The effects of recalling positive and negative contacts on linguistic discrimination towards migrant people[☆],[☆☆]

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ARTICLE INFO

ABSTRACT

The present research aims to test whether varying the sequential position in which majority members recall positive and negative contacts with migrants affects the linguistic descriptions of these episodes - in terms of abstraction and valence - provided by majority group members. We also tested whether participants' prior contact with migrants and distance in time of the recalled contact experiences moderated the effect of the recall on linguistic discrimination. Across two experimental studies, evidence consistently showed that participants who recalled first positive and then negative interactions expressed less linguistic discrimination against migrants in the second event recalled, compared to those who recalled two negative interactions. Moreover, participants who reported having fewer positive intergroup experiences expressed less linguistic discrimination against migrants in recalling negative and then positive interactions, compared to recalling two positive interactions. Findings of Study 2 also revealed an effect of the temporal distance of the recalled events, with more beneficial effects of positive-negative sequences of contact when participants retrieved temporally recent compared to distant intergroup encounters. Overall, this research highlights the key role of positive contact in counteracting the effects of negative contact, leading to a reduction in linguistic discrimination.

The current increasing mobility between countries has highlighted the urgent issue of the relationship between majority groups and ethnic minorities of migrant people in society. Research has shown that positive face-to-face contact between majority and minority group members is one of the most effective strategies to reduce intergroup discrimination and facilitate social integration (Pettigrew & Tropp, 2006). However, contact is not always positive. Intergroup encounters may be marked by perceived threat and hostility, actually leading to increased intergroup discrimination (Barlow et al., 2012). Given that scholars have until now mainly studied the beneficial effects of positive contact (Pettigrew & Hewstone, 2017), research to tackle the effects of the interaction between positive and negative contacts is still needed (Reimer et al., 2017).

In particular, how are episodes of intergroup contact represented and communicated at the linguistic level? This issue has been almost neglected in the literature. Instead, to test the effects of differently valenced contact on discrimination of the majority group towards migrants, linguistic descriptions of intergroup encounters represent a fertile field of investigation. Language, intended as a behaviour through which individuals create and share their representations of social reality (Semin, 2000), can fulfill the goal of transmitting and maintaining stereotypic and biased images of outgroup members (Maass & Arcuri, 1996). Individuals can pursue this goal by varying positive and negative valence as well as the abstraction of words (Semin & Fiedler, 1988) – a structural property of language which is not so easily monitored by speakers nor consciously processed by receivers (Moscatelli & Rubini, 2011; for a review, see Rubini, Menegatti, & Moscatelli, 2014). Moreover, does the recall of past compared to recent intergroup episodes affect linguistic outgroup discrimination? Recreating past and recent experiences is a common activity in our daily thoughts, conversations and social relationships (Schacter, Addis, & Buckner, 2008). Research has documented differences not only between recalling positive and negative events, but also between recalling past and recent events (Thompson, Skowronski, Larsen, & Betz, 1996). In particular, more

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specific and even irrelevant details are reported in representations of recent compared to old events, whereas more central, meaningful and thus stable aspects characterize descriptions of older compared to recent events (Squire, Cohen, & Nadel, 1984), leading to different linguistic representations of past and recent experiences.

The present research aims to test whether varying the sequential position of recalling positive and negative contacts with migrants affects linguistic representations of them – in terms of abstraction and valence – embedded in the descriptions of encounters provided by majority members. It also tests the impact of previous intergroup contact with migrants on the effects of recalled contacts. Finally, this research examines whether the distance in time of the recalled intergroup encounters influences the linguistic representations of the experiences of positive and negative interaction with migrants.

1. The interaction between positive and negative intergroup contacts

Meta-analytic evidence has established the association of positive contact with reduced prejudice and improved cohesion between groups (Pettigrew & Tropp, 2006). However, in line with Allport's (1954) assumption that intergroup contact is not a universal panacea for reducing social discrimination, recent research has focused on the neglected role of negative contact in intergroup relationships. Barlow et al. (2012) showed that, although positive contact is more common, negative contact has a stronger effect on prejudice. This evidence has also been found by several studies that did not focus explicitly on the effect of valence of contact, in both peaceful (Bekhuis, Ruiter, & Coenders, 2011; Dhont, Cornelis, & Van Hiel, 2010; Dhont & Van Hiel, 2009; Graf, Paolini, & Rubin, 2014) and conflict-ridden settings (Husnu & Paolini, 2019). To further support this contact valence asymmetry, research has also shown that in most intergroup stigmatizing contexts (i.e., contexts with prevailing negative views of an outgroup), negative contact has greater impact on social categorization than positive contact, and as a result, greater impact on generalized changes in outgroup evaluations after contact (Paolini, Harwood, & Rubin, 2010). Experimental and longitudinal evidence have confirmed this effect by showing that negative contact indeed causes heightened category salience as compared to positive contact (Paolini et al., 2010; see also Greenland & Brown, 1999).

However, other studies found the reverse effect: positive contact had a greater effect on prejudice than did negative contact (Aberson & Gaffney, 2009; Pettigrew, 2008; Pettigrew & Tropp, 2013; Pettigrew, Tropp, Wagner, & Christ, 2011; Wilder, 1984). Limitations of this evidence include that the majority of the research is correlational (thus limiting causal inference), comprising field studies with less control over variables, and measures are self-reports, which are most likely subject to self-selection biases.

Nevertheless, some recent research has examined the role of the sequence of positive and negative events. In three experimental studies, Paolini et al. (2014) demonstrated that positive intergroup contact in the past *buffered* the harmful effects of negative contact experiences in the present, thus limiting the potential for conflictual intergroup relations (Paolini et al., 2014). This evidence indicates that positive intergroup contact acts as a protective factor against negative valence asymmetry, thus the disproportionate influence of negative contact appears only or primarily among those who had a history of limited or low quality prior contact with outgroup members.

Considering the reverse sequence, albeit only for imagined contact, Birtel and Crisp (2012) showed that participants who imagined a negative encounter with an outgroup member before imagining a positive one, reported stronger future contact intentions towards that outgroup, compared to participants who engaged in two consecutive positive or a single positive imagined encounter. This tendency was mediated by reduced anxiety and the development of more positive feelings towards the previously stigmatized outgroup. Thus, these authors showed for

the first time that a negatively valenced episode can *facilitate*, if it precedes a positive episode, the improvement of intergroup relationships. This is in line with other research in clinical and general psychology, showing that after stimulus conditions that elicit intense negative emotions such as fear and anxiety are removed, there is an offsetting positive emotional experience of relief and profound relaxation (Mowrer, 1960; Woodworth & Schlosberg, 1954) that improves subsequent attitudes towards the target person or event involved.

These results are in line with the evidence from the literature on memory and mental representations showing the effective role of positive compared to negative experiences in shaping individuals' attitudes. Across multiple studies using different sampling techniques, emotionally positive autobiographical memories are about twice as frequent as are negative autobiographical memories (see Walker, Skowronski, & Thompson, 2003, for a review). Positive events also have shorter retrieval times as compared to negative events, thus are more accessible, leading to positivity memory-bias (Berntsen, Rubin, & Siegler, 2011). Also the perceived emotional intensity of emotionally negative events fades more quickly in memory than does the perceived intensity of positive memories (Walker et al., 2003) contributing to support the stronger role of positive compared to negative recalled experiences. However, research has also shown a difference in the recall of older compared to recent events (Squire et al., 1984). In this regard, Construal Level Theory (CLT) proposed and showed that increasing the reported spatial distance of events leads individuals to represent the events by their central, abstract, global features (high-level construal) rather than by their peripheral, concrete, local features (Liberman & Trope, 1998; Trope & Liberman, 2000). Thus, the recall of positive and negative experiences in the more distant past was more prototypical – less variable and more extreme – compared to those referring to recent events.

On the basis of these findings, specific sequences of positive and negative contact can lead to beneficial outcomes while the distance in time of recalled experiences should be taken into account. Overall, intergroup contact research has mainly focused on when and how positive and negative interactions with outgroup members affect individuals' feelings, beliefs and behavioral intentions. To our knowledge, no research has considered the interaction of positive and negative intergroup contact on actual behaviors such as linguistic descriptions of outgroup members.

