

4th World Conference on Psychology, Counseling and Guidance WCPCG-2013

## Cross-group friendships, extended contact, and humanity attributions to homosexuals

Dora Capozza<sup>a</sup>\*, Rossella Falvo<sup>a</sup>, Elena Trifiletti<sup>b</sup>, Ariela Pagani<sup>c</sup>

<sup>a</sup> Department FISPPA, Section of Applied Psychology, University of Padova, via Venezia 8 – Padova, 35131, Italy

<sup>b</sup> Department of Philosophy, Education, and Psychology, University of Verona, via San Francesco 22 – Verona, 37129, Italy

<sup>c</sup> Department of Psychology, Catholic University of Milano, Largo Gemelli 1 – Milano, 20123, Italy

---

### Abstract

The aim of the present paper was to test whether cross-group friendships and extended contact (knowing that ingroup members have a friendly relationship with outgroup members) are related to reduced outgroup inhumanization. The relationship between heterosexuals and homosexuals was considered. Participants were university students; all were heterosexual. A questionnaire was used and structural equation models were evaluated. Findings showed that only extended contact was related to reduced inhumanization and increased outgroup humanization; the key-mediator in these relationships was the mechanism of including the outgroup in the self. Practical implications of findings are discussed.

© 2013 The Authors. Published by Elsevier Ltd.

Selection and peer-review under responsibility of Academic World Education and Research Center.

*Keywords:* Cross-group friendships, extended contact, homosexuals' inhumanization, inclusion of the outgroup in the self;

---

### 1. Introduction

Social psychologists have demonstrated that individuals tend to assign a higher human status to the ingroup than to the outgroup. This bias has detrimental effects which can strongly impair intergroup relationships. In this paper, we propose that the promotion of cross-group friendships may be an effective strategy for reducing the humanity bias.

#### 1.1. The inhumanization effect and its consequences

In the last 12 years, researchers have highlighted an inhumanization effect: individuals tend to assign the characteristics which are unique of human species more to the ingroup than to the outgroup (see Leyens, Demoulin, Vaes, Gaunt, & Paladino, 2007). As uniquely human features, investigators have generally considered secondary emotions (Leyens et al., 2007), which are cognitively complex and felt only by humans (e.g., regret), and traits as rationality, consciousness (see Capozza, Trifiletti, Vezzali, & Favara, 2012; MacInnis & Hodson, 2012). Inhumanization is a rather general phenomenon which involves a variety of outgroups: racial, national, occupational, even patients in medical contexts. However, outgroups may not only be inhumanized, they may

---

\* Corresponding author: Dora Capozza. Tel.: +39-049-8276648  
E-mail address: [dora.capozza@unipd.it](mailto:dora.capozza@unipd.it)

also be dehumanized, namely assimilated to animals or robots (for animalistic dehumanization, see Capozza, Andrighetto, Di Bernardo, & Falvo, 2012; Capozza, Boccato, Andrighetto, & Falvo, 2009; Goff, Eberhardt, Williams, & Jackson, 2008; for mechanistic dehumanization, see Loughnan, Haslam, & Kashima, 2009).

Infrahumanization and dehumanization may have detrimental effects. Infrahumanization may foster aggression, discrimination, and violence (see Greitemeyer & McLatchie, 2011; Waytz & Epley, 2012). It may curb helping intentions (Cuddy, Rock, & Norton, 2007), limit intergroup forgiveness (e.g., Wohl, Hornsey, & Bennett, 2012), and may be used to justify ingroup's misdeeds against the outgroup (Castano & Giner-Sorolla, 2006). Strategies must, therefore, be singled out to limit this insinuating phenomenon.

### *1.2. Intergroup contact and reduced infrahumanization*

After more than fifty years of research, the intergroup contact hypothesis (Allport, 1954) has emerged as the social psychology's most effective strategy for ameliorating intergroup relationships (Pettigrew & Tropp, 2006). The outcome variables, generally analyzed in this research tradition, have been attitude, prejudice, and stereotypes; there is, however, initial evidence that intergroup contact can have beneficial effects also on outgroup humanization. The kind of contact used in these studies is direct contact (see, e.g., Brown, Eller, Leeds, & Stace, 2007; Capozza, Trifiletti, et al., 2012) or imagined contact (Vezzali, Capozza, Stathi, & Giovannini, 2012), the latter being a mental simulation of a positive encounter with an outgroup member. However, Pettigrew (1998) proposed, and research has demonstrated, that cross-group friendship generates stronger positive effects than other less intimate forms of contact (Davies, Tropp, Aron, Pettigrew, & Wright, 2011). Interestingly, even extended contact – namely, the mere knowledge that an ingroup member has a close relationship with an outgroup member – may lead to more positive intergroup attitudes (Wright, Aron, McLaughlin-Volpe, & Ropp, 1997; for a review, see Turner, Hewstone, Voci, Paolini, & Christ, 2007). In the present contribution, we posit that both cross-group friendships and extended contact can be beneficial in reducing outgroup infrahumanization.

