

## Media and the contact hypothesis: an experimental study on the impact of parasocial contact

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Lisa T. Junger & Erich H. Witte

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# **Media and the contact hypothesis.**

## **An experimental study on the impact of parasocial contact**

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### Abstract

Does parasocial contact impact on inter-group bias? Widening the scope of Contact Theory, this study aims at experimentally examine the impact of parasocial out-group presentation on decisions in a two-person prisoner's dilemma game and social cognitive constructions of the social event. Within a minimal group experiment, 80 university students were randomly assigned to anonymous or video-wise personalization conditions. Participants rather took personal advantage of expected contributions to a commonly shared dilemma situation in anonymous settings than if a member of the out-group was personalized ( $p < .05$ ). As perceptions of group boundaries, out-group homogeneity, and similarity did not systematically differ across the conditions, implications are discussed.

*Keywords:* Inter-group discrimination, solidarity, contact hypothesis, social cognition, media

## Zusammenfassung

Hat parasozialer Kontakt Einfluss auf intergrupale Diskriminierung? Im Sinne einer Erweiterung der Kontakthypothese liefert die vorliegende Studie eine experimentelle Prüfung des Einflusses von parasozialer Out-Group Präsentation sowohl auf Verteilungsentscheidungen im Prisoner's Dilemma Game als auch auf sozial kognitive Konstruktionen des sozialen Ereignisses. In einem minimalen Gruppen Experiment wurden 80 UniversitätsstudentInnen zufällig einer von zwei Experimentalbedingungen (anonyme Bedingung vs. Video – personalisierte Bedingung) zugewiesen. TeilnehmerInnen in der anonymen Bedingung haben eher einen Vorteil auf Kosten des Mitspielers / der Mitspielerin aus erwarteten Zuteilungen geschlagen, als wenn ein Mitglied der Fremdgruppe per Video personalisiert wurde ( $p < .05$ ). Wahrnehmungen der Gruppengrenzen, Outgroup Homogenität und Ähnlichkeit variierten nicht systematisch zwischen den experimentellen Bedingungen. Implikationen werden diskutiert.

*Schlüsselwörter:* intergrupale Diskriminierung, Solidarität, Kontakthypothese, Soziale Kognition, Medien

Media and the contact hypothesis. An experimental study  
on the impact of parasocial contact.

For the past half century the revised contact hypothesis (Allport, 1954) has been one of social-science's most prominent contributions to the quest of reducing inter-group discrimination. Contact has repeatedly been pointed out to reduce inter-group bias and increase the willingness of contribution to others (for a review, see Oskamp, 2000; for a recent meta-analysis, see Pettigrew & Troop, 2006). Unfortunately, highly sophisticated preconditions to the processes that mediate contact and inter-group discrimination questioned the concept's practicability and potential within societal realities. Formulating more and more constricting factors provoked that the contact hypothesis' relevance has been seriously threatened, as "with added factors, it becomes increasingly unlikely that any situation can meet the specified conditions" (Pettigrew & Troop, 2000, p. 94). Contact between societal groups might often not take place because of segregation (Pettigrew, 1971), high costs (Trew, 1986) or inter-group anxiety (Stephan & Cookie, 2001). Is Contact Theory then condemned to artificially constructed realities of the psychological laboratory with no utilitarian value to practical societal reality?

In the face of this notion, more recent research addressed parasocial alternatives to face-to-face encounters. Especially computer-mediated communication has been shown to provide opportunities for contact to reduce prejudice and discrimination and might even offer better grounds for the acquaintance of some preconditions discussed (Amichai-Hamburger & McKenna, 2006; Lea, Spears, & de Groot, 2001). Most of the research regarding alternatives to face-to-face contact addresses interactive media such as the Internet.

At least in the Western World, however, the most common communicative medium is television. In video or television, recipients are anonymous to actors in media, while the actors themselves are personalized to the consumer. Even though communication in television is asymmetrical, we argue that it appeals as contact and could thus broaden the frame of Contact Theory. Being an audiovisual medium, television appeals to two perceptive channels at the same time and can, from this perspective, be seen as engendering relatively holistic impressions. It grabs our attention quickly and has good chances to capture it across longer time-spans (Schramm & Hasebrink, 2004). Because of its live-quality, television had been considered a “window to the world” (Kubey & Csikszentmihalyi, 1990) and even a “parasocial partner” (Fabian, 1993).