2. Linguistic outgroup discrimination

Extensive research has shown that language can be intended to play a role in transmitting and maintaining intergroup discrimination (Maass, 1999; Maass & Arcuri, 1996; Reid & Ng, 1999). A means of doing this is varying linguistic abstraction. According to the Linguistic Category Model (LCM; Semin & Fiedler, 1988), the terms used in the interpersonal domain can be organized into four linguistic categories along a continuum of concreteness–abstractness: descriptive action verbs, interpretative action verbs, state verbs and adjectives. These different levels of abstraction have different cognitive implications. Abstract terms, as opposed to concrete ones, provide more information about the protagonist and less information about the situation. Furthermore, abstract information is perceived as more enduring and more generalizable (Maass, Castelli, & Arcuri, 2000; Semin & Fiedler, 1992). Thus, the use of terms at different level of abstraction can give rise to quite different representations of the same event (Semin & Fiedler, 1988). Studies on the linguistic intergroup bias (LIB; Maass, 1999; Wigboldus & Douglas, 2007) have revealed that people usually describe socially desirable behaviors of ingroup members and socially undesirable behaviors of outgroup members at a higher level of abstraction (e.g., "he is altruistic/aggressive"). This implies that such behaviors are more typical of the protagonist as well as of his/her group (Assilaméhou, Lepastourel, & Testé, 2013), compared to undesirable ingroup and desirable outgroup behaviors (e.g., "he hit/helped

someone"). Accordingly, the LIB is used to shape more favorable representations of ingroup members and to provide unfavorable representations of outgroup members, thus contributing to maintain outgroup discrimination.

Besides varying linguistic abstraction, in spontaneous language use individuals can also convey their reading of an event described, and therefore shape overall favorable or unfavorable representations of the protagonist, by freely choosing the valence of predicates (for instance, in reporting an episode of violence they can refer to the protagonist by saying that "He is strong" or "He is violent"). In this respect, several studies have revealed that specific conditions can result in linguistic patterns of ingroup enhancement (through the use of positive terms at a higher level of abstraction than negative terms) or outgroup derogation (i.e., negative terms at a higher level of abstraction than positive terms; Moscatelli, Hewstone, & Rubini, 2017; Rubini et al., 2014; Rubini, Moscatelli, & Palmonari, 2007). Interestingly for the present purpose, Prati, Menegatti, and Rubini (2015) reported that individuals' prior contact with outgroup members influenced linguistic outgroup discrimination. Portraying migrants through multiple categorizations – characteristics that are known to reduce prejudice – led to a reduction of linguistic discrimination towards them. However, these effects were moderated by intergroup contact (e.g., Brown & Hewstone, 2005; Voci & Hewstone, 2003), since multiple categorizations had greater influence for individuals who reported having less prior contact with migrant people (Prati, Menegatti, & Rubini, 2015).

Thus, previous research suggests that the analysis of the language used to describe interpersonal interactions with migrants can represent a useful tool to capture the effects on outgroup discrimination of recalling experiences of positive contact after experiences of negative contact – or vice versa – with members of such a discriminated group.

2.1. Overview of the research

In order to test how recalling experiences of positive and negative contacts impacts on the language used in descriptions of migrant people, we conducted two studies in which we examined the language used by Italian respondents in describing their recall of real interactions with migrant people living in Italy. Focusing on the Italian context is interesting since the ongoing refugee crisis across EU countries – which is particularly challenging for Italy due to its geographical position – is reinforcing xenophobic and anti-immigrant feelings in the country (Kosic, Mannetti, & Sam, 2005; Sniderman, Peri, de Figueiredo Jr, & Piazza, 2002). In both studies, we coded the abstraction and valence of the terms used in recalling two interactions with migrants, and we tested the effects of the sequential position of recalling differently valenced contact episodes on linguistic representations of migrant people encountered in the second interaction recalled. Moreover, we tested whether participants' quantity of prior positive contact with migrant people moderated the relationship between sequences of recalled contacts and linguistic representations of migrant people encountered (Studies 1 and 2). Finally, we analyzed the effect of the temporal distance (distant/recent past) from the recalled event itself (Study 2).

Even though our studies are the first to compare the effects of all different sequences of recalled contact on linguistic discrimination, based on previous evidence we expected that recalling either negative-positive or positive-negative contacts should result in a reduction of linguistic outgroup discrimination compared to recalling, respectively, positive-positive or negative-negative contacts. On the one hand, previous evidence showed that imagining a negative contact before a positive one (Birtel & Crisp, 2012) as well as the exposure to negative events followed by positive ones, increased a sense of relief (or reduced anxiety) that emphasizes positive thoughts and attitudes (Denny, 1971; Mowrer, 1960). Thus, we expected that recalling real experiences of positive after negative contact would likely result in facilitation effects, namely reduced linguistic discrimination towards outgroup members, compared to the recall of a positive intergroup contact preceded by a

positive one (*facilitation hypothesis*; see Árnadóttir, Lolliot, Brown, & Hewstone, 2018). On the other hand, negative contact increases category salience (Paolini et al., 2010, 2014) and thus negative generalization of outgroup characteristics, that is, increased linguistic discrimination. Thus, we expected that recalling a negative after a positive contact would result in lower linguistic discrimination towards outgroup members compared to the recall of a negative intergroup contact preceded by another negative one (*buffering hypothesis* see Árnadóttir et al., 2018).

Since it is plausible that respondents with low contact with migrants would be more sensitive to *any* experience of contact, we also expected them to be more sensitive to the interaply between positive and negative contact, and predicted that the quantity of contact would moderate the above effects (for similar reasoning, see Prati et al., 2015). In other words, respondents with low levels of prior positive contact should show a stronger decrease of linguistic outgroup discrimination due to facilitation and buffering effects compared to respondents who reported having had frequent and pleasant contact with migrant people.

Our hypothesis about the time of the recalled event is more exploratory in nature. Previous studies have shown that temporally distant events in memory are represented less concretely (Bhatia & Walasek, 2016; see also Liberman & Trope, 1998), and are described with more abstract linguistic predicates, than more proximate events (Semin & Smith, 1999). Accordingly, descriptions of past interactions with migrants should be characterized by more abstract terms than descriptions of recent past experiences. If so, then recalling interactions that happened in the past might be less subject to buffering or facilitation effects.

3. Study 1

Study 1 investigated whether and how recalling different combinations of positive and negative encounters with migrants affected linguistic discrimination against them in the description of the second event recalled. Based on previous evidence on facilitation effects of imagined contacts on future contact intentions (Birtel & Crisp, 2012), we expected that recalling real experiences of positive after negative contact, compared to two positive intergroup contact experiences, would lead to lower linguistic discrimination against migrants in the descriptions of the second contact experience recalled. Similarly, based on the valence-salience hypothesis and the predominant role of negative contact (Paolini et al., 2010, 2014), we expected lower linguistic discrimination of outgroup members in the second descriptions provided in the positive-negative compared to the negative-negative combination. We expected that such effects on linguistic discrimination would be higher for people who reported low vs. high quantity of prior contact with migrants (e.g., Prati et al., 2015). We tested a moderation model in which participants' prior contact with migrants moderated the direct effect of the combination of recalled encounters on linguistic discrimination towards migrants.

3.1. Method

3.1.1. Participants and design

A total of 112 Italian students (females = 74; M_{age} = 22.13, SD_{age} = 1.78) were randomly assigned to one of four experimental conditions, in which they had to recall a combination of two valence episodes of contact with migrant people, in a unique sequence. The experimental design was therefore a single-factor design, with four combinations of recalled valence contacts where we varied the sequential position of contacts: positive-negative, negative-positive, positive-positive, negative-negative.[1]

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[1] A sensitivity analysis conducted with G*Power (Erdfelder, Faul, & Buchner, 1996; Mayr, Erdfelder, Buchner, & Faul, 2007) showed that our sample of Study

3.1.2. Procedure and materials

Participants were made aware of the general meaning of the label "migrant people": "any person who lives temporarily or permanently in a country where he or she was not born" (UNESCO). Given the large variety of migrant populations in Italy, we did not consider specific outgroups. Participants were asked to recall and freely describe two events in which they directly interacted with migrant people. The sequential position of same or different valence contacts was manipulated: "Please take a moment to recall a positive (negative) interaction that you have had with a migrant person (occasional interaction or someone you did not know before that time). Then describe it in as much detail as possible" (see also Online Appendix). Participants then repeated the same task recalling a different or same valence contact with another migrant person, according to the condition. Participants were encouraged to provide detailed descriptions of the recalled contacts. In this vein, they used both positive and negative terms, independently of the valence of the contact episode. Notably, the majority of the positive experiences included initial negative evaluations of the other person (i.e., "when he sat next to me, I realized he smells so badly"; "she seemed very rude") and subsequently more positive statements (i.e., "he was helpful and kind"; "she became a good friend"). The majority of descriptions of negative experiences also included some slightly positive evaluations, possibly due to social desirability concerns (i.e., "I found him very annoying even if he also seems a well-educated person"; "after a nice and interesting conversation, she became so insistent that I got very scared").

After the sequence of recalled events, participants completed questions on prior contact with migrant people and then were thanked and debriefed. All measures, manipulations, and exclusions in the study are disclosed. No additional data were collected contingent on the results of an initial analysis. For this Study as well as Study 2 we gained prior approval from the Ethics Committee of the first author's University.