According to Wright and colleagues (Davies, Wright, Aron, & Comeau, 2013), both direct friendships and extended contact affect intergroup relationships through three main mechanisms or mediation processes: the inclusion of the outgroup in the self (IOS), outgroup norms, and ingroup norms. When one develops feelings of closeness toward another person, the representation of the self comes to overlap with that of the other person: some of his/her identities become part of our identity. If the friend is an outgroup member, the inclusion is generalized from the outgroup partner to the outgroup as a whole. In the case of extended contact, the process takes the form of a transitive inclusion: from the ingroup member to his/her friend to the whole outgroup. The IOS process should attenuate the tendency to assign a different human status to the ingroup and the outgroup, because the two groups are assimilated, both being perceived as parts of the self. Furthermore, the inclusion of the outgroup in the self should increase trust and empathy and reduce anxiety toward the other group. We, therefore, expect IOS to be related to reduced outgroup infrahumanization both directly and through the mediation of the three emotions. It is worth noting that the mediation effect of the above emotions in the relationship between contact and infrahumanization has been demonstrated by previous research (Capozza, Trifiletti, et al., 2012; Vezzali et al., 2012).

Another mechanism associated with friendship effects may be represented by outgroup norms. To the degree that the outgroup friend is perceived as typical of the outgroup, his/her positive actions can be seen as a demonstration that the outgroup is favorable to the ingroup. Similarly, in the case of extended contact, the observation of friendly interactions between ingroupers and outgroupers may weaken the idea of negative outgroup norms. Like for IOS, we expect the relationship between outgroup norms and reduced infrahumanization to be mediated by increased empathy and trust, and reduced anxiety.

The core concept of the third mediational mechanism is ingroup norms. Observing cross-group friendships (extended contact) can lead to the conclusion that the ingroup has favorable norms toward the outgroup. In direct friendships, a self-anchoring process (Otten & Epstude, 2006) can occur; individuals can use their personal attitude to infer the attitude of the whole ingroup. Also for ingroup norms, their relationship with infrahumanization may be mediated by emotional factors.

Thus, we predict that cross-group friendships and extended contact are related to reduced inhumanization through two levels of mediation; at the first level, mediators are IOS, ingroup norms, and outgroup norms; at the second level, mediators are the three emotions (empathy, trust, and reduced anxiety; see Figure 1). However, to detect effects of partial mediation, we will estimate the direct paths from each antecedent to all the subsequent constructs.

The target of our study is the outgroup category of homosexuals, a gender minority which is still discriminated against in society.

## 2. Method

### 2.1. Participants and procedure

Participants were 202 undergraduates attending psychology courses at a large Northern Italian university; 151 were females and 48 were males (three participants did not indicate their gender). Mean age was 21.27 years ( $SD = 3.72$ ). All participants declared to be heterosexual. Respondents, examined collectively during class hours, were informed that their responses would remain strictly confidential.

### 2.2. Measures

A questionnaire was used including the following measures.

*Cross-group friendships and extended contact (predictors).* The cross-group friendship measure consisted of four items ( $\alpha = .80$ ). Participants were, for instance, asked “How many friends do you have at university who are homosexual?” (1 = none, 2 = one, 3 = two to four, 4 = five to ten, 5 = over 10), and “How often do you spend time with homosexual friends when you are at university?” (1 = never, 2 = occasionally, 3 = sometimes, 4 = often, 5 = very often). The extended contact measure consisted of three items ( $\alpha = .82$ ), for instance: “How many heterosexuals do you know who have friends who are homosexual?” (1 = none, 2 = a few, 3 = about half, 4 = more than half, 5 = most), “How many of your heterosexual friends have friends who are homosexual?” (1 = none, 2 = one, 3 = two to four, 4 = five to ten, 5 = over 10) (see Turner, Hewstone, Voci, & Vonofakou, 2008).