### *Theory*

Contact Theory suggests that contact between persons from different social groups causes a modification of inter-group prejudice and discrimination and potentially generalizes from the initial contact across the social category or group as a whole. The direction and power of this modification of attitudes and behavior towards the respective out-group is theorized to depend on the contact’s preconditions. Given certain prerequisites, Contact is mainly theorized to reduce inter-group bias because it transforms the members’ social-cognitive representations and it’s effects will be more likely to generalize across the respective out-group if group-membership is salient during the contact situation. All social cognitive approaches to inter-group bias hereby strengthen the importance of category salience, decategorization and personalization (Miller, 2002). Decreased category salience (or group salience, respectively) is theorized to reduce inter-group bias by

shifting the perception of the encounter from an inter-group towards an inter-personal event (Turner, Hogg, Oakes, Reicher, & Wetherell, 1987). In personalized contact, self-disclosure leads individuals to inter-personal comparisons that cross category-boundaries. As a consequence, personalized interaction just like decategorization increases the perception of intra-group variability by emphasizing the out-group's individuating features (Fiske & Neuberg, 1990). As recent research on the discontinuity of a social situation's inter-group and inter-personal perception suggests "that the overall discontinuity effect is a joint function of acting as a group and interacting with a group" (Wildschut, Insko, & Pinter, 2007, p.398), personalizing the out-group might shift the situation's perception from an inter-group to an inter-individual interaction (Schopler & Insko, 1992; Wildschut, Insko, & Pinter, 2007). Interacting with a bunch of individuals as opposed to interacting with an anonymous group might thus reduce competitive behavior in inter-group settings (Wildschut, Insko, & Pinter, 2007).

Applied to computer-mediated communication, the relative anonymity of this medium has been theorized as an environment in which individuating information between group members is rather scarce. Deriving from social identity approaches to discrimination, the Social Identity Model of De-individuation Effects (referred to as SIDE, Postmes, Spears, & Lea, 2002; Reicher, Spears, & Postmes, 1995) proposes that in contexts lacking individuating information, people are much more sensitive to group membership cues (in- versus out-group) than when personalizing information is abundant. Personalization would shift the system level of a social events' perception on a continuum from inter-group to inter-personal interactions. Accordingly, the salience of group membership is likely to decrease in contact as compared to anonymous settings, which has consequences for how people perceive



out-group members, in-group members, and themselves. This perceptual translation is hypothesized to increase the probability for people defining themselves and others as idiosyncratic individuals first and only as group-members second (Tajfel & Turner, 1979).

Subsequently, a social situation's degree of anonymity will significantly impact on the differentiation between groups on three dimensions, namely behavioural bias, cognitive stereotyping and attitudes (Postmes, Spears, & Lea, 1998; Spears & Lea, 1994). Although several studies provided support for the propositions of the SIDE Model concerning consequences of the acting persons' anonymity within a social setting

(Postmes, Spears, & Lea, 1999; Postmes, Spears, & Lea, 2002; Reicher, Spears, & Postmes, 1995), as far as we know, anonymity of the out-group or the counterpart has rarely been addressed (for a notable exception see Rains & Scott, 2007).

In the present study, we therefore sought to study the potential of one-way media facilitated contact (or parasocial contact, respectively) as opposed to anonymity in the process of inter-group discrimination.

Reviewing the suggestions of Contact Theory and research on television as a parasocial contact situation, we argue that television-wise presentation of societal actors, while guaranteeing group salience, can significantly impact on inter-group discrimination. Our experiment thus personalized the out-group member on video screen while group memberships were emphasized at the same time. To foster the salience of the inter-group situation, the videotaped out-group member verbalized his own experiences taking part in the study. He declared himself as member of one of two minimal groups and spoke about his impressions of the other group's members. To explore whether the evaluative content or the mere existence of parasocial

contact impacted on behavioral choices, we differentiated an appreciative setting and a disregarding setting. Deriving from Contact Theory, changes in inter-group behavior ought to be accompanied by social-cognitive transformations. As a result of inter-group contact, perceptions of inter-group differences are thus hypothesized to decrease (perceptions of similarity increase, respectively), whereas perceived variability within the out-group is theorized to increase and perceived category boundaries are weakened in comparison to no media presentation.

Based on these theoretical assumptions, hypotheses on inter-group behavior and cognitive constructions of the social situation were as follows:

H 1: Participants enrolled into a prisoner's dilemma game evince more solidarity with a game-partner if they receive parasocial contact with a hazardous member of the respective out-group as compared to entirely anonymous out-groups.

H 1b: Contact effects increase solidarity more for participants playing with the personalized group than for those playing with in-group members.

H 2: Participants perceive weaker category boundaries if they receive parasocial contact with a hazardous member of the respective out-group as compared to entirely anonymous out-groups.

