

## Research article

# Positive and extensive intergroup contact in the past buffers against the disproportionate impact of negative contact in the present

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### Abstract

*Negative (vs positive) intergroup contact may have a disproportionately large impact on intergroup relations because of valence-salience effects, whereby negative contact causes higher category salience (Paolini, Harwood, & Rubin, 2010). One correlational and three experimental studies in three conflict areas (Northern Ireland, Arizona's border area, and Cyprus; Ns = 405, 83, 76, and 91) tested the moderation of these valence-salience effects by individuals' histories of outgroup contact. Consistent with a perceived fit principle valence-salience effects of face-to-face, television-mediated, and imagined contact held among individuals with negative or limited histories of outgroup contact; these effects were significantly reduced or nonsignificant among individuals with positive or extensive past outgroup contact. These moderation effects suggest that positive and diverse intergroup contact in the past buffers against the harmful effects of negative contact experiences in the present, thus limiting the potential for negative spiralling of intergroup relations. Copyright © 2014 John Wiley & Sons, Ltd.*

Because of a focus on prejudice reduction, social psychological analyses of intergroup contact have traditionally shied away from negative intergroup contact and comparisons of negative versus positive contact (Pettigrew, 2008). They have provided a more positive report on intergroup contact than suggested in related disciplines (sociology, political science, and human geography; Pettigrew & Tropp, 2011), one that disagrees with global trends of increased intergroup friction under increased social diversity (Quillian, 1995). Recent evidence suggests that intergroup friction may persist because negative contact facilitates intergroup hostility more powerfully than positive contact facilitates harmony (Barlow et al., 2012; Dhont & Van Hiel, 2009; Paolini, Harwood, & Rubin, 2010). This would occur via a disproportionate influence of negative contact on group salience (the *valence-salience effect*).

In the current paper, we (i) test the persistence of this valence-salience effect across multiple geographical contexts and different forms of contact, and more importantly (ii) explore whether valence-salience effects can be buffered by a prior history of high quality (positive) or high frequency (extensive) intergroup contact. Past work contended that negative contact may have a disproportionately larger impact on broad intergroup relations than positive contact because of an asymmetrical relationship between contact valence and category salience: put simply, that group memberships are more salient when contact is negative. Consistent with this prediction and existing correlational evidence, experimental and longitudinal findings demonstrated that negative intergroup contact *causes* greater attention to group memberships during contact than

positive contact (see Paolini et al., 2010). These valence-salience effects are critical because individuals are more likely to generalize from individual contact experiences to more general group-based responses when groups are salient (Brown & Hewstone, 2005); if groups are more salient under negative contact, then negative contact will generalize more easily than positive contact.

In the current research, we test whether individuals' positive and extensive histories of intergroup contact limit the size of valence-salience effects, thus acting as protective factors against the disproportionate influence of discrete negative contact experiences on category salience. We do this using moderation designs (Spencer, Zanna, & Fong, 2005) across four studies and three intergroup settings. In so doing, this research draws attention to individual differences in *past histories* of intergroup contact as key factors shaping the potential for *discrete present* contact experiences to affect broad intergroup relations. This brings past *and* present contact *together* for a fuller empirical understanding of intergroup contact effects (see Trawalter, Adam, Chase-Lansdale, & Richeson, 2012).

## NEGATIVE CONTACT CAUSES HIGHER CATEGORY SALIENCE

According to classic analyses of category salience, the salience of a category is high when intra-category differences are small and inter-category differences are large (Bruner, 1957; Rosch

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& Mervis, 1975; Tajfel & Wilkes, 1963; Turner, Hogg, Oakes, Reicher, & Wetherell, 1987). As Corneille and Judd (1999) eloquently put it, 'categories are defined not only by the resemblances of the objects that are categorized together but also by the dissimilarities among objects that are put into different categories' (p. 927; see also Blanz, 1999). As such, category salience can be assessed subjectively in terms of (global) category awareness, as well as in terms of markers of intragroup similarity (i.e. category's central tendency or 'prototype') and intergroup differences (perceived intergroup differences).

Category salience deserves prime attention in contact research because it is the key cognitive gatekeeper of generalized changes in intergroup relations after contact (see Brown & Hewstone, 2005, for a comprehensive review). While the outcome of interactions with members of a rival group undoubtedly affects individuals' attitudes towards the specific contact partners (i.e. positive interactions lead to positive interpersonal attitudes, and negative to negative; Stark, Flache, & Veenstra, 2013), extensive social psychological evidence now indicates that discrete contact experiences change responses to the outgroup *as a whole* (i.e. 'generalize') more, or only, when category salience is high (vs low; Hewstone & Hamberger, 2000; Voci & Hewstone, 2003). When category salience is low, the outcome of discrete contact experiences remains insulated and affects attitudes towards the specific contact partners but not group-level attitudes. For generalized changes in intergroup relations to occur after intergroup contact, the contact partners must be aware of their respective group memberships, attend to intergroup differences, or treat each other as representatives/typical of their social groups.

Not all types of intergroup contact, however, are equal in issuing high category salience and hence in their potential to shape broad intergroup relations. Recent experimental and longitudinal data suggest the existence of valence-salience effects, whereby negative contact causes higher category salience than positive contact (Paolini et al., 2010). For instance, when describing a visibly non-White contact partner, White Australians made more frequent and earlier reference to ethnicity (an indication of high ethnicity salience) if she had displayed negative, versus positive, body language. Similar patterns are apparent in extensive correlational data (e.g. Islam & Hewstone, 1993; for review, see Paolini et al., 2010). Findings of a valence-salience effect do not dispute the benefits of positive contact (Pettigrew & Tropp, 2006)—that is, positive contact leads to positive attitudes towards contact partners and the outgroup as a whole. Instead, they warn about discrete experiences of negative contact *outweighing* discrete positive contact experiences in shaping intergroup relations because of negative contact's closer link to category salience.

Valence asymmetries of a similar kind have been documented in other literatures (for a comprehensive review, see Baumeister, Bratslavsky, Finkenauer, & Vohs, 2001); they have been routinely interpreted as reflecting greater biological significance of negative (vs positive) stimuli for the survival of the organism, and they imply that this valence asymmetry is ubiquitous and context-invariant. The present research disputes the applicability of this evolutionary explanation to valence-salience effects and proposes an alternative functional and context-specific interpretation.

## PAST INTERGROUP CONTACT MODERATES VALENCE-SALIENCE EFFECTS

The present research puts the psychological invariance of valence-salience effects to empirical test by assessing the moderating role of individuals' histories of past outgroup contact. According to functional and motivational analyses (Bruner, 1957; Oakes, Haslam, & Turner, 1994), category salience should reflect a dynamic interaction between the qualities of the specific and discrete contact experience and the qualities of pre-existing and chronic individual expectations about the specific groups involved (Blanz, 1999; Oakes, Turner, & Haslam, 1991). Assuming pre-existing negative expectations about outgroups and interactions with outgroups, discrete experiences of negative contact with outgroup members would increase category salience situationally because negative contact is more consistent—it has better perceived fit (Coates, Latu, & Haydel, 2006; Reynolds, Turner, & Haslam, 2000)—with people's negative expectations. Similarly, individuals' *past* histories of contact with the outgroup affect people's inclination to use group categories again via stimulus fit mechanisms (Oakes et al., 1994; also Bruner, 1957)—for example, past negative contact renders negative exemplars more easily categorizable and/or positive exemplars less easily categorizable. In the present research, we examined the role of past outgroup contact—both quantity and quality—for its ability to moderate valence-salience effects in directions consistent with the stimulus fit principle.

The *quality* of individuals' *histories of past contact* with the outgroup should moderate the size of valence-salience effects: Individuals with histories of *negative* outgroup contact should display larger valence-salience effects because their personal history has reinforced the fit between negativity and expectations about the outgroup (see Blanz, 1999, for the notion of 'stored' meta-contrast ratios). In contrast, a history of *positive* past contact should reduce the salience of discrete *negative* contact experiences because this positive intergroup history counteracts the basic tendency to assume that outgroups are negative—and it is this tendency that promotes valence-salience effects (Oakes et al., 1994, p. 154).

A related argument can be made about the moderating effects of past contact *quantity*. In societies where groups experience some degree of conflict, individuals with a *limited* history of outgroup contact should display higher levels of category salience in a given contact situation because of its novelty. *Limited* experience with the outgroup is associated with perceived group homogeneity, more extreme outgroup attitudes, and more polarized responses to attitudinally relevant information (Linville, 1982; Paolini, Hewstone, Cairns, & Voci, 2004; Stangor, Lynch, Duan, & Glass, 1992), all of which facilitate stimulus fit (Blanz, 1999; Oakes et al., 1994). In contrast, individuals with *extensive* intergroup contact hold more diverse and less extreme outgroup perceptions, which reduces the degree to which any single interaction will confirm or disconfirm expectations about interactions with the outgroup (Hewstone & Hamberger, 2000; Kunda & Oleson, 1997).