*First-level mediators.* Perceived ingroup norms were measured using three items ( $\alpha = .81$ ), for instance: “In general, how friendly do you think heterosexuals are to homosexuals?” (1 = not at all friendly; 7 = very friendly). Three items were used also for perceived outgroup norms ( $\alpha = .88$ ), for instance: “In general, how friendly do you think homosexuals are to heterosexuals?” (1 = not at all friendly; 7 = very friendly). Inclusion of the outgroup in the self was measured using a pictorial item (see Aron, Aron, & Smollan, 1992; Tropp & Wright, 2001). Seven pairs of overlapping circles were shown; participants were asked to indicate the pair which best represented the nature of their relationship with the outgroup. Higher scores indicate greater inclusion of the outgroup in the self. Participants were also asked to answer the following item: “My identity, in a sense, also includes homosexuals’ identity” (1 = not at all true; 7 = definitely true). The correlation between the two items was  $r = .56, p < .001$ .

*Second-level mediators.* To measure intergroup empathy, four items were used ( $\alpha = .90$ ). One item was: “To what extent, when you think about homosexuals, do you feel in tune with them?” Three items measured intergroup trust ( $\alpha = .68$ ), for instance: “I trust homosexuals,” and eight ( $\alpha = .87$ ) measured intergroup anxiety, for instance: “When I think about homosexuals, I feel anxious.” For the three emotions, a 7-step scale was used (1 = not at all; 7 = very much).

*Criterion variables.* To measure humanness attributions, four uniquely human (e.g., rationality, morality) and four non-uniquely human traits (e.g., instinct, impulsiveness) were used (see Capozza, Trifiletti, et al., 2012). The two types of traits, obtained from pretests, have the same level of valence, and are evaluated slightly positive. Participants rated first the outgroup (homosexuals) and then the ingroup (heterosexuals) on the eight traits, responding on a 7-step scale, for instance: “Homosexuals (heterosexuals) are characterized by impulsiveness” (1 = definitely false; 7 = definitely true). Alphas were included from .87 to .94. In the regression models, we used as

criterion variables: 1. an index of infrahumanization, namely the difference between the ingroup and the outgroup on the uniquely human traits (the higher the score, the stronger infrahumanization); 2. the attribution of uniquely human traits to the outgroup (outgroup humanization).

### 3. Results

#### 3.1. The infrahumanization effect

For the uniquely human and non-uniquely human dimension a composite score was created by averaging the respective items. To these data a target group (ingroup vs. outgroup) x traits (uniquely human vs. non-uniquely human) ANOVA was applied with repeated measures in both factors. The interaction was significant,  $F(1, 201) = 4.91, p < .03, \eta_p^2 = .02$ , and the analysis of simple effects showed that uniquely human traits were assigned more to the ingroup ( $M = 4.85, SD = 1.11$ ) than to the outgroup ( $M = 4.71, SD = 1.14$ ),  $F(1, 201) = 10.07, p < .003, \eta_p^2 = .05$ . The two groups were instead not differentiated on the non-uniquely human dimension,  $F < 1$ . Findings, therefore, replicated the infrahumanization effect: heterosexuals were perceived as more prototypical of humanity than the homosexual minority.

#### 3.2. The regression models

To test the double mediation model, regression analysis with latent variables (LISREL 8.7; Jöreskog & Sörbom, 2004) was applied. For each construct, two indicators were created using the item-to-construct balance method by Little, Cunningham, Shahar, and Widaman (2002). IOS was measured by the two respective items. For the infrahumanization construct, Little et al.'s procedure was applied considering the difference between the ingroup and the outgroup on each of the four uniquely human traits. A preliminary confirmatory factor analysis (CFA) demonstrated that the nine factors were distinct constructs (the correlation matrix between the 18 indicators is available on request from the corresponding author).

As appears from Figure 1, the regression model fit the data very well:  $\chi^2$  was, in fact, nonsignificant, CFI was .99, RMSEA was .026, and SRMR was equal to .033 (for the latter three indices, see the rules of thumb suggested by Hu & Bentler, 1999).

