Psychologist*, *68*(7), 527. https://doi.org/doi.org/10.1037/a0032603

Allport, G. W. (1954). *The nature of prejudice*. Addison-Wesley.

Altemeyer, B. (1988). *Enemies of freedom: Understanding right-wing authoritarianism*. Jossey-Bass.

Amichai-Hamburger, Y., & Furnham, A. (2007). The positive net. *Computers in Human Behavior*, *23*(2), 1033–1045. https://doi.org/10.1016/j.chb.2005.08.008

Amichai-Hamburger, Y., Hasler, B. S., & Shani-Sherman, T. (2015). Structured and unstructured intergroup contact in the digital age. *Computers in Human Behavior*, *52*, 515–522. https://doi.org/10.1016/j.chb.2015.02.022

Amichai-Hamburger, Y., & Hayat, Z. (2013). *The social net: Understanding our online behavior*. Oxford University Press.

Amichai-Hamburger, Y., & Mckenna, K. Y. A. (2006). The Contact Hypothesis Reconsidered: Interacting via the Internet. *Journal of Computer-Mediated Communication*, *11*(3), 825–843. https://doi.org/10.1111/j.1083-6101.2006.00037.x

Antaki, C., & Widdicombe, S. (1998). *Identities in talk*. Sage Publications.

Aron, A., Aron, E. N., & Smollan, D. (1992). Inclusion of other in the self scale and the structure of interpersonal closeness. *Journal of Personality and Social Psychology*,

63(4), 596.

Aron, A., Lewandowski, G. W., Mashek, D., & Aron, E. (2013). The self expansion model of motivation and cognition in close relationships. In *The Oxford handbook of close relationships* (pp. 90–115). Oxford University Press.

Badea, C., Jetten, J., Czukor, G., & Askevis-Leherpeux, F. (2010). The bases of identification: When optimal distinctiveness needs face social identity threat. *British Journal of Social Psychology*, *49*(1), 21–41. https://doi.org/10.1348/000712608X397665

Bagci, S. C., Guvensoy, I., Turner, R. N., White, F. A., & Piyale, Z. E. (2021). Investigating the role of E-contact and self-disclosure on improving Turkish-Kurdish interethnic relations. *Journal of Applied Social Psychology*, jasp.12760. https://doi.org/10.1111/jasp.12760

Batson, C. D. (2010). Empathy-induced altruistic motivation. In *Prosocial motives, emotions, and behavior*. American Psychological Association.

Binder, A. (1959). Considerations of the place of assumptions in correlational analysis. *American Psychologist*, *14*(8), 504.

Blight, M. G., Ruppel, E. K., & Schoenbauer, K. V. (2017). Sense of Community on Twitter and Instagram: Exploring the Roles of Motives and Parasocial Relationships. *Cyberpsychology, Behavior, and Social Networking*, *20*(5), 314–319. https://doi.org/10.1089/CYBER.2016.0505

Boccanfuso, E., White, F. A., & Maunder, R. D. (2021). Reducing Transgender Stigma via an E-contact Intervention. *Sex Roles*, *84*(5–6), 326–336. https://doi.org/10.1007/S11199-020-01171-9/FIGURES/1

Bodenhausen, G. V. (2009). Diversity in the person, diversity in the group: Challenges

of identity complexity for social perception and social interaction. *European Journal of Social Psychology*, *40*(1), 1–16. https://doi.org/10.1002/ejsp.647

Bossler, A. M., Holt, T. J., & May, D. C. (2011). Predicting Online Harassment Victimization Among a Juvenile Population. *Youth & Society*, *44*(4), 500–523. https://doi.org/10.1177/0044118X11407525

Bouchillon, B. C. (2021). Facebooking for Good: Online Contact to Address Offline Conflict. *Social Science Computer Review*, *39*(3), 353–370. https://doi.org/10.1177/0894439319874052

Branković, M., Žeželj, I., & Turjačanin, V. (2020). How knowing others makes us more inclusive: Social identity inclusiveness mediates the effects of contact on out-group acceptance. *Journal of Theoretical Social Psychology*, *4*(3), 95–106.

Bratchell, N. (1989). Cluster analysis. *Chemometrics and Intelligent Laboratory Systems*, *6*(2), 105–125. https://doi.org/10.1016/0169-7439(87)80054-0

Brewer, M. B. (2003). Optimal distinctiveness, social identity, and the self. In *Handbook of self and identity* (pp. 480–491). The Guilford Press.

Brewer, M. B., & Pierce, K. P. (2005). Social Identity Complexity and Outgroup Tolerance. *Personality and Social Psychology Bulletin*, *31*(3), 428–437.

Brewer, Marilynn B, & Miller, N. (1984). Beyond the contact hypothesis: Theoretical perspectives on desegregation. In *Groups in contact: The psychology of desegregation* (pp. 281–302). Academic Press.

Brewster, M. E., Moradi, B., DeBlaere, C., & Velez, B. L. (2013). Navigating the Borderlands: The Roles of Minority Stressors, Bicultural Self-Efficacy, and Cognitive Flexibility in the Mental Health of Bisexual Individuals. *Journal of Counseling Psychology*, *60*(4), 543–556. https://doi.org/10.1037/a0033224

Brody, S., Wright, S. C., Aron, A., & McLaughlin-Volpe, T. (2009). Compassionate love for individuals in other social groups. In *The science of compassionate love: Theory, research, and applications* (pp. 283–308). Wiley Blackwell.

Brown, R., & Pehrson, S. (2019). *Group processes: Dynamics within and between groups*. John Wiley & Sons.

Byrne, B. M. (2012). *A Primer of LISREL: Basic Applications and Programming for Confirmatory Factor Analytic Models*. Springer Science & Business Media.

Camerino, L., Camerino, O., Prat, Q., Jonsson, G. K., & Castañer, M. (2020). Has the use of body image in advertising changed in the first two decades of the new century? *Physiology and Behavior*, *220*, 112869. https://doi.org/10.1016/j.physbeh.2020.112869

Capozza, D., Falvo, R., Trifiletti, E., & Pagani, A. (2014). Cross-group Friendships, Extended Contact, and Humanity Attributions to Homosexuals. *Procedia - Social and Behavioral Sciences*, *114*, 276–282. https://doi.org/10.1016/J.SBSPRO.2013.12.698

Carpenter, T. P., Pogacar, R., Pullig, C., Kouril, M., Aguilar, S., LaBouff, J., Isenberg, N., & Chakroff, A. (2019). Survey-software implicit association tests: A methodological and empirical analysis. *Behavior Research Methods*, *51*(5), 2194–2208. https://doi.org/10.3758/s13428-019-01293-3

Chetty, N., & Alathur, S. (2018). Hate speech review in the context of online social networks. In *Aggression and Violent Behavior* (Vol. 40, pp. 108–118). Elsevier Ltd. https://doi.org/10.1016/j.avb.2018.05.003

Cialdini, R. B., Brown, S. L., Lewis, B. P., Luce, C., & Neuberg, S. L. (1997). Reinterpreting the Empathy-Altruism Relationship: When One into One Equals

Oneness. *Journal of Personality and Social Psychology*, *73*(3), 481–494. https://doi.org/10.1037/0022-3514.73.3.481

Cocco, V. M., Bisagno, E., Di Bernardo, G. A., Cadamuro, A., Riboldi, S. D., Crapolicchio, E., Trifiletti, E., Stathi, S., & Vezzali, L. (2021). Comparing story reading and video watching as two distinct forms of vicarious contact: An experimental intervention among elementary school children. *British Journal of Social Psychology*, *60*(1), 74–94. https://doi.org/10.1111/BJSO.12404

Cover, R. (2015). *Digital identities: Creating and communicating the online self*. Academic Press.

Covert, J. M., & Stefanone, M. A. (2020). Does Rejection Still Hurt? Examining the Effects of Network Attention and Exposure to Online Social Exclusion. *Social Science Computer Review*, *38*(2), 170–186. https://doi.org/10.1177/0894439318795128

Crisp, R. J., Hewstone, M., & Rubin, M. (2001). *Does Multiple Categorization Reduce Intergroup Bias?*

Darlington, R. B., & Hayes, A. F. (2016). *Regression analysis and linear models: Concepts, applications, and implementation*. Guildford Publications.

Dasgupta, N., Mcghee, D. E., Greenwald, A. G., & Banaji, M. R. (2000). Automatic Preference for White Americans: Eliminating the Familiarity Explanation. *Journal of Experimental Social Psychology*, *36*, 316–328. https://doi.org/10.1006/jesp.1999.1418

Davies, K., & Aron, A. (2016). Friendship Development and Intergroup Attitudes: The Role of Interpersonal and Intergroup Friendship Processes. *Journal of Social Issues*, *72*(3), 489–510. https://doi.org/10.1111/josi.12178

Davies, K., Tropp, L. R., Aron, A., Pettigrew, T. F., & Wright, S. C. (2011). Cross-group friendships and intergroup attitudes: A meta-analytic review. *Personality and Social Psychology Review*, *15*(4), 332–351.

Davies, K., Wright, S. C., & Aron, A. (2011). Cross-group friendships: How interpersonal connections encourage positive intergroup attitudes. In *Moving beyond prejudice reduction: Pathways to positive intergroup relations* (pp. 119–138). American Psychological Association.

Davis, K. (2012). Friendship 2.0: Adolescents' experiences of belonging and self-disclosure online. *Journal of Adolescence*, *35*(6), 1527–1536. https://doi.org/doi.org/10.1016/j.adolescence.2012.02.013

Dawes, R. M. (1972). *Fundamentals of attitude measurement*. John Wiley & Sons.

De Winter, J. C. F. (2013). Using the Student's t-test with extremely small sample sizes. *Practical Assessment, Research, and Evaluation Practical Assessment*, *18*, 10. https://doi.org/10.7275/e4r6-dj05

Deschamps, J. C., & Doise, W. (1978). Crossed category memberships in intergroup relations. In *Differentiation between social groups* (pp. 141–158). Cambridge University Press.

Doise, W., & Mapstone, E. (1986). *Levels of explanation in social psychology*. Cambridge University Press.

Douglas, K., & McGarty, C. (2001). Identifiability and self-presentation: Computer-mediated communication and intergroup interaction. *British Journal of Social Psychology*, *40*(3), 399–416. https://doi.org/doi.org/10.1348/014466601164894

Dovidio, J. F., Eller, A., & Hewstone, M. (2011). Improving intergroup relations through direct, extended and other forms of indirect contact. *Group Processes &*

Intergroup Relations, *14*(2), 147–160. https://doi.org/10.1177/1368430210390555

Dovidio, J. F., & Gaertner, S. L. (1999). Reducing prejudice: Combating intergroup biases. *Current Directions in Psychological Science*, *8*(4), 101–105. https://doi.org/doi.org/10.1111/1467-8721.00024

Dovidio, J. F., Gaertner, S. L., Anastasio, P. A., Bachman, B. A., & Rust, M. C. (1993). The common ingroup identity model: Recategorization and the reduction of intergroup bias. *European Review of Social Psychology*, *4*(1), 1–26. https://doi.org/10.1080/14792779343000004

Dovidio, J. F., Gaertner, S. L., John, M. S., Halabi, S., Saguy, T., Pearson, A. R., & Blake, M. R. (2008). Majority and minority perspectives in intergroup relations: The role of contact, groups representations, threat, and trust in intergroup conflict and reconciliation. In *The social psychology of intergroup reconciliation: from violent conflict to peaceful co-existence* (pp. 227–254).