Based on this reasoning, we expected valence-salience effects to be stronger among individuals with negative or limited histories of past intergroup contact; we expected valence-

salience effects to be significantly smaller or nonsignificant among individuals with a history of relatively more positive or extensive past contact with the outgroup. These moderation findings contradict an evolutionary interpretation of valence-salience effects by demonstrating that these effects are *not* inflexible and context independent; rather, they are shaped by context-specific expectations about the nature of the specific groups involved and about the nature of modal interactions with its members.

## PAST RESEARCH AND THE PRESENT INVESTIGATION

The primary aim of the present research was to test whether individuals' prior histories of intergroup contact—past contact quality and quantity—moderate valence-salience effects (i.e. the effects of the valence of contact on the salience of groups). We found indirect evidence for our predictions in the stereotyping literature: Individual differences in outgroup attitudes—a distal proxy of individuals' past histories of contact with the outgroup—moderate people's responses to individual outgroup members (Augoustinos, Ahrens, & Innes, 1994; Lepore & Brown, 1997; Wittenbrink, Judd, & Park, 1997). As expected from a stimulus fit perspective, this work shows that prejudiced (vs non-prejudiced) individuals categorize negative outgroup individuals more readily than positive outgroup individuals.

To the best of our knowledge, no earlier test has included a direct assessment of whether responses to discrete experiences of contact with the outgroup *in the present* are moderated by the perceivers' *history* of *past* contact. Thus, what is absent is an understanding that the valence of interactions with the outgroup affects these interactions' immediate outcomes (e.g. in terms of category salience and categorization readiness) *and also* influences these interactions' outcomes over time—so that negative interactions become progressively more likely to yield sizeable negative effects and positive interactions become progressively less likely to yield positive outcomes. With the present research, we aimed to provide the tests needed to address these lacunae. Hence, our moderation designs investigated responses to discrete contact experiences that took place in the *present* against the backdrop of individuals' cumulative *past histories* of outgroup contact.

### Research Designs and Hypotheses

The four studies we report in this article examined the effect of the valence of current, discrete contact experiences with the outgroup (contact valence: *independent variable*) on the salience of group memberships (category salience: *dependent variable*), and considered quality and quantity of past intergroup contact as moderators of that effect (past contact: *moderators*). The first study was a secondary analysis of existing correlational data; the following three studies experimentally manipulated the valence of discrete contact experiences and assessed its interactions with measured individual differences in past outgroup contact.

Our operationalizations of category salience kept with classic analyses of category salience described earlier, and with the intergroup contact tradition for multiple categorization markers, including self-reports of category awareness, perceived intergroup differences, and contact partner's typicality (or combinations of these; Brown & Hewstone, 2005). Evidence from our own research laboratory (Paolini, Harwood, & Rubin, 2008) confirms that these self-reports are sensitive to variations in the intergroup (vs intragroup) context and have convergent validity with less controllable measures of category salience, including latencies in validated speeded categorization tasks (e.g. Richeson & Trawalter, 2005), frequencies, and primacy of category-related responses in non-obtrusive open-ended person-construal tasks (Mendoza-Denton, Ayduk, Mischel, Shoda, & Testa, 2001). We use a variety of measures of salience, but all are consistent with our conceptual framework and prior empirical work.

In designing these four studies, we strived to ascertain the generalizability, and hence increase confidence, in the widespread occurrence of both valence-salience effects and their moderation by past outgroup contact. With this in mind, we investigated different types of discrete contact experiences with the outgroup and carried out our tests in diverse intergroup settings. Previous work on valence asymmetries has focused on the psychological consequences of direct, face-to-face contact in significant but peaceful settings (e.g. Aberson & Gaffney, 2009; Barlow et al., 2012; Dhont & Van Hiel, 2009; Paolini et al., 2010). In our first test, here, we looked at individuals' reports of face-to-face contact (*Correlational Study*). The following three tests focused on systematic variations in the valence of 'parasocial' or television-mediated contact (*Experiment 1*; Schiappa, Gregg, & Hewes, 2005) and imagined contact (*Experiments 2 and 3*; Turner, Crisp, & Lambert, 2007). In addition, we extended our analysis to contexts that are characterized by a long and entrenched history of intergroup conflict or by recent flare ups of acute intergroup friction: Northern Ireland for our correlational study, Arizona's southern border for Experiments 1 and 2, and Cyprus for Experiment 3. The three experiments extend the results of the initial correlational study by increasing confidence in causal direction, as well as examining the persistence of these effects across different intergroup contexts, varying forms of intergroup contact, and different operationalizations of the key variables.

In all four studies, we expected discrete experiences of negative intergroup contact to lead to higher category salience than discrete positive contact experiences (a basic valence-salience effect). Because the effect we are studying is a *relative* one, a stringent test of valence-salience effects does not rely on a neutral control condition; it requires two discrete contact experiences that are significantly *different* along the positive–negative valence spectrum (i.e. a positive vs a negative experience; *or* a negative vs a *more negative* experience; *or* a positive vs a *less positive* experience). We also expected evidence of moderation consistent with a perceived stimulus fit mechanism: robust valence-salience effects among individuals with negative or limited past contact with the outgroup; weaker or nonsignificant effects among individuals with relatively more positive or extensive histories of past outgroup contact. If confirmed, these moderating findings would imply that the disproportionate influence of negative contact remains

a possibility for individuals who have had little contact or a history of negative contact with the outgroup, but could be averted by fostering opportunities for more frequent and more positive contact experiences. We should stress that, in trying to isolate factors that reduce (or possibly reverse) valence-salience effects, we do not invoke colour-blind interventions (Rattan & Ambady, 2013; Wolsko, Park, Judd, & Wittenbrink, 2000). Rather, we call for systematic investigations into conditions that weaken the coupling of negative contact with high salience and/or strengthen the coupling of high salience with positive outgroup experiences.

## CORRELATIONAL STUDY

A first test of whether past outgroup contact moderates valence-salience effects was performed on existing Northern Ireland data collected in 1999. This region has a centuries-old history of entrenched intergroup conflict between Protestants and Catholics (Cairns & Darby, 1998). The modern conflict, known as ‘The Troubles’, dates between 1969 and 1994; the cessation of sectarian violence was achieved in 1998—just prior to this data collection. Peace still holds today imperfectly, and Northern Ireland does not enjoy ‘normal’ political and social stability: It suffers from widespread group segregation (Christ et al., 2010) and religious polarization (Cairns & Darby, 1998). For many students in segregated societies, including the Northern Irish, university settings offer a more supportive climate for cross-community relations than their home schools and neighbourhoods (Levin, Van Laar, & Foote, 2006; McKeown & Cairns, 2012), including the opportunity to form cross-group friendships—a positive and intimate form of intergroup contact (Paolini et al., 2004).

Our first test of moderation exploited natural discontinuities between individuals’ pre-university and pre-ceasefire Catholic–Protestant contact at home, versus newer and perhaps more positive cross-community contact experiences in the present post-ceasefire university setting. We tested basic valence-salience effects evaluating the extent to which participants’ reports of present-day discrete visits to their cross-group student friends at University—distinctively positive contact experiences in the present (Paolini et al., 2004)—predicted category salience. Then, we examined whether such effects were moderated by participants’ *pre-university history* of cross-community contact.

## Method

### Participants and Design

Respondents were 405 Northern Irish students at three campuses, located in a large city in the East of the province, a small city in the West, and a rural area of the North (173 male, 229 female, 3 unspecified;  $M = 23.13$  years,  $SD = 5.65$ ). They self-identified as either Catholics ( $n = 198$ ) or Protestants ( $n = 207$ ). This study used a correlational design.

### Procedure and Materials

**Past contact moderators.** The study was introduced as an investigation of the relations between Catholic and Protestant communities. In a questionnaire, respondents reported on their

experiences of intergroup contact at home before going to university: They indicated how often they saw members of the other community in the area where they lived (*past opportunity for contact*; 0 = *never*, 4 = *very often*) and had contact with them (*past quantity of contact*; Islam & Hewstone, 1993; three items, e.g. ‘before coming to University, how much contact did you have overall with people from the other community?’; 0 = *not at all*, 4 = *a great deal*;  $\alpha = .84$ ).

**Contact valence predictor and salience outcome.** Respondents then reported on their present (1999) life as a university student. They completed an item assessing the valence of discrete contact experiences in the present in terms of the frequency of *current cross-group friendship visits* (‘how often do you visit student friends from the other community at their home?’; 0 = *not at all*, 4 = *very much*). We reverse scored this item so that a positive  $b$  coefficient would represent a valence-salience effect in all studies. A four-item measure of *category salience* (Islam & Hewstone, 1993;  $\alpha = .63$ ) followed, including items tapping contact partners’ typicality and awareness of intergroup differences (e.g. ‘did you feel you met as two people representing your respective communities?’; ‘how aware were you of belonging to different communities?’; all items, 0 = *not at all*, 4 = *very much*).

