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# EXTENDED CONTACT AND AFFECTIVE FACTORS: A REVIEW AND SUGGESTIONS FOR FUTURE RESEARCH

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Extended intergroup contact has received growing support for its positive effect on intergroup relations. Previous research has focused on cognitive factors associated with extended contact, such as perceived group norms and inclusion of the other in self. In the present review, we examine the affective outcomes of extended contact. In particular, we review research demonstrating that extended contact has powerful effects on various affective measures of intergroup relations, such as intergroup anxiety, empathy, trust, and intergroup threat. We also present evidence that some of these affective factors mediate the relationship between extended contact and outgroup attitudes. Finally, we propose future research to extend the literature on the dual route of prejudice-reduction, via affective and cognitive factors, through extended contact.

Key words: Extended contact; Indirect contact; Intergroup contact; Affective factors; Prejudice; Intergroup relations.

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Since the Second World War, there has been an impressive amount of work into discovering ways to tackle prejudice and promote positive intergroup relations, in particular through meaningful face-to-face contact between different groups (Allport, 1954; Hodson & Hewstone, 2013). Social psychological scholars have provided consistent evidence that the prejudice-reduction effect of direct contact is largely achieved through affecting prejudice via an affective route, rather than a cognitive route (e.g., increasing knowledge about the outgroup). Intergroup emotions play a pivotal role in mediating the relation between contact and reduced prejudice. By reducing negative emotions (such as intergroup anxiety) and promoting more positive emotions (such as empathy) toward outgroups, contact exerts its impact on intergroup relations (for a meta-analysis see Pettigrew & Tropp, 2008; for a review see Brown & Hewstone, 2005).

Despite its power, direct contact strategies have shortcomings in their applicability, in particular in segregated areas where there is little opportunity for contact, even less for Allport's (1954) optimal contact (Dixon, Durrheim, & Tredoux, 2005); or when there is resistance to such contact despite contact opportunities, due to perceived threat or lack of interest (e.g., Al Ramiah, Schmid, Hewstone, & Floe, 2015). The

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pervasiveness of intergroup conflict and the challenges around implementing direct contact have inspired social psychologists to investigate more indirect prejudice-reduction strategies (Dovidio, Eller, & Hewstone, 2011): (a) extended contact — knowing that an ingroup member is friends with an outgroup member (Wright, Aron, McLaughlin-Volpe, & Ropp, 1997), (b) vicarious contact — observing an ingroup member interacting with an outgroup member (Mazziotta, Mummendey, & Wright, 2011), and (c) imagined contact — mentally simulating positive contact with an outgroup member (Crisp, Husnu, Meleady, Stathi, & Turner, 2010).

Since the original formulation of the extended contact hypothesis, scholars focused on examining how extended contact exerts its benefits. Vezzali, Hewstone, Capozza, Giovannini, and Wölfer (2014) outlined a theoretical model considering antecedents, consequences, underlying processes and moderators of extended and vicarious contact. While they proposed two different routes underling the extended contact effects, research has primarily focused on the cognitive experience. In this review, we discuss evidence for the affective route, a route that so far has been neglected in this literature. We review evidence showing that extended contact also works by changing affective variables, paralleling direct contact. Since affect is a key antecedent of intergroup bias (Pettigrew, 1998), we argue that it is important to examine the effectiveness of extended contact on a range of affective variables. Before reviewing studies examining the impact of extended contact on affective variables, we will present the theoretical background that outlines why intergroup affect is a key variable in intergroup contact processes.

#### INTERGROUP CONTACT

Allport's (1954) *The Nature of Prejudice* is regarded as the cornerstone of theories about how to best bring opposing groups together to achieve harmonious relations between them (Brown & Hewstone, 2005; Pettigrew, 1998; Pettigrew & Tropp 2006, 2008). In the past 60 years, intergroup contact researchers have further developed Allport's original contact hypothesis in an effort to find the most effective way for contact to reduce prejudice, stereotyping, and discrimination (Brown & Hewstone, 2005). A wealth of research, using both cross-sectional and longitudinal designs, has demonstrated positive effects of social contact on intergroup attitudes on both micro- and macro-level intergroup relations. Importantly, contact with outgroups not only reduces prejudice for individual members, but also has reliable contextual effects on a macro-level, such as diverse neighborhoods people live in (Christ et al., 2010; Davies, Tropp, Aron, Pettigrew, & Wright, 2011; Dovidio, Love, Schellhaas, & Hewstone, 2017; Pettigrew & Tropp, 2006, 2008).