3.1.3. Dependent variables

3.1.3.1. Language abstraction.
Verbs and adjectives used to describe the migrant people participants have met, were coded according to Semin and Fiedler's (1988, 1992) LCM: *Descriptive-action-verbs* (e.g., "They *steal* goods"; "They often *smile*"); *Interpretive-action-verbs* (e.g., "They *commit* crimes"; "They *help* others"), *State-verbs* (e.g., "They *despair* of their condition"; "They *respect* our society"), and *Adjectives* (e.g., "They are *dishonest people*"; "They are *honest people*"). The semantic valence of predicates (positive vs. negative) was also coded. Specifically, two independent coders, blind to both experimental conditions and hypotheses, were asked to read descriptions of encounters between native and migrant people and to code each term referring to migrants reported by native people, on the basis of abstraction (according to four levels of the LCM) and valence (two levels: positive and negative). Auxiliary verbs were not coded. This procedure was employed in previous research on linguistic intergroup discrimination (Moscatelli, Albarello, Prati, & Rubini, 2014; Prati et al., 2015; Rubini et al., 2014). Reliability between two independent coders, blind to the experimental conditions, was satisfactory for linguistic categories (Cohen's κ = 0.87) and valence (Cohen's κ = 0.84). Disagreement between the coders was resolved by discussion.

3.1.3.2. Prior contact with migrants.
Based on Islam and Hewstone (1993), both the quantity and the quality of contact with migrants were assessed. The quantity of contact was measured by asking

participants to indicate on 7-point scales as follows: (a) "How many migrants do you know" (1 = *none*, 7 = *a lot*); (b) "How often do you have contact with migrants" (1 = *never*, 7 = *very often*), yielding a reliable scale, Cronbach's α = 0.85. The quality of contact was measured by asking participants to what extent they found the contact with migrants to be: (a) "pleasant" and (b) "uncooperative" on 7-point scales (1 = *not at all*, 7 = *very much*). The second item was then reversed. Scale was reliable, Cronbach's α = 0.90[2]

3.2. Results and discussion

3.2.1. Linguistic discrimination

To compute a linguistic discrimination index (Moscatelli, Albarello, & Rubini, 2008), we first obtained positive and negative language abstraction scores by assigning weights from 1 to 4 to frequencies of positive and negative descriptive-action-verbs, interpretive-action-verbs, state-verbs, adjectives, respectively (see Prati et al., 2015). The sum of the weighted scores was then divided by the total number of positive and negative terms separately. The linguistic index was obtained by subtracting the negative abstraction score from the positive abstraction score, therefore it has a range from −3 (*maximum* linguistic outgroup discrimination) to +3 (*minimum* linguistic outgroup discrimination).

The obtained linguistic score was submitted to a 2 (valence of second contact: positive vs. negative) × 2 (valence of first contact: positive vs. negative) analysis of variance (ANOVA) on abstraction of the second contact.

Results showed a significant main effect of valence of second contact, $F(1, 110) = 204.32$, $p < .001$, $\eta^2 = 0.658$, and an interaction between valence of first and second contact, $F(1, 110) = 9.39$, $p = .003$, $\eta^2 = 0.081$. To decompose the interaction, we computed simple main effects of valence of first contact on linguistic scores of the positive and negative second contact separately. See Table 1 for means and standard deviations.

Results of positive second contact showed a significant main effect of valence of first contact, $F(1, 56) = 5.06$, $p = .029$, $\eta^2 = 0.086$. As expected, the linguistic index was significantly higher – indicating lower outgroup discrimination – for a positive contact experience that was preceded by a negative compared to a positive one, hence showing a *facilitation* effect.

Results of negative second contact showed a significant main effect of valence of first contact, $F(1, 54) = 4.80$, $p = .033$, $\eta^2 = 0.085$. As expected, the linguistic index was significantly higher in negative contact experience that was preceeded by a positive compared to a negative one, hence showing a *buffering* effect (see Online Appendix for effects on abstraction of *first* contact).

Given that our hypotheses concern the variation of language used to describe second same valence contact, in order to rule out a variation of valence between conditions that might influence linguistic discrimination, we tested whether the second same valence contact conditions were described with different valence depending on the experiences that preceded them. To do this, we conducted non-parametric tests on the number of positive and negative terms that were employed in second same valence contact conditions.

A Mann-Whitney test indicated that the number of positive terms was not different between a positive contact experience that was preceded by a negative one ($M_{rank} = 28.93$) and that was preceded by a

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Table 1
Means and standard deviations of linguistic discrimination (from -3 = maximum linguistic outgroup discrimination, to $+3$ = minimum linguistic outgroup discrimination) of Study 1.

	Second recalled contact
Positive-positive	1.07 (0.43)
Positive-negative	−0.23 (0.77)
Negative-positive	1.35 (0.48)
Negative-negative	−0.68 (0.69)

positive one ($M_{rank} = 28.07$), $U = 380.00$, $p = .843$. Similarly, the number of negative terms was not different between a positive contact experience that was preceded by a negative one ($M_{rank} = 31.05$) and one that was preceded by a positive one ($M_{rank} = 25.95$), $U = 320.50$, $p = .206$. Thus, these results allowed us to rule out a language valence variation between second positive contact conditions.

Moreover, the number of positive terms was not different between a negative contact experience that was preceded by a positive one ($M_{rank} = 31.41$) and one preceded by a negative event ($M_{rank} = 25.59$), $U = 310.50$, $p = .169$. Similarly, the number of negative terms was not different between a negative contact experience that was preceded by a positive one ($M_{rank} = 25$) and one that was preceded by a negative one ($M_{rank} = 32$), $U = 294.00$, $p = .104$. Overall, results allowed us to rule out a language valence variation between second negative contact conditions.

3.2.2. Moderation analysis

We employed Hayes' (2012) PROCESS macro model 1 to test the moderating role of participants' prior quantity of positive contact with migrant people on the relationship between combinations of recalled contact episodes and linguistic discrimination against the target group. Specifically, we tested separately the relationships of positive and negative second contact with linguistic discrimination at two values of prior contact (computed at the $\pm$ 1 SD levels), with higher scores representing higher positive contacts with migrant people. In both models, the quality of contact was included as a covariate.

In the model on positive second contact conditions, the combination of recalled experiences significantly predicted linguistic discrimination against migrants. Specifically, the negative-positive condition was associated with lower linguistic outgroup discrimination, and the positive-positive condition was associated with higher linguistic outgroup discrimination, $B = 1.05$, $SE = 0.22$, 95% CI [0.59, 1.49], as indicated by lower score on the linguistic index. The quantity of previous positive contact with migrant people predicted linguistic discrimination, $B = 0.29$, $SE = 0.10$, 95% CI [0.09, 0.49], and the interaction between past contact and combination of recalled experiences was significant, $B = -0.20$, $SE = 0.05$, 95% CI [−0.31, −0.09]. The quality of previous contact did not predict linguistic discrimination, $B = 0.05$, $SE = 0.06$, 95% CI [−0.07, 0.18]. As shown in Fig. 1, tests of simple slopes across levels of past contact revealed a significant and strong association between the combination of recalled experiences and linguistic discrimination for participants with low contact with migrant people, $B = 0.72$, $SE = 0.15$, 95% CI [0.41, 1.03], and a nonsignificant relationship for those with higher contact, $B = -0.10$, $SE = 0.15$, 95% CI [−0.42, 0.22].

In the model on negative second contact conditions, the combination of recalled experiences did not predict linguistic discrimination against migrant people, $B = -0.51$, $SE = 0.57$, 95% CI [−1.67, 0.64]. The frequency of previous positive contact with migrant people did not predict linguistic discrimination, $B = 0.01$, $SE = 0.19$, 95% CI [−0.40, 0.40], nor did the quality of previous contact, $B = -0.07$, $SE = 0.09$, 95% CI [−0.25, 0.12], nor was a significant interaction between past contact and combination of recalled experiences found, $B = 0.02$, $SE = 0.13$, 95% CI [−0.25, 0.28].

Overall, results showed the beneficial effects of negative-positive

and positive-negative combinations compared to combinations of same-valence contacts. Study 1 supported the buffering effect of recalled combinations of real contact experiences with migrant people on linguistic discrimination against them. Specifically, results showed a buffering effect in the use of language (with the index indicating lower linguistic discrimination against migrants) when participants recalled a negative contact, preceded by the recall of a positive compared to a negative contact. Moreover, results showed that the facilitation effect was moderated by previous positive intergroup contact. Linguistic discrimination towards migrants was reduced when recalling positive contact was preceded by the recall of a negative contact for participants with low experience of previous positive contact with migrants.

However, in this study, we did not control for the time of the events recalled by participants, whether they were distant or recent past experiences and how the time difference could affect the recalled events and their descriptions. Thus, we conducted a second study to test the role of time of recalled experiences of intergroup contact and to provide convergent evidence to the initial results.