**Changes in contact from pre-university to during university.** To check on changes in intergroup contact, respondents indicated how much contact they had with people from the other community since they had been a student *compared with* before they came to university (1 = *much less*, 3 = *about the same*, 5 = *much more*). Approximately, half of the sample reported having more intergroup contact at university compared with before (21% much more; 25.4% a little more). A smaller proportion reported having less contact at university (10.9% a little less; 6.2% much less; chi-square  $p < .001$ ). This confirms that university typically offered some discontinuity in cross-community experiences. The final questionnaire section surveyed demographics.<sup>1</sup>

## Results and Discussion

### Overview of Analytical and Reporting Approach

In all studies, we tested for valence-salience effects and for moderation of these effects by past outgroup contact—indices of contact quality and quantity—using Hayes and Matthes’ (2009) MODPROBE procedure, which probes interactions in OLS with centred continuous moderators. We reported full statistics for these tests in both tabulated and graphical form (e.g. see Table 1 and Figure 1 for this Correlational Study). Group salience is the criterion variable.

As in ordinary hierarchical regression analysis (Aiken & West, 1991), the vectors for contact valence and each of the moderators (contact quality and quantity) in turn are entered first; here, a significant main effect of contact valence indicates that a basic valence-salience effect holds across the levels of the moderator (for full statistics, see bolded ‘contact valence’ row in tables’ top panel). Moderation by past outgroup contact is indicated by a significant contact valence by moderator

<sup>1</sup>In all studies, scattered missing values were replaced with series means, and normality of the variables was checked and, if necessary, rectified with square root/logarithmic transformations (all skewness  $< 1.00$ ). More information about variables can be obtained from the first author.

Table 1. Pre-university contact moderates the valence-salience effects of face-to-face contact at university (Catholic and Protestant students in Northern Ireland; Correlational Study,  $N=405$ )

	Past contact moderator					
	Pre-university contact opportunities			Pre-university contact quantity		
	<i>b</i>	<i>t</i>	<i>p</i>	<i>b</i>	<i>t</i>	<i>p</i>
Intercept	1.85	39.27	<.0001	1.84	37.96	<.0001
<b>Contact valence</b>	<b>.21</b>	<b>5.74</b>	<b>&lt;.0001</b>	<b>.16</b>	<b>4.18</b>	<b>&lt;.0001</b>
Moderator	-.07	-2.04	.0427	-.19	-4.18	<.0001
<b>Interaction</b>	<b>-.05</b>	<b>-1.80</b>	<b>.0731</b>	<b>-.07</b>	<b>-2.06</b>	<b>.0403</b>
$R^2$	.13			.17		
$F(3, 399)$	19.39		<.0001	26.87		<.0001
$R^2_{change}$	.01			.01		
Low (-1SD)	.28	5.13	<.0001	.24	4.14	<.0001
High (+1SD)	.15	3.13	.0019	.09	1.78	.0763

Note: Dependent variable is category salience. Contact valence index (current visits of cross-group student friends) reversed, so positive *b* values for contact valence main effects and simple slopes indicate valence-salience effects (negative contact predicts increased category salience). Bolded statistics for basic valence-salience effects ('contact valence' row) and moderation effects ('interaction' row). \* $p < .01$ , \*\* $p < .001$ , \*\*\* $p < .0001$ .

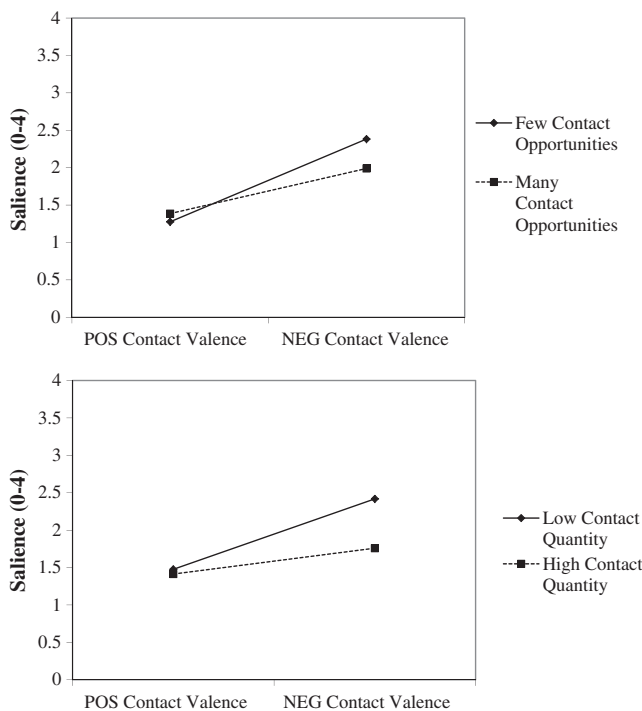


Figure 1. Valence-salience effects as a function of pre-university contact opportunities (top pane) and pre-university contact quantity (bottom pane)

interaction, which is entered into the model next (for statistics, see bolded 'interaction' row in tables' top panel).

Following Aiken and West (1991), interaction effects are decomposed using simple slopes at  $\pm 1$  SD away from the mean (see rows labelled 'Low (-1SD)' and 'High (+1SD)' in tables' bottom panels). Simple slope *b* coefficients indicate whether the valence of contact experiences in the present predicts category salience at each of the two levels for each of the past outgroup contact moderators. The figures illustrate the shape of the interactions by plotting simple slopes as a function of the valence of present contact (*x*-axis: *independent*

*variable*) and each of the moderator variables (solid and dotted lines: *moderator*). Our predicted moderation pattern should yield steeper slopes at the 'less extensive'/'less positive' side of the past contact moderators (solid lines: Low/-1SD) indicating that, among individuals with limited and more negative past contact with the outgroup, the valence of present contact predicts category salience in the direction of valence-salience effect. The predicted moderation pattern should have flatter slopes at the 'extensive'/'more positive' side of the past contact moderators (dotted lines; High/+1SD), indicating that for individuals with more extensive and positive past contact, the valence of discrete contact experiences is less predictive of salience.

Valence-salience Effects and Moderation by Past Outgroup Contact

We found correlational evidence for basic valence-salience effects (see significant positive *bs* for main effects of contact valence in Table 1's top panel): Participants with fewer face-to-face visits with cross-group student friends during their present time at university (contact valence predictor) reported higher category salience during contact, across the levels of the pre-university contact opportunities moderator ( $b = .21, t = 5.74, p < .0001$ ) and pre-university contact quantity moderator ( $b = .16, t = 4.18, p < .0001$ ). Importantly, the past outgroup contact variables moderated the valence-salience effect (see Table 1's 'interaction' line, and the simple slopes in the bottom panel), pre-university contact opportunities,  $R^2_{change} = .0071$ ; interaction,  $t = -1.80, p = .0731$ , and pre-university contact quantity,  $R^2_{change} = .0088$ ; interaction,  $t = -2.06, p = .0403$ .

Simple slope analyses confirmed that the valence-salience effects of positive cross-community contact in the present time at university were significantly stronger among those who had fewer contact opportunities ( $b = .28, p < .0001$ ) and less contact ( $b = .24, p < .0001$ ) at home before coming to university. These effects were significantly smaller among those with more pre-university contact opportunities ( $b = .15, p = .0019$ ) and were nonsignificant among those with more pre-university outgroup contact ( $b = .09, p = .0763$ ).

These moderating findings are encouraging, although their interpretation is limited by the correlational nature of the research design and the relatively indirect proxy for contact valence. They suggest the existence of important boundary conditions to the occurrence of valence-salience effects that are inconsistent with an evolutionary interpretation: More extensive prior cross-community contact apparently promotes cognitive representations of outgroups that are less susceptible to the valence-salience effects of discrete contact experiences *later in life*. To provide more stringent tests in our remaining studies, we carried out our moderation analyses in the context of manipulated (vs measured) valence of discrete and controlled contact experiences with the outgroup in the present. This approach has two key advantages: First, it allowed us to isolate the *causal* effects of contact valence on category salience. Second, it allowed us to distinguish more confidently *discrete and present* contact experiences from *past, cumulative* histories of contact with the outgroup.

## EXPERIMENT 1

Our second test of valence-salience effects and moderation by past outgroup contact focused on mass-mediated or ‘parasocial contact’ (Schiappa et al., 2005). It took place in Arizona’s Southern border at the time of heated street protests, massive media coverage, and international condemnation over the introduction of tougher border control policies against illegal (mostly Latino) immigrants. We manipulated the valence of television-mediated contact between non-Latino participants and two Latino media characters—a Latina illegal immigrant and a Latino US citizen border-patrolman featured in a TV documentary. We expected negative television-mediated contact to cause higher category salience than positive television-mediated contact. Moreover, we expected participants’ past outgroup contact to significantly moderate this basic valence-salience effect. By investigating ‘interactions’ between television viewers and outgroup media characters through the media, this study contributes to a growing interest in the way in which media consumers engage with outgroup media characters (one or more) from a contact theory perspective (Cameron & Rutland, 2006; Ortiz & Harwood, 2007; Schiappa et al., 2005) and learn about intergroup relations through the media (Gómez & Huici, 2008; Mazziotta, Mummendey, & Wright, 2011; Weisbuch, Pauker, & Ambady, 2009).