The most impressive evidence for the effectiveness of intergroup contact in reducing prejudices comes from Pettigrew and Tropp's (2006, 2008) meta-analyses. Contact has a robust effect in reducing prejudice, which generalizes beyond the immediate contact situation. In other words, contact between conflicting groups not only reduces prejudice toward the outgroup members present at the contact situation, but also toward the entire outgroup, across different target groups, age groups, contact settings, geographical areas, and even toward outgroups not involved in the initial contact (secondary transfer effect; Pettigrew, 2009).

Cross-group friendships are considered to be the qualitatively highest form of positive intergroup contact because it is characterized by factors such as self-disclosure, repeated and intensive contact, across various social contexts. Furthermore, this form of contact is likely to meet all four of Allport's (1954) op-timal conditions (i.e., equal status, cooperation, pursuit of superordinate goals, institutional support). A considerable amount of work has shown a positive association between cross-group friendships (especially



self-disclosure and time spent with outgroup friends) and outgroup attitudes (for a meta-analysis see Davies et al., 2011; see also Paolini, Hewstone, Cairns, & Voci, 2004; Pettigrew, 1998).

Despite Allport (1954) initially proposing that contact would reduce prejudice via cognitive mechanisms, and precisely by increasing knowledge of other groups, later research has demonstrated that it is *affect* that represents the key factor allowing contact to reduce prejudice (Pettigrew & Tropp, 2008). There is now support for various, largely affective, mechanisms of how contact reduces prejudice (Pettigrew & Tropp, 2008); it does so by reducing intergroup anxiety (Stephan & Stephan, 1985; Swart, Hewstone, Christ, & Voci, 2011; Turner, Hewstone, & Voci, 2007), enhancing empathy and perspective-taking (Swart et al., 2011; Turner, Tam, Hewstone, Kenworthy, & Cairns, 2013) and trust (Cehajic, Brown, & Castano, 2008; Kenworthy, Voci, Al Ramiah, Tausch, Hughes, & Hewstone, 2016; Tam, Hewstone, Kenworhty, & Cairns, 2009), and reducing perceived intergroup threat (Ramos, Hewstone, Barreto, & Branscombe, 2016; Schmid, Al Ramiah, & Hewstone, 2014).

Despite the evident power of contact, it remains limited by a simple constraint: it can only reduce prejudice when social groups and group members have the opportunity and the inclination to engage in contact. Unfortunately, because prejudice goes hand in hand with segregation, there are many situations in which establishing meaningful contact between communities may be difficult. For instance, many Catholic and Protestant communities in Belfast, Northern Ireland, have a very low percentage of residents from the other community. There are many other examples of more extreme segregation from the Green Line in Cyprus to the West Bank in Israel (Pettigrew, 2008; see also Crisp & Turner, 2009). How can we reap the prejudice-reducing benefits of contact in situations where contact is going to be difficult, unlikely, or impossible to establish? According to evidence from the intergroup relations literature, the answer lies in indirect forms of contact.

### EXTENDED INTERGROUP CONTACT

In the last 20 years, empirical evidence suggests that the concept of contact is even more powerful than previously thought — direct contact is not necessary to achieve positive effects on intergroup relations. More indirect forms of contact, specifically extended contact (Wright et al., 1997), vicarious contact (Mazziotta et al., 2011), and imagined contact (Crisp, Birtel, & Meleady, 2011; Miles & Crisp, 2014) effectively reduce prejudice.