H 3: Participants perceive greater variability within the out-group if an arbitrary out-group member is personalized via parasocial contact than in entirely anonymous settings.

H 4: Participants enrolled into a prisoner's dilemma game perceive more inter-group similarity if they receive parasocial contact with an hazardous member of the respective out-group as compared to entirely anonymous out-groups.

## Method

### *Design*

The experiment's contact manipulation strengthened group salience during the contact by verbalizations of the out-group member's stereotypes towards the participant's in-group. To differentiate mere contact from the contact's content, we compared two contact settings that differed in respect of the declared evaluation of the participant's group and one anonymous setting. An experiment was conducted, using a parasocial contact (appreciative personalization vs. disregarding personalization vs. anonymous (no parasocial contact)) x group (in-group vs. out-group) design, both tested as between-subjects factors. Participants were randomly assigned to the experimental conditions. All participants played a one shot Prisoner's dilemma game with either an in-group or an out-group member (group-factor) and were asked to state their self-concept, the concept they held of their game-partner and their evaluations of the groups involved on a competence and a warmth scale (Fiske, Cuddy, Glick, & Xu, 2002). The experiment was realized via globalpark online-research tool with an average duration of 18,85 minutes (SD= 9,06 minutes). The online sessions of the experiment were limited to a certain timeframe every day in order to guarantee plausibility of the group-settings during the experiment.

A preliminary analysis confirmed the overall intelligibility and technical feasibility (qualitative n=5) of the study. A second preliminary analysis supported the two video settings' distinctiveness (n= 20)<sup>1</sup>. As no differential effects were found for disregarding and appreciative parasocial contact conditions<sup>2</sup>, the results section will

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<sup>1</sup> n= 8 in the appreciative and n=12 in the devaluating video-setting.

<sup>2</sup> One way ANOVA ( $MD_{\text{appreciative, disregarding}} = ,120$ ,  $SE = ,148$ ;  $p = 1.000$ ) Bonferroni adjusted.

address the two differential parasocial contact cells as one parasocial contact condition only.

### *Participants*

Participants were recruited from the undergraduate program for psychology and from a pool of students that engage in psychology as a minor within their educational program. For their participation, participants were compensated with course credits.

The return rate for the online survey was 80 out of 129 clicks (approximately 62%) within a time frame of 39 days. We excluded two participants from the analyses<sup>3</sup>. One due to doubts in watching the video-manipulation deriving from the manipulation checks, the other one as a consequence of uncertainties in understanding the rules of the prisoner's dilemma game as answers declared technically impossible solutions to the game<sup>4</sup>.

54 participants of the sample described themselves as female, 22 as male and 2 as others. The mean age was 26.56 years ranging from 19 to 54 years. Social demographics were equivalent across all experimental conditions.

### *Procedures*

Participants were said to take part in a study dedicated to explore patterns of perceptions. The Prisoner's dilemma was introduced as add-on game deciding on the credits they would receive for their participation. After completing the study, the proper sense of the experiment was clarified to all participants via electronic mail after closing the study.

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<sup>3</sup> Participants 723 & 765 in the initial data-set.

<sup>4</sup> Expected allocation from the partner was 25 credits while the partners capital was 2 credits only

The experiment included three main elements: (1) social categorization, realized as classical dot-estimation task (Billig & Tajfel, 1973) categorizing the participants as either over- or under-estimators (2) behavioral solidarity (discrimination, respectively) was operationalized as cooperation/ defection decisions within a Prisoner's dilemma game (see Yamagishi, Jin, & Kiyonari, 1999) and (3) measurements of concepts of the different actors and groups involved into the experiment (operationalized as stereotypes and self/other-concepts on competence and warmth scales (Fiske, Cuddy, Glick, & Xu, 2002).

Entering the website, participants were welcomed and told that it was quickly proved if the number of participants logged into the system was sufficient to run the experiment.

*Social categorization.* Participants were then asked to estimate dots on four screens. Based on their estimations, they were reported their group-membership as one of two groups: under-estimators or over-estimators. For reasons of research minimalism, all participants received the same feedback (of belongingness to the group of over-estimators) but were left with the idea of two distinct groups involved into the experiment. As no participant conspicuously underscored the number of dots in the task, we assume the categorization to be credible. To assess the categorization's effectiveness, we collected data on perceived categorization meaningfulness and identification with the respective social category. In terms of Gaertner and Insko (2000) the former was operationalized by five items (e.g. How meaningful is it to you to be a member of your group?) measured on a five- point scale ranging from not at all (1) to entirely (5). Following suggestions of Yamagishi and Kiyonari (2000), the latter was operationalized as differences in the sense of belonging to the two groups. Four items measured belongingness, commonality,

closeness and liking on a 7-point scale ranging from not at all (1) to absolutely (7) (e.g. how strongly did you feel belongingness to the group of under- / over-estimators). Sufficient reliabilities were found for both scales (Cronbach's  $\alpha_{\text{category meaningfulness}} = .82$ ; Cronbach's  $\alpha_{\text{identification in-group}} = .84$ ; Cronbach's  $\alpha_{\text{identification out-group}} = .87$ ). All items were translated into German by the authors.