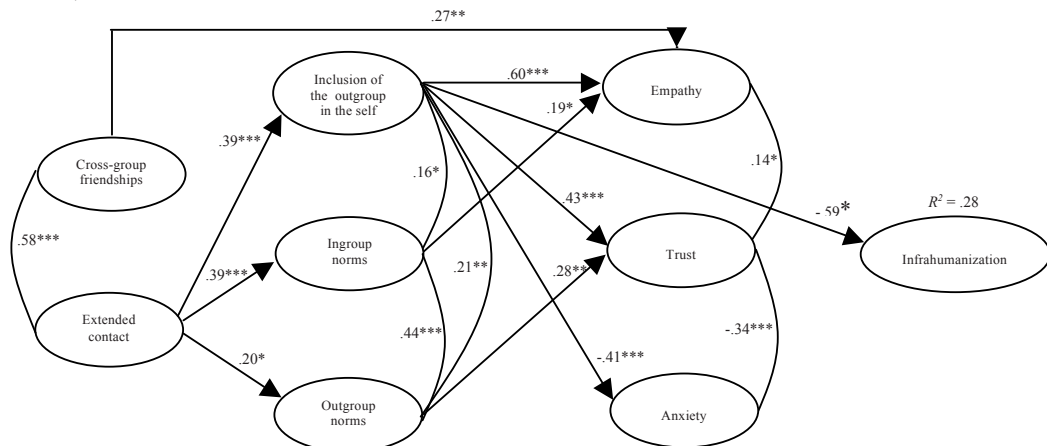


Figure 1. Structural equation model of the effects of cross-group friendships and extended contact on outgroup infrahumanization via two-level mediators,  $N = 202$ . The coefficients are standardized; only significant parameters are reported. Curved paths denote correlations between variables. The goodness-of-fit indices for the model are:  $\chi^2(99) = 114.60, p = .14$ ; RMSEA = .026; SRMR = .033; CFI = .99.

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

Findings show that cross-group friendships were only related to increased empathy toward the outgroup. Only extended contact was related to reduced outgroup infrahumanization, this association being mediated by the IOS mechanism. The application of the bootstrap method showed the significance of this mediation effect; the 95% bias corrected confidence interval did not, in fact, include zero [-.015, -.407] (as regards Figure 1, factor loadings of indicators and nonsignificant parameters are available on request from the corresponding author).

The inclusion of the outgroup in the self was a key-mediator also when the outcome was outgroup humanization (Figure 2). The relationship between extended contact and enhanced humanization was, in fact, mediated by the inclusion of the outgroup in the self which in turn was related to lower intergroup anxiety. Also the perception that the outgroup was favorable to the ingroup (outgroup norms) mediated the association between extended contact and the attribution to the outgroup of uniquely human traits. Both mediation effects were significant; the 95% bias corrected confidence interval was [.011, .168] for the path: extended contact → IOS → reduced anxiety → increased outgroup humanization, it was [.0001, .181] for the path: extended contact → outgroup norms → outgroup humanization (all data regarding Figure 2, and the correlation matrix between indicators are available upon request from the corresponding author).

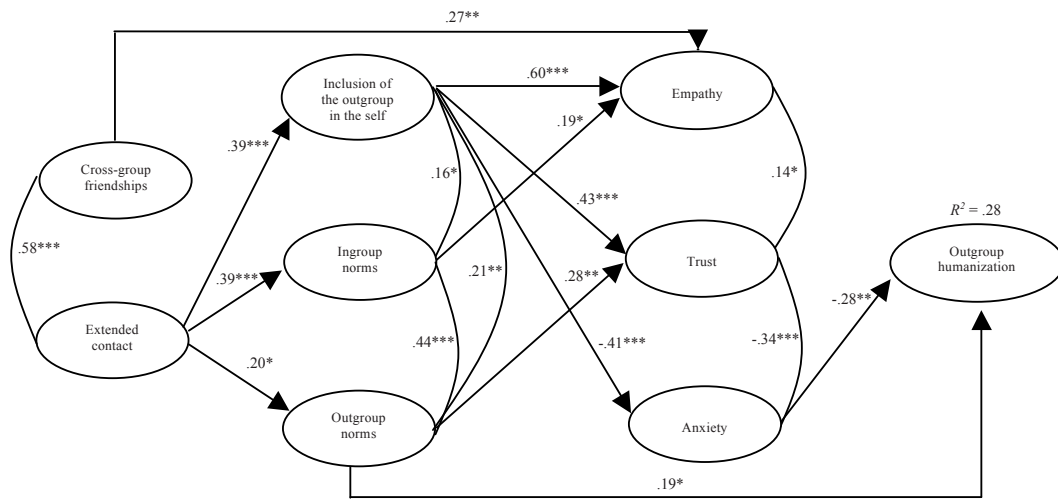


Figure 2. Structural equation model of the effects of cross-group friendships and extended contact on outgroup humanization via two-level mediators,  $N = 202$ . The coefficients are standardized; only significant parameters are reported. Curved paths denote correlations between variables. The goodness-of-fit indices for the model are:  $\chi^2(99) = 95.00, p = .59; RMSEA = .00; SRMR = .029; CFI = 1.00$ .