Research rarely conceptually distinguishes extended and vicarious contact, generally treating them both as "extended contact." In this review, we focus on extended contact in order to provide an unambiguous distinction between the two forms of indirect contact (Vezzali & Stathi, 2017). Mediation processes are rarely addressed in vicarious contact studies, suggesting that a review of mediators in the vicarious contact literature is currently less critical (Vezzali et al., 2014). Extended contact, that is, the knowledge that an ingroup member has a close relationship with an outgroup member, is generally operationalized by asking participants to disclose the number of ingroup friends (or close ingroup members) who have outgroup friends.

The basis for extended contact effects lies in mainly three insights. Firstly, extended contact capitalizes on the benefits of cross-group friendships, that is, the ingroup member knows that a close person also has a positive relationship with an outgroup member ("my friend's friend is my friend"; Aronson & Cope, 1968). Secondly, the prejudice-reduction effects of contact are generalized from the contact situation with one group member to the outgroup category when group memberships are salient in the contact situation (Hewstone & Brown, 1986). The nature of extended contact, that is knowing that a fellow ingrouper is interacting with an outgrouper, makes those group memberships salient. Thirdly, extended contact counter-



acts the inhibiting effect of intergroup anxiety on intergroup relations: individuals involved in indirect contact will not experience the same amount of discomfort as in direct contact situations.

Two theories explaining the powerful effect of extended contact on prejudice are Heider's (1958) balance theory and Festinger's (1957) dissonance theory (see also Turner, Hewstone, Voci, Paolini, & Christ, 2007; Vezzali et al., 2014). Generally, individuals strive to achieve harmony between entities (e.g., the self and another person) and between cognitions (e.g., about attitudes and behaviors), and imbalance or inconsistence between cognitions and behaviors is perceived as uncomfortable, motivating individuals to reduce that state of arousal. Knowing that an ingroup member is friends with an outgroup member creates an imbalance, that is, the positive relations between the self and ingroup member and the ingroup member. Furthermore, the attitude-inconsistent behavior (knowing that a fellow ingroup member behaves positively toward a disliked outgroup member) elicits vicarious dissonance (Cooper & Hogg, 2007; Norton, Monin, Cooper, & Hogg, 2003). To reduce the imbalance and dissonance, the individual can change their attitudes toward the outgroup member so that they are more in line with the positive relations and behavior of the fellow ingroup member.

Wright et al. (1997) were the first to demonstrate in three studies that extended contact can improve intergroup attitudes. Participants who learnt of an interaction between cross-group friends showed enhanced outgroup evaluation and reduced ingroup bias, for both majority and minority group participants (Wright et al., 1997). Following their correlational and experimental studies, there has been growing correlational evidence (e.g., Gómez, Tropp, & Fernandez, 2011; Turner, Hewstone, Voci, & Vonofakou, 2008) and recently longitudinal (e.g., Christ et al., 2010; Eller, Abrams, & Zimmermann, 2011), as well as some experimental evidence (e.g., Wout, Murphy, & Steele, 2010) supporting the extended contact hypothesis. The prejudice-reduction effect of extended contact and its generalizability has been demonstrated for a range of target outgroup memberships (such as ethnicity, religion, sexuality, gender), across age groups (children, mid-adolescents, late-adolescents, students, adults), as well as across settings (schools, workplaces), and contexts characterized by different levels of conflict severity (peaceful situations, segregated areas, settings with a history of violence) (for a review see Vezzali et al., 2014). Several moderators that either limit or enhance the effectiveness of extended contact have been identified, falling into the categories of contextual conditions (Christ et al., 2010), situational perceptions (Eller, Abrams, Viki, & Imara, 2007), and individual differences (Dhont & Van Hiel, 2011).