*Contact manipulation.* After receiving feedback of the social categorization's result, participants were assigned to one out of three experimental contact conditions. Two videos presented a former attendee of the research project talking about his experiences with the experiment. The first clip showed an out-group-member verbalizing positive appreciation of the participant's in-group by holding a positive stereotype of this group while at the same time stressing the differences between the groups ('appreciative parasocial contact'); the second clip showed the same out-group member verbalizing negative sentiments towards the participant's in-group by holding a negative stereotype of this group ('devaluating parasocial contact'). Here, too, the actor stressed the differences between the groups. The third experimental condition received no video contact ('anonymous'). Both video messages were congruently structured in terms of content but contrasting in terms of valuation (e.g. easy vs. light-headed). In order to assure that participants actually followed the manipulation's content, the video clips were accompanied by an elaboration-question and the check of a letter that was briefly faded into the video.

*Prisoner's dilemma game.* Introducing them to the prisoner's dilemma game, all participants were told that they would engage in a game that decided on the amount of credits they would receive after their participation in the experiment. Analogous to preceding experimental constructions (Yamagishi, Jin, & Kiyonari, 1999), they were provided with two credits as seed capital, while each participant would have to

decide how much of the two credits they would like to transfer to a randomly assigned partner who was online at the same time and held the same task. Participants were told that the experimenter doubled every transacted tenth of a credit while the credits retained simply maintained on the players account. This situation was symmetrical: the participant also received twice the credits provided by the partner. After the introduction to the game, the group identities of the partners were revealed to each other (under-estimator or over-estimator). The participants were asked for their allocation decision and asked to declare the amount of credits they expected to be transacted to them by the other player.

Discrimination in the prisoners' dilemma game was constructed as defection while expecting the partner to cooperate. In this regard, controlling for expectation<sup>5</sup> operationalized solidarity as opposed to discrimination. We argue that given high expectations towards the game-partner, differences of allocations would display the strength of solidarity towards the respective partner.

*Stereotyping.* Following Fiske et al. (2002), stereotypes towards the different actors involved in the experiment were operationalized on two dimensions: warmth (e.g. well-intentioned) and competence (e.g. capable) (Fiske, Cuddy, Glick, & Xu, 2002). All items were translated into German and slightly modified to fit the formulations into the experimental process (e.g. When thinking of your game-partner, how appropriate are the following descriptions?).

Stereotypes served for computing perceived strength of group boundaries, inter-group similarity and out-group homogeneity. Due to the rigid processes associated with stereotyping and categorization (Hamilton, 1981), we applied the q-technique to compute all perceived distances. All perception-parameters were based

on distance-measures between the single participants' evaluation-profiles rather than differences in scale-means. For every participant, euclidian distances between evaluations of the various actors and groups involved into the experiment were profiled across the competence and warmth scales. Accordingly, analyses based on mean differences across the participants rather than differences of means that tend to neglect individual differences (Heidenreich, 1995).

Inter-group similarity perceptions computed distances between the participants' profiles on the stereotype towards the in-group and the stereotype towards the out-group.

Homogeneity-perceptions were calculated from distances between the profiles of a participant's self-concept and the stereotype held towards the in-group (*in-group homogeneity*) or from distances between the profiles of the concept a participant held of the out-group game-partner and the stereotype held towards the out-group (*out-group homogeneity*).

Starting the experiment we collected data on the participant's self-concept (Cronbach's  $\alpha = .73$ )<sup>6</sup> framed by questions of social demographics. Data on stereotypes held towards the out-group (Cronbach's  $\alpha = .76$ )<sup>7</sup>, the in-group (Cronbach's  $\alpha = .87$ )<sup>8</sup> and the other player (Cronbach's  $\alpha = .88$ )<sup>9</sup> were collected after the prisoner's dilemma game.

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<sup>5</sup> Mediansplit.

<sup>6</sup> Competence: Cronbach's  $\alpha = .73$ ; warmth: Cronbach's  $\alpha = .63$ .