4. Study 2

In the second study, we investigated the effects of recalling different combinations of positive and negative interactions with migrants that took place in distant or recent past times on linguistic discrimination against migrants. In general terms, we expected to replicate the facilitation and buffering effects found in Study 1, and the moderation effect involving the quantity of prior positive contact. Research in the domain of construal level theory (Liberman & Trope, 1998), as well as evidence on the linguistic representations of distant past vs. recent past events (Bhatia & Walasek, 2016; Semin & Smith, 1999), led us to expect that descriptions of distant past encounters would be worded with more abstract terms compared to recall of recent past encounters. This is due to the fact that distant past experiences should represent more consolidated mental information, and should therefore be harder to change (e.g., Semin & Smith, 1999). Accordingly, it might be more difficult to find facilitation and buffering effects in distant vs. recent past experiences.

4.1. Method

4.1.1. Participants and design

Participants were 260 Italian University students (212 females, $M_{\text{age}} = 23.11$, $SD = 5.16$). They were randomly assigned to one of the eight conditions of a 4 (type of combination of recalled contacts: positive-positive, positive-negative, negative-positive, negative-negative) × 2 (contact experience timing: distant past, recent past) between participants design.

4.1.2. Procedure and materials

As in Study 1, participants recalled and wrote down two different or same valence contact experiences with a migrant person (excluding well-known people or friends). However, they were asked to recall either two distant past experiences (i.e., "an interaction that you have had with a migrant person more than 3 months ago") or two recent past experiences (i.e., "an interaction that you have had with a migrant person less than 1 month ago").

After the sequence of recalled events, participants completed questions on prior contact with migrant people and then were thanked and debriefed.

4.1.3. Dependent variables

Linguistic positive and negative abstraction and contact with migrant people were measured as in the previous study. Reliability between two independent coders, blind to the experimental conditions, was satisfactory for linguistic abstraction (Cohen's κ = 0.83) and valence (Cohen's κ = 0.91). Disagreement between the coders was
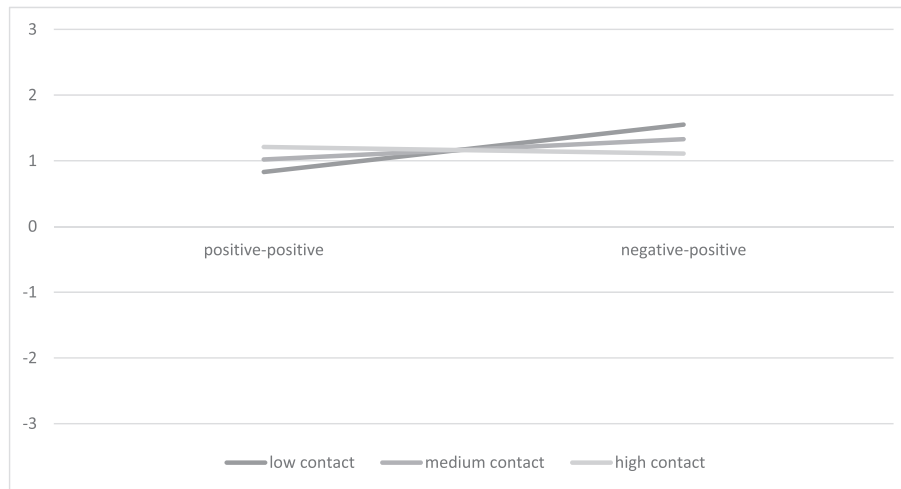
Fig. 1. Linguistic discrimination (from -3 = maximum linguistic outgroup discrimination, to $+3$ = minimum linguistic outgroup discrimination) in the second contact episode as a function of prior contact and sequential position of recalled experiences (Study 1). Adjusted $R^2 = 0.329$, $F(4, 51) = 6.28$, $p < .001$.

resolved by discussion. As before, quantity ($\alpha = 0.80$) and quality ($\alpha = 0.77$) of contact scales were reliable.[3] All measures, manipulations, and exclusions in the study are disclosed. No additional data were collected contingent on the results of an initial analysis.

4.2. Results and discussion

4.2.1. Linguistic discrimination

A linguistic index (computed as in Study 1) was subjected to a 2 (valence of second contact: positive vs. negative) × 2 (valence of first contact: positive vs. negative) × 2 (time: past vs. recent contacts) ANOVA on abstraction of the second contact episode.

There were main effects of valence of first contact, $F(1, 249) = 5.83$, $p = .016$, $\eta^2 = 0.024$, and valence of second contact, $F(1, 249) = 223.86$, $p < .001$, $\eta^2 = 0.482$, qualified by a three-way interaction, $F(1, 249) = 10.31$, $p = .001$, $\eta^2 = 0.041$. To decompose the interaction, we computed effects of valence of first contact and valence of second contact for past and recent experiences separately. See Table 2 for means and standard deviations.

4.2.1.1. Linguistic discrimination in past encounters.
Linguistic scores related to past encounters were submitted to a 2 (valence of second contact: positive vs. negative) × 2 (valence of first contact: positive vs. negative) ANOVA on abstraction of the second contact.

Results showed significant main effects of valence of first contact, $F(1, 123) = 4.32$, $p = .040$, $\eta^2 = 0.035$, and valence of second contact, $F(1, 123) = 116.28$, $p < .001$, $\eta^2 = 0.494$, but no interaction, $F(1, 123) = 2.11$, $p = .149$, $\eta^2 = 0.017$. Not surprisingly, linguistic outgroup discrimination was significantly lower when recalling a positive experience with a migrant person ($M = 0.42$, $SD = 1.32$) compared to

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[3] As for Study 1, results on *quantity* of prior contact showed no significant effect of valence of first contact, $F(1, 260) = 0.024$, $p = .878$, $\eta^2 = 0.001$, nor of time, $F(1, 260) = 0.687$, $p = .408$, $\eta^2 = 0.003$, but there was a main effect of valence of second contact, $F(1, 260) = 7.986$, $p = .005$, $\eta^2 = 0.031$, showing higher scores of prior contact ($M = 4.85$, $SD = 0.14$) in negative compared to positive contact conditions ($M = 4.27$, $SD = 0.14$). However, to test our main hypotheses we did not compare the sequences of different valence second contact conditions, therefore our results are not influenced by this effect of prior contact. Moreover, results on *quality* of prior contact showed no significant effect of valence of first contact, $F(1, 260) = 0.027$, $p = .870$, nor of valence of second contact, $F(1, 260) = 1.493$, $p = .223$, nor of time, $F(1, 260) = 0.138$, $p = .710$.

Table 2
Means and standard deviations of linguistic discrimination (from -3 = maximum linguistic outgroup discrimination, to $+3$ = minimum linguistic outgroup discrimination) related to past experiences of contacts (Study 2).

	Second recalled contact	
	Past events	Recent events
Positive-positive	1.27 (0.73)	0.99 (1.17)
Positive-negative	−0.71 (1.05)	−0.17 (0.65)
Negative-positive	0.70 (0.81)	1.28 (0.90)
Negative-negative	−0.81 (0.99)	−0.88 (0.69)

recalling a negative experience first ($M = -0.03$, $SD = 1.17$). Moreover, linguistic outgroup discrimination was significantly lower when recalling a positive experience with a migrant person ($M = 1.02$, $SD = 0.82$) compared to recalling a negative experience ($M = -0.76$, $SD = 1.01$) independently of the valence of previous recalled experiences.

As in Study 1, to rule out a variation of valence between conditions that might influence linguistic discrimination, we tested whether the second same valence contact conditions were described with different valence depending on the experiences that preceded them using Mann-Whitney non-parametric tests.

The number of positive terms was not different between a positive contact experience that was preceded by a negative one ($M_{rank} = 38.27$) and one that was preceded by a positive one ($M_{rank} = 31.34$), $U = 456.50$, $p = .148$. Similarly, the number of negative terms was not different between a positive contact experience that was preceded by a negative one ($M_{rank} = 30.16$) and that was preceded by a positive one ($M_{rank} = 38.14$), $U = 439.00$, $p = .083$.

Moreover, the number of positive terms was not different between a negative contact experience that was preceded by a positive one ($M_{rank} = 33.82$) and that was preceded by a negative one ($M = 29.18$), $U = 408.50$, $p = .197$. On the contrary, the number of negative terms was lower in a negative contact experience that was preceded by a positive one ($M_{rank} = 21.21$) compared to that preceded by a negative one ($M_{rank} = 41.79$), $U = 161.50$, $p < .001$. Nevertheless, overall evidence did not suggest a clear difference in valence between conditions considered.

4.2.1.2. Linguistic discrimination in recent encounters.
Linguistic scores related to recent encounters were submitted to the same 2 × 2 ANOVA. Results showed significant main effect of valence of second contact, $F(1,$

126) = 107.66, $p < .001$, $\eta^2 = 0.469$, and interaction between valence of first and second contact, $F(1, 126) = 9.60$, $p = .002$, $\eta^2 = 0.073$. As in Study 1, we conducted separate analyses for positive and negative second contact. See Table 2 for means and standard deviations.