Dovidio, J. F., Love, A., Schellhaas, F. M. H., & Hewstone, M. (2017). *Reducing intergroup bias through intergroup contact: Twenty years of progress and future directions*. *20*(5), 606–620. https://doi.org/10.1177/1368430217712052

Ellison, N. B., Steinfield, C., & Lampe, C. (2007). The Benefits of Facebook "Friends:" Social Capital and College Students' Use of Online Social Network Sites. *Journal of Computer-Mediated Communication*, *12*(4), 1143–1168. https://doi.org/10.1111/j.1083-6101.2007.00367.x

Ensari, N., & Miller, N. (2001). Decategorization and the reduction of bias in the crossed categorization paradigm. *European Journal of Social Psychology*, *31*(2), 193–216. https://doi.org/10.1002/ejsp.42

Everett, J. A. C., & Onu, D. (2013). Intergroup Contact Theory: Past, Present, and

Future. *The Inquisitive Mind*, *2*(17), 1–6.

Faul, F., Erdfelder, E., Buchner, A., & Lang, A. G. (2009). Statistical power analyses using G*Power 3.1: Tests for correlation and regression analyses. *Behavior Research Methods*, *41*(4), 1149–1160. https://doi.org/10.3758/BRM.41.4.1149

Filip, M., & Kovářová, M. (2017). The Self Between Cacophony and Monologue: A Conceptualization and Empirical Examination of Dialogical Complexity. *Journal of Constructivist Psychology*, *30*(3), 270–294. https://doi.org/10.1080/10720537.2016.1219892

Filip, M., & Kovářová, M. (2020). Will Bootstrap Clustering Resuscitate Repertory Grid Assessment of Cognitive Complexity? Convergence with Integrative and Dialogical Complexity Suggests It Could. *Journal of Constructivist Psychology*, *33*(2), 153–171. https://doi.org/10.1080/10720537.2018.1557575

Fiske, S. T. (1993). Controlling other people: The impact of power on stereotyping. *American Psychologist*, *48*(6), 621–628. https://doi.org/10.1037/0003-066X.48.6.621

Fiske, S. T., Dupree, C. H., Nicolas, G., & Swencionis, J. K. (2016). Status, power, and intergroup relations: the personal is the societal. *Current Opinion in Psychology*, *11*, 44–48. https://doi.org/10.1016/J.COPSYC.2016.05.012

Gächter, S., Starmer, C., & Tufano, F. (2015). Measuring the closeness of relationships: A comprehensive evaluation of the "inclusion of the other in the self" scale. *PLoS ONE*, *10*(6), 1–19. https://doi.org/10.1371/journal.pone.0129478

Gaertner, S. L., Dovidio, J. F., Banker, B. S., Houlette, M., Johnson, K. M., & McGlynn, E. A. (2000). Reducing intergroup conflict: From superordinate goals to decategorization, recategorization, and mutual differentiation. *Group Dynamics:*

Theory, Research, and Practice, *4*(1), 98. https://doi.org/doi.org/10.1037/1089-2699.4.1.98

Galinsky, A. D., Rucker, D. D., & Magee, J. C. (2014). Power: Past findings, present considerations, and future directions. *APA Handbook of Personality and Social Psychology, Volume 3: Interpersonal Relations.*, 421–460. https://doi.org/10.1037/14344-016

Glaser, J., & Kahn, K. B. (2005). Prejudice, discrimination, and the Internet. In *The social net: Understanding human behavior in cyberspace* (pp. 247–274). Oxford University Press.

Gordon, L. N. (2015). *From power to prejudice*. University of Chicago Press.

Greenwald, A. G., Mcghee, D. E., & Schwartz, J. L. K. (1998). Measuring Individual Differences in Implicit Cognition : The Implicit Association Test. *Journal of Personality and Social Psychology*, *74*(6), 1464–1480.

Greenwald, A. G., Nosek, B. A., & Banaji, M. R. (2003). Understanding and using the implicit association test: I. An improved scoring algorithm. *Journal of Personality and Social Psychology*, *85*(2), 197. https://doi.org/https://doi.org/10.1037/0022-3514.85.2.197

Harwood, J., Hewstone, M., Amichai-Hamburger, Y., & Tausch, N. (2013). Intergroup contact: An integration of social psychological and communication perspectives. *Annals of the International Communication Association*, *36*(1), 55–102. https://doi.org/doi.org/10.1080/23808985.2013.11679126

Hasler, B. S., & Amichai-Hamburger, Y. (2013). *Online Intergroup Contact*. Oxford University Press. https://doi.org/doi.org/10.1093/acprof:oso/9780199639540.003.0012

Hauser, D. J., & Schwarz, N. (2016). Attentive Turkers: MTurk participants perform better on online attention checks than do subject pool participants. *Behavior Research Methods*, *48*(1), 400–407. https://doi.org/10.3758/s13428-015-0578-z

Havlicek, L. L., & Peterson, N. L. (1976). Robustness of the Pearson correlation against violations of assumptions. *Perceptual and Motor Skills*, *43*(3), 1319–1334.

Hayes, A. F. (2012). *PROCESS: A versatile computational tool for observed variable mediation, moderation, and conditional process modeling*. http://www.afhayes.com/public/process2012.pdf

Hayes, A. F. (2017). *Introduction to Mediation, Moderation, and Conditional Process Analysis*. Guildford Publications.

Hermans, H. J. (2001). The Construction of a Personal Position Repertoire: Method and Practice. *Culture & Psychology*, *7*(3), 323–365. https://doi.org/https://doi.org/10.1177/1354067x0173005

Hermans, H. J., Kempen, H. J., & Van Loon, R. J. (1992). The dialogical self: Beyond individualism and rationalism. *American Psychologist*, *47*(1), 23.

Hermans, H. J. M. (2018). *Society in the self: a theory of identity in democracy*. Oxford University Press.

Hermans, H. J. M., Konopka, A., Oosterwegel, A., & Zomer, P. (2017). Fields of Tension in a Boundary-Crossing World: Towards a Democratic Organization of the Self. *Integrative Psychological and Behavioral Science*, *51*(4), 505–535. https://doi.org/10.1007/s12124-016-9370-6

Hewstone, M., & Brown, R. (1986). Contact is not enough: An intergroup perspective on the "contact hypothesis." In *Contact and conflict in intergroup encounters* (pp. 1–44). Blackwell.

Hewstone, M., Clare, A., Newheiser, A. K., & Voci, A. (2011). Individual and situational predictors of religious prejudice: Impact of religion, social dominance orientation, intergroup contact, and mortality salience. *Testing, Psychometrics, Methodology in Applied Psychology*, *18*(3), 143–155.

Hogg, M. A. (2002). Social Categorization, Depersonalization and Group Behavior. In *Blackwell Handbook of Social Psychology* (pp. 56–85). Blackwell Publishing Ltd.

Hogg, M. A., & Terry, D. J. (2000). Social Identity and Self-Categorization Processes in Organizational Contexts. *The Academy of Management Review*, *25*(1), 121–140.

Hoggy, M. A., & Terry, D. J. (2000). Social identity and self-categorization processes in organizational context. *Academy of Management Review*, *25*(1).

Hornsey, M. J. (2008). Social Identity Theory and Self-categorization Theory: A Historical Review. *Social and Personality Psychology Compass*, *2*(1), 204–222. https://doi.org/10.1111/J.1751-9004.2007.00066.X

Hossain, K. I. (2015). White Privilege: Perceptions of Pre-Service Teachers. *Multicultural Education*, *23*(1), 52–55.

Hoter, E., Shonfeld, M., & Ganayim, A. (2009). Information and Communication Technology (ICT) in the Service of Multiculturalism. *International Review of Research in Open and Distributed Learning*, *10*(2), 1–15. https://id.erudit.org/iderudit/1067917ar

Iacoviello, V., & Lorenzi-Cioldi, F. (2019). Collectivism and Individualism in Status Hierarchies: Socialization and Social Identity Explanations. *International Review of Social Psychology*, *32*(1). https://doi.org/10.5334/IRSP.285

Imperato, C., & Mancini, T. (2021). A constructivist point of view on intergroup relations. Online intergroup contact, Dialogical Self and prejudice reduction.

SUBMITTED.

Imperato, C., Schneider, B. H., Caricati, L., Amichai-Hamburger, Y., & Mancini, T. (2021). Allport meets internet: A meta-analytical investigation of online intergroup contact and prejudice reduction. *International Journal of Intercultural Relations*, *81*, 131–141. https://doi.org/10.1016/j.ijintrel.2021.01.006

Islam, M. R., & Hewstone, M. (1993). Dimensions of contact as predictors of intergroup anxiety, perceived out-group variability, and out-group attitude: An integrative model. *Personality and Social Psychology*, *19*(3), 700–710.

Kahn, K. B., Spencer, K., & Glaser, J. (2013). Online prejudice and discrimination: From dating to hating. In *The social net: Understanding our online behavior, 2* (pp. 201–219). Oxford University Press.

Kaiser, C. R., & Wilkins, C. L. (2010). Group Identification and Prejudice: Theoretical and Empirical Advances and Implications. In *Journal of Social Issues* (Vol. 66, Issue 3).

Kenny, D. (2015). *SEM: Fit (David A. Kenny)*. http://davidakenny.net/cm/fit.htm

Kenworthy, J. B., Turner, R. N., Hewstone, M., & Voci, A. (2005). Intergroup contact: When does it work, and why. In *On the nature of prejudice: Fifty years after Allport* (pp. 278–292). Blackwell.

Kim, T. K. (2015). T test as a parametric statistic. *Korean Journal of Anesthesiology*, *68*(6), 540–546. https://doi.org/10.4097/kjae.2015.68.6.540

Krotofil, J. M. (2013). Religion, Migration, and the Dialogical Self: New Application of the Personal Position Repertoire Method. *Journal of Constructivist Psychology*, *26*(2), 90–103. https://doi.org/10.1080/10720537.2013.759021

Kubota, J. T., Peiso, J., Marcum, K., & Cloutier, J. (2017). Intergroup contact

throughout the lifespan modulates implicit racial biases across perceivers' racial group. *PLOS ONE*, *12*(7), e0180440. https://doi.org/10.1371/JOURNAL.PONE.0180440

LaMar, L., & Kite, M. (1998). Sex differences in attitudes toward gay men and lesbians: A multidimensional perspective. *Journal of Sex Research*, *35*(2), 189–196. https://doi.org/doi.org/10.1080/00224499809551932

Lea, M., Spears, R., & de Groot, D. (2001). Knowing me, knowing you: Anonymity effects on social identity processes within groups. *Personality and Social Psychology Bulletin*, *27*(5), 526–537. https://doi.org/doi.org/10.1177/0146167201275002

Leonardelli, G. J., Pickett, C. L., & Brewer, M. B. (2010). Optimal distinctiveness theory: A framework for social identity, social cognition, and intergroup relations. In *Advances in experimental social psychology* (pp. 63–113). Academic Press.

Levine, M., Prosser, A., Evans, D., & Reicher, S. (2005). *Identity and Emergency Intervention: How Social Group Membership and Inclusiveness of Group Boundaries Shape Helping Behavior*. https://doi.org/10.1177/0146167204271651

Lissitsa, S. (2017). Online political participation, online contacts with out-groups members and social distances. *Asian Journal of Communication*, *27*(1), 18–32. https://doi.org/10.1080/01292986.2016.1257033

Lorenzi-Cioldi, F. (2017). Group status. In *Encyclopedia of Intergroup Communication* (pp. 1–44). Oxford University Press.

MacInnis, C. C., & Hodson, G. (2015). The development of online cross-group relationships among university students: Benefits of earlier (vs. later) disclosure of stigmatized group membership. *Journal of Social and Personal Relationships*,

32(6), 788–809. https://doi.org/10.1177/0265407514548394

Magee, J. C., & Smith, P. K. (2013). The Social Distance Theory of Power: *Personality and Social Psychology Review*, *17*(2), 158–186. https://doi.org/10.1177/1088868312472732

Mancini, T. (2010). *Psicologia dell'identità*. Il mulino.