### Method

#### *Participants and Design*

Participants were 88 communication students at a large university in Arizona, USA (27 male, 61 female;  $M = 20.19$ ,  $SD = 1.37$ ). Data from five participants who self-identified as Latino were excluded (final  $N = 83$ ); most participants reported being White (75; 3 Black, 1 Asian, 4 unidentified; all were US citizens). Participants were randomly assigned to either a negative or a positive television-mediated contact condition ( $n = 41$  and  $42$ , respectively).

#### *Procedure and Materials*

*Contact valence manipulation and checks.* Participants took part in an online study investigating ‘how people view and engage with documentaries’. They were randomly assigned to view one of two experimentally constructed 10-minute excerpts of a documentary entitled *30 Days*, in which a Cuban American volunteer border-patrolman (Frank) is sent to live with a family of illegal Latino immigrants for 30 days. The valence of the television-mediated contact experience was manipulated by systematically varying the portrayal of exchanges between Frank and Armida (the teenage daughter in the illegal immigrants’ family). To construct the two videos, the researchers rated each scene of the documentary as ‘positive’ when the characters showed empathy, perspective taking, cooperation, or affection; or ‘negative’ when the characters were aggressive or engaged in conflict. A positive video was compiled to contain approximately 80% positive and 20% negative interactions; a negative video to contain approximately 20% positive and 80% negative interactions (for more details,

see Joyce & Harwood, 2012). To reinforce this manipulation, different written epilogues were provided to the two conditions (negative: Frank had the family deported vs positive: Frank sponsored the family to citizenship). The two videos shared the common theme of an illegal immigrant family sharing their daily struggles, thoughts about civil rights, and personal histories with Frank.

After viewing the documentary, participants rated the valence of the exchange between the two outgroup media characters (‘in general, how would you describe the relationship between these two characters?’; 1 = *very negative*, 7 = *very positive*) and interaction partners (‘thinking of Frank/Armida, to what extent did you feel the following?’: warmth, trustworthiness; 1 = *not at all*, 7 = *extremely*); Frank positivity,  $\alpha = .85$ ; Armida positivity,  $\alpha = .87$ ).

*Category salience outcome measures.* Participants completed four items measuring category salience in terms of outgroup members’ typicality (Brown & Hewstone, 2005): Frank’s typicality with reference to border patrolmen (e.g. ‘if you met a border-patrolman how likely do you think he/she would be similar to Frank?’) and Armida’s with reference to illegal immigrants (e.g. ‘if you met an illegal immigrant how likely do you think he/she would be similar to Armida?’; all items 1 = *not at all*, 7 = *extremely*). The four items averaged to form a reliable *category salience* index ( $\alpha = .73$ ).

*Past contact moderators.* We asked participants to complete two items measuring past contact with illegal immigrants. (We had no measure of contact with border patrol personnel.) They first completed a *past quantity of contact* item (how often do you believe you have interacted with illegal immigrants?; 1 = *never*, 7 = *all the time*). Those reporting having had some contact completed a *past contact quality* item (how positive or negative have your interactions with illegal immigrants been?; 1 = *very negative*, 7 = *very positive*).<sup>2</sup> Additional variables measured are not the focus of the present investigation (see Joyce & Harwood, 2012). Finally, participants reported demographics (age, gender, and ethnicity).

## Results and Discussion

### *Manipulation Checks*

One-way contact valence ANOVAs performed on the manipulation checks detected robust differences between conditions; perceived valence,  $F(1, 81) = 219.81$ ,  $p < .001$ ,  $\eta^2 = .731$ ; Frank positivity,  $F(1, 81) = 92.94$ ,  $p < .001$ ,  $\eta^2 = .534$ ; Armida positivity,  $F(1, 81) = 24.59$ ,  $p < .001$ ,  $\eta^2 = .233$ . Participants who watched the negative outgroup exchange rated it more negatively ( $M = 2.42$ ,  $SD = 1.09$ ) and rated both characters more negatively (Frank,  $M = 2.98$ ,  $SD = 1.42$ ; Armida,

<sup>2</sup>In Experiments 1 and 2, we ensured that recall associated with completing the past contact measures did not interfere with the contact valence manipulation by placing these measurements after manipulation but much later in the questionnaire. We carried out ancillary analyses on Experiments 1 and 2’s data to check statistically that the manipulation had not contaminated the past contact moderators. In each study, we performed a 2 contact valence MANOVA (positive vs negative) on the moderating variables (here treated as DVs) and found no evidence of contamination at the multilevel ( $F_s < 1$ ) or univariate ( $p_s > .16$ ) levels. In Experiment 3, the moderators were measured before manipulation and separated from it by an interpolated filler task.



$M=4.35$ ,  $SD=1.49$ ) than participants who watched a positive exchange ( $M=6.10$ ,  $SD=1.16$ ; Frank,  $M=5.80$ ,  $SD=1.24$ ; Armida,  $M=5.76$ ,  $SD=1.10$ ). The manipulation effectively varied the valence of television-mediated contact.

*Valence-salience Effects and Moderation by Past Outgroup Contact*

The MODPROBE computational procedure (Hayes & Matthes, 2009) was used again to test for basic valence-salience effects and for moderation by past outgroup contact—this analytical approach was used in all remaining experiments. Experiment 1’s results are reported in Table 2 and Figure 2 that are organized in the same way as Table 1 and Figure 1.

We found experimental evidence for basic valence-salience effects of television-mediated contact. Those who watched a negative portrayal of outgroup members reported higher category salience ( $M=4.87$ ,  $SD=1.28$ ) than those who watched a positive portrayal ( $M=3.80$ ,  $SD=1.10$ ) (see positive and significant *bs* for contact valence’s main effects:  $t=4.01$ ,  $p<.0001$  across levels of the past contact quality moderator;  $t=4.01$ ,  $p=.0002$  across levels of the past contact quantity moderator). To our knowledge, this is first experimental evidence of valence asymmetries on category salience for television-mediated contact.

We found some evidence of moderation by past contact quality,  $R^2_{change}=.042$ ; interaction,  $t=-1.91$ ,  $p=.0602$ . As predicted, negative contact predicted higher category salience significantly among participants with prior contact with illegal immigrants that was of low quality ( $b=.81$ ,  $p=.0001$ ); it did not predict higher category salience significantly among participants with high quality previous contact ( $b=.27$ ,  $p=.1735$ ). While the overall interaction by past contact quantity was not statistically reliable (interaction  $p=.2343$ ), possibly due to limited power ( $N=83$ ), the simple slopes displayed the predicted pattern. The

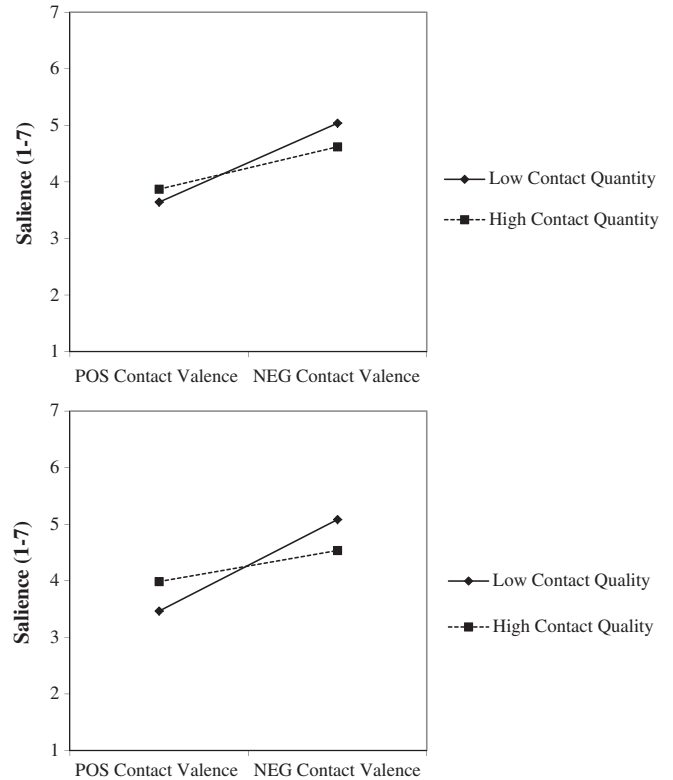


Figure 2. Valence-salience effects as a function of past contact quantity (top pane) and past contact quality (bottom pane)

valence-salience effect was larger and significant among participants who had little past contact with illegal immigrants ( $b=.69$ ,  $p=.0005$ ); it was smaller and nonsignificant among those with a history of extensive outgroup contact ( $b=.37$ ,  $p=.0508$ ). These moderating effects, although statistically weak, are consistent with past outgroup contact buffering against valence-salience effects in television-mediated contact.