Wright et al. (1997) conceived five mechanisms underlying the extended contact effects. The first hypothesized mediator is inclusion of the other in the self (IOS; Aron, Aron, & Smollan, 1992): knowing about positive relationships between ingroup and outgroup members should lead to perceive members of the two groups as a single cognitive unit (Sedikides, Olsen, & Reis, 1993), in turn improving outgroup attitudes. The second and third hypothesized mediators are ingroup and outgroup norms respectively. According to Wright et al., knowing that ingroup members have outgroup friends should indicate that both the ingroup and the outgroup have norms favourable to contact, and this should in turn lead to reduced prejudice. The fourth mediator is intergroup anxiety: knowing that ingroup members have positive intergroup relations should lower concerns about potential risks or fear of being rejected, and this should in turn allow more positive intergroup relations. Although rarely mentioned, Wright et al. also proposed a fifth potential mediator: knowledge about the outgroup. Increasing outgroup members have positive relations should also increase more general knowledge about the other group. In turn, increased outgroup knowledge should allow the improvement of outgroup attitudes.



Despite that affective factors have been central when discussing the direct contact experience and its outcomes (Pettigrew, 1998), extended contact has mainly been considered as a cognitive experience. The initial conceptualization by Wright et al. (1997) highlighted, for instance, the role of a cognitive factor, membership salience, as intrinsic to extended contact and as the variable allowing the generalization of the effects from the individual outgroup member to the general outgroup category. In addition, four of the five mediators hypothesized by Wright et al. (1997) in their seminal paper are cognitive in nature (perceived ingroup and outgroup norms, inclusion of the other in the self, knowledge about the outgroup).

In line with the idea that extended contact is primarily a cognitive experience, research has largely examined cognitive mediators of the relationship between extended contact and prejudice, for example via ingroup and outgroup norms (Turner et al., 2008; Vezzali, Stathi, Giovannini, Capozza, & Trifiletti, 2015), inclusion of other in self (Capozza, Falvo, Trifiletti, & Pagani, 2014), perspective-taking (Stasiuk & Bilewicz, 2013), outgroup self-disclosure (Turner, Hewstone, & Voci, 2007), outgroup infrahumanisation (Andrighetto, Mari, Volpato, & Behluli, 2012; Capozza et al., 2014). In line with that, also the following cognitive consequences have been considered: outgroup stereotypes (Munniksma, Stark, Verkuyten, Flache, & Veenstra, 2013; Vezzali, Hewstone, Capozza, Trifiletti, & Di Bernardo, 2017), perceived outgroup variability (Paolini et al., 2004), behavioral intentions (Paolini, Hewstone, & Cairns, 2007), and formation of cross-group friendships (Gonzalez & Brown, 2017; Schofield, Hausmann, Ye, & Woods, 2010; Vezzali, Stathi, Giovannini, Capozza, & Visintin, 2015).

However, since 2007, the number of studies investigating extended contact has multiplied, and there is now evidence that this indirect contact form is *both a cognitive and an affective experience*. Vezzali et al. (2014) highlighted this in their model, which outlined two different routes underlying the extended contact effect: a cognitive and an affective route. We will now review studies demonstrating the effects of extended contact on affective factors.

# EXTENDED CONTACT AND AFFECTIVE FACTORS

As the evidence on the effectiveness of extended contact is mainly cross-sectional and longitudinal, rather than experimental, most of the studies reviewed statistically controlled for the effects of direct contact. Additionally, most studies have focused on positive extended contact, and only recently have studies started to distinguish between positive and negative extended contact experiences. In this review, we will consider all available studies (see Table 1).

### Intergroup Anxiety

Negative expectations or fear of discrimination during cross-group interactions can arouse intergroup anxiety (Stephan & Stephan, 1985, 2000). Anxiety regarding negative consequences of intergroup contact, for example, rejection, embarrassment, or discrimination, inhibits positive intergroup relations in a wide range of ways. It can lead to hostility and ingroup bias (Stephan & Stephan, 2000), lower interest in cross-group contact and contact avoidance (Plant & Devine, 2003), reduce cognitive control (Amodio, 2009), deplete cognitive resource (Easterbrook, 1959; Kahneman, 1973), promote stereotype usage (Wilder, 1993),