Mancini, T., Caricati, L., Balestrieri, M. F., & Sibilla, F. (2018). How to reduce intergroup hostility in virtual contexts: The role of alts in decreasing intergroup bias in World of Warcraft. *Computers in Human Behavior*, *83*, 8–15. https://doi.org/10.1016/j.chb.2018.01.021

Mancini, T., & Imperato, C. (2020). Can Social Networks Make Us More Sensitive to Social Discrimination? E-Contact, Identity Processes and Perception of Online Sexual Discrimination in a Sample of Facebook Users. *Social Sciences*, *9*(4), 47. https://doi.org/10.3390/socsci9040047

Masson, C. N., & Verkuyten, M. (1993). Prejudice, Ethnic Identity, Contact and Ethnic Group Preferences Among Dutch Young Adolescents. *Journal of Applied Social Psychology*, *23*(2), 156–168. https://doi.org/10.1111/J.1559-1816.1993.TB01058.X

Maunder, R. D., White, F. A., & Verrelli, S. (2019). Modern avenues for intergroup contact: Using E-contact and intergroup emotions to reduce stereotyping and social distancing against people with schizophrenia. *Group Processes and Intergroup Relations*, *22*(7), 947–963. https://doi.org/10.1177/1368430218794873

Mazziotta, A., Mummendey, A., & Wright, S. C. (2011). Vicarious intergroup contact effects: Applying social-cognitive theory to intergroup contact research. *Group Processes & Intergroup Relations*, *14*(2), 255–274.

https://doi.org/doi.org/10.1177/1368430210390533

Mccoy, S. K., & Major, B. (2003). Group Identification Moderates Emotional Responses to Perceived Prejudice. *Personality and Social Psychology Bulletin*, *29*(8), 1005–1017. https://doi.org/10.1177/0146167203253466

Meeus, W. (1996). Studies on identity development in adolescence: An overview of research and some new data. *Journal of Youth and Adolescence*, *25*(5), 569–598.

Mehra, B., Merkel, C., & Bishop, A. P. (2016). The internet for empowerment of minority and marginalized users: *New Media & Society*, *6*(6), 781–802. https://doi.org/10.1177/146144804047513

Mesch, G. S., & Talmud, I. (2007). Editorial Comment: e-Relationships – the blurring and reconfiguration of offline and online social boundaries. *Information, Communication & Society*, *10*(5), 585–589. https://doi.org/10.1080/13691180701657899

Miles, E., & Crisp, R. J. (2014). A meta-analytic test of the imagined contact hypothesis. *Group Processes & Intergroup Relations*, *17*(1), 3–26.

Miller, K. P., Brewer, M. B., & Arbuckle, N. L. (2009). Social Identity Complexity: Its Correlates and Antecedents. *Group Processes & Intergroup Relations*, *12*(1), 79–94. https://doi.org/10.1177/1368430208098778

Monteith, M., & Spicer, C. V. (2000). Contents and Correlates of Whites' and Blacks' Racial Attitudes. *Journal of Experimental Social Psychology*, *36*, 125–154. https://doi.org/10.1006/jesp.1999.1401

Mustafa, H., & Poh, S. K. C. (2019). Increasing intercultural contact in cyberspace: How does it affect the level of prejudice among Malaysians? *Pertanika Journal of Social Sciences and Humanities*, *27*(1), 601–620.

Nesdale, D., Durkin, K., Maass, A., & Griffiths, J. (2005). Threat, Group Identification, and Children's Ethnic Prejudice. *Social Development*, *14*(2), 189–205. https://doi.org/10.1111/j.1467-9507.2005.00298.x

Neves, B. B. (2013). Social Capital and Internet Use: The Irrelevant, the Bad, and the Good. *Sociology Compass*, *7*(8), 599–611. https://doi.org/10.1111/SOC4.12059

O'Sullivan-Lago, R., & de Abreu, G. (2009). The dialogical self in a cultural contact zone: Exploring the perceived 'cultural correction' function of schooling. *Journal of Community & Applied Social Psychology*, *20*(4), 275–287. https://doi.org/10.1002/casp.1031

Palan, S., & Schitter, C. (2018). Prolific.ac—A subject pool for online experiments. *Journal of Behavioral and Experimental Finance*, *17*, 22–27. https://doi.org/10.1016/j.jbef.2017.12.004

Park, B., & Judd, C. M. (2005). Rethinking the Link Between Categorization and Prejudice Within the Social Cognition Perspective. In *Personality and Social Psychology Review* (Vol. 9, Issue 2).

Pettigrew, T. F. (1960). Social distance attitudes of South African students. *Social Forces*, *38*(3), 246–253.

Pettigrew, T. F. (1998). INTERGROUP CONTACT THEORY. *Annual Review of Psychology*, *49*(1), 65–85. https://doi.org/10.1146/annurev.psych.49.1.65

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. https://doi.org/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. https://doi.org/10.1002/ejsp.504

Pettigrew, T. F., & Tropp, L. R. (2013a). Does intergroup contact reduce prejudice? Recent meta-analytic findings. In *Reducing prejudice and discrimination*. Psychology Press.

Pettigrew, T. F., & Tropp, L. R. (2013b). *When groups meet: The dynamics of intergroup contact*. Psychology Press.

Phinney, J. S., & Ong, A. D. (2007). Conceptualization and Measurement of Ethnic Identity: Current Status and Future Directions. *Journal of Counseling Psychology*, *54*(3), 271–281. https://doi.org/10.1037/0022-0167.54.3.271

Pinel, E. C. (1999). Stigma consciousness: The psychological legacy of social stereotypes. *Journal of Personality and Social Psychology*, *76*(1), 114–128. https://doi.org/10.1037/0022-3514.76.1.114

Platt, L. (2013). Is there assimilation in minority groups' national, ethnic and religious identity? *Ethnic and Racial Studies*, *37*(1), 46–70. https://doi.org/10.1080/01419870.2013.808756

Postmes, T., Spears, R., & Lea, M. (1998). Computer-Mediated Communication Breaching or Building Social Boundaries? SIDE-Effects of Computer-Mediated Communication. *Communication Research*, *25*(6), 689–715. https://doi.org/10.1177/009365098025006006

Prati, F., Crisp, R. J., & Rubini, M. (2020). 40 Years of Multiple Social Categorization: A Tool for Social Inclusivity. *European Review of Social Psychology*, *32*(1), 47–87. https://doi.org/10.1080/10463283.2020.1830612

Pratto, F., Lee, I., Tan, J., & Pitpitan, E. (2011). Power basis theory: A psycho-ecological approach to power. In *Social Motivation* (pp. 191–222).

ProMeta (3.0). (2019). https://idostatistics.com/prometa3/

Puchalska-Wasyl, M. M. (2016). Coalition and Opposition in Myself? On Integrative and Confrontational Internal Dialogues, Their Functions, and the Types of Inner Interlocutors. *Journal of Constructivist Psychology*, *29*(2), 197–218. https://doi.org/10.1080/10720537.2015.1084601

Puchalska-Wasyl, M. M. (2017). Psychology Relationship of personality with integration and confrontation in internal dialogues. *Scandi*, *58*, 451–457. https://doi.org/10.1111/sjop.12387

Puchalska-Wasyl, M. M. (2019). Can imagined intergroup contact change (internal) dialogues on differences between ingroup and outgroup? *Scandinavian Journal of Psychology*, *60*(2), 181–188. https://doi.org/10.1111/sjop.12524

Puchalska-Wasyl, M. M., & Paul, J. (2016). Determinants of Integration and Confrontation in Internal Dialogues. *Japanese Psychological Research*, *58*(3), 248–260. https://doi.org/10.1111/JPR.12115

Reynolds, K. J., Turner, J. C., & Haslam, S. A. (2003). Social identity and self-categorization theories' contribution to understanding identification, salience and diversity in teams and organizations. In *Research on Managing Groups and Teams* (Vol. 5, pp. 279–304). Emerald Group Publishing Limited. https://doi.org/10.1016/S1534-0856(02)05011-9

Riek, B. M., Mania, E. W., & Gaertner, S. L. (2006). Intergroup threat and outgroup attitudes: A meta-analytic review. *Personality and Social Psychology Review*, *10*(4), 336–353. https://doi.org/doi.org/10.1207/s15327957pspr1004_4

Roccas, S., & Brewer, M. B. (2002). Social Identity Complexity. In *Personality and Social Psychology Review* (Vol. 6, Issue 2).

Roccas, S., Sagiv, L., Schwartz, S. H., & Knafo, A. (2002). The Big Five Personality Factors and Personal Values. *Personality and Social Psychology Bulletin*, *28*(6), 789–801. https://doi.org/10.1177/0146167202289008

Ryu, E., & Cheong, J. (2017). Comparing indirect effects in different groups in single-group and multi-group structural equation models. *Frontiers in Psychology*, *8*(MAY), 747. https://doi.org/10.3389/FPSYG.2017.00747/BIBTEX

Saguy, T., Dovidio, J. F., & Pratto, F. (2008). Beyond Contact: Intergroup Contact in the Context of Power Relations. *Personality and Social Psychology Bulletin*, *34*(3), 432–445. https://doi.org/10.1177/0146167207311200

Saint-Arnaud, S., & Bernard, P. (2003). Convergence or resilience? A hierarchical cluster analysis of the welfare regimes in advanced countries. *Current Sociology*, *51*(5), 499–527.

Sanchez-Rockliffe, M., & Symons, J. (2010). *HOW MIGRATION AFFECTS THE DIALOGICAL SELF* (Vol. 4, Issue 2). James Symons.

Scheepers, D., Spears, R., Doosje, B., & Manstead, A. S. R. (2002). Integrating Identity and Instrumental Approaches to Intergroup Differentiation: Different Contexts, Different Motives. *INTERGROUP DIFFERENTIATION*. https://doi.org/10.1177/014616702237574

Schiappa, E., Gregg, P. B., & Hewes, D. E. (2007). The Parasocial Contact Hypothesis. *Communication Monographs*, *72*(1), 92–115. https://doi.org/10.1080/0363775052000342544

Schiappa, E., Hewes, D. E., & Gregg, P. B. (2008). Can One TV Show Make a Difference?a Will & Grace and the Parasocial Contact Hypothesis. *Journal of Homosexuality*, *51*(4), 15–37. https://doi.org/10.1300/J082V51N04_02

Schmid, K., Hewstone, M., Tausch, N., Cairns, E., & Hughes, J. (2009). *Antecedents and Consequences of Social Identity Complexity: Intergroup Contact, Distinctiveness Threat, and Outgroup Attitudes*. https://doi.org/10.1177/0146167209337037

Schober, P., Boer, C., & Schwarte, L. A. (2018). Correlation coefficients: Appropriate use and interpretation. *Anesthesia and Analgesia*, *126*(5), 1763–1768. https://doi.org/10.1213/ANE.0000000000002864

Schwab, A. K., Sagioglou, C., & Greitemeyer, T. (2019). Getting connected: Intergroup contact on Facebook. *Journal of Social Psychology*, *159*(3), 344–348. https://doi.org/10.1080/00224545.2018.1489367

Sedikides, C., Campbell, W. K., Reeder, G. D., & Elliot, A. J. (1999). The Relationship Closeness Induction Task. *Representative Research in Social Psychology*, *23*, 1–4. https://www.researchgate.net/publication/272180029

Shapiro, S. S., & Wilk, M. B. (1965). An analysis of variance test for normality (complete samples). *Biometrika*, *52*(3/4), 591–611.

Shih, M., Wang, E., Bucher, A. T., & Stotzer, R. (2009). Perspective Taking: Reducing Prejudice Towards General Outgroups and Specifi c Individuals. *Group Processes & Intergroup Relations*, *12*(5), 565–577. https://doi.org/10.1177/1368430209337463

Shonfeld, M., Ganayem, A., & Hoter, E. (2006). Constructing bridges between cultures in conflict through an online teacher education course. *International Conference on the Role of ICT in Bridge-Building and Social Inclusion*.

Sinclair, L., Fehr, B., Wang, W., & Regehr, E. (2016). The Relation Between Compassionate Love and Prejudice: The Mediating Role of Inclusion of Out-

Group Members in the Self. *Social Psychological and Personality Science*, *7*(2), 176–183. https://doi.org/10.1177/1948550615609736

Spears, R., Lea, M., & Postmes, T. (2000). Onside: Purview, problems and prospects. In *SIDE issues centre stage: Recent developments in studies of de-individuation in groups* (pp. 1–16). KNAW.