**EXPERIMENT 2**

In our next experimental test, we remained in Arizona’s Southern border area but tested the generalizability of basic valence-salience effects and moderation by past outgroup contact using an imagined contact paradigm (Turner et al., 2007). A fast-growing literature demonstrates that mental simulations of intergroup interactions can influence intergroup attitudes and behaviours (Crisp & Turner, 2012). This experiment should rule out the possibility that Experiment 1’s results are restricted to media contact or to some specific aspect of the unique individuals portrayed in our media stimulus.

We manipulated the valence of imagined contact experiences by providing half of our non-Latino American participants with standard instructions for mental visualization of positive contact with an illegal immigrant stranger and the remainder with modified instructions, instigating visualizations of negative contact. As in Experiment 1, we measured category salience (dependent variable), as well as natural variations in several aspects of individuals’ personal history of contact with the outgroup (moderators).

Table 2. Past contact quantity and past contact quality moderate the valence-salience effects of television-mediated contact (non-Latinos in Arizona’s border area; Experiment 1,  $N=88$ )

	Past contact moderator					
	Past contact quantity			Past contact quality		
	<i>b</i>	<i>t</i>	<i>p</i>	<i>b</i>	<i>t</i>	<i>p</i>
Intercept	4.30	32.37	<.0001	4.27	31.97	<.0001
<b>Contact valence</b>	<b>.53</b>	<b>4.01</b>	<b>&lt;.0001</b>	<b>.54</b>	<b>4.01</b>	<b>.0002</b>
Moderator	-.03	-.37	.7155	-.03	-.07	.9449
<b>Interaction</b>	<b>-.10</b>	<b>-1.20</b>	<b>.2343</b>	<b>-.94</b>	<b>-1.91</b>	<b>.0602</b>
$R^2$	.19			.23		
$F(3, 72)$	6.23		.0007	6.68		.0005
$R^2_{change}$	.01			.04		
$F$	1.44		.2343	3.65		.0602
Low (-1SD)	.69	3.65	.0005	.81	4.20	.0001
High (+1SD)	.37	1.98	.0508	.27	1.38	.1735

Note: Contact valence manipulation dummy coded (-1=positive, +1=negative); positive *b* values for contact valence main effects and simple slopes reflect the category salience-enhancing effects of negative televised contact. Bolded statistics for basic valence-salience effects ('contact valence' row) and moderation effects ('interaction' row). \* $p<.05$ , \*\* $p<.01$ , \*\*\* $p<.001$ .

**Method**

*Participants and Design*

Participants were 101 undergraduate communication students at a large Arizona university (34 male, 67 female;  $M = 22.47$  years,  $SD = 4.74$ ). Data from those who self-identified as Latino Americans ( $n = 22$ ), non-US citizens ( $n = 2$ ), or displayed zero variation in a large section of the questionnaire ( $n = 1$ ) were excluded (final  $N = 76$ ). Participants were randomly assigned to a negative or a positive imagined contact condition ( $n = 36$  and 40, respectively).

*Procedure and Materials*

*Contact valence manipulation and checks.* Participants completed a questionnaire on ‘imagining situations’ online. After responding to sociodemographic questions and several filler items (Harwood, Paolini, Joyce, Rubin, & Arroyo, 2011), they were asked to imagine a negative (vs positive) interaction with an unfamiliar illegal immigrant. As elaboration reinforces imagined contact effects (Husnu & Crisp, 2010), we solicited open-ended responses to prompts such as ‘what did the person look like?’ and ‘what happened to make the experience positive/negative?’ Participants then rated their imagined interaction in terms of how enjoyable and pleasant the interaction was (both items, 1 = *not at all*, 7 = *a great deal*). We averaged the two items ( $r = .91$ ) into a *perceived contact valence* index.

*Category salience outcome measure.* Participants then completed a four-item measure of category salience (Islam & Hewstone, 1993) including category awareness and partner’s typicality items (e.g. ‘during the interaction that you imagined, how much did you think about the fact the s/he was an illegal immigrant?’; ‘how much did your interaction partner seem typical of illegal immigrants?’; all items 1 = *not at all*, 7 = *a great deal*). Averaging the four items yielded a reliable index of *category salience* ( $\alpha = .72$ ).

*Past contact moderators.* After filler items, at the end of the questionnaire, participants completed the past contact moderators.<sup>2</sup>

A *past quantity of contact* item (‘approximately how many times have you had a real conversation with an illegal immigrant in your life?’; 1 = *never*, 5 = *extremely frequently*) was followed by a *presence of past close contact* item (‘have you ever had any friends/family members who are illegal immigrants?’; 0 = *no close contact*, 1 = *close contact*). Those who reported having past close contact rated the relationship closeness (‘how close was your closest friendship/family relationship with an illegal immigrant?’; 1 = *not at all close*, 7 = *very close*). To have a *past quality contact* index for all participants, we combined the responses to the relationship closeness item with those to the presence of close contact item, after recoding respondents with no close friend/family contact as rating contact with outgroup being low in intimacy (1 = *no close contact/lowest quality contact*; 7 = *highest quality contact*).

**Results and Discussion**

*Manipulation Check*

A one-way ANOVA on the perceived contact valence index detected a robust effect of the valence manipulation,  $F(1, 74) = 71.36, p < .001, \eta^2 = .491$ . Participants in the negative valence condition rated their imagined experience more negatively ( $M = 2.21, SD = 1.34$ ) than those in the positive condition ( $M = 4.74, SD = 1.27$ ; scale midpoint of 4), thus confirming the validity of the valence manipulation.

*Valence-salience Effects and Moderation by Past Outgroup Contact*

The full results for Experiment 2 are in Table 3 and Figure 3. We detected the first evidence of significant valence-salience effects of imagined contact (see significant positive  $b$  values for contact valence’s main effects in Table 3): Participants who visualized a negative intergroup exchange with an illegal immigrant reported higher category salience ( $M = 4.65, SD = 1.36$ ) than participants who visualized a positive exchange ( $M = 3.99, SD = 1.24$ ).

Critically, we found evidence for moderation by presence of close past contact,  $R^2_{\text{change}} = .0396$ , interaction  $t = -1.80$ ,

Table 3. Presence of close past contact, past quality contact, and past contact quantity moderate the valence-salience effects of imagined contact (non-Latino Americans in Arizona’s border area; Experiment 2,  $N = 76$ )

	Past contact moderator								
	Presence of close past contact			Past quality contact			Past contact quantity		
	<i>b</i>	<i>t</i>	<i>p</i>	<i>b</i>	<i>t</i>	<i>p</i>	<i>b</i>	<i>t</i>	<i>p</i>
Intercept	4.29	31.42	<.0001	4.30	31.20	<.0001	4.31	32.00	<.0001
<b>Contact valence</b>	<b>.32</b>	<b>2.35</b>	<b>.0214</b>	<b>.33</b>	<b>2.36</b>	<b>.0208</b>	<b>.33</b>	<b>2.43</b>	<b>.0176</b>
Moderator	-.23	-.76	.4491	-.21	-.55	.0427	.05	.34	.7336
<b>Interaction</b>	<b>-.54</b>	<b>-1.80</b>	<b>.0768</b>	<b>-.52</b>	<b>-1.37</b>	<b>.1755</b>	<b>-.32</b>	<b>-2.36</b>	<b>.0204</b>
$R^2$	.12			.10			.14		
$F(3, 72)$	3.16		.0299	2.61		.0579	3.84		.0132
$R^2_{\text{change}}$	.04			.02			.07		
Low (-1SD)	.48	2.96	.0041	.52	2.64	.0102	.65	3.39	.0011
High (+1SD)	-.05	-.21	.8350	.14	.69	.4898	.01	.04	.9712

Note: Contact valence manipulation dummy coded (-1 = positive, +1 = negative); positive  $b$  values for contact valence main effects and simple slopes reflect the category salience-enhancing effects of negative imagined contact. Presence of close contact was a dummy-coded variable (close past contact present/absent). Bolded statistics for basic valence-salience effects (‘contact valence’ row) and moderation effects (‘interaction’ row). \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .005$ .