Results of positive second contact showed no significant effect of valence of first contact, $F(1, 64) = 1.18$, $p = .282$, $\eta^2 = 0.019$. Results of negative second contact showed a significant main effect of valence of first contact, $F(1, 62) = 15.01$, $p < .001$, $\eta^2 = 0.200$. As expected, descriptions of migrants were characterized by lower linguistic outgroup discrimination in negative contact experiences that were preceeded by a positive compared to a negative one, hence showing a *buffering* effect.

A Mann-Whitney test indicated that the number of positive terms was higher when positive contact experience was preceded by a negative one ($M_{rank} = 39.07$) compared to the one that was preceded by a positive one ($M_{rank} = 29.05$), $U = 404.50$, $p = .037$. The number of negative terms was not different between a positive contact experience that was preceded by a negative one ($M_{rank} = 30.70$) and one that was preceded by a positive one ($M_{rank} = 39.03$), $U = 433.00$, $p = .053$. Nevertheless, we did not find a facilitation effect in this study.

Moreover, the number of positive terms was higher in the negative contact experience that was preceded by a positive one ($M_{rank} = 37.08$) compared to that preceded by a negative one ($M_{rank} = 25.92$), $U = 307.50$, $p = .013$. The number of negative terms was not different between a negative contact experience that was preceded by a positive one ($M_{rank} = 31.19$) and that was preceded by a negative one ($M_{rank} = 31.81$), $U = 471.00$, $p = .893$. Given that variation of valence was only found in positive and not in negative terms in descriptions of negative experiences, evidence allowed us to rule out a clear difference in language valence between same valence contact conditions.

4.2.2. Moderation analysis

As in Study 1, we used Hayes' (2012) PROCESS macro model 1 to test the moderating role of participants' prior contact with migrant people on the relationship between combinations of recalled contacts and linguistic discrimination. We did this only for *recent* contact experiences; given that we found no effects for past events, we did not test the moderation model on past contact experiences. We tested separately the relationships of positive and negative second contact with linguistic discrimination at two values of prior contact (computed at the ± 1 *SD* levels), with higher scores representing higher positive contacts with migrant people. In both models, the quality of contact was included as a covariate.

In the model on positive second contact conditions, the combination of recalled experiences significantly predicted linguistic discrimination against migrants. Specifically, the negative-positive condition was associated with lower linguistic outgroup discrimination, and the positive-positive condition was associated with higher linguistic outgroup discrimination, $B = 1.81$, $SE = 0.62$, 95% CI [0.57, 3.04], as indicated by lower score on the linguistic index. The frequency of previous positive contact with migrant people predicted linguistic discrimination, $B = 0.76$, $SE = 0.24$, 95% CI [0.28, 1.25], and the interaction between past contact and combination of recalled experiences was significant, $B = -0.39$, $SE = 0.15$, 95% CI [−0.69, −0.10]. The quality of previous contact did not predict linguistic discrimination, $B = 0.13$, $SE = 0.11$, 95% CI [−0.09, 0.35]. As shown in Fig. 2, tests of simple slopes across levels of past contact revealed a significant and strong association between the combination of recalled experiences and linguistic discrimination for participants with low contact with migrant people, $B = 0.93$, $SE = 0.34$, 95% CI [0.25, 1.60], and a nonsignificant relationship for those with higher contact, $B = -0.33$, $SE = 0.33$, 95% CI [−1.00, 0.33].

In the model on negative second contact conditions, the combination of recalled experiences did not predict linguistic discrimination against migrant people, $B = -0.79$, $SE = 0.62$, 95% CI [−2.03, 0.44].

The frequency of previous positive contact with migrant people did not predict linguistic discrimination, $B = -0.03$, $SE = 0.18$, 95% CI [−0.40, 0.34], nor did the quality of previous contact, $B = 0.02$, $SE = 0.07$, 95% CI [−0.13, 0.17]; the interaction between past contact and combination of recalled experiences was not significant, $B = 0.02$, $SE = 0.11$, 95% CI [−0.21, 0.25].

To summarize, results of Study 2 replicated the beneficial effects of mixed valence compared to same-valence combinations of contacts found in Study 1. Specifically, we replicated the buffering effect on linguistic discrimination. However, the facilitation effect was moderated by participants' prior contact, such that only people with low compared to those with high positive prior contact with migrant people showed a reduction of linguistic discrimination when recalling negative-positive compared to positive-positive contacts. Both the buffering effect and the moderated facilitation effect were found only for recent contacts. Conversely, with respect to distant past contacts we found the opposite effect of facilitation, such that recalling a positive contact after a negative one led to increased discrimination against migrants.

5. General discussion

The present research adopted a linguistic approach to examine in a novel way the effects of recalling positive and negative contact with migrants, through the analysis of abstraction and valence of the terms used in describing these experiences. In two studies, we found evidence for a buffering effect, since majority group members who recalled first positive, and then negative interactions expressed less linguistic discrimination against migrants in the second contact they recalled compared to majority group members who recalled two negative interactions. The temporal distance of the recalled experiences also played a role, with more beneficial effects of positive-negative combinations of contact when individuals retrieved recent vs. distant past intergroup interactions (Table 3).

Findings showed also a facilitation effect, but only for majority group members with low prior positive contact with migrant people in Study 1 and recall of recent interactions in Study 2. Those who recalled experiences that first referred to negative and then to positive interactions expressed less linguistic discrimination against migrants in the second contact than those who recalled two positive interactions. The opposite effect was found in recalling distant past events. Individuals who recalled past negative-positive interactions with outgroup members, expressed higher linguistic discrimination against migrants in the second order contact, compared to those who recalled two positive interactions.

Overall, these findings confirm the key role of recalling positive contact in counteracting the effects of negative contact (e.g., Birtel & Crisp, 2012; Paolini et al., 2014; Reimer et al., 2017), leading to linguistic descriptions of interactions which might help to undermine prejudice. Indeed, different combinations of recalled actual experiences of both positive and negative intergroup encounters lead majority group members to describe outgroup members in a more favorable way that contributes to build positive intergroup relationships.

5.1. Positive and negative contact effects on linguistic outgroup discrimination

This research provides evidence supporting the beneficial effect of recalling positive and negative interactions with migrants. They revealed a buffering effect of positive on negative contact and a facilitation effect of negative on positive contact, but only when temporally recent events were recalled. Moreover, the facilitation effect was moderated by previous positive contact.

Thus, these studies contribute to the burgeoning research on the comparative effects of positive and negative contacts on intergroup attitudes and orientations (Árnadóttir et al., 2018) in several ways. First, these studies are to our knowledge the first to compare the
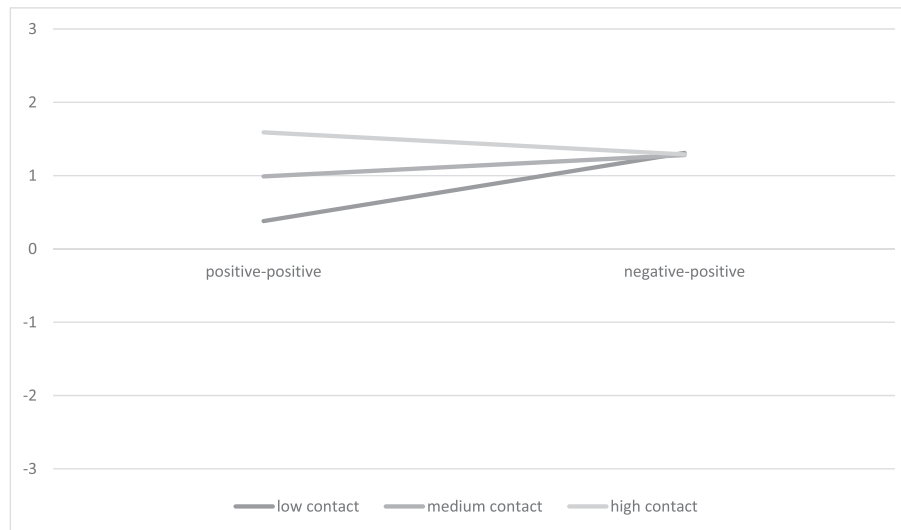
Fig. 2. Linguistic discrimination (from -3 = maximum linguistic outgroup discrimination, to $+3$ = minimum linguistic outgroup discrimination) in the second contact episode as a function of prior contact and sequential position of recalled recent experiences (Study 2).
Adjusted $R^2 = 0.238$, $F(4, 59) = 4.62$, $p = .002$.

combinations of recalling real valenced interactions, instead of imagining them (Birtel & Crisp, 2012). Second, these studies addressed all four combinations of positive and negative contact, rather than only negative-positive vs. positive-positive conditions (Birtel & Crisp, 2012).