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

#### 4. Discussion

This study shows, for the first time, that extended contact may be related to decreased outgroup infrahumanization and to a greater attribution of uniquely human characteristics to the outgroup. The key-intervening variable in these relationships is the inclusion of the outgroup in the self, which is facilitated by the spontaneous inclusion of ingroup members and, thus, of their outgroup friends. The inclusion of both the ingroup and the outgroup in the self assimilates the two groups, thus reducing their distance on the humanness dimension. The process seems slightly different when the outcome is outgroup humanization (Figure 2); in this case, IOS is related to lower levels of

intergroup anxiety and, thus, to a lower need to use strategies which can justify defensive or aggressive behaviors toward the outgroup (one of these strategies could be that of assigning a lower human status to the outgroup).

What is impressive in our findings is that only one relationship is significant for direct cross-group friendships. We think this happens because it is difficult to include in the self people who are deviant on the sex dimension. This inclusion is only possible when it is indirect, namely based on the incorporation of not-deviant people who are closely connected with deviants (extended contact).

A limitation of this study is its correlational design which does not allow us to draw conclusions on the causal relationships between variables. Future research is needed, based on longitudinal or experimental designs. Future research should also consider what happens when the outgroup is not the general category of homosexuals, but homosexuals who have the same gender or different gender from participants.

Our contribution is, however, new, having demonstrated that a relationship exists between extended contact and decreased infrahumanization. In this way, this work opens new avenues both to future research and to the use of strategies which may promote the acceptance of homosexuals in society.

## Acknowledgements

We wish to thank Irene Favara and Erika Mazzocca for their contribution during the questionnaire construction, data collection, and data coding phases of the study.

## References

- Allport, G. W. (1954). *The nature of prejudice*. New York, NY: Addison-Wesley.
- Aron, A., Aron, E. N., & Smollan, D. (1992). Inclusion of the other in the self scale and the structure of interpersonal closeness. *Journal of Personality and Social Psychology*, *63*, 596-612. doi: 10.1037/0022-3514.63.4.596
- Brown, R., Eller, A., Leeds, S., & Stace, K. (2007). Intergroup contact and intergroup attitudes: A longitudinal study. *European Journal of Social Psychology*, *37*, 692-703. doi: 10.1002/ejsp.384
- Capozza, D., Andrighetto, L., Di Bernardo, G. A., & Falvo, R. (2012). Does status affect intergroup perceptions of humanity? *Group Processes & Intergroup Relations*, *15*, 363-377. doi: 10.1177/1368430211426733
- Capozza, D., Boccato, G., Andrighetto, L., & Falvo, R. (2009). Categorization of ambiguous human/ape faces: Protection of ingroup but not outgroup humanity. *Group Processes & Intergroup Relations*, *12*(6), 777-787. doi:10.1177/1368430209344868
- Capozza, D., Trifiletti, E., Vezzali, L., & Favara, I. (2012). Can contact improve humanity attributions? *International Journal of Psychology*. Advance online publication. doi: 10.1080/00207594.2012.688132
- Castano, E., & Giner-Sorolla, R. (2006). Not quite human: Infra-humanization as a response to collective responsibility for intergroup killing. *Journal of Personality and Social Psychology*, *90*, 804-818. doi: 10.1037/0022-3514.90.5.804
- Cuddy, A. J., Rock, M. S., & Norton, M. I. (2007). Aid in the aftermath of hurricane Katrina: Inferences of secondary emotions and intergroup helping. *Group Processes & Intergroup Relations*, *10*, 107-118. doi:10.1177/1368430207071344
- Davies, K., Tropp, L. R., Aron, A., Pettigrew, T. F., & Wright, S. C. (2011). Cross group friendships and intergroup attitudes: A meta-analytic review. *Personality and Social Psychology Review*, *15*, 332-351. doi: 10.1177/1088868311411103
- Davies, K., Wright, S. C., Aron, A., & Comeau, J. (2013). Intergroup contact through friendship: Intimacy and norms. In G. Hodson, & M. Hewstone (Eds.), *Advances in intergroup contact*. London, UK and New York, NY: Psychology Press.
- Goff, P. A., Eberhardt, J. L., Williams, M. J., & Jackson, M. C. (2008). Not yet human: Implicit knowledge, historical dehumanization, and contemporary consequences. *Journal of Personality and Social Psychology*, *94*, 292-306. doi: 10.1037/0022-3514.94.2.292
- Greitemeyer, T., & McLatchie, N. (2011). Denying humanness to others: A newly discovered mechanism by which violent video games increase aggressive behavior. *Psychological Science*, *22*, 659-665. doi: 10.1177/0956797611403320
- Hu, L., & Bentler, P. M. (1999). Cut-off criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling*, *6*, 1-55. doi: 10.1080/10705519909540118
- Jöreskog, K. G., & Sörbom, D. (2004). *LISREL 8.7 for Windows [Computer Software]*. Lincolnwood, IL: Scientific Software International, Inc.