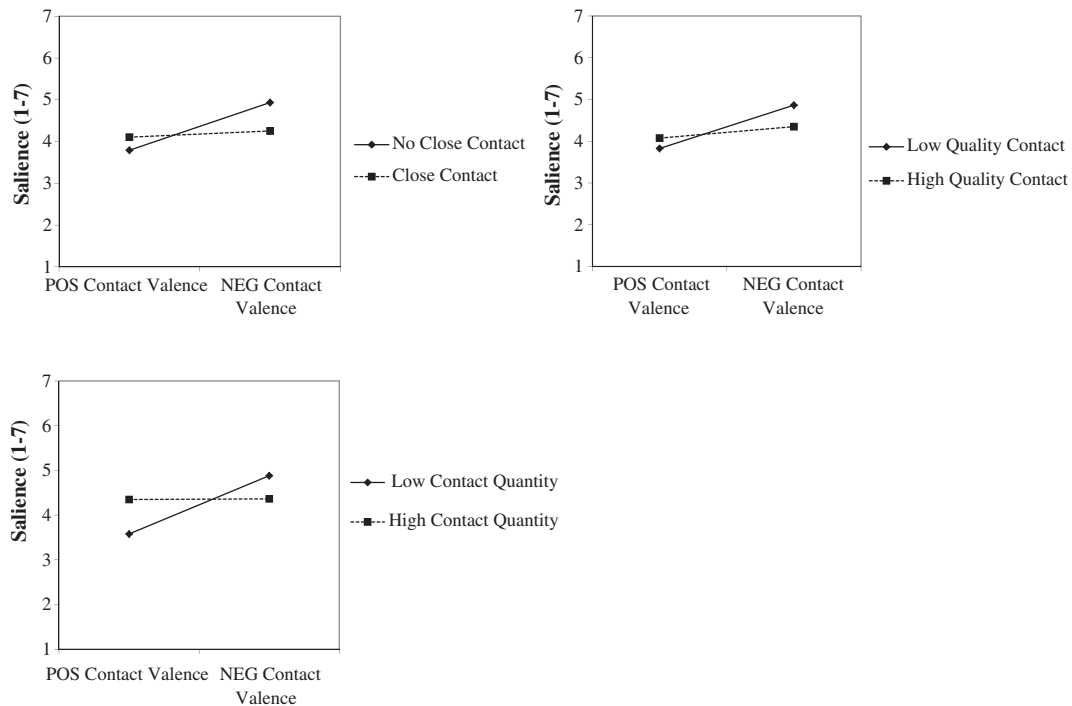


Figure 3. Valence-salience effects as a function of presence of close past contact (top-left pane), past quality contact (top-right pane) and past contact quantity (bottom-left pane)

$p = .0768$ , and for moderation by past contact quantity,  $R^2_{\text{change}} = .0668$ , interaction  $t = -2.36$ ,  $p = .0204$ . Simple slope analysis confirmed that negative imagined contact predicted higher category salience among those who had no close friend/family contact with illegal immigrants ( $b = .48$ ,  $p = .0041$ ) and among those who had limited quantity of past contact ( $b = .65$ ,  $p = .0011$ ); it was nonsignificant among those who reported having had close friend/family contact and extensive past intergroup contact ( $b = -.05$ ,  $p = .8350$ ;  $b = .01$ ,  $p = .9712$ , respectively). The predicted moderating pattern was also found for past quality contact, although not producing a significant overall interaction ( $p = .1755$ ): The valence-salience effect was significant among those with negative previous contact ( $b = .52$ ,  $p = .0102$ ;  $b = .33$ ,  $p = .0208$ ); the effect was nonsignificant among those with higher quality past contact ( $b = .14$ ,  $p = .4898$ ). Overall, this widespread evidence for moderation indicates that a history of extensive and close contact with the outgroup can inoculate against the salience-enhancing effects of negative imagined contact.

### EXPERIMENT 3

Our last experimental test was carried out in Cyprus, a context known for its prolonged and intractable interethnic conflict between Turkish and Greek Cypriots (Hadjipavlou, 2007; Tausch et al., 2010). In this setting, we retested the valence-salience effects of imagined contact and the moderating effects of past outgroup contact, and incorporated two key changes. First, we extended the scope of our moderator analysis by investigating multiple dimensions of individuals' past history of outgroup contact. Second, we measured the past contact moderators prior to manipulating imagined contact valence, hence removing any concerns about whether our manipulations

might have interfered with the moderator measurement. Before implementing our contact valence manipulation, we measured quantity of negative and positive contact, and overall past contact quality. We also measured individual differences in direct and indirect cross-group friendships and positive and negative family storytelling. While varying in valence, intimacy, richness of the experience, and involvement of the self (Harwood, 2010), we expected these perceiver variables to all significantly moderate the valence-salience effects in ways consistent with a fit mechanism. In addition to the advances described earlier, this study helps us confirm that our experimental effects extend beyond the specific Southern Arizona situation.

### Method

#### Participants and Design

Ninety-one participants from the Turkish Cypriot community (29 male, 60 female, 2 gender unspecified;  $M = 29.58$  years,  $SD = 11.84$ ) volunteered for a study on 'social issues in Cyprus'. They were randomly assigned to either a negative or a positive imagined contact condition ( $n = 49$  and  $42$ , respectively), and completed a paper questionnaire under the researcher's supervision.

#### Procedure and Materials

*Past contact moderators.* After filler items, participants completed a set of reliable past contact measures adapted to the Cypriot context. They first focused on direct contact experiences: Participants indicated the *quantity of positive past contact* and the *quantity of negative past contact* that they had with the outgroup (Barlow et al., 2012; three items each—e.g. 'in everyday life, how frequently do you have positive/negative interactions with Greek Cypriots?'; 1 = *never/not at all*, 7 = *very*

frequently/a lot; alphas .91 and .96), as well as overall *past contact quality* on 7-point bipolar scales (Islam & Hewstone, 1993; five items; e.g. superficial–deep, unpleasant–pleasant; 1–7; alpha = .83). Items measuring storytelling about the outgroup followed; we measured *negative* and *positive family stories* (Cameron, Rutland, Brown, & Douch, 2006; two items each; e.g. ‘do/did any of your family members tell you negative and upsetting stories/pleasant stories of solidarity about Greek Cypriots that occurred during the war?’; 0 = none/never, 1 = 1, 2 = 2–5, 3 = 5–10, 4 = over 10/very; *rs* .80 and .70). Finally, participants completed measures of *direct* and *indirect cross-group friendship* (Paolini et al., 2004; two and three items, respectively; e.g. ‘how many Greek Cypriot people are you friends with?’ and ‘how many of your very best Turkish Cypriot friends have friends who are Greek Cypriot?’; 0 = 0/never, 8 = more than 50/all the time; *r* = .70 and alpha = .84, respectively, after items’ standardization).

**Contact valence manipulation and checks.** To ensure that recall associated with completing the contact measures did not interfere with the imagined contact manipulation, all participants engaged in a filler task at this point (30-second visualization and open-ended description of the physical environment while travelling to university). We adapted the imagined contact instruction from Turner et al. (2007): Participants took a minute to imagine a negative and unenjoyable (vs positive and enjoyable) interaction with a Greek Cypriot stranger and then wrote a detailed and vivid description of the exchange. Next, participants expressed their emotions during the imagined interaction (Islam & Hewstone, 1993; seven items; e.g. enjoyable and relaxed; 1 = not at all, 7 = very much) towards a reliable *perceived contact valence* index (alpha = .85).

**Category salience outcome measure.** After filler items, participants completed eight category salience items (Islam & Hewstone, 1993), including items of category awareness (e.g. ‘during the imagined interaction, how much did you think of Greek Cypriots in general?’), intergroup differences (e.g. ‘how much did you think about differences between people of different ethnicity?’), and partner’s typicality (e.g. ‘how much did your interaction partner seemed typical of what Greek Cypriots are like

in general?’; all items 1 = not at all, 7 = very much). The eight items formed a reliable *category salience* index (alpha = .82).

**Results and Discussion**

*Manipulation Check*

A one-way ANOVA on the perceived contact valence index detected a robust difference between the negative and positive imagined contact conditions,  $F(1, 89) = 33.85, p < .001, \eta^2 = .276$ . Participants who visualized a negative intergroup exchange rated the experience more negatively ( $M = 3.39, SD = 1.23$ ) than those who visualized a positive exchange ( $M = 5.18, SD = 1.69$ ), confirming the effectiveness of our valence manipulation.

*Valence-salience Effects and Moderation by Past Outgroup Contact*

Full results of analyses for Experiment 3 are in Table 4 and Figure 4. Again, we found significant basic valence-salience effects (all  $ps < .001$ ; see contact valence main effects in Table 4): Participants who visualized a negative intergroup exchange reported higher category salience ( $M = 4.77, SD = 1.18$ ) than participants who visualized a positive exchange ( $M = 4.02, SD = 1.44$ ). This replicates Experiment 2’s effects in a new conflict area and confirms that valence-salience effects occur when people merely visualize intergroup contact.

Moderation was significant or marginal by direct cross-group friendships, positive family stories, and negative family stories (see Table 4’s statistics for interactions and decompositions). Simple slope analyses confirmed that valence-salience effects of imagined contact were significant among participants who reported having had few cross-group friends, who reported having heard few positive family outgroup stories, or who reported having heard many negative family stories. The effects were nonsignificant among those with more cross-group friends, and those who heard more positive or fewer negative family stories when growing up.