<sup>7</sup> Competence: Cronbach's  $\alpha = .84$ ; warmth: Cronbach's  $\alpha = .73$ .

<sup>8</sup> Competence: Cronbach's  $\alpha = .87$ ; warmth: Cronbach's  $\alpha = .86$ .

<sup>9</sup> Competence: Cronbach's  $\alpha = .80$ ; warmth: Cronbach's  $\alpha = .87$ .



## Results

In line with the hypotheses, higher levels of solidarity towards the game partner were found under conditions of parasocial contact as compared to entirely anonymous conditions. A One way ANOVA revealed a significant main effect for contact condition on distribution ( $M_{\text{appreciative}} = 1.292$ ,  $SD_{\text{appreciative}} = .484$ ;  $M_{\text{disregarding}} = 1.411$ ,  $SD_{\text{disregarding}} = .414$ ; ( $M_{\text{anonymous}} = .995$ ,  $SD_{\text{anonymous}} = .490$ ;  $F(2,57) = 3.903$ ,  $p = .026$ ,  $\eta^2 = 0.137$ ). Contrary to theoretical expectations, however, behavioral differences did not go along with differences in social cognitive constructions of the social event.

Results are presented in four parts. The behavioral results for participants expecting allocations above the sample's median are reported in the first section, the second section addresses their perceived category differentiation as well as out-group homogeneity, the third section presents similarity perceptions for this group and results on category salience will be reported last. As solidarity was operationalized by the extend of distributions to the prisoner's dilemma game while holding high expectations of distributions from the game partner, the following results were statistically controlled for expectations above median.

### (1) Behavioral results

Generally, expectations towards game-partners of the two groups were not significantly different for parasocial contact and anonymous conditions (for statistical results, see table 1). Allocation, however, differed significantly between the two experimental conditions.

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<sup>10</sup> Logarithmic transformations supported homogeneity of variance assumptions for allocations within factor-steps. Group-factor: quadratic logarithm ( $p = .164$ ), contact-factor by cubic logarithm ( $p = .515$ )

Participants performed more solidarity in the one-shot prisoners' dilemma game in the parasocial contact as compared to the anonymous setting. Independent samples t-test with contact-condition as factor was computed for credit-allocations to the game-partner. Confirming hypotheses 1, participants in the parasocial contact condition allocated significantly more credits to their game partners than participants in the anonymous condition ( $t(58) = -2.682$ ,  $p = .01$ ,  $d = .733$ ).

This was only true for those who played with an out-group member and not for participants that played with an in-group member. Statistically controlling for the game-partner's group-membership, participants playing with an out-group member performed higher solidarity in the parasocial contact than in the anonymous condition. The t-test yielded the significant effect for contact on allocation ( $t(24) = -2.195$ ,  $p = .038$ ,  $d = .836$ ).

For participants playing with an in-group member, the contact condition did not as clearly impact on allocations. Within this experimental setting only a trend to higher allocation in the parasocial contact than in the anonymous condition was found ( $t(32) = -2.019$ ,  $p = .053$ ,  $d = .664$ ). In regard of statistical significance, the probability of contact condition impacting on allocations for those playing with an in-group member did not reach significance on the 5% alpha-level. Hence, results suggest that contact does increase solidarity more towards the group with which parasocial contact had occurred before than towards the in-group. However, as Cohen's  $d$  still indicated a medium effect, results are rather ambiguous in regard of the effect's group boundedness.

Table 1

*Allocations and expectations as a function of contact condition*

Game-partner	Contact condition	Allocations <sup>a,b</sup>					Expectations <sup>b</sup>				
		Mean (SD)	df	P	Cohen's <i>d</i>	Sample Size	Mean (SD)	df	p	Cohen's <i>d</i>	Sample Size
Both	Parasocial	1.341 (.454)				41	1.057 (.403)				51
	Contact		58	.01	.733			76	.312	.249	
	Anonymous	.995 (.490)				19	.948 (.470)				27
Out-group only	Parasocial	1.447 (.432)				17	.992 (.358)				24
	Contact		24	.038	.836			34	.902	.047	
	Anonymous	.967 (.687)				9	.971 (.522)				12
In-group only	Parasocial	1.266 (.464)				24	.913 (.445)				27
	Contact		32	.053	.664			40	.116	-.512	
	Anonymous	1.020 (.244)				10	1.133 (.414)				15

Note. a) controlled for expectations above sample median; b) answerscale metric 0-2 course credits