Study	Participants' ingroup	Target outgroup	Type of evidence	Dependent variable
Affective variable serving as mediator or outcom	ne:			
a) Intergroup anxiety				
Capozza, Falvo, Favara, & Trifiletti (2013)	Northern Italian university students	Southern Italians	Correlational	Outgroup humanization
Capozza, Falvo, Trifiletti, & Pagani (2014)	Heterosexual university students in Italy	Homosexuals	Correlational	Outgroup humanization, infrahumanization
De Tezanos-Pinto, Bratt, & Brown (2010)	Norwegian high-school students	Ethnic minorities (Turkish, Pakistani, Indian)	Correlational	Outgroup attitudes
Drury, Hutchison, & Abrams (2016), Study 2	University students in the UK	Older adults	Correlational	Outgroup attitudes
Drury et al. (2016), Study 3	General population in the USA	Older adults	Correlational	Outgroup attitudes
Gómez, Tropp, & Fernandez (2011)	Spanish and immigrant high-school students	Spanish people and immigrants	Correlational	Outgroup attitudes, intergroup expectancies
Hutchison & Rosenthal (2011), Study 2*	Non-Muslim British university students	Muslims	Correlational	Outgroup attitudes, perceived outgroup variability, behavioral intentions
Mazziotta, Rohmann, Wright, De Tezanos- Pinto, & Lutterbach (2015), Study 2	Non-Muslim German university students	Muslims	Correlational	Direct contact
Mereish & Poteat (2015)	Heterosexual adults mostly from the USA	Homosexuals	Correlational	Outgroup attitudes, self-reported intergroup behavior
Paolini, Hewstone, Cairns, & Voci (2004), Study 1	Northern Irish Catholic and Protestant university adults	Religious outgroup (Catholics or Protestants)	Correlational	Outgroup attitudes, perceived outgroup variability

# TABLE 1 Studies showing effects of extended contact on affective variables

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Study	Participants' ingroup	Target outgroup	Type of evidence	Dependent variable
Paolini et al. (2004), Study 2	Northern Irish Catholic and Protestant adults	Religious outgroup (Catholics or Protestants)	Correlational	Outgroup attitudes, perceived outgroup variability
Turner, Hewstone, & Voci (2007), Study 2	British White and Asian male high-school students	Ethnic outgroup (Whites or Asians)	Correlational	Outgroup attitudes
Turner, Hewstone, & Voci (2007), Study 3	White British high-school students	Ethnic outgroup (Whites or Asians)	Correlational	Outgroup attitudes
Turner, Hewstone, Voci, & Vonofakou (2008), Study 1	White British university students	Ethnic outgroup (Whites or Asians)	Correlational	Outgroup attitudes
Turner et al. (2008), Study 2	White British high-school students	Ethnic outgroup (Whites or Asians)	Correlational	Outgroup attitudes
Visintin, Voci, Pagotto, & Hewstone (2017), Study 2	Italians	Immigrants	Correlational	Outgroup attitudes
Vedder, Wenink, & van Geel (2017)	Dutch secondary school students	Muslims	Correlational	Outgroup attitudes
b) Ageing anxiety				
Drury et al. (2016), Study 2	University students in the UK	Older adults	Correlational	Outgroup attitudes
Drury et al. (2016), Study 3	General population in the USA	Older adults	Correlational	Outgroup attitudes
c) Empathy				
Capozza et al. (2013)	Northern Italian university students	Southern Italians	Correlational	Outgroup humanization

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(Table 1 continues)