We also found the predicted moderating pattern for the moderators that were not significant (see table and figures). The effect of manipulated valence of imagined contact on

Table 4. Different dimensions of past intergroup contact moderate the valence-salience effects of imagined contact (Turkish Cypriots from general community; Experiment 3,  $N = 91$ )

	Past contact moderator																	
	Pos contact quantity			Past contact quality			Direct friendships			Indirect friendships			Pos family stories			Neg. family stories		
	<i>b</i>	<i>t</i>	<i>p</i>	<i>b</i>	<i>t</i>	<i>p</i>	<i>b</i>	<i>t</i>	<i>p</i>	<i>b</i>	<i>t</i>	<i>p</i>	<i>b</i>	<i>t</i>	<i>p</i>	<i>b</i>	<i>t</i>	<i>p</i>
Intercept	4.42	31.8	<.0001	4.44	32.8	<.0001	4.37	32.1	<.0001	4.42	32.1	<.0001	4.45	32.7	<.0001	4.44	32.8	<.0001
<b>Contact valence</b>	<b>.38</b>	<b>2.73</b>	<b>.0078</b>	<b>.40</b>	<b>2.98</b>	<b>.0037</b>	<b>.37</b>	<b>2.70</b>	<b>.0083</b>	<b>.38</b>	<b>2.74</b>	<b>.0074</b>	<b>.37</b>	<b>2.71</b>	<b>&lt;.0001</b>	<b>.38</b>	<b>2.79</b>	<b>.0064</b>
Moderator	.09	.30	.7683	-.18	-2.08	.0406	-.18	-.70	.4848	.28	.88	.3801	.03	.06	.9501	.10	.68	.4970
<b>Interaction</b>	<b>-.13</b>	<b>.43</b>	<b>.6662</b>	<b>-.11</b>	<b>1.21</b>	<b>.2261</b>	<b>-.58</b>	<b>-2.29</b>	<b>.0244</b>	<b>-.28</b>	<b>.85</b>	<b>.3955</b>	<b>-.77</b>	<b>2.06</b>	<b>.0423</b>	<b>.29</b>	<b>1.92</b>	<b>.0570</b>
$R^2$	.08			.13			.13			.09			.13			.12		
$F(3, 87)$	2.53		.0620	4.44		.0060	4.51		.0054	2.89		.0396	4.08		.0092	4.14		.0086
$R^2_{change}$	.002			.01			.05			.01			.04			.04		
Low (-1SD)	.44	2.22	.0292	.57	2.98	.0037	.68	3.49	.0008	.50	2.51	.0139	.67	3.44	.0009	.11	.56	.5798
High (+1SD)	.32	1.62	.1082	.24	1.23	.2204	.05	-.29	.7761	.26	1.30	.1987	.07	.33	.7398	.65	3.36	.0012

Note: Contact valence manipulation dummy coded (-1 = positive, +1 = negative); positive *b* values reflect the category salience-enhancing effects of negative imagined contact. Bolded statistics for basic valence-salience effects (‘contact valence’ row) and moderation effects (‘interaction’ row). \* $p < .06$ , \*\* $p < .01$ , \*\*\* $p < .001$ .

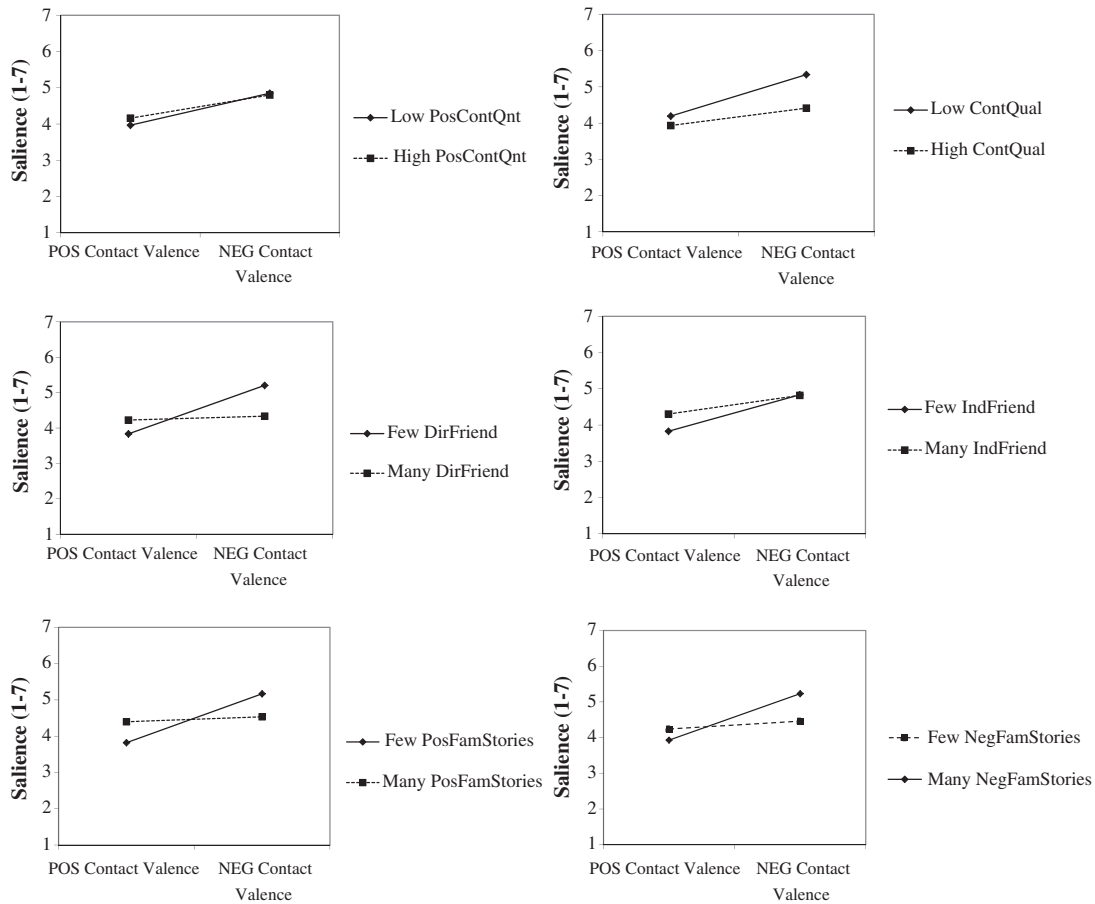


Figure 4. Valence-salience effects as a function of quantity of past positive contact (top-left pane), past direct intergroup friendships (top-right pane), contact quality (middle-left pane), indirect intergroup friendships (middle-right pane), positive family stories (bottom-left pane), and negative family stories (bottom-right pane)

category salience was significant among participants who reported having had less positive past contact, low quality of past contact, and fewer indirect cross-group friends prior to the mental visualization. The effect was nonsignificant among participants who reported having had more positive contact, higher quality contact, or more indirect cross-group friends.

These moderating effects offer clear boundary conditions to the occurrence of valence-salience effects: These effects occurred exclusively among individuals who had experienced *less positive* contact and *more extensive negative* contact. Conversely, more positive and less negative previous contact—be it generic, intimate, direct, indirect, or socially mediated—buffered against the valence-salience effects of imagined contact.

### GENERAL DISCUSSION

Social psychologists have long acknowledged that intergroup contact can improve or worsen intergroup relations depending on the quality of the contact (Allport, 1954; Pettigrew & Tropp, 2011). Recently, however, it has been established that negative contact causes higher category salience than positive contact (Paolini et al., 2010) and that, consequently, negative contact is disproportionately influential in worsening intergroup relations more than positive contact is in improving them (Barlow et al., 2012; Dhont & Van Hiel, 2009). The present

research adds to this line of work by replicating the valence-salience effect across novel settings. More importantly, the present research builds on this previous work by indicating ways to reduce the detrimental advantage of negative contact. Across four studies, three conflict-ridden settings, three variations in type of outgroup contact, and multiple operationalizations of category salience, we demonstrated that individuals' histories of outgroup contact can weaken or eliminate the coupling of negative outgroup contact with high category salience, thus restraining the negative spiral of intergroup relations that has the potential to result from valence-salience effects. Later, we elaborate on these issues.

### Negative Contact Causes Higher Category Salience across Settings and Types of Contact

The four studies reported here demonstrate that the category salience-enhancing effect of negative contact is not limited to direct *face-to-face* contact in *peaceful* settings (see review of correlational field data and new controlled evidence in Paolini et al., 2010), nor to specific methodological approaches. This effect extends to areas of real intergroup conflict—in sectarian Northern Ireland, Arizona's troubled Southern border area, and divided Cyprus—and holds across types of contact with the outgroup that vary noticeably in terms of intimacy, involvement of the self, and richness of the outgroup experience (Crisp & Turner, 2012; Harwood, 2010). In the correlational

study, we surveyed intimate, face-to-face experiences of intergroup friendship (Paolini et al., 2004); in the three experiments, we manipulated the valence of intergroup contact experiences taking place through the media ('parasocial contact'; Schiappa et al., 2005) or merely via participants' imagination (Turner et al., 2007). In all cases, negative (vs positive) contact issued higher category salience.

Because category salience determines whether discrete contact experiences result in generalized attitude changes after contact (Brown & Hewstone, 2005), these valence asymmetries on categorization imply that discrete experiences of *face-to-face*, *televised*, or *imagined contact*, in *peaceful or conflict areas*, are naturally skewed towards worsening, rather than improving intergroup relationships. This possibility does not dispute the evident benefits of positive direct and indirect contact (Crisp & Turner, 2012; Harwood, 2010; Pettigrew & Tropp, 2006; see e.g. Aberson & Gaffney, 2009; Dhont & Van Hiel, 2009); rather, it warns about negative contact's *relative* inbuilt generalization *advantage*. Researchers in the intergroup contact tradition have, to date, overlooked this possibility simply because little or no research has compared positive and negative contact (Pettigrew, 2008).