In line with Birtel and Crisp (2012), these findings revealed the occurrence of a facilitation effect, supporting the influence of negative contact on subsequent positive contact in attenuating outgroup discrimination, albeit only for people who had relatively previous low positive contact with outgroup members. Results of both studies also provide evidence of the buffering effect, that is, the beneficial effect of positive contact on subsequent negative contact in reducing linguistic discrimination of outgroup members, who were described in a more favorable way. This result was found in particular for the recall of recent events. Taken together the results of these studies highlight that recalling mixed-valence (i.e., negative-positive; positive-negative) in comparison to same-valence (i.e., positive-positive; negative-negative) contacts with migrant people lead to more favorable evaluation of them, especially for people with low prior contact. Overall, this evidence, on the one hand, provides further support to the research on cognitive complexity (Crisp & Turner, 2011; Tadmor & Tetlock, 2006) and perceived inconsistency (Hutter & Crisp, 2005; Prati, Crisp, & Rubini, 2015; Prati, Vasiljevic, Crisp, & Rubini, 2015). Indeed, we confirmed and extended previous research on the beneficial effects of thinking about multiple and inconsistent social categories, by showing that recalling different valence of intergroup contact or complex combinations of intergroup experiences inhibits outgroup bias by leading to a less biased communication of people's recalled experiences. On the other hand, these studies go beyond previous research by showing for

the first time the effects of a cognitively complex task such as recalling reverse combinations of positive and negative contacts on a relatively uncontrolled behavioral outcome such as linguistic discrimination detected at the implicit level of linguistic abstraction.

One might wonder about the underlying processes of these effects by focusing on the interaction between positive and negative recalled experiences. A speculative, provisional answer derives from evidence (Fiedler & Unkelbach, 2011, Experiments 3 and 4; Walther, 2002, Experiments 4 and 5) showing that when a neutral stimulus and a positive one (e.g., faces, words) are presented together repeatedly, the neutral stimulus becomes more positive. The effect is weaker when negative stimuli are associated to neutral ones. These interesting findings are explained in terms of valence transfer from the positive stimulus to the neutral one. The effect of transfer between a positive and a neutral stimulus very likely relies on the density hypothesis (Unkelbach, Fiedler, Bayer, Stegmüller, & Danner, 2008), according to which positive information is more similar than negative information, resulting in higher density of positive information in mental representations. It can also be plausible that the density of positive information has a beneficial effect on negative information even in the context of intergroup contact: Namely, recalling positive valence intergroup encounters can lead perceivers to diminish the weight of the recalled negative experience in the light of the positive one, as shown by our evidence. Due to the higher density of positive information, asking people to recall experiences of positive contact with immigrants might override the impact of (unique) negative information associated to them (see Alves, Koch, & Unkelbach, 2018). Future research might test more directly whether these basic cognitive processes contribute to account for the

Table 3
Overview of results of Studies 1 and 2.

	Facilitation effect	Buffering effect	Moderation of facilitation effect
Study 1:			Confirmed
- Comparing two same valence contact conditions	Confirmed	Confirmed	
- Controlling for variation of language valence	Confirmed	Confirmed	
Study 2: Recent past memories			Confirmed
- Comparing two same valence contact conditions	Non-confirmed	Confirmed	
- Controlling for variation of language valence	Confirmed	Partially confirmed	
Study 2: Distant past memories			Non-confirmed
- Comparing two same valence contact conditions	Non-confirmed	Non-confirmed	
- Controlling for variation of language valence	Confirmed	Partially confirmed	

facilitation and buffering effects observed in the present studies.

Furthermore, it would be important to investigate whether similar effects of recalling intergroup experiences at the linguistic level apply to experiences with non-social objects. Would recalling a pleasant visit to a restaurant buffer the impact of subsequent recalling of an unpleasant visit and result in less negative linguistic description of the event compared to the recalling of two negative experience? Would recalling a positive experience after a negative one result in more favorable linguistic description of the second event compared to the sequential recall of two positive experiences? Basing on the mentioned differential similarity of positive and negative information (Unkelbach et al., 2008), one may argue that recalling a positive experience along with a negative one would render similar positive pieces of information simultaneously salient in mental representations, reducing the impact of a single negative information. In order to potentially generalize the present evidence to a variety of social and even non-social situations (e.g., taking a plane, undergoing an examination), future research should consider the impact of thinking and describing same vs. mixed valence experiences related to different types of objects. The present research also highlights a temporal constraint on the facilitation effect, as this occurred only in the recall of recent events The effect of the temporal distance of the recalled events might be explained by referring to the literature on construal level theory (Liberman & Trope, 1998) as well as on the asymmetry between positive and negative information (e.g., Baumeister, Bratslavsky, Finkenauer, & Vohs, 2001). In fact, as predicted, based on construal level theory and studies by Semin and Smith (1999) (see also Bhatia & Walasek, 2016), both positive and negative terms were more abstract in descriptions of distant vs. recent past interactions with migrants. The literature provides extensive evidence that negative events have a greater impact on information processing than positively valenced events (Baumeister et al., 2001). Negative interactions also might be more surprising and salient than positive ones (Hayward, Tropp, Hornsey, & Barlow, 2017). As a consequence, individuals might show enhanced memory for negative experiences (Abele, 1985; Fiske, 1980; Klinger, Barta, & Maxeiner, 1980). It is possible that negative contact that took place in the past – being consolidated in memory and coded at a more abstract level – has strong negative effects that are not counteracted by the recall of positive contact. Indeed, recalling a temporally distant negative contact before a temporally distant positive one might lead to strengthening the harmful impression of the first on the second one.

Thus, the greater potency of negative information in memory can attenuate the beneficial effects of retrieving positive information. This can explain our evidence of the detrimental effect of recalling negative-positive past encounters with migrants. Conversely, it is possible that recalling a recent negative contact before a positive one would affect category salience and therefore promote generalization via the use of more abstract terms in describing subsequent positive contacts (for a similar reasoning see Paolini et al., 2010).

Finally, this research is the first to focus on the effects of recalling positive and negative contact experiences on the language used in describing outgroup members. In our view, this is one of the most important aspects of this research: In fact, language is the everyday means through which people communicate to others their experiences, including the interactions they have with members of those groups. As shown by previous literature, by tailoring abstraction and valence of the terms used, people can give shape to different images of groups (Rubini et al., 2014), and, in this way, they can influence others' representations of outgroups. Moreover, through language they can facilitate or hinder the very outcomes of social interactions, including the possibility, and the quality, of intergroup contact itself. A somehow similar effect in an intergroup context was found by Mallett and Wilson (2010), who asked participants to write about a prior unexpectedly positive experience of intergroup contact. Under this conditions participants perceived subsequent actual interactions with other-ethnicity experimenters more positively than participants in other control conditions (i.e., participants who wrote about interactions that went just as expected; or did not write anything). These findings confirm the power of language representations in influencing social interaction in contexts that have important implications for the development of more inclusive societies.

Importantly, individuals can fulfill these goals in a strategic yet implicit way. Indeed, speakers can choose the valence of the terms they use, but they do not intentionally control the level of abstraction, nor are receivers aware of it. Although no studies to date have considered the approach-avoidance effects of the language used in intergroup contexts (Rubini et al., 2014), the possible consequences of the present findings have important implications and should therefore be addressed in future research.

5.2. The moderating role of prior positive contact

The results of both studies showed that the lower the level of participants' prior intergroup contact, the more the combination of mixed-valence compared to same-valence contact attenuated linguistic outgroup discrimination. More specifically, individuals with less contact with migrant people used negative terms at a lower level of abstraction when they were asked to recall recent negative and then positive contact; they also increased their use of positive abstract terms when they were asked to recall recent positive and then negative contact. Conversely, the higher the level of prior intergroup contact, the smaller the effect of different combinations of contact on linguistic outgroup discrimination. This also suggests that especially the negative-positive combination of recalled contacts is an effective strategy to attenuate intergroup discrimination when groups have low prior contact and rare opportunities for interactions.

The present research examined the interaction of cognitive and relational factors, that is the recall of two episodes of intergroup contact and the amount of positive contact experienced respectively, on the language employed to to depict outgroup members. Both factors interact and intervene on linguistic outgroup discrimination leading to less biased descriptions of outgroup members. Given that language can be conceived as a unique human behaviour, the obtained findings reveal a potential chain of possible sequential beneficial effects (i.e., experiencing negative intergroup interactions after positive ones, having had prior positive contact, recalling negative-positive combination of contacts, espressing less biased descriptions of outgroup members) that can contribute to social inclusion of migrant minorities in contemporary Western societies.