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Study	Participants' ingroup	Target outgroup	Type of evidence	Dependent variable
Turner, Tam, Hewstone, Kenworthy, & Cairns (2013)	Northern Irish Catholic and Protestant pupils	Religious outgroup (Catholics or Protestants)	Correlational	Outgroup attitudes
Vezzali, Hewstone, Capozza, Trifiletti, & Di Bernardo (2017)	Italian and immigrant elementary school children	Ethnic outgroup (Italians or immigrants)	Correlational	Outgroup attitudes, stereotyping, behavioral intentions
Visintin, Brylka, Green, Mähönen, & Jasinskaja-Lahti (2016), Study 1	Bulgarian Turkish and Roma ethnic minorities in Bulgaria	Ethnic outgroup (Bulgarian Turkish or Roma)	Correlational	Outgroup attitudes, social distance
Visintin et al. (2017), Study 2	Italians	Immigrants	Correlational	Outgroup attitudes
d) Trust				
Andrighetto, Mari, Volpato, & Behluli (2012)*	Kosovar Albanian high-school students	Serbians	Correlational	Competitive victimhood
Capozza et al. (2013)	Northern Italian university students	Southern Italians	Correlational	Outgroup humanization
Dhont & Van Hiel (2011)	Dutch adults	Immigrants	Correlational	Outgroup attitudes
Paolini, Hewstone, & Cairns (2007), Study 3	Northern Irish Catholic and Protestant adults	Religious outgroup (Catholics or Protestants)	Correlational	/
Tam, Hewstone, Kenworthy, & Cairns (2009), Study 2	Northern Irish Catholic and Protestant university students	Religious outgroup (Catholics or Protestants)	Correlational	Behavioral intentions
Tausch, Hewstone, Schmid, Hughes, & Cairns (2011)	Northern Irish Catholic and Protestant adults	Religious outgroup (Catholics or Protestants)	Correlational	/
Visintin et al. (2016), Study 2	Estonian and Russian immigrants in Finland	Ethnic outgroup (Estonian or Russian immigrants)	Correlational	Outgroup attitudes, social distance



(Table 1 continues)

# Table 1 (continued)

Study	Participants' ingroup	Target outgroup	Type of evidence	Dependent variable
Visintin et al. (2017), Study 1	Italians	Immigrants	Correlational	Outgroup attitudes, outgroup humanity
Visintin et al. (2017), Study 2	Italians	Immigrants	Correlational	Outgroup attitudes, outgroup humanity
e) Realistic intergroup threat				
Dhont & Van Hiel (2011)	Dutch adults	Immigrants	Correlational	Outgroup attitudes
Pettigrew, Christ, Wagner, & Stellmacher (2007)	German adolescents and adults	Foreigners and Muslims	Correlational	Outgroup attitudes
f) Symbolic intergroup threat				
Pettigrew et al. (2007)	German adolescents and adults	Foreigners and Muslims	Correlational	Outgroup attitudes

Note. The asterisk after the citation indicates that the study did not control for either direct contact or contact opportunity.

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lead to lower communication quality (Gudykunst & Shapiro, 1996), and to lower performance in a wide range of contexts in general (Kenny, Davis, & Oates, 2004; Mendes, Blascovich, Hunter, Lickel, & Jost, 2007; for a review, see Stephan, 2014). This psychological reaction is reflected in a physiological state of threat in individuals facing interracial interactions (Blascovich, Mendes, Hunter, Lickel, & Kowai-Bell, 2001; Mendes, Blascovich, Lickel, & Hunter, 2002). Intergroup anxiety plays a key role in intergroup relations and is the key mediator of the contact-prejudice relationship (e.g., Brown & Hewstone, 2005; Pettigrew & Tropp, 2008). Anxiety has the strongest effect on prejudice, compared to general knowledge and empathy; 31% of the contact-prejudice relationship is mediated by anxiety (Pettigrew & Tropp, 2011). Intergroup anxiety is usually measured using adaptations of the scale by Stephan and Stephan (1985), that is, by asking participants to indicate how they would feel while interacting with an outgroup member in the future (e.g., how awkward or self-conscious they would feel).

The largest number of extended contact studies have focused on intergroup anxiety as an affective mediator, with Paolini et al. (2004) being the first to demonstrate the role of anxiety in the extended contactprejudice relationship. Extended contact was operationalized by participants indicating the number of ingroup friends with outgroup friends. In two correlational studies involving Northern Irish Catholic and Protestant university students (Study 1, N = 341) and adults (Study 2, N = 735), extended contact was associated with lower intergroup anxiety, which in turn mediated the effect of extended contact on more positive attitudes towards the religious outgroup, as well as higher perceived variability of the outgroup.