Based on these findings, we examined this in more detail as interaction effect for contact-condition\*group-membership on distribution. A two-way ANOVA<sup>10</sup> with game-partner's group-membership and contact condition as fixed factors was computed. Even though we found a significant main effect of contact on allocations ( $M_{\text{parasocial contact}} = 1.357$ ,  $SD = .454$ ;  $M_{\text{anonymous}} = .993$   $SD = .490$ ,  $F(1,56) = 7.754$ ,  $p = .007$ ,  $\eta^2 = .122$ ), the main effect for the game partners group-membership was clearly insignificant ( $M_{\text{in-group}} = 1.194$   $SD = .424$ ;  $M_{\text{out-group}} = 1.281$   $SD = .570$ ,  $F(1,56) = .237$ ,  $p = .628$ ,  $\eta^2 = .004$ ) and the interaction of parasocial contact\*group-membership did not reach significance ( $F(1,56) = .801$ ,  $p = .375$ ,  $\eta^2 = .014$ ).

## (2) Social cognitive results

### *Category differentiation*

As theorized in Contact Theory, we assumed contact effects on behavior to be accompanied by cognitive category differentiation. Anonymity was hypothesized to shift the perception of social events from inter-personal to inter-group contexts thus strengthening the salience of category boundaries. As a social cognitive consequence, perceptions of increased homogeneity within the out-group and heterogeneity between the groups were expected (see hypothesis 2).

To define the strength of perceived category boundaries, we adopted the metacontrast-ratio (MCR, Oakes, Haslam, & Turner, 1994; Turner, Hogg, Oakes, Reicher, & Wetherell, 1987). The MCR corresponds to the quotient of subjectively perceived inter-group differences and subjectively perceived intra-group differences (Hogg, 2005; Lüken, 2002).

Computing the MCR, we divided perceived distances between the profiles of the self-concept and the evaluation of the out-group by perceived *in-group*

*homogeneity*. Higher MCR values were expected in the anonymous condition than in the parasocial contact conditions.

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*Figure 1: Meta-contrast ratio for warmth*

$$MCR_{warmth} = \frac{d_{selfconcept, outgroup-stereotype}^{warmth}}{d_{selfconcept, ingroup-stereotype}^{warmth}}$$

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*Note.* *d*= euclidic distance across warmth-scale

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*Figure 2: Meta-contrast ratio for competence*

$$MCR_{competence} = \frac{d_{selfconcept, outgroup-stereotype}^{competence}}{d_{selfconcept, ingroup-stereotype}^{competence}}$$

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*Note.* *d*= euclidic distance across competence-scale

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As parasocial contact ought to shift the perception of the social situation from an inter-group to an inter-personal event, participants in the anonymous condition should differentiate more between the groups (respectively higher MCR) than participants in the parasocial contact condition.

However, our data suggest otherwise. Shifts in inter-group cognitions do not necessarily go along with category-based differences in solidarity behavior. MCRs did not differ between participants in the anonymous ( $M_{competence} = 1.358$ ,  $SD = .547$ ;  $M_{warmth} = 1.161$ ,  $SD = .553$ ) and the parasocial contact ( $M_{competence} = 1.314$ ,  $SD = 1.1$ ;  $M_{warmth} = 1.175$ ,  $SD = .678$ ) experimental setting. T-tests neither yielded significant differences of meta-contrast-perceptions between the conditions in regard of

competence ( $t(53) = .162$ ;  $p = .872$ ,  $d = .051$ ) nor of warmth ( $t(52) = -.075$ ;  $p = .941$ ,  $d = -.022$ ). Even though we found differences in solidarity behavior, perceived group boundaries were the same for parasocial contact and anonymous groups.

Further, participants in the parasocial contact condition were hypothesized to perceive the out-group as more heterogeneous than participants in the anonymous condition (see hypothesis 3). The concept participants held of the out-group game partner, should thus be closer to the stereotype held of the out-group (*out-group homogeneity*) in anonymous contexts as compared to parasocial contact conditions.

Differential homogeneity perceptions, in contrast, did not accompany the behavioral differences. Homogeneity perceptions were t-tested for the experimental conditions. As means in the anonymous condition ( $M_{\text{competence}} = 1.668$ ,  $SD = 1.170$ ;  $M_{\text{warmth}} = 1.878$ ,  $SD = 1.426$ ) and the parasocial contact conditions ( $M_{\text{competence}} = 1.917$ ,  $SD = 1.187$ ;  $M_{\text{warmth}} = 1.983$ ,  $SD = 1.278$ ) did not significantly differ (competence:  $t(24) = -.511$ ,  $p = .614$ ,  $d = -.211$ ; warmth:  $t(24) = -.192$ ,  $p = .849$ ,  $d = -.077$ ), the null hypothesis could not be rejected.