Sproull, L., & Kiesler, S. (1986). Reducing Social Context Cues: Electronic Mail in Organizational Communication. *Management Science*, *32*(11), 1492–1512. https://doi.org/10.1287/MNSC.32.11.1492

Subašic, E., Reynolds, K. J., & Turner, J. C. (2008). The Political Solidarity Model of Social Change: Dynamics of Self-Categorization in Intergroup Power Relations. *Personality and Social Psychology Review*, *12*(4), 330–352. https://doi.org/10.1177/1088868308323223

Swim, J. K., Hyers, L. L., Cohen, L. L., Fitzgerald, D. C., & Bylsma, W. H. (2016). African American College Students' Experiences With Everyday Racism: Characteristics of and Responses to These Incidents. *Journal of Black Psychology*, *29*(1), 38–67. https://doi.org/10.1177/0095798402239228

Tabachnick, B. G., & Fidell, L. S. (1989). *Using multivariate statistics*. Harper Collins Publisher.

Tajfel, H., & Turner, J. C. (1979). An integrative theory of intergroup conflict. In *The social psychology of intergroup relations* (pp. 33–47). Brooks-Cole.

Tajfel, H., Turner, J. C., Austin, W. G., & Worchel, S. (1979). No TitleAn intergrative theory of intergroup conflict. In *Organizational identity: A reader* (pp. 56–65). Oxford Management Readers.

The EU Code of conduct on countering illegal hate speech online | European

Commission. (2016). https://ec.europa.eu/info/policies/justice-and-fundamental-rights/combatting-discrimination/racism-and-xenophobia/eu-code-conduct-countering-illegal-hate-speech-online_en

Tropp, L. R., & Pettigrew, T. F. (2005). Relationships between intergroup contact and prejudice among minority and majority status groups. *Psychological Science*, *16*(12), 951–957.

Turkle, S. (2011). *Life on the Screen*. Simon and Schuster.

Turner, J. C. (2005). Explaining the nature of power: a three-process theory. *European Journal of Social Psychology*, *35*(1), 1–22. https://doi.org/10.1002/EJSP.244

Turner, J. C., Hogg, M. A., Oakes, P. J., Reicher, S. D., & Wetherell, M. S. (1987a). *Rediscovering the social group: A self-categorization theory*. Blackwell.

Turner, J. C., Hogg, M. A., Oakes, P. J., Reicher, S. D., & Wetherell, M. S. (1987b). *Rediscovering the socialgroup: a self-categorization theory*. Blackwell.

Turner, R. N., Crisp, R. J., & Lambert, E. (2007). Imagining Intergroup Contact Can Improve Intergroup Attitudes. *Group Processes & Intergroup Relations*, *10*(4), 427–441. https://doi.org/10.1177/1368430207081533

Turner, R. N., Hewstone, M., Voci, A., & Vonofakou, C. (2008). A Test of the Extended Intergroup Contact Hypothesis: The Mediating Role of Intergroup Anxiety, Perceived Ingroup and Outgroup Norms, and Inclusion of the Outgroup in the Self. *Journal of Personality and Social Psychology*, *95*(4), 843–860.

Tynes, B. M., Giang, M. T., Williams, D. R., & Thompson, G. N. (2008). Online Racial Discrimination and Psychological Adjustment Among Adolescents. *Journal of Adolescent Health*, *43*(6), 565–569. https://doi.org/10.1016/J.JADOHEALTH.2008.08.021

Van Loon, R. (2017). *Creating organizational value through dialogical leadership*. Springer.

Verkuyten, M., & Martinovic, B. (2012). Social Identity Complexity and Immigrants' Attitude Toward the Host Nation: The Intersection of Ethnic and Religious Group Identification. *Personality and Social Psychology Bulletin*, *38*(9), 1165–1177.

Vezzali, L., Hewstone, M., Capozza, D., Giovannini, D., & Wolfer, R. (2014). Improving intergroup relations with extended and vicarious forms of indirect contact. *European Review of Social Psychology*, *25*(1), 314–389.

Vicario, M. Del, Bessi, A., Zollo, F., Petroni, F., Scala, A., Caldarelli, G., Stanley, H. E., & Quattrociocchi, W. (2016). The spreading of misinformation online. *Proceedings of the National Academy of Sciences of the United States of America*, *113*(3), 554–559. https://doi.org/10.1073/pnas.1517441113

Voci, A., & Pagotto, L. (2010). *Il pregiudizio: che cosa è, come si riduce*. Laterza.

Walther, J. B., Hoter, E., Ganayem, A., & Shonfeld, M. (2015). Computer-mediated communication and the reduction of prejudice: A controlled longitudinal field experiment among Jews and Arabs in Israel. *Computers in Human Behavior*, *52*, 550–558. https://doi.org/10.1016/j.chb.2014.08.004

White, F. A., & Abu-Rayya, H. M. (2012). A dual identity-electronic contact (DIEC) experiment promoting short- and long-term intergroup harmony. *Journal of Experimental Social Psychology*, *48*(3), 597–608. https://doi.org/10.1016/j.jesp.2012.01.007

White, F. A., Abu-Rayya, H. M., & Weitzel, C. (2014). Achieving twelve-months of intergroup bias reduction: The dual identity-electronic contact (DIEC) experiment. *International Journal of Intercultural Relations*, *38*(1), 158–163.

https://doi.org/10.1016/J.IJINTREL.2013.08.002

White, F. A., Borinca, I., Vezzali, L., Reynolds, K. J., Lyshol, J. K. B., Verrelli, S., & Falomir-Pichastor, J. M. (2020). *Beyond direct contact: The theoretical and societal relevance of indirect contact for improving intergroup relations*. https://doi.org/10.1111/josi.12400

White, F. A., Harvey, L. J., & Abu-Rayya, H. M. (2015). Improving Intergroup Relations in the Internet Age: A Critical Review. *Review of General Psychology*, *19*(2), 129–139. https://doi.org/10.1037/gpr0000036

White, F. A., Turner, R. N., Verrelli, S., Harvey, L. J., & Hanna, J. R. (2018). Improving intergroup relations between catholics and protestants in northern ireland via e-contact. *European Journal of Social Psychology*. https://doi.org/10.1002/ejsp.2515

Whitley, B. E. (1999). Right-Wing Authoritarianism, Social Dominance Orientation, and Prejudice. In *Journal of Personality and Social Psychology* (Vol. 77, Issue I).

Wohl, M. J. A., & Branscombe, N. R. (2005). *Forgiveness and Collective Guilt Assignment to Historical Perpetrator Groups Depend on Level of Social Category Inclusiveness*. https://doi.org/10.1037/0022-3514.88.2.288

Woolf, L. M., & Hulsizer, M. R. (2004). Hate Groups for Dummies: How to Build a Successful Hate-Group. *Humanity & Society*, *28*(1), 40–62. https://doi.org/doi.org/10.1177/016059760402800105

World Internet Users Statistics and 2021 World Population Stats. (2021). https://internetworldstats.com/stats.htm

Wright, S. C., Aron, A., McLaughlin-Volpe, T., & Ropp, S. A. (1997). The extended contact effect: Knowledge of cross-group friendships and prejudice. *Journal of*

Personality and Social Psychology, *73*(1), 73.

Yim, O., & Ramdeen, K. T. (2015). *Hierarchical Cluster Analysis: Comparison of Three Linkage Measures and Application to Psychological Data* (Vol. 11, Issue 1).

Yu, H., & Blain, H. (2019). Tongzhi on the move: digital/social media and placemaking practices among young gay Chinese in Australia. *Media International Australia*, *173*(1), 66–80. https://doi.org/10.1177/1329878X19837658

Appendix A—Study 2 contact protocol

In our second study (see Chapter 4) we used the following contact protocol. Participants had to read the outgroup members' answers and to answer to the researcher's questions. Outgroup member's answers were adapted based on the gender and the ethnicity / race of each participant. The following protocol was applied to males and Whites participants.

RESEARCHER: "*What is your first name?*"
OUTGROUP MEMBER: "Kama. In my language it means Love",
PARTICIPANT: […]

RESEARCHER: "*How old are you?*"
OUTGROUP MEMBER: "I'm 22, and you?"
PARTICIPANT: […]

RESEARCHER: "*Where are you from?*"
OUTGROUP MEMBER: "I'm from Senegal, more precisely from Thiès. What country do you come from?"
PARTICIPANT: […]

RESEARCHER: "*What year are you at the University?*"
OUTGROUP MEMBER: "In the third year of the bachelor's degree, but I plan to graduate next year. What year are you in?"
PARTICIPANT: […]

RESEARCHER: "*What made you come to this University?*"
OUTGROUP MEMBER: "Initially I came to study here only to follow a friend of mine from Senegal. There are many Senegalese in this university and this makes me feel a bit at home. And what about you?"
PARTICIPANT: […]

RESEARCHER: "*What are your hobbies?*"
OUTGROUP MEMBER: "So, I would say… sports, hip hop music and sometimes I like going to the theater. But my real passion is WoW, it's a really exciting game for me. My favorite avatar is a shaman elf. Do you like to play? What are your hobbies?"
PARTICIPANT: […]

RESEARCHER: "*If you could travel anywhere in the world, where would you go and why?*"

OUTGROUP MEMBER: "Maybe I'd go to Nepal, to discover a culture that is very different from Senegalese culture, but in general I'd go anywhere as long as it's a trip with a good friend. And u?"
PARTICIPANT: […]

RESEARCHER: "*What would you like to do after graduating?*"
OUTGROUP MEMBER: "I'd like to find a job as a manager in a tourist agency, which will allow me to understand the beauty of places in the world. I'd especially like to make the places and cuisine of the country I come from better known"
PARTICIPANT: […]

RESEARCHER: "*What is one embarrassing thing that has happened to you since arriving at the University?*"
OUTGROUP MEMBER: "I once made a really bad impression on an exam, and I was so embarrassed. And what happened to u that was embarrassing?"
PARTICIPANT: […]

RESEARCHER: "*What is one thing happening in your life that makes you stressed out?*"
OUTGROUP MEMBER: "I have no doubts, not being able to go back to my grandparents in Senegal for 4 years. And you?"
PARTICIPANT: […]

RESEARCHER: "*If you could change anything that happened to you at the University, what would that be?*"
OUTGROUP MEMBER: "Taking an exam I wasn't prepared for, it was a mistake and I will never make it again. I'm a very proud person and that made me feel so guilty. And you?"
PARTICIPANT: […]

RESEARCHER: "*If you could change one thing about yourself, what would that be?*"
OUTGROUP MEMBER: "I'd like to make more friends in this university. I know many Senegalese, but few people who come from other countries. However, I would not change my choice of university."
PARTICIPANT: […]

RESEARCHER: "*If you could have one wish granted, what would that be?*"
OUTGROUP MEMBER: "I really wish my parents who live in Senegal could come and visit me more often. And what is your wish?"
PARTICIPANT: […]

RESEARCHER: "*What is one of your biggest fears?*"
OUTGROUP MEMBER: "To go home and not find anyone anymore… I mean... to never find the people I love anymore. This is my biggest fear. what are you afraid of?"
PARTICIPANT: […]

RESEARCHER: "*What is the happiest early childhood memory?*"

OUTGROUP MEMBER: "my birthday when I was six, my mom threw a party and all my friends came. It's nonsense, but I remember feeling so happy… yes, it's just the happiest memory of my childhood. And yours?"
PARTICIPANT: […]

RESEARCHER: "*What is one thing about yourself that most people would consider surprising?*"
OUTGROUP MEMBER: "I think it's always being able to see the positive side of things, yes, my optimism, I think that's it!"
PARTICIPANT: […]

RESEARCHER: "*What is one recent accomplishment that you are proud of?*"
OUTGROUP MEMBER: "Being here and being able to almost complete my studies. This makes me and my family proud"
PARTICIPANT: […]

RESEARCHER: "*Tell me one thing about yourself that most people who already know you don't know*"
OUTGROUP MEMBER: "I really like living here and I really like the culture that exists here. Only I would also like to feel a little more considered and included"
PARTICIPANT: […]

Appendix B—An exploration of dialogicity indices

In literature, there is still a lack of evidence on strategies to compute the dialogicity index, except for Filip and Kovářová (2017, 2020). Starting from strategies used to compute cognitive differentiation (or complexity) indices, authors (Filip & Kovářová, 2020) suggested to compute PCA on the external positions of each Hermans' Personal Position Repertoires (PPR) (2001) and to consider the percentage of variance explained by the first latent factor as an index of dialogicity (or dialogical complexity). However, when PPRs were composed by too few internal and external positions, it was not possible to compute PCA in many cases given the high number of missing data, leaving the matter unsolved.