The studies reported here did not include measures of outgroup attitudes as an outcome variable. However, recently published evidence suggests that valence asymmetries extend also to this dimension of intergroup responding. Consistent with a valence-asymmetry model (Paolini et al., 2010), for example, Barlow et al. (2012) demonstrated that the association between contact quantity and prejudice was significantly moderated by contact valence: In multiple studies involving diverse intergroup contexts, these interactions reflected *negative* contact being a stronger and more consistent predictor of increases in outgroup prejudice than positive contact or decreases in prejudice. Similarly, Dhont and Van Hiel (2009) showed that while positive contact has strong positive effects among right-wing authoritarians, negative contact has even more exaggerated negative effects. Our work builds on this research by including *manipulations* of contact valence (the previous studies were survey based). More importantly, we also explicitly examine the process by which negative contact has its effects (group salience and stimulus fit). Future, fuller tests of valence asymmetries should include *both* measures of categorization *and* attitudes in their design, and ideally use paradigms and measurements that increase experimental control while reducing participants' opportunities for deliberation (see Turnbull et al., 2013).

Altogether extant evidence converges in indicating that negative contact is psychologically more consequential for intergroup relations than positive contact. Ancillary analyses performed on subjective measures of contact valence (our manipulation checks) rule out interpretations of these valence asymmetries that invoke greater *significance* of negative stimuli over positive stimuli (see Baumeister et al., 2001). In four tests out of five, we found that positive and negative contact were *both* rated as psychologically significant by our participants—i.e. both conditions differ significantly from the scale's neutral midpoint. Importantly, valence-salience effects held *irrespective* of variations in the subjective extremity of these contact experiences (i.e. the effects were present when positive contact was rated as more extreme around the scale's neutral point [Exp. 1], when negative contact was more extreme [Exp. 2], and when

the two types of contact did not differ in extremity [Exp. 3]). Hence, these ancillary findings are *inconsistent* with the view that negative contact causes higher group salience because it has greater significance, extremity, or intensity than positive contact. Rather, we continue to posit that its salience-enhancing effects are a result of the fit between the valence of *present* contact and *expected* contact through contact histories.

### Past Outgroup Contact Moderates the Impact of Negative Contact in the Present

The key innovation of the present research is in contesting the psychological invariance of valence-salience effects and demonstrating that the quality and quantity of *past* contact influence the degree to which *present* contact affects people's intergroup responses. Across four tests, we found consistent—although not always statistically strong—evidence that valence-salience effects are moderated by individuals' prior history of intergroup contact.

We looked at a variety of proxies for individuals' past outgroup contact, including pre-manipulation or post-manipulation measures of individuals' histories of generic face-to-face contact, intergroup friendships, and indirect contact through family storytelling about the outgroup. Notwithstanding these measurement variations, we found a steady pattern of moderation that is consistent with functional and motivational analyses of category salience (Bruner, 1957; Oakes et al., 1994) and a perceived fit mechanism (Branz, 1999; Coates et al., 2006; Reynolds et al., 2000). As expected, valence-salience effects emerged more strongly or exclusively among those individuals with limited or negative past outgroup contact; they did not materialize or were notably weaker among those with a more extensive or positive history of contact. Interestingly, there was some variation in the exact shape of these interactions across studies and moderators: In the majority of the cases (8 tests out of 13), the past contact moderator affected responses to negative contact; in a minority of cases, it affected responses to positive contact or both positive and negative contact (2 vs 3 tests, respectively). All these moderation effects were however consistent with the perceived fit principle and show that valence-salience effects are stronger under limited/negative contact either because these histories of past contact increase the salience of negative contact and/or reduce the salience of positive contact. Hence, consistent with our original theoretical framework, what seems to count in predicting situational variations in category salience is not exclusively the valence of the specific, discrete contact experience *per se*—as evolutionary accounts would suggest (see Baumeister et al., 2001)—but whether such experience confirms or disconfirms established expectations for contact with the outgroup.

Based on the theoretical standpoints that gave impetus to our research on valence asymmetries (Paolini et al., 2010), perceived fit should be responsible for both valence-salience effects and moderation by past outgroup contact (Oakes et al., 1994, pp. 200–205; see also Bruner, 1957). This explanation remains our preferred one because it is theoretically the most parsimonious, but because of the measured (vs manipulated) nature of our moderators, we cannot rule out the possibility that other or parallel mechanisms might contribute to our moderating findings. Individual differences in the quantity

of prior outgroup contact and the quality of contact have been found to attenuate outgroup anxiety (Blascovich, Mendes, Hunter, Lickel, & Kowai-Bell, 2001) and anxiety learning (Olsson, Ebert, Banaji, & Phelps, 2005). These effects have been interpreted in terms of reduced uncertainty under increased familiarity; but they could also reflect latent inhibition effects, whereby stimulus pre-exposure (i.e. prior contact) leads to familiar stimuli taking longer than unfamiliar stimuli to acquire meaning and become psychologically consequential because of poorer encoding (Lubow & Weiner, 2010) or poorer retrieval (Escobar, Oberling, & Miller, 2002). With Blascovich and colleagues, we call for direct assessments of the various underpinnings of moderation by past outgroup contact. This future process-oriented research may benefit from using a design that experimentally manipulates these moderators (e.g. via a minimal group paradigm), so to minimize the impact of third variables and sharpen results' interpretation.

### Concluding Remarks

Our take-home message is neither overly pessimistic nor optimistic. By upholding a perceived fit mechanism, our research demonstrates that it is difficult to *change* intergroup relations. People with negative expectations for intergroup contact will experience valence-salience effects in new contact experiences; this will most likely result in persisting negative expectations and a vicious cycle of *continuing prejudice* (for a similar conclusion regarding the stability of stereotyped *beliefs*, see Fiske, 1998). However, our data indicate that this cycle can be interrupted or averted, when individuals are equipped with the right repertoires of extensive or positive contact experiences.

These findings do not dispute the unconditional merits of positive contact (Pettigrew & Tropp, 2006). Instead, they highlight the risks of contact settings in which control over contact valence is limited or difficult. In such contexts, those with established negative expectations for ingroup-outgroup interactions are most vulnerable to the disproportionate downstream effects of new negative contact. Hence, for these individuals, structured techniques (e.g. positive imagined contact) or indirect techniques (e.g. parasocial contact) may be safer than unstructured direct contact (see Crisp & Turner, 2012; Harwood, 2010).

It is remarkable, as well as pragmatically very significant, that buffering effects of positive and extensive past outgroup contact materialized in contexts affected by entrenched intergroup conflict, like Northern Ireland and Cyprus, or acute flare ups of intergroup friction, like Arizona's southern border. We conducted our research in these locales because, especially there, structural and normative barriers against intergroup interactions should result in psychologically meaningful variations in outgroup contact, thus making our moderation tests sharper. From this research endeavour, we now know that past outgroup contact can inoculate against the spiralling of intergroup relations in settings with a notable geographical spread and where the potential for positive outcomes is minimal.

Among those with more, and more positive, histories of contact, there was no evidence to suggest that discrete positive contact experiences may be psychologically less consequential than negative contact (i.e. positive and negative contact resulted in similar salience). But we are not arguing that it is

easy to encourage people to develop this repertoire of past experiences with the outgroup: A growing body of evidence indicates that, even where and when opportunities for intergroup contact are abundant, people are reluctant to exploit them (Dixon & Durrheim, 2003; Pettigrew & Tropp, 2011, p. 167). Also, we must recognize that, unlike in laboratory tests of the perceived fit mechanism (e.g. Hugenberg, 2005; Ruys, Dijksterhuis, & Corneille, 2008), even under these most auspicious circumstances, we found an attenuation or nullification of basic valence-salience effects, but never a reversal (i.e. category salience-enhancing effects of *positive* contact)—hence our negative framing throughout this article. These desirable reversals are plausible from a functional perspective but are inconsistent with evolutionary accounts; they may spontaneously take place in less polarized settings, in contact experiences with positive outgroups or with ingroups (see Harwood et al., 2014); alternatively, in order to materialize, they may require the boosting action of additional factors, such as priming or reminders of positive past contact or approach (vs avoid) probes (Phills, Kawakami, Tabi, Inzlicht, & Nadolny, 2011).

Yet, the message of this research is somewhat more reassuring than when we started our investigation into valence asymmetries: Although intergroup prejudice may be intransigent when rooted in past experiences, individuals' repertoires of positive and diverse contact experiences *in the past* can buffer them against the harmful effects of new, discrete experiences of negative contact *in the present*. In this research, we isolated conditions that weaken the coupling of negative contact with high salience. Future research should identify conditions that strengthen the coupling of high salience with positive outgroup experiences.

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