### *Similarity perceptions*

Finally, participants were hypothesized to perceive more similarity between the social categories in the parasocial contact than in the anonymous experimental setting (see hypothesis 4).

This cognitive underpinning of the parasocial contact's effects, too, did not manifest in our data set. T-tests for *inter-group similarity perceptions* between the two experimental conditions did neither reach significance on competence ( $M_{\text{anonymous}} = 2.647$ ,  $SD = 1.544$ ;  $M_{\text{parasocial contact}} = 2.595$ ,  $SD = 1.564$ ;  $t(58) = .120$ ,  $p = .905$ ,  $d = .033$ ) nor on warmth ( $M_{\text{anonymous}} = 1.974$ ,  $SD = 1.026$ ;  $M_{\text{parasocial contact}} = 2.417$ ,  $SD = 1.521$ ;  $t(58) = -1.150$ ,  $p = .255$ ,  $d = -.341$ ).

### *Category salience*

Category meaningfulness and identification with the in- and the out-group signaled low category salience during the experiment. A paired sample t-test indicated that participants did not identify more with the in-group ( $M = 3.529$ ,  $SD = 1.277$ ) than with the out-group ( $M = 3.567$ ,  $SD = 1.186$ ;  $t(59) = -.185$ ,  $p = .854$ ,  $d = -.030$ ). Mean differences of identification with the two groups (in-group – out-group) did not differ for contact condition ( $M_{\text{anonymous}} = -.316$ ,  $SD = 1.658$ ;  $M_{\text{parasocial contact}} = .092$ ;  $SD = 1.534$ .  $t(58) = -.933$ ,  $p = .355$ ,  $d = -.255$ ). Furthermore, the social categories' meaningfulness was rated rather low on the 5-point scale ( $M = 1.973$ ;  $SD = .733$ ). Means did not significantly differ between parasocial contact ( $M = 1.956$ ,  $SD = .798$ ) and anonymous ( $M = 2.011$ ,  $SD = .587$ ) conditions ( $t(58) = .265$ ,  $p = .792$ ,  $d = -.079$ ).

### Discussion

The main aim of the present study was to examine whether television (in the sense of parasocial contact) could serve as medium for contact allowing inter-group relations to ameliorate. Our experiment investigated the impact of parasocial contact on solidarity behavior and social cognitive representations of the inter-group relation. The results presented hold evidence that parasocial contact in fact raises solidarity behavior. Social cognitive processes that had been suggested to mediate the relation between contact and the reduction of inter-group discrimination, however, are not supported.

Building on prior research on contact and inter-group relations, it was expected that parasocial contact with a random out-group member would shift the perception of the social event from an inter-group to an inter-personal situation and

thus reduce the competitiveness of inter-group situations. Presentation on television served as a potent alternative to face-to-face contact and parasocial contact might thus be a promising way to reduce inter-group conflict. Parasocial contact significantly impacted on contributions to a shared dilemma situation. Participants rather took personal advantage of the situation (discriminate) in entirely anonymous than in parasocial contact settings of interaction. They rather reciprocated high expectations towards the game partner (declare their solidarity), when the same out-group was presented on video-screen before. Independent samples t-tests with contact-condition as factor were computed for credit-allocations to the game-partner. This impact of parasocial contact on inter-group competitiveness suggests a theoretical integration of Contact Theory and the Discontinuity Effect. On behalf of research on interacting with a group vs. interacting as a group, parasocial contact might be a promising line to further inter-group research.

Even though, meaningfulness of the minimal social categories we implemented was rated low and the participants did not identify more with the in-group than with the out-group, categorization seems to have impacted on the construction of the social setting. As the game-partner was any member of one of the two groups and not the person participants had seen on video-screen before, the contact effect in fact generalized from the initial contact partner across the out-group.

Furthermore, the parasocial contact's effect distinctively generalized across the group that had been screened before. Parasocial contact and anonymous contact conditions only encouraged different amounts of contributions to a shared dilemma, when participants faced a member of the respective group. Participants who faced an in-group member did not differentially allocate credits in the two conditions.



Broadening the scope of inter-group Contact Theory, we hold evidence for television (or parasocial contact, respectively) as an alternative medium to face-to-face contact. Not only does actual inter-group interaction reduce inter-group conflict, but also the present studies findings imply the potential of parasocial interaction to enhance inter-group solidarity. The evaluative content of the parasocial contact itself, however, did not make a difference to reactions within the dilemma situation. Cooperation vs. defection decisions were the same, no matter if the out-group was screened as holding appreciative or devaluating evaluations of the in-group. As we did not systematically take Contact Theory's preconditions into account, further research is needed to sort out whether the preconditions formulated by Contact Theory remain valid for parasocial contact.