In order to address this issue, in the present research project (studies 1 and 2, see Chapter 3 and 4) we computed three different indices of the possible horizontal and vertical movements in I and Other positionings emerging before and during the online intergroup dialogue: respectively dialogicity, coordination, and total salience. More specifically, *dialogicity index* was computed by considering the ratio of the standard deviation of all the nine PPR's cells to the mean of PPR's cells, or rather by computing a coefficient of variation (CVAR) for each participant. The resulting index had to be interpreted as a monologicity (vs dialogicity) index, because high levels of CVAR means that people tend to attribute different values to the 9 cells, and therefore to polarize only on certain positionings. Vice versa, low levels of CVAR means that people tend to attribute the same values to all or to the majority of positionings, and therefore to relate the different voices in the dialogical constriction of the Self. In this sense, the interpretation of CVAR index is comparable to the interpretation of the percentage of variance explained by the first latent factor as proposed by Filip and

Kovářová (2017, 2020). Therefore, high levels of CVAR index indicated high levels of monologicity.

Further, *coordination index* was our second indicator, and it was computed by subtracting the values of the six cells outside the matrix's diagonal from the values of the three cells on the matrix's diagonal. The resulting index had to be interpreted as a coordination (vs lack of coordination) index, because the more people relate their I positions with the Other positions by using the same level of inclusiveness, the more they experience a coordination between their position and the position of the interlocutor. Therefore, the more individuals reported high levels of coordination, the more they positioned themselves and others accordingly. The coordination index is a new index compared to those proposed in the literature, which we hypothesized positively related to dialogicity index: i.e., we hypothesized a positive correlation between coordination and monologicity.

Lastly, *total salience* was computed by the sum of values of all the matrix's cells. Thus, total salience index indicated how much the dialogue between internal and external positions was salient.

Results of both our study 1 (Chapter 3) and study 2 (Chapter 4) showed that both dialogicity, coordination, and total salience were coherent with respect of the variables included in the model. Specifically, we found that total salience increased following online intergroup contact, whereas coordination and monologicity decreased following online intergroup contact. However, results also showed that such changings were significant only for coordination, making further exploration of these indices necessary.

Integration (vs differentiation) indices in literature

Given the lack of studies exploring strategies to compute dialogicity index, we analyzed literature on Repertory Grid techniques. Repertory Grid was a technique that aims to understand what people think about phenomena or people (e.g., Tan & Gordon Hunter, 2002). Repertory Grids are typically composed by bipolar constructs in rows (i.e., "friendly/unfriendly") and elements or rather role figures in columns (i.e., "my mother"). Given their flexibility, the Repertory Grid were applied to different contexts such as marketing (e.g., Lemke et al., 2011), psychotherapy (e.g., Winter, 2012), and cultural studies (e.g., Tomico et al., 2009).

In the present work, we considered Repertory Grids as PPR matrix. In this sense, Repertory Grids' construct (rows) represented individual's internal positions on different levels of inclusiveness (i.e., personal, social, and human), whereas Repertory Grids' elements (columns) represented individuals' external positions on different levels of inclusiveness (see Figure 133 for an example of PPR matrix).

Figure 13

Example of PPR matrix.

		External positions		
		Personal position (e.g., *Ngalula*)	Social position (e.g., *Black people*)	Human position (e.g., *human beings*)
Internal positions	Personal position (e.g., *I as Mary*)			
	Social position (e.g., *I as White*)			
	Human position (e.g., *I as human being*)			

Note: the instructions were: "*Think about the dialogue you had with Ngalula. Now observe the following grid: the rows represent your characteristics (name, origin...) and they are called internal positions; the columns represent Ngalula, the Black people, and the human beings in general, and they are called external positions. Estimate the extent to which during dialogue each of your internal position has been prominent in relation to each external position. Starting from the first row, please indicate on a 0–5 scale the extent to which your internal position was prominent in relation to each external position (0 = not at all, 1 =very little, 2 = to some extent, 3 = quite a lot, 4 = considerably and 5 = very considerably). Thus, please, continue to answer to the second and the third rows*."

Scholars interested in Repertory Grids developed a series of indices of cognitive complexity, or rather the degree to which an individual uses distinct constructs to understand different external elements (Walker & Winter, 2006). This is the reason why, some scholars proposed to re-define construct of cognitive complexity as cognitive integration vs differentiation (e.g., Alban Metcalfe, 2015). Going beyond theoretical differences, we considered strategies used to compute the indices of cognitive integration (vs differentiation) and we applied them to our database. Specifically, we considered Bieri's index (1955), Banni ster's intensity index (1960), and Landfield's (1977) ordination index for both constructs (rows) and elements (columns).

Bieri's index

Bieri (1955) originally proposed an index of cognitive complexity, or rather "the capacity to construe social behaviour in a multidimensional way" (p. 185). However, given that it concerned more the differentiation than complexity, further scholars proposed to re-define such construct as cognitive differentiation (e.g., Alban Metcalfe, 2015). Bieri's index was computed by adding up the number of exact score matches between each possible pair of rows in the matrix (Herrán-Alonso et al., 2020). Thus, the resulting index would be interpreted in reverse, therefore high levels of Bieri's index meant high levels of cognitive integration. Thus, Bieri's index could be interpreted as an index of dialogicity.

Bannister's intensity index

Bannister (1960) proposed an index measuring the intensity of relations between constructs (rows) and between elements (columns). Some scholars (Feixas et al., 2010; Herrán-Alonso et al., 2020) considered Bannister's Intensity index as an index of cognitive differentiation, despite other authors considered it as an index of cognitive integration (e.g., García et al., 2009). Bannister's intensity index was based on Pearson's correlations between constructs, between elements, and between constructs and elements. Then, in order to compute a single measure, the average of all interrelations was computed. Thus, high levels of intensity index meant high levels of cognitive integration according to Feixas et al. (2010) and Herrán-Alonso et al. (2020) interpretation. Assuming this last interpretation, also Bannister's intensity index could be interpreted as an index of dialogicity.

Landfield's ordination indices

Landfield (1977) proposed two indices based on "degrees of polarization". Ordination index was originally proposed as an index of cognitive integration (Landfield, 1977). However, further scholars re-defined it as an index of cognitive differentiation (e.g., Neimeyer et al., 1983). Such indices are computed by calculating how much every construct's (rows) and how much every element's (columns) rating departed from the center of the rating scale. Then, the two results are multiplied by the difference between the highest and the lowest value (Herrán-Alonso et al., 2020) and two indices resulted: one for rows and one for columns. Assuming that high levels of these indices indicated high levels of cognitive differentiation (Neimeyer et al., 1983), Landifield's ordination indices could be interpreted as indices of monologicity.

In general, it must be noted that there was no consensus on the reliability of cognitive integration (vs differentiation) (or complexity) indices, and every index received many criticisms. In particular, scholars disagreed in stating what each index actually indicates, and therefore how it should be interpreted, so that some authors suggested that such indices might be only mathematical artifacts (Kovářová & Filip, 2015). Thus, in order to explore dialogicity, coordination, and total salience index used in the present research, we considered their association with the more common reliability of integration indices, but we also used a lexical approach to analyse deeply what happened during online dialogue in terms of dialogism.

Use of pronouns during dialogues

Going beyond cognitive integration indices and strategies to compute them, it must be remembered that in Study 1 and 2 (Chapter 3 and Chapter 4) individuals online dialogued with an outgroup member, and during the dialogue they were free to position themselves and others at any level of inclusiveness. Thus, in order to give further strength to the indices presented, allowing to test and support their interpretations, we also analysed individuals' positionings through texts of online dialogues. To do so, literature on Dialogical Self Theory (DST) suggested to consider pronouns that individuals freely used during dialogue (Hermans, 2019). Indeed, to analyse how individuals used pronouns during dialogue was a linguistic strategy that allow to address individuals' self (e.g., Orvell et al., 2019). Ayduk and Kross (2010) found that individuals who used different pronouns in their interior dialogues were more prone to adopt different viewpoint and perspectives on their experience. Thus, to analyse the use of pronouns could be a strategy to deeply explore individuals' positionings during dialogue. Specifically, as far as our purpose, the more individuals used pronouns

different from I during dialogue, the more they shifted among positions, carrying out both horizontal (I- vs Other) and vertical (personal, social, and human level of inclusiveness) movements.

The present study

In order to better explore dialogicity indices, our aims were: a) to compare dialogicity, coordination, and total salience indices with cognitive integration indices deriving from literature; b) to analyse how dialogicity, coordination, total salience and cognitive integration indices in literature related with the pronouns different from I participants used during dialogue; and c) to understand whether and how online intergroup contact increased shifting among positions, considering different indices of such construct.

Results

Data analysis strategy

In the present study, we considered participants from both Study 1 (n = 118) and Study 2 (n = 267). Specifically, we constructed a new dataset containing both PPR pre- and post-dialogue measures of 385 total participants.

In order to address our aims, we first computed monologicity (vs dialogicity), coordination, total salience indices using IBM SPSS Software v27. Then, we computed Bieri's index, Bannister's intensity index, and both Landfield's ordination index for rows and columns using Idiogrid Software v2.4 and importing such indices in a single dataset.

Further, as far as the use of pronouns, we analysed dialogues through MAXQDA. Then, we considered how many types of pronouns and possessive adjectives other than "I", "Me", "My", "Mine" and "Myself" the participants used, by

counting them only once in each of the responses they give during the dialogic exchange. Thus, high levels of such variables indicated that participants used many different pronouns and possessive adjectives during dialogue, and the more participants used different pronouns/possessive adjectives, the more they shifted among positions. In the pronouns analyses, we only considered dialogues from our Study 2, given that language in Study 1 and Study 2 was different (Italian for Study 1 and English for Study 2), and the fake outgroup's answers were slightly different.

Lastly, we analysed changings between pre- and post-dialogue considering both monologicity, coordination, total salience, and cognitive integration indices in literature.

Relations between monologicity, coordination, total salience, and integration indices

The distributions of all indices were checked considering kurtosis and skewness, and histograms were visually analysed. Monologicity and coordination indices showed an abnormal distribution on both pre- and post-dialogue (positive skewness and kurtosis for both indices) (pre dialogue: monologicity skewness = 2.189, kurtosis = 7.084; coordination skewness = 5.375, kurtosis = 40.012; post-dialogue: monologicity skewness = 1.728, kurtosis = 4.573; coordination skewness = 3.385, kurtosis = 19.787).

Means, standard deviations, and Spearman's correlations between monologicity, coordination and total salience, and the cognitive integration indices above described are presented in Table 11 for pre-dialogue and in Table 12 for post-dialogue.

Table 11

Means, standard deviations, and Spearmans' correlations between monologicity, coordination, total salience, and cognitive integration indices measured on pre-dialogue (n = 385).