Turner et al. (2008) extended those findings by showing that extended contact not only positively influenced relations between Catholics and Protestants in Northern Ireland, but also ethnic relations between Whites and Asians in the UK. In two correlational studies, involving White British university students (Study 1, N = 142) and high-school students (Study 2, N = 120), intergroup anxiety was found to be lower when the number of the reported ingroup acquaintances, neighbours, friends, and family members with outgroup friends was higher. In addition to cognitive mediators (ingroup and outgroup norms, inclusion of other in self), again, intergroup anxiety also mediated the effect of extended contact on outgroup attitudes. Interestingly, Capozza et al. (2014) provided evidence that intergroup anxiety mediated the relationship between extended contact and outgroup humanization and infrahumanization. In their correlational study with 202 heterosexual university students, extended contact was operationalized as the number of friends, best friends, and family members with outgroup friends (homosexuals). A similar study exploring the relations between Northern and Southern Italians (N = 251) revealed that the affective route (via intergroup anxiety, empathy, and trust) was even stronger than the cognitive route (via ingroup and outgroup norms, inclusion of other in self), thus providing further evidence for the importance of affective factors in relation to extended contact (Capozza, Falvo, Favara, & Trifiletti, 2013).

Research has provided large evidence for anxiety as mediator of the extended contact effects, and as with research on direct contact, anxiety is probably the most investigated mediator. Intergroup anxiety was found to mediate the effects of extended contact on *outgroup attitudes* (De Tezanos-Pinto, Bratt, & Brown, 2010; Drury, Hutchison, & Abrams, 2016, Studies 2 and 3; Gómez et al., 2011; Hutchison & Rosenthal, 2011, Study 2; Mereish & Poteat, 2015; Paolini et al., 2004; Turner, Hewstone, & Voci, 2007, Studies 2 and 3; Turner et al., 2008; Vedder, Wenink, & van Geel, 2017; Visintin, Voci, Pagotto, & Hewstone, 2017), *outgroup humanization* (Capozza et al., 2013; Capozza et al., 2014), *infrahumanization* (Capozza et al., 2014), *infrahumanization* (Capozza et al., 2011), *perceived outgroup variability* (Hutchison & Rosenthal, 2011, Study 2; Paolini et al., 2004), *behavioral intentions* (Hutchison & Rosenthal, 2011, Study 2), and *direct contact* (Mazziotta, Rohmann, Wright, De Tezanos-Pinto, & Lutterbach, 2015, Study 2).



# Ageing Anxiety

Recent research provided evidence that extended contact may not only be beneficial for reducing intergroup anxiety, but also other types of anxiety, such as ageing anxiety (Drury et al., 2016). In two correlational studies focusing on reducing prejudice toward older adults (Study 2: University students in the UK, N = 110; Study 3: general population in the USA, N = 95), Drury et al. found that extended contact significantly reduced anxieties about health and well-being associated with getting older. Reduced ageing anxiety mediated the effect of extended contact on more positive attitudes toward older adults.

# Empathy

Empathy has been defined as the ability to understand or share another person's emotional state (Batson et al., 1997). It is a multidimensional construct that can be divided into two components: affective and cognitive empathy (Davis, 1983). Affective empathy is the ability to vicariously experience the other person's emotion. In particular, it involves feelings of warmth, compassion and concern for unfortunate others (empathic concern) as well as feelings of anxiety and discomfort in reaction to someone else's negative experiences (personal distress). Cognitive empathy, or perspective-taking, is the ability to cognitively take the psychological point of view of another person. Taking the perspective of another person is more effective in cognitive understanding of others, feeling empathic toward another person is more effective in emotional understanding of others (Gilin, Maddux, Carpenter, & Galinsky, 2013).

Research has shown that inducing affective empathy for targets of stigmatized groups (Batson, et al., 1997) and perspective-taking (Vescio, Sechrist, & Paolucci, 2003) reduces prejudice and increases prosocial behaviour and altruism (Batson, 2010; Stephan & Finlay, 1999). Furthermore, empathy is a key mediator of the contact-prejudice relationship (Brown & Hewstone, 2005; Pettigrew & Tropp, 2008, 2011; Swart et al., 2011; Turner et al., 2013). Especially cross-group friendships provide the opportunity to develop empathy. Pettigrew and Tropp's (2008) meta-analysis revealed that empathy is a much stronger mediator than knowledge, and it explains 30% of the contact-prejudice relationship. Affective empathy is usually measured by asking participants how much they can feel the emotions experienced by outgroup members.