5.3. Practical implications

External cues — specific individuals and contexts encountered in everyday life — trigger autobiographical memories that are encoded with features related to these people or contexts in a continual process of which individuals are typically unaware (Conway & Pleydell-Pearce, 2000). The way they talk about these memories indicates their level of bias related to outgroup members involved in the recalled events.

The present evidence provides information that could help implement interventions to reduce linguistic outgroup bias through the recall of recent actual contact experiences. Specifically, recalling mixed valence (positive-negative) contact sequences promotes more accurate and less biased descriptions of outgroup members. This suggests that recalling a diverse set of valenced experiences, as well as experiencing social diversity (Crisp & Turner, 2011), is an efficient strategy to reduce linguistic outgroup discrimination. Moreover, evidence implies that individuals do not transmit outgroup bias when talking about their real recent negative experiences when these are also linked to positive experiences. However, this beneficial effect of mixed valence recall does not challenge distant past memories. This finding implies that intergroup contact independently of its valence should be encouraged, because the more intergroup experiences individuals have, the more they

should be able to recall a mixture of positive and negative contacts and the less likely they would be to form exclusively negative memories resulting in the transmission of linguistic outgroup discrimination.

5.4. Limitations and future research

Overall, this research demonstrates the close interplay between social cognition and language. We have demonstrated that the order of cognitive retrieval from memory of positive and negative intergroup experiences leads to changes in the language used to describe outgroup members. However, we did not investigate the extent to which the beneficial effects of positive and negative contact asymmetry on linguistic outgroup derogation endure over time. Moreover, we did not test directly the interplay between distant and recent past experiences of intergroup contact on linguistic outgroup discrimination. Future research should address these issues to obtain a more detailed picture of the benefits of recalling different- compared to same-valence intergroup contact experiences in term of revising the socio-cognitive and affective schemas of migrants, with the aim of promoting more inclusive practical relationships towards them. Moreover, the present research examined the perspective of the majority group of native Italians, towards the minority of migrant people; future research should test the linguistic outcomes of minority group members in depicting their intergroup encounters, in order to compare whether recalling positive and negative contact experiences has similar impact in majority and minority group members.

Finally, one might wonder whether these findings actually reflect more basic processes related to the recalling of positive and negative experiences. For instance, would recalling a pleasant visit to a restaurant buffer the impact of subsequent recalling of an unpleasant visit and result in less negative linguistic description of the event compared to the recalling of two negative experience? Would recalling a positive experience after a negative one result in more favorable linguistic description of the second event compared to the sequential recall of two positive experience? In order to potentially generalize the present evidence to a variety of social and even non-social situations (e.g., taking a plane, undergoing an examination), future research should consider the impact of thinking and describing same vs. mixed valence experiences related to different types of objects.

6. Conclusions

With the rise of nationalist movements in Europe who wish to restrict the flow of migrants and undermine social integration of migrant residents, positive contact between host-majority and migrant-minority envisages some hope that cooperative relations between these groups can be developed and maintained. Yet, it is important to know when benign effects of positive contact between the majority group and migrant people may be jeopardised by pernicious effects of negative contact. In this vein, the present research showed for the first time the beneficial effects of recalling mixed combinations of positive and negative contact experiences on reducing linguistic outgroup discrimination. Overall, our research has indicated ways in which the most important means of human communication, language, can be effective in reducing outgroup discrimination and thus building social inclusion.

Open practices

The experiment in this article eamed Open Materials and Open Data badges for transparent practices. Materials and data for the experiment are available at https://doi.org/10.6084/m9.figshare.8858948.

Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.jesp.2020.103970.

References

Abele, A. (1985). Thinking about thinking: Causal, evaluative and finalistic cognitions about social situations. *European Journal of Social Psychology, 15*, 315–332.

Aberson, C. L., & Gaffney, A. M. (2009). An integrated threat model of explicit and implicit attitudes. *European Journal of Social Psychology, 39*, 808–830.

Allport, G. (1954). *The nature of prejudice.* Reading, MA: Addison-Wesley.

Alves, H., Koch, A., & Unkelbach, C. (2018). A cognitive-ecological explanation of intergroup biases. *Psychological Science, 29*, 1126–1133.

Árnadóttir, K., Lolliot, S., Brown, R., & Hewstone, M. (2018). Positive and negative intergroup contact: Interaction not asymmetry. *European Journal of Social Psychology, 48*, 784–800.

Assilaméhou, Y., Lepastourel, N., & Testé, B. (2013). How the linguistic intergroup bias affects group perception: Effects of language abstraction on generalization to the group. *Journal of Social Psychology, 153*, 98–108.

Barlow, F. K., Paolini, S., Pedersen, A., Hornsey, M. J., Radke, H. R., Harwood, J., ... Sibley, C. G. (2012). The contact caveat: Negative contact predicts increased prejudice more than positive contact predicts reduced prejudice. *Personality and Social Psychology Bulletin, 38*, 1629–1643.

Baumeister, R. F., Bratslavsky, E., Finkenauer, C., & Vohs, K. D. (2001). Bad is stronger than good. *Review of General Psychology, 5*(4), 323–370.

Bekhuis, H., Ruiter, S., & Coenders, M. (2011). Xenophobia among youngsters: The effect of inter-ethnic contact. *European Sociological Review, 29*, 229–242.

Berntsen, D., Rubin, D. C., & Siegler, I. C. (2011). Two versions of life: Emotionally negative and positive life events have different roles in the organization of life story and identity. *Emotion, 11*, 1190–1201.

Bhatia, S., & Walasek, L. (2016). Event construal and temporal distance in natural language. *Cognition, 152*, 1–8.

Birtel, M. D., & Crisp, R. J. (2012). "Treating" prejudice: An exposure-therapy approach to reducing negative reactions toward stigmatized groups. *Psychological Science, 23*, 1379–1386.

Brown, R., & Hewstone, M. (2005). An integrative theory of intergroup contact. *Advances in Experimental Social Psychology, 37*, 255–343.

Conway, M. A., & Pleydell-Pearce, C. W. (2000). The construction of autobiographical memories in the self-memory system. *Psychological Review, 107*, 261–288.

Crisp, R. J., & Turner, R. N. (2011). Cognitive adaptation to the experience of social and cultural diversity. *Psychological Bulletin, 137*, 242–266.

Denny, M. R. (1971). Relaxation theory and experiments. In F. R. Brush (Ed.). *Aversive conditioning and learning* (pp. 147–188). San Diego, CA: Academic Press.

Dhont, K., Cornelis, I., & Van Hiel, A. (2010). Interracial public–police contact: Relationships with police officers' racial and work-related attitudes and behavior. *International Journal of Intercultural Relations, 34*, 551–560.

Dhont, K., & Van Hiel, A. (2009). We must not be enemies: Interracial contact and the reduction of prejudice among authoritarians. *Personality and Individual Differences, 46*, 172–177.

Erdfelder, E., Faul, F., & Buchner, A. (1996). GPOWER: A general power analysis program. *Behavior Research Methods, Instruments, & Computers, 28*, 1–11.

Fiedler, K., & Unkelbach, C. (2011). Evaluative conditioning depends on higher order encoding processes. *Cognition and Emotion, 25*, 639–656.

Fiske, S. T. (1980). Attention and weight in person perception: The impact of negative and extreme behavior. *Journal of Personality and Social Psychology, 38*, 889–906.

Graf, S., Paolini, S., & Rubin, M. (2014). Negative intergroup contact is more influential, but positive intergroup contact is more common: Assessing contact prominence and contact prevalence in five Central European countries. *European Journal of Social Psychology, 44*, 536–547.

Greenland, K., & Brown, R. (1999). Categorization and intergroup anxiety in contact between British and Japanese nationals. *European Journal of Social Psychology, 29*, 503–521.

Hayes, A. F. (2012). *PROCESS: A versatile computational tool for observed variable mediation, moderation, and conditional process modeling.*

Hayward, L. E., Tropp, L. R., Hornsey, M. J., & Barlow, F. K. (2017). Toward a comprehensive understanding of intergroup contact: Descriptions and mediators of positive and negative contact among majority and minority groups. *Personality and Social Psychology Bulletin, 43*, 347–364.

Husnu, S., & Paolini, S. (2019). Positive imagined contact is actively chosen: Exploring determinants and consequences of volitional intergroup imagery in a conflict-ridden setting. *Group Processes and Intergroup Relations, 22*, 511–529.

Hutter, R. R. C., & Crisp, R. J. (2005). The composition of category conjunctions. *Personality and Social Psychology Bulletin, 31*, 647–657.

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 Bulletin, 19*, 700–710.

Klinger, E., Barta, S. G., & Maxeiner, M. E. (1980). Motivational correlates of thought content frequency and commitment. *Journal of Personality and Social Psychology, 39*, 1222–1237.

Kosic, A., Mannetti, L., & Sam, D. L. (2005). The role of majority attitudes towards out-group in the perception of the acculturation strategies of immigrants. *International Journal of Intercultural Relations, 29*, 273–288.