- Leyens, J.-Ph., Demoulin, S., Vaes, J., Gaunt, R., & Paladino, M. P. (2007). Infra-humanization: The wall of group differences. *Social Issues and Policy Review*, 1, 753-775. doi:10.1111/j.1751-2409.2007.00006.x
- Little, T. D., Cunningham, W. A., Shahar, G., & Widaman, K. F. (2002). To parcel or not to parcel: Exploring the question, weighing the merits. *Structural Equation Modeling*, 9, 151–173. doi: 10.1207/S15328007SEM0902\_1
- Loughnan, S., Haslam, N., & Kashima, Y. (2009). Understanding the relationship between attribute-based and metaphor-based dehumanization. *Group Processes & Intergroup Relations*, 12, 747-762. doi: 10.1177/1368430209347726
- MacInnis, C. C., & Hodson, G. (2012). Intergroup bias toward “Group X”: Evidence of prejudice, dehumanization, avoidance, and discrimination against asexuals. *Group Processes and Intergroup Relations*, 15, 725-743. doi: 10.1177/1368430212442419
- Otten, S., & Epstude, K. (2006). Overlapping mental representations of self, ingroup, and outgroup: Unraveling self-stereotyping and self-anchoring. *Personality and Social Psychology Bulletin*, 32, 957-969. doi: 10.1177/0146167206287254
- Pettigrew, T. F. (1998). Intergroup contact theory. *Annual Review of Psychology*, 49, 65–85. doi: 10.1146/annurev.psych.49.1.65
- Pettigrew, T. F., & Tropp, L. R. (2006). A meta-analytic test of intergroup contact theory. *Journal of Personality and Social Psychology*, 90, 751-783. doi: 10.1037/0022-3514.90.5.751
- Tropp, L. R., & Wright, S. C. (2001). Ingroup identification as the inclusion of the outgroup in the self. *Personality and Social Psychology Bulletin*, 27, 585-600. doi: 10.1177/0146167201275007
- Turner, R. N., Hewstone, M., Voci, A., Paolini, S., & Christ, O. (2007). Reducing prejudice via direct and extended cross-group friendship. *European Review of Social Psychology*, 18, 212-255. doi: 10.1080/10463280701680297
- Turner, R. N., Hewstone, M., Voci, A., & Vonofakou, C. (2008). A test of the extended intergroup contact hypothesis: The mediation role of intergroup anxiety, perceived ingroup and outgroup norms, and inclusion of the outgroup in the self. *Journal of Personality and Social Psychology*, 95, 843-860. doi: 10.1037/a0011434
- Vezzali, L., Capozza, D., Stathi, S., & Giovannini, D. (2012). Increasing outgroup trust, reducing infrahumanization, and enhancing future contact intentions via imagined intergroup contact. *Journal of Experimental Social Psychology*, 48, 437-440. doi: 10.1016/j.jesp.2011.09.008
- Waytz, A., & Epley, N. (2012). Social connection enables dehumanization. *Journal of Experimental Social Psychology*, 48, 70-76. doi:10.1016/j.jesp.2011.07.012
- Wohl, M. J. A., Hornsey, M. J., & Bennett, S. H. (2012). Why group apologies succeed and fail: Intergroup forgiveness and the role of primary and secondary emotions. *Journal of Personality and Social Psychology*, 102, 306-322. doi: 10.1037/a0024838
- Wright, S. C., Aron, A., McLaughlin-Volpe, T., & Ropp, S. A. (1997). The extended contact effect: Knowledge of cross-group friendships and prejudice. *Journal of Personality and Social Psychology*, 73, 73-90. doi: 10.1037/0022-3514.73.1.73