		Monologicity	Coordination	Total salience
	M (*SD*)	*M* = .51, *SD* = .46	*M* = .60, *SD* = .33	*M* = 28.44, *SD* = 10.55
Bieri (dialogicity)	.41 (.31)	-.41**	-.23**	.26**
Intensity (dialogicity)	128.35 (94.76)	-.01	-.07	-.01
Ordination – constructs (monologicity)	4.14 (2.76)	.47**	.10	-.26**
Ordination – elements (monologicity)	5.41 (3.51)	.66**	.25**	-.38**

Note: Bieri, Bieri's index; Intensity, Bannister's intensity index; Ordination – constructs, Landfields' ordination index on constructs (rows); Ordination – elements, Landfield's ordination index on elements (columns)
** $p < .01$

Table 12

Means, standard deviations, and Spearmans' correlations between monologicity, coordination, total salience, and cognitive integration indices measured on post-dialogue (n = 385).

		Monologicity	Coordination	Total salience
	M (SD)	*M* = .49, *SD* = .43	*M* = .56, *SD* = .21	*M* = 28.21, *SD* = 10.40
Bieri (dialogicity)	.45 (.31)	-.43**	-.22**	.24**
Intensity (dialogicity)	139.36 (89.26)	.02	-.06	-.10
Ordination – constructs (monologicity)	4.04 (2.66)	.50**	.04	-.31**
Ordination – elements (monologicity)	5.13 (3.35)	.68**	.24**	-.39**

Note: Bieri, Bieri's index; Intensity, Bannister's intensity index; Ordination – constructs, Landfields' ordination index on constructs (rows); Ordination – elements, Landfield's ordination index on elements (columns)
** $p < .01$

Results confirmed the same relations in both pre- and post-dialogue measures. Specifically, monologicity negatively related with Bieri's index and positively related

with both Landfield's ordination indices. Coherently, coordination negatively related with Bieri's index and positively related with Landfield's ordination index computed on elements (columns). Lastly, total salience positively related with Bieri's index and negatively related with both Landfield's ordination indices.

Thus, based on such results, interpretation of both Bieri's index, Bannister's intensity index, Landfield's ordination indices on construct and elements was in line with what we expected based on literature on cognitive integration.

Relations between indices and pronouns used

In order to address our second aim, Spearmans' correlations were computed between the number of different pronouns and possessive adjectives individuals used during dialogue and monologicity, coordination, total salience, and cognitive integration indices. Results are presented in Table 13.

Table 13

Spearman's correlations between types of pronouns/possessive adjectives other than "I", "Me", "My", "Mine" and "Myself" used in online dialogue and post-dialogue monologicity, coordination, total salience, and cognitive integration indices (n = 265).

	Number of different pronouns used	
	Spearman's ρ	Sign.
Monologicity	-.10	.112
Coordination	-.04	.546
Total salience	.07	.232
Bieri	.08	.173
Intensity	-.00	.956
Ordination - constructs	-.01	.873
Ordination - elements	-.13	.065

Note: Bieri, Bieri's index; Intensity, Bannister's intensity index; Ordination – constructs, Landfields' ordination index on constructs (rows); Ordination – elements, Landfield's ordination index on elements (columns)

Results showed that pronouns and possessive adjectives used did not significantly related with all indices considered. However, despite the lack of significance, trends observed confirmed a small effect (Cohen, 1988) for monologicity and Landfield's ordination index on elements: negative correlations confirmed that both indices could be considered indices of the lack of shift among positions.

Differences between pre- and post-dialogue on considered indices

In order to address our third aim, we computed a series of paired samples t-test on all indices considered. Results are presented in Table 14.

Table 14

Differences between pre- and post-dialogue indices, means and standard deviations measured on pre- and post-dialogue.

					Pre-dialogue		Post-dialogue	
	t	df	Sign.	Cohen's *d*	*M*	*SD*	*M*	*SD*
Monologicity	.762	372	.447	.04	.51	.46	.49	.43
Coordination	2.732	369	.007	.14	.60	.33	.56	.21
Total salience	.607	384	.544	.03	28.44	10.55	28.21	10.40
Bieri	-2.532	383	.012	-.13	.41	.31	.45	.31
Intensity	-.513	221	.608	-.03	128.35	94.76	139.36	89.26
Ordination - constructs	.563	306	.574	.03	4.14	2.76	4.04	2.66
Ordination - elements	2.079	311	.038	.12	5.41	3.51	5.13	3.35

Note: Bieri, Bieri's index; Intensity, Bannister's intensity index; Ordination – constructs, Landfields' ordination index on constructs (rows); Ordination – elements, Landfield's ordination index on elements (columns)

Results showed that coordination significantly decreased from pre-dialogue (M = .60, SD = .33) to post-dialogue (M = .55, SD = .20). Furthermore, Bieri's index significantly increased from pre-dialogue (M = .41, SD = .30) to post-dialogue (M = .45, SD = .31), whereas Landfield's ordination computed on elements (columns) decreased from pre-dialogue (M = 5.58, SD = 3.49) to post-dialogue (M = 5.20, SD = 3.34).

Discussion

The present work aimed to better explore the indices used to detect individual's shifts among positions, or rather individuals' horizontal and vertical self-movements. In general, results from correlation analyses showed that with the exception of Bannister's intensity index, monologicity, coordination and total salience significantly associated with cognitive integration indices, in the expected directions. Specifically, based on indices we used in Study 1 and 2 (Chapter 3 and Chapter 4) – i.e., monologicity, coordination, total salience – it could be assumed that Landfield's are indices of cognitive differentiation that trasposed in our matrix means self polarization, i.e., a lack of shifts among positions in a Personal Position Repertoire (PPR) matrix (i.e., monologicity). On the other hand, Bieri's index could be considered as index of cognitive integration, thus of shifts among positions in a PPR matrix (i.e., dialogicity). Indeed, in a dialogical perspective, moving from one position to the other one in the matrix requires the ability to cognitively integrate Self and Other-in-the-Self at the diffent level of inclusiveness. Further, in order to give even more strength to our results, we better explored all indices considered relating them with the pronouns individuals used during dialogue. Indeed, it is possible to assume that the more individuals used different kind of pronouns (different from I) during dialogue, the more they shifted among different positions. Despite no significant results emerged, it was possible to confirm the interpretation of Landfield's ordination on elements index as a cognitive differentiation (vs integration) index, thus an index that could be used to indicate monologicity, or rather not shifts among positions in a PPR matrix. Interestingly, analysing differences between pre- and post-dialogue indices, we found that coordination, Bieri's index and Landfield's ordination on elements changed coherently

with our interpretation. Specifically, both coordination and Landfield's ordination on elements as monologicity indices decreased after online intergroup contact (and such indices would indicate lack of shifts among positions), whereas Bieri's index increased after online intergroup contact (and it would indicate shifts among positions). In summary, our results give a contribution to the still open debate on the interpretation to be given to the indices of cognitive integration. Accepting this interpretation, our results prompt to use cognitive integration indices to partially detect the self-positionings' movements in an online – or offline – intergroup dialogue. As for online intergroup dialogue our results confirmed that even if fictitious (dialogue with a bot) and temporally limited, it affected the individuals' ability to shift among positions, also considering different indices of such construct. In line with our precedents studies' results, it is possible to argue that when individuals online dialogued with an outgroup member, they positioned themselves less accordingly with the other, less coordinating their positions with those of the outgroup member. In addition, since Landfield's ordination on elements mainly detected not shifts among the other's positions, the present examination allows to argue that online intergroup contact mainly affected how individuals considered the other, more than the self. Thus, to online dialogue with an outgroup member brings individuals to reconsider the interlocutors, seeing them in a more complex and dynamic way.

References

Alban Metcalfe, R. J. (2015). The Validity, Long-Term Reliability, Generality, Robustness, and Inter-Relatedness of Selected Repgrid Indices of Cognitive Structure. *The Journal of Experimental Education*, *47*(2), 134–139. https://doi.org/10.1080/00220973.1978.11011671

Ayduk, Ö., & Kross, E. (2010). From a distance: Implications of spontaneous self-distancing for adaptive self-reflection. *Journal of Personality and Social Psychology*, *98*(5), 809. https://doi.org/10.1037/A0019205

Bannister, D. (1960). Conceptual Structure in Thought-Disordered Schizophrenics. *Journal of Mental Science*, *106*(445), 1230–1249. https://doi.org/10.1192/BJP.106.445.1230

Bieri, J. (1955). Cognitive complexity-simplicity and predictive behavior. *The Journal of Abnormal and Social Psychology*, *51*(2), 263–268. https://doi.org/ttps://doi.org/10.1037/h0043308

Cohen, J. (1988). Set Correlation and Contingency Tables. *Applied Psychological Measurement*, *12*(4), 425–434. https://doi.org/10.1177/014662168801200410

Feixas, G., Bach, L., & Laso, E. (2010). Factors Affecting Interpersonal Construct Differentiation When Measured Using the Repertory Grid. *Journal of Constructivist Psychology*, *17*(4), 297–311. https://doi.org/10.1080/10720530490483202

Fiedler, F. E. (1967). *A Theory of Leadership Effectiveness*. McGraw-Hill Series in Management.

Filip, M., & Kovářová, M. (2017). The Self Between Cacophony and Monologue: A Conceptualization and Empirical Examination of Dialogical Complexity. *Journal*

of Constructivist Psychology, *30*(3), 270–294. https://doi.org/10.1080/10720537.2016.1219892

Filip, M., & Kovářová, M. (2020). Will Bootstrap Clustering Resuscitate Repertory Grid Assessment of Cognitive Complexity? Convergence with Integrative and Dialogical Complexity Suggests It Could. *Journal of Constructivist Psychology*, *33*(2), 153–171. https://doi.org/10.1080/10720537.2018.1557575

García, J., Francisco, M., Cano-García, J., Rodríguez-Franco, L., Buero-Gallego, M., Alcocer-Gómez, E., & Guerrero-Gómez, R. (2009). Linking traits and personal constructs: an exploratory study throughout levels of personality. *Annals of Psychology*, *12*(1), 57–80. https://idus.us.es/handle/11441/97594

Hermans, H. J. (2001). The Construction of a Personal Position Repertoire: Method and Practice. *Culture & Psychology*, *7*(3), 323–365. https://doi.org/https://doi.org/10.1177/1354067x0173005

Hermans, H. J. M. (2019). Dialogical self theory in a boundary-crossing society. In *Moral and Spiritual Leadership in an Age of Plural Moralities* (pp. 27–47). Taylor and Francis.

Herrán-Alonso, J., Saúl, L. A., Perea-Luque, J. R., & López-González, M. A. (2020). A Principal Components Analysis of Grid Differentiation Measures. *Journal of Constructivist Psychology*, *0*(0), 1–15. https://doi.org/10.1080/10720537.2020.1815111

Kovářová, M., & Filip, M. (2015). Integrating the Differentiated: A Review of the Personal Construct Approach to Cognitive Complexity. *Journal of Constructivist Psychology*, *28*(4), 342–366. https://doi.org/10.1080/10720537.2014.994693

Landfield, A. W. (1977). Interpretive man: the enlarged self-image. In *Nebraska*

symposium on motivation 1976: Personal Construct Psychology. University of Nebraska Press.

Lemke, F., Clark, M., & Wilson, H. (2011). Customer experience quality: an exploration in business and consumer contexts using repertory grid technique. *Journal of the Academy of Marketing Science*, *39*(6), 846–869. https://doi.org/10.1007/s11747-010-0219-0

Neimeyer, R. A., Neimeyer, G. J., & Landfield, A. W. (1983). Conceptual differentiation, integration and empathic prediction. *Journal of Personality*, *51*(2), 185–191. https://doi.org/10.1111/J.1467-6494.1983.TB00861.X

Orvell, A., Ayduk, Ö., Moser, J. S., Gelman, S. A., & Kross, E. (2019). Linguistic Shifts: A Relatively Effortless Route to Emotion Regulation? *Current Directions in Psychological Science*, *28*(6), 567–573. https://doi.org/10.1177/0963721419861411

Tan, F. B., & Gordon Hunter, M. (2002). The repertory grid technique: A method for the study of cognition in information systems. *MIS Quarterly*, *26*(1), 39–57. https://doi.org/10.2307/4132340

Tomico, O., Karapanos, E., Levy, P., Mizutani, N., & Yamanaka, T. (2009). The Repertory Grid Technique as a Method for the Study of Cultural Differences. *International Journal of Design*, *3*(3). http://www.ijdesign.org/index.php/IJDesign/article/view/358

Walker, B. M., & Winter, D. A. (2006). The Elaboration of Personal Construct Psychology. *Annual Review of Psychology*, *58*, 453–477. https://doi.org/10.1146/ANNUREV.PSYCH.58.110405.085535

Winter, D. A. (2012). Repertory Grid Technique as a Psychotherapy Research Measure.