Liberman, N., & Trope, Y. (1998). The role of feasibility and desirability considerations in near and distant future decisions: A test of temporal construal theory. *Journal of Personality and Social Psychology, 75*, 5–18.

Maass, A. (1999). Linguistic intergroup bias: Stereotypes-perpetuation through language. In M. P. Zanna (Vol. Ed.), *Advances in experimental social psychology. Vol. 31. Advances in experimental social psychology* (pp. 79–121). San Diego, CA: Academic Press.

Maass, A., & Arcuri, L. (1996). Language and stereotyping. In C. N. Macrae, C. Stangor, &

M. Hewstone (Vol. Eds.), *Stereotypes and stereotyping. Vol. 1996. Stereotypes and stereotyping* (pp. 193–226). New York, NY: Guilford.

Maass, A., Castelli, L., & Arcuri, L. (2000). Measuring prejudice: Implicit versus explicit techniques. In D. Capozza, & R. J. Brown (Eds.). *Social identity processes: Trends in theory and research* (pp. 96–116). London, England: Sage.

Mallett, R. K., & Wilson, T. D. (2010). Increasing positive intergroup contact. *Journal of Experimental Social Psychology, 46*, 382–387.

Mayr, S., Erdfelder, E., Buchner, A., & Faul, F. (2007). A short tutorial of GPower. *Tutorials in Quantitative Methods for Psychology, 3*, 51–59.

Moscatelli, S., Albarello, F., & Rubini, M. (2008). Linguistic discrimination in minimal groups: The impact of status differentials. *Journal of Language and Social Psychology, 27*, 140–154.

Moscatelli, S., & Rubini, M. (2011). The impact of group entitativity on linguistic discrimination. *Social Psychology, 42*, 292–299.

Moscatelli, S., Albarello, F., Prati, F., & Rubini, M. (2014). Badly off or better off than them? The impact of relative deprivation and relative gratification on intergroup discrimination. *Journal of Personality and Social Psychology, 107*, 248–264.

Moscatelli, S., Hewstone, M., & Rubini, M. (2017). Different size, different language? Linguistic ingroup favoritism and outgroup derogation by majority and minority groups. *Group Processes & Intergroup Relations, 20*, 757–769.

Mowrer, O. (1960). *Learning theory and behavior.* New York, NY: Wiley.

Paolini, S., Harwood, J., & Rubin, M. (2010). Negative intergroup contact makes group memberships salient: Explaining why intergroup conflict endures. *Personality and Social Psychology Bulletin, 36*, 1723–1738.

Paolini, S., Harwood, J., Rubin, M., Husnu, S., Joyce, N., & Hewstone, M. (2014). Positive and extensive intergroup contact in the past buffers against the disproportionate impact of negative contact in the present. *European Journal of Social Psychology, 44*, 548–562.

Pettigrew, T. F. (2008). Future directions for intergroup contact theory and research. *International Journal of Intercultural Relations, 32*, 187–199.

Pettigrew, T. F., & Hewstone, M. (2017). The single factor fallacy: Implications of missing critical variables from an analysis of intergroup contact theory. *Social Issues and Policy Review, 11*, 8–37.

Pettigrew, T. F., & Tropp, L. R. (2006). A meta-analytic test of intergroup contact theory. *Journal of Personality and Social Psychology, 90*, 751–783.

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

Pettigrew, T. F., Tropp, L. R., Wagner, U., & Christ, O. (2011). Recent advances in intergroup contact theory. *International Journal of Intercultural Relations, 35*, 271–280.

Prati, F., Crisp, R. J., & Rubini, M. (2015). Counter-stereotypes reduce emotional intergroup bias by eliciting surprise in the face of unexpected category combinations. *Journal of Experimental Social Psychology, 61*, 31–43.

Prati, F., Menegatti, M., & Rubini, M. (2015). The beneficial role of multiple categorization and intergroup contact in reducing linguistic out-group derogation. *Journal of Language and Social Psychology, 34*, 475–500.

Prati, F., Menegatti, M., & Rubini, M. (2015). The beneficial role of multiple categorization and intergroup contact in reducing linguistic out-group derogation. *Journal of Language and Social Psychology, 34*, 475–500.

Prati, F., Vasiljevic, M., Crisp, R. J., & Rubini, M. (2015). Some extended psychological benefits of challenging social stereotypes: Decreased dehumanization and a reduced reliance on heuristic thinking. *Group Processes & Intergroup Relations, 18*, 801–816.

Reid, S. A., & Ng, S. H. (1999). Language, power, and intergroup relations. *Journal of Social Issues, 55*, 119–139.

Reimer, N. K., Becker, J. C., Benz, A., Christ, O., Dhont, K., Klocke, U., ... Hewstone, M.

(2017). Intergroup contact and social change: Implications of negative and positive contact for collective action in advantaged and disadvantaged groups. *Personality and Social Psychology Bulletin, 43*, 121–136.

Rubini, M., Menegatti, M., & Moscatelli, S. (2014). The strategic role of language abstraction in achieving symbolic and practical goals. *European Review of Social Psychology, 25*, 263–313.

Rubini, M., Moscatelli, S., & Palmonari, A. (2007). Increasing group entitativity: Linguistic intergroup discrimination in the minimal group paradigm. *Group Processes & Intergroup Relations, 10*, 280–296.

Schacter, D. L., Addis, D. R., & Buckner, R. L. (2008). Episodic simulation of future events: Concepts, data, and applications. In A. Kingstone, & M. B. Miller (Vol. Eds.), *The year in cognitive neuroscience 2008: . Vol. 1124. Annals of the New York Academy of Sciences* (pp. 39–60). Blackwell Publishing.

Semin, G. R. (2000). Agenda 2000—Communication: Language as an implementation device for cognition. *European Journal of Social Psychology, 30*, 596–612.

Semin, G. R., & Fiedler, K. (1988). The cognitive functions of linguistic categories in describing persons: Social cognition and language. *Journal of Personality and Social Psychology, 54*, 558–568.

Semin, G. R., & Fiedler, K. (1992). The inferential properties of interpersonal verbs. In G. R. Semin, & K. Fiedler (Eds.). *Language, interaction and social cognition* (pp. 58–78). London, England: Sage.

Semin, G. R., & Smith, E. R. (1999). Revisiting the past and back to the future: Memory systems and the linguistic representation of social events. *Journal of Personality and Social Psychology, 76*, 877–892.

Sniderman, P. M., Peri, P., de Figueiredo, R. J., Jr., & Piazza, T. L. (2002). *The outsider: Politics and prejudice in Italy.* Princeton: University Press.

Squire, L. R., Cohen, N. J., & Nadel, L. (1984). The medial temporal region and memory consolidation: A new hypothesis. In H. Weingartner, & E. S. Parker (Eds.). *Memory Consolidation: Psychobiology of Cognition* (pp. 185–210). Erlbaum: Hillsdale, NJ.

Tadmor, C. T., & Tetlock, P. E. (2006). Biculturalism: A model of the effects of second-culture exposure on acculturation and integrative complexity. *Journal of Cross-Cultural Psychology, 37*, 173–190.

Thompson, C. P., Skowronski, J. S., Larsen, S. F., & Betz, A. L. (1996). *Autobiographical memory: Remembering what and remembering when.* Hillsdale, NJ: Erlbaum.

Trope, Y., & Liberman, N. (2000). Temporal construal and time-dependent changes in preference. *Journal of Personality and Social Psychology, 79*, 876–889.

Unkelbach, C., Fiedler, K., Bayer, M., Stegmüller, M., & Danner, D. (2008). Why positive information is processed faster: The density hypothesis. *Journal of Personality and Social Psychology, 95*, 36–49.

Voci, A., & Hewstone, M. (2003). Intergroup contact and prejudice toward immigrants in Italy: The mediational role of anxiety and the moderational role of group salience. *Group Processes & Intergroup Relations, 6*, 37–54.

Walker, W. R., Skowronski, J. J., & Thompson, C. P. (2003). Life is pleasant—and memory helps to keep it that way!. *Review of General Psychology, 7*(2), 203–210. https://doi.org/10.1037/1089-2680.7.2.203.

Walther, E. (2002). Guilty by mere association. Evaluative conditioning and the spreading-attitude effect. *Journal of Personality and Social Psychology, 82*, 919–934.

Wigboldus, D. H. J., & Douglas, K. M. (2007). Language, expectancies and intergroup relations. In K. Fiedler (Ed.). *Social communication* (pp. 79–106). New York, NY: Psychology Press.

Wilder, D. A. (1984). Intergroup contact: The typical member and the exception to the rule. *Journal of Experimental Social Psychology, 20*, 177–194.

Woodworth, R. S., & Schlosberg, H. (1954). *Experimental psychology.* Oxford, UK and IBH Publishing.