We further asked by which means parasocial contact impacted on behavior. Turning to the mediating processes that have generally been addressed in Contact Theory, our results suggest expanding social psychology's field of vision. In this study, social cognitive constructions of the inter-group relation cannot be addressed to explain the differences found for behavior within anonymous and parasocial contact settings. Participants neither perceived stronger group-boundaries between the two groups, nor did they find the out-group more homogeneous in the anonymous condition, nor did the two conditions differ for similarity-perceptions between the groups. Even though, social categorization did not cognitively influence group differentiation processes, similarity, and homogeneity perceptions, we find the impact of parasocial contact on intergroup behavior bound by category-membership.

To understand the processes that had mediated contact and behavior in the present experiment, we might have to address additional concepts to social cognition.

Our analysis clearly suggests the importance of the degree of anonymity on generalized solidarity behavior. People elicit more solidarity within personalized than anonymous social situations. Relating this effect to group-membership, however, has been ambiguous in our data. The two-way ANOVA did not underpin the differential impact of personalization on solidarity for group-membership of the allocation target. As contributions to the dilemma situation were collected as between-subjects factor, discrimination could not be referred to on an intra-personal level of analysis. In this respect, we did not address in-group favoritism and the strategy of maximizing inter-group differences in allocations as suggested by prior research (Brown, 2000). Considering prior research on discrimination, intra-individual differences in the willingness to allocate credits to an out-group and an in-group game-partner could be hidden behind a larger inter-individual variance of risk-taking, equity orientation or other variables that had left uncontrolled between the participants in the present study.

In accordance with the findings reported above, the results of this study might be understood in terms of the effect sizes. Due to the number of cases analyzed, only larger effects can have brought to bear (Cohen, 1988). As identification with the in-group was not higher than with the out-group and measures for category meaningfulness were rather low, group salience might not have been powerful enough to call on an inter-group level of interpretation.

Addressing this ambiguity, thus, might allow another perspective to the results. Research on dehumanization emphasizes the abstractness of the other's representation. Moderating the tendency to adjudge differences in humanness to the self and others, distance is linked to feeling unconnected to and objectify others (Opatow, 1990). Adjudging humanness more to the self than to others as well as

more to the in-group than to the out-group was eliminated when comparing the self to a distinct, personalized other rather than an undifferentiated, generalized counterpart (Haslam, 2006; Haslam & Bain, 2007). On the basis of our experimental data, we cannot entirely rule out a more general phenomenon of humanizing the counterpart to decide on solidarity behavior. This remains to be reconsidered on a wider basis of data.

Although, generalization of the present studies findings are limited due to the experimental character (MGP) of this study, we hold evidence for parasocial contact (television and video) as potent alternatives to face-to-face contact.

### Conclusions

Below the headline “Medien und Integration” (media and integration), Germany’s federal government just recently strengthened the media’s responsibility within the societal discourse on integration. As media crucially shape public images of various societal groups, it is stated in the national conception on integration, they are called on to make social and cultural diversity a subject of discussion on behalf of societal integration (Böhmer, 2007). It is claimed to display cultural diversity as an immigration country’s societal normality instead of over proportionally reporting of migrants in problem contexts. Nevertheless, a lack of research on this topic is identified.

From our results, presenting societal groups on public screen must be considered in terms of parasocial contact and can thus have important impact on inter-group behavior. Medial contact with marginalized groups could set a base for ensuing positive face-to-face contact and raise willingness to demand or campaign for the societal recognition of others. Evaluating the effects of programs such as

proposed by the working-group's report on media, it is important, too, to consider the present study's results. Representing societal diversity possibly impacts on behavior without immediately changing cognitive representations. Shifts in stereotypes and prejudice towards various societal groups might not become immediately obvious and should thus not be a central criterion for the effectiveness of medial considerations.

This does not only pertain to certain minorities but could bear a meaning for the interaction of various societal groups. Independent media that offer a stage to diverse societal actors, we argue, are an important third mainstay to the media landscape.

However, we do not know, yet, which preconditions decide on the direction and strength of the parasocial contact's effects. Medial presentation of societal actors must thus more wisely consider its potential impact on inter-group relations and consequences for systematic exclusion than claimed so far. In this regard, staging social challenges as societal problems rather than a question of individual volition is one central issue.

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