Psychotherapy Research, *13*(1), 25–42. https://doi.org/10.1093/PTR/KPG005

Appendix C—Study 1 questionnaire

Pre-dialogue

Consent form

Gentilissimo/a,
ti diamo il benvenuto e ti ringraziamo per il tuo interesse. Prima di decidere se vuoi partecipare a questo studio, leggi attentamente quanto indicato in questa pagina al fine di essere pienamente informato degli scopi, delle modalità di esecuzione e dei possibili inconvenienti connessi. Ti preghiamo di ricordare che la tua partecipazione è completamente volontaria e anonima. Ti potrai ritirare dallo studio in qualunque momento senza alcuna conseguenza.
Il presente studio ha lo scopo di studiare le relazioni online. La partecipazione allo studio è possibile solo da computer. Qualora ti fossi collegato/a a questo link tramite un altro device, ti invitiamo a riaprirlo da pc.
Lo studio è rivolto ai soli maggiorenni. Esso comprende molte sezioni in cui ti verrà chiesto di fare degli esercizi, di rispondere ad alcune domande e di chattare con uno studente online. Esso richiederà circa 50 minuti del tuo tempo e attenzione, perché vuole esplorare le interazioni online da diverse prospettive e in profondità. Ti suggeriamo, quindi, di partecipare in un momento di calma. Per noi è molto importante che tu risponda a tutte le sezioni dello studio.
Non c'è un modo giusto o sbagliato di interagire online, quindi rispondi con sincerità alle domande che ti verranno poste. Non ci sono rischi legati alla tua partecipazione. Tuttavia, se qualcosa ti dovesse mettere a disagio, sentiti libero/a di contattare il responsabile scientifico della ricerca e/o di abbandonare lo studio. La partecipazione è completamente anonima. I dati raccolti saranno trattati in accordo con le leggi italiane sulla privacy e il D.Lgs 196/2003 “Codice in materia di protezione dei dati personali”, tutelando l'anonimato dei partecipanti. In caso tu abbia bisogno di delucidazioni su qualunque aspetto della procedura sperimentale, il responsabile della ricerca, la Professoressa Tiziana Mancini, tiziana.mancini@unipr.it, e la sua collaboratrice, Chiara Imperato, chiara.imperato@unipr.it, sono a tua completa disposizione.
Dichiaro di aver letto attentamente quanto sopra e di aver liberamente dato il consenso alla partecipazione a questo studio e al trattamento dei dati.

(1) Accetto
(2) Non accetto

Socio-demographic information

Tu sei:

(1) Maschio
(2) Femmina

Quanti anni hai? _____
Dove sei nato/a?

(1) Italia
(2) Estero (specificare)

Qual è la tua nazionalità?

(1) Italiana
(2) Altro (specificare)

Qual è la tua professione?

(1) Studente/ssa a tempo pieno
(2) Stendente/ssa lavoratore
(3) Lavoratore o in cerca di occupazione

Internet usage

Utilizzi piattaforme online come social network, chat, o forum?

(1) Sì, spesso
(2) Sì, qualche volta
(3) No, mai

Adesso parliamo del tuo rapporto con le persone con cui parli attraverso le piattaforme online (ad esempio social network, chat, forum). Quanti dei tuoi contatti online sono anche tuoi amici nella vita reale?

(1) Meno di 10
(2) 11-50
(3) 51-100
(4) 101-150
(5) 151-200
(6) 201-250
(7) 251-300
(8) 301-400
(9) Più di 400

Nella scorsa settimana, approssimativamente, quanti minuti hai trascorso con queste persone online (su un social network, in una chat, su un forum)?

(1) 0 minuti
(2) Meno di un'ora
(3) 5 ore
(4) 15 ore
(5) 20 ore
(6) 30 ore
(7) 40 o più ore

Leggi ora le seguenti affermazioni ed indica quanto sei d'accordo o in disaccordo con ciascuna di esse (1 = completamente in disaccordo; 5 = completamente d'accordo)

(1) Chattare online è una delle mie attività quotidiane
(2) Sono orgoglioso/a di dire agli altri che chatto online
(3) Chattare online è diventato parte della mia routine quotidiana
(4) Quando non mi collego ad un social network, ad una chat o ad un forum per un po', mi sento fuori dal mondo
(5) Mi sento parte delle comunità online in cui chatto
(6) Sarei dispiaciuto/a se le comunità online in cui chatto venissero chiuse

Dialogical Self

Ti chiediamo ora di pensare ad un tuo collega universitario, e di osservare la griglia che segue: le righe rappresentano le tue caratteristiche (nome, provenienza...), le colonne rappresentano rispettivamente lui, e le caratteristiche di altre persone (provenienza...).

Rispondi una riga alla volta, scrivendo all'interno di ogni casella, un numero da 0 (per niente rilevante) a 5 (del tutto rilevante), a seconda di quanto le tue caratteristiche indicate nelle righe "entrano in gioco" con le caratteristiche degli altri, indicati nelle colonne. "Entrate in gioco" significa per noi che sono importanti per la relazione che hai con loro.
Ad esempio, può essere per un individuo molto rilevante essere padre (caratteristica indicata nella riga) nei confronti di un figlio (colonna), per cui il numero che inserirà nella casella sarà 5. Al contrario, potrebbe essere per nulla rilevante essere padre (riga), nei confronti di un datore di lavoro(colonna), per cui il numero che inserirà nella casella sarà 0.

	Il/la mio/a collega di università	I senegalesi	Gli esseri umani
Io come NOME			
Io come Italiano/a			
Io come essere umano			

Experimental conditions (randomly assigned)

Personal condition

Ti chiediamo di chattare con Kama/Ngalula, uno/a studente/ssa universitario/a senegalese di 22 anni. A Kama/Ngalula piace molto chattare online, soprattutto per conoscere in modo "profondo" le persone con cui parla. Kama/Ngalula è infatti un/a ragazzo/a molto attento/a ai bisogni e alle caratteristiche delle persone con cui interagisce. Le persone che lo/a conoscono lo/a definiscono come un/a ragazzo/a amichevole, aperto/a ed empatico/a.

Social condition

Ti chiediamo di chattare con Kama/Ngalula, uno/a studente/ssa universitario/a senegalese di 22 anni. A Kama/Ngalula piace molto chattare online, soprattutto per conoscere altre persone che provengono dal suo stesso paese. Kama/Ngalula è infatti un/a ragazzo/a molto desideroso/a di conoscere le tradizioni, gli usi e i costumi senegalesi. Le persone che lo/a conoscono lo/a definiscono come un/a ragazzo/a molto legato/a alla sua famiglia e al suo paese d'origine.

Human condition

Ti chiediamo di chattare con Kama/Ngalula, uno/a studente/ssa universitario/a senegalese di 22 anni. A Kama/Ngalula piace molto chattare online, soprattutto per conoscere le persone indipendentemente dalle loro appartenenze o diversità. Kama/Ngalula è infatti un/a ragazzo/a molto desideroso/a di conoscere il lato umano delle persone. Le persone che lo/a conoscono lo/a definiscono come un/a ragazzo/a che si sente cittadino/a del mondo e ama la giustizia e l'uguaglianza.

Manipulation check

Come si chiama la persona con cui hai parlato?

(1) Kama
(2) Ngalula

Da dove proviene la persona con cui hai parlato?

(1) Stati Uniti
(2) Senegal

Per quale motivo la persona con cui hai parlato ama chattare online?

(1) Per conoscere in modo "profondo" le persone con cui parla, perché è una persona molto attenta ai bisogni e alle caratteristiche delle persone; per questo motivo la definiscono amichevole, aperta ed empatica.
(2) Per conoscere altre persone che provengono dal suo stesso paese, perché è una persona molto desiderosa di conoscerne le tradizioni, gli usi e i costumi; per questo motivo la definiscono molto legata alla sua famiglia e al suo paese d'origine.
(3) Per conoscere le persone indipendentemente dalle loro appartenenze o diversità, perché è una persona molto desiderosa di conoscere il lato umano delle persone; per questo motivo la definiscono cittadina del mondo e amante della giustizia e dell'uguaglianza.

Post-dialogue

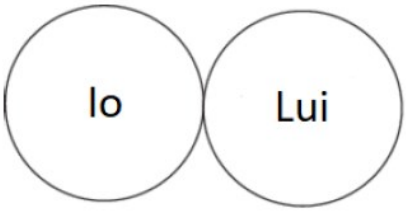
Dialogical Self

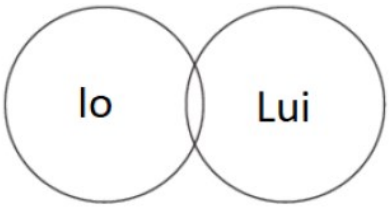
Pensa ora al dialogo che hai appena avuto con Kama/Ngalula, e osserva la griglia che segue: le righe rappresentano le tue caratteristiche (nome, provenienza...), le colonne rappresentano le caratteristiche di Kama/Ngalula (nome, provenienza...). Rispondi una riga alla volta, scrivendo all'interno di ogni casella, un numero da 0 (per niente rilevante) a 5 (del tutto rilevante), a seconda di quanto le tue caratteristiche sono "entrate in gioco" con le sue caratteristiche, durante il vostro dialogo in chat. "Entrate in gioco" significa per noi che sono state importanti per la relazione che hai avuto con lui/lei durante questo dialogo.

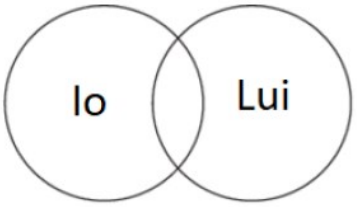
	Kama/Ngalula	I senegalesi	Gli esseri umani
Io come NOME			
Io come Italiano/a			
Io come essere umano			

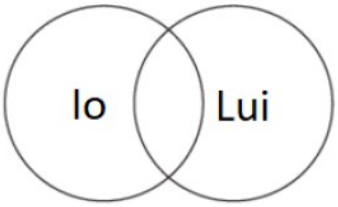
Inclusion of Other in the Self

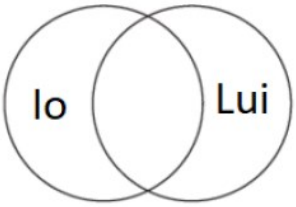
Quale delle seguenti immagini meglio descrive il rapporto che hai avuto con Kama/Ngalula? Clicca su una delle sette immagini

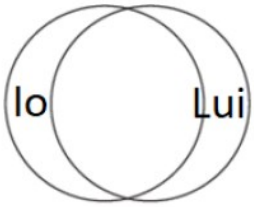


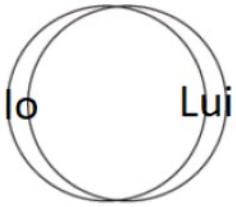












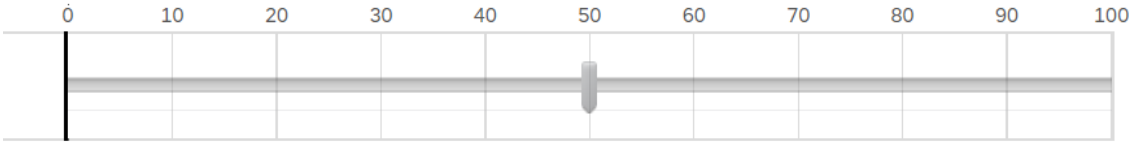
Ethnic/racial identity

Quanto sei d'accordo con ciascuna delle seguenti affermazioni? (1 = completamente in disaccordo; 5 = completamente d'accordo)

(1) Ho trascorso del tempo cercando di scoprire di più sulla mia cultura, la mia storia, le mie tradizioni.
(2) Sento un forte senso di appartenenza verso i gruppi aventi la mia stessa cultura.
(3) Capisco abbastanza bene cosa significa essere parte del mio gruppo culturale.
(4) Ho spesso fatto cose che mi hanno aiutato a capire meglio le conoscenze sulla mia cultura.
(5) Ho spesso parlato con altre persone per saperne di più sulla mia cultura.
(6) Sento un forte attaccamento verso il mio gruppo culturale

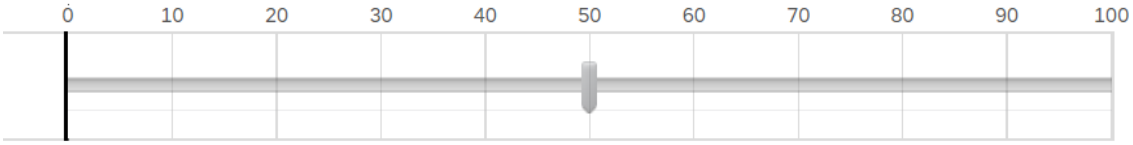
Attitudes towards Kama/Ngalula

Questa scala misura il tuo atteggiamento nei confronti di Kama/Ngalula; i punteggi vanno da 0 a 100 come in un termometro. Maggiore è il punteggio, più favorevole è il tuo atteggiamento verso Kama/Ngalula. 0 indica un atteggiamento estremamente sfavorevole, 100 un atteggiamento estremamente favorevole.



Explicit ethnic prejudice (intergroup bias: attitude towards ingroup minus attitude towards outgroup)

Questa scala misura il tuo atteggiamento nei confronti delle persone italiane; i punteggi vanno da 0 a 100 come in un termometro. Maggiore è il punteggio, più favorevole è il tuo atteggiamento verso il gruppo considerato. 0 indica un atteggiamento estremamente sfavorevole, 100 un atteggiamento estremamente favorevole.



Questa scala misura il tuo atteggiamento nei confronti delle persone che vengono dall'Africa nera (ad esempio dal Senegal); i punteggi vanno da 0 a 100 come in un termometro. Maggiore è il punteggio, più favorevole è il tuo atteggiamento verso il gruppo considerato. 0 indica un atteggiamento estremamente sfavorevole, 100 un atteggiamento estremamente favorevole.

Implicit ethnic prejudice (IAT procedure)

Appendix D—Study 2 questionnaire

Pre-dialogue

Consent form

The following informed consent will provide you with information about the experiment that will help you in deciding whether or not you wish to participate. If you agree to participate, please be aware that you are free to withdraw at any point throughout the duration of the experiment without any penalty.

In this study we will ask you to answer to some questions about your Internet use and to dialogue with another person. To be eligible to participate in this study you have to be over 18 years, to be a university student and to use Social Networks, chat, forum or other online platforms that allow you to communicate with others. Please, if you do not match these criteria, close the questionnaire. All information you provide will remain confidential and will not be associated with your name. If for any reason during this study you do not feel comfortable, you may leave the study by closing the page. Your participation in this study will require approximately 30 minutes. When this study is complete you will be provided with the results of the experiment if you request them, and you will be free to ask any questions. If you have any further questions concerning this study please feel free to contact us through email: Chiara Imperato at chiara.imperato@unipr.it or Tiziana Mancini at tiziana.mancini@unipr.it. Please indicate that you understand your rights and agree to participate in the experiment by clicking on "Yes".

Your participation is solicited, yet strictly voluntary. All information will be kept confidential and your name will not be associated with any research findings.

I understand my rights and I agree to participate in the experiment.

(1) Yes
(2) No

Socio-demographic information

You are:

(1) Male
(2) Female
(3) Other

How old are you? _____

What is your employment status?

(1) Student
(2) Student and worker

Please, indicate the Country where you born _____

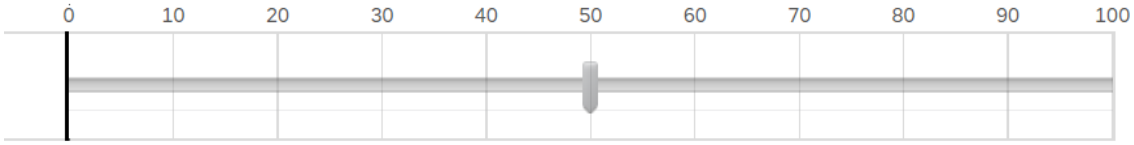
Race (group membership)

Which of these groups best describes you?

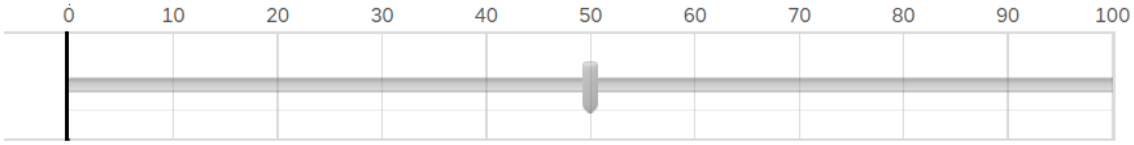
(1) Black people
(2) White people

Intergroup bias (attitude towards ingroup minus attitude towards outgroup)

The following scale measures your attitude towards black people; the scores range from 0 to 100. The higher the score, the more favorable your attitude towards black people. 0 indicates an extremely unfavorable attitude, 100 an extremely favorable attitude.



The following scale measures your attitude towards white people; the scores range from 0 to 100. The higher the score, the more favorable your attitude towards white people. 0 indicates an extremely unfavorable attitude, 100 an extremely favorable attitude.



Dialogical Self

Please, think about one of your university colleagues. Now observe the following grid: the rows represent your characteristics (name, origin...) and they are called internal positions; the columns represent the university colleague you are thinking about, the black people, and the human beings in general, and they are called external positions. Estimate the extent to which in your experience each of your internal position is prominent in relation to each external position. Starting from the first row, please indicate on a 0–5 scale the extent to which your internal position is prominent in relation to each external position (0 = not at all, 1 = very little, 2 = to some extent, 3 = quite a lot, 4 = considerably and 5 = very considerably). Thus, please, continue to answer to the second and the third rows.

	My university colleague	Black/White people	The human beings
I as NAME			
I as White/Black			
I as human being			

Dialogue

Attention check

The person you chatted with is…

(1) Black
(2) White

What is the name of the person you chatted with?

(1) Kama
(2) Ngalula
(3) Mary
(4) James

Post-dialogue

Dialogical Self

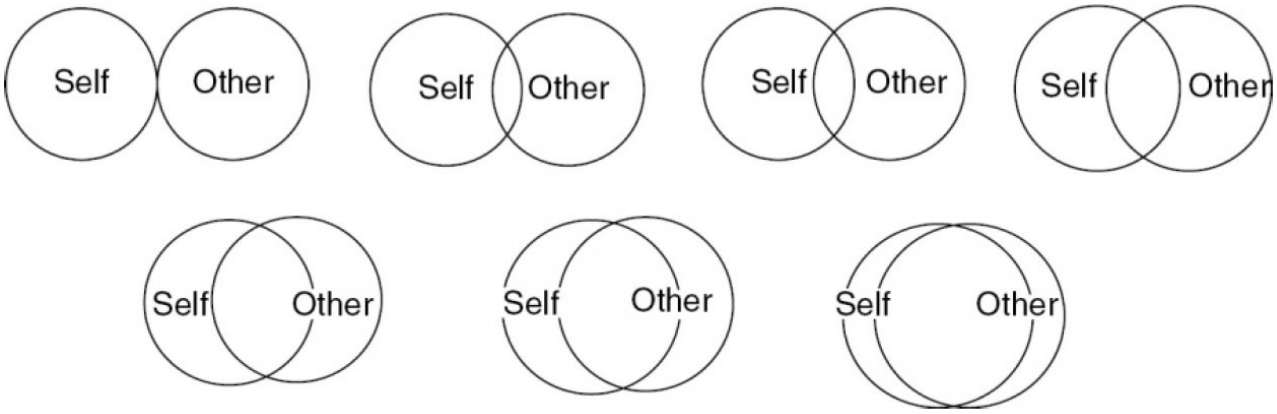
Please, think about the dialogue you had with Kama/Ngalula/James/Mary. Now observe the following grid: the rows represent your characteristics (name, origin...) and they are called internal positions; the columns represent Kama/Ngalula/James/Mary, Black/White people, and the human beings in general, and they are called external positions.
Estimate the extent to which in your experience each of your internal position is prominent in relation to each external position. Starting from the first row, please indicate on a 0–5 scale the extent to which your internal position is prominent in relation to each external position (0 = not at all, 1 = very little, 2 = to some extent, 3 = quite a lot, 4 = considerably and 5 = very considerably). Thus, please, continue to answer to the second and the third rows.

	Kama/Ngalula/James/Mary	Black/White people	The human beings
I as NAME			
I as White/Black			
I as human being			

Power
Rate the extent to which each of the following sentences describes the dialogue you have conducted with Kama/Ngalula/James/Mary (1 = does not describes this dialogue at all; 7 = describes this dialogue very well).

(1) Under the influence of new content heard in the dialogue, I changed my stance and took Kama/Ngalula/James/Mary's arguments into account.
(2) Under the influence of new content heard in the dialogue, I changed my stance and took Kama/Ngalula/James/Mary changed his stance and took my arguments into account.
(3) In order not to spoil the relationship with Kama/Ngalula/James/Mary, I changed mu stance and took Kama/Ngalula/James/Mary's arguments into account.
(4) In order not to spoil the relationship with me, Kama/Ngalula/James/Mary changed his/her stance and took my arguments into account.
(5) I feel I have won the discussion, thanks to the force of my arguments.
(6) Kama/Ngalula/James/Mary feels s/he has won the discussion, thanks to the force of his/her arguments.
(7) I feel I am the loser in this discussion.
(8) Kama/Ngalula/James/Mary feels s/he is the loser in the discussion.

Closeness to other
Which of the following diagrams best represents how close you feel with Kama/Ngalula/James/Mary? Please, click on one of the seven images.



Please, select the appropriate number below to indicate to what extent you would use the term "WE" to characterize you and Kama/Ngalula/James/Mary (1 = not at all; 7 = very much).

Ethnic identity

Please, indicate how much you agree or disagree with each of the following statements (1 = strongly disagree; 5 = strongly agree)

(1) I have spent time trying to find out more about my ethnic group, such as its history, traditions, and customs.
(2) I have a strong sense of belonging to my own ethnic group.
(3) I understand pretty well what my ethnic group membership means to me.
(4) I have often done things that will help me understand my ethnic background better.
(5) I have often talked to other people in order to learn more about my ethnic group.
(6) I feel a strong attachment towards my ethnic group.

Attitude towards the outgroup member

The following scale measures your attitude towards Kama/Ngalula/James/Mary; the scores range from 0 to 100. The higher the score, the more favorable your attitude towards Kama/Ngalula/James/Mary. 0 indicates an extremely unfavorable attitude, 100 an extremely favorable attitude.

Intergroup bias (attitude towards ingroup minus attitude towards outgroup)

The following scale measures your attitude towards black people; the scores range from 0 to 100. The higher the score, the more favorable your attitude towards black people. 0 indicates an extremely unfavorable attitude, 100 an extremely favorable attitude.

The following scale measures your attitude towards white people; the scores range from 0 to 100. The higher the score, the more favorable your attitude towards white people. 0 indicates an extremely unfavorable attitude, 100 an extremely favorable attitude.