Empathy has been found not only to be affected by extended contact, but also to mediate the effects of extended contact on *outgroup attitudes* (Turner et al., 2013; Vezzali et al., 2017; Visintin, Brylka, Green, Mähönen, & Jasinskaja-Lahti, 2016, Study 1; Visintin, et al., 2017, Study 2), *stereotyping* (Vezzali et al., 2017), *outgroup humanisation* (Capozza et al., 2013), *behavioral intentions* (Vezzali et al., 2017) and *social distance* (Visintin et al., 2016).

For example, Vezzali et al. (2017) demonstrated that extended contact can enhance empathy towards the outgroup for both majority and minority group members (227 Italian and 81 immigrant children in mixed elementary schools in Northern Italy took part in their study). Immigrants were of African, Asian, Eastern European or South African ethnic origin. Extended contact was measured by asking children to indicate how many outgroup friends their best friend had. Vezzali et al. found that extended contact enhanced empathy toward the outgroup, which in turn also promoted more positive attitudes, fewer negative outgroup stereotypes, and greater intentions to meet an unknown outgroup child. Interestingly, empathy mediated the effect of extended contact on intergroup relations only for those with low or moderate levels of direct contact, indicating that extended contact can be particularly useful for those with low levels of direct



contact, who may experience greater discomfort or lower opportunity for face-to-face outgroup contact. In other words, extended contact is effective for those who need it the most, that is, for those lacking real personal experiences of direct contact.

#### Trust

Trust is a key affective factor when it comes to connecting with people and establishing positive interpersonal and intergroup relations (Kramer & Carnevale, 2001; Tropp, 2008). Repeated positive interactions are crucial for the development of trust (Worchel, Cooper, & Goethals, 1991). It is difficult to build trust in relations with unfamiliar individuals as trust involves positive expectations about the intentions and behaviors of other people (Kramer & Carnevale, 2001). Once it has been achieved, trust can lead to cooperation between ingroups and outgroups and more positive outgroup attitudes (Lewicki & Wiethoff, 2000).

With a sample of Italians, Visintin et al. (2017) provided evidence that extended contact can enhance trust toward immigrants (Study 1, N = 199; Study 2, N = 300). In Study 1, extended contact was operationalized by asking participants to indicate how many of the Italian people they know have friends who are immigrants. In Study 2, extended contact was operationalized by asking participants to indicate how often they observe the relationship between Italians they know and immigrants, and judge the relationship as positive. Both studies controlled for direct contact, and also for parasocial contact (that is, exposure to news via newspapers and television, television series, and movies where immigrants were depicted). Enhanced trust following higher levels of extended contact was associated with more positive outgroup attitudes and outgroup humanity. Furthermore, intergroup anxiety and empathy also mediated the effect of extended contact on outgroup attitudes. Interestingly, in Study 2 the authors examined the distinct effects of both positive and negative extended contact. by including an additional item asking participants to indicate how often they observe the relationship between Italians they know and immigrants, and judge the relationship to be negative. While the effect of positive extended contact on prejudice was mediated by anxiety, empathy and trust, no association with prejudice or mediation was found for negative extended contact.

Similarly, Visintin et al. (2016) found that extended contact was associated with more positive outgroup attitudes via enhanced trust (Study 2, N = 458 Estonian and Russian immigrants in Finland) and empathy (Study 1, N = 640 Bulgarian Turkish and Roma ethnic minorities in Bulgaria). In this case, the study focused on minority group members' prejudice toward a minority outgroup.

There is now large evidence that outgroup trust is not only an outcome of extended contact (Paolini et al., 2007, Study 3; Tausch, Hewstone, et al., 2011), but also a solid mediator of extended contact effects. In particular, trust has been found to mediate the effects of extended contact on *outgroup attitudes* (Dhont & Van Hiel, 2011; Visintin et al., 2016, Study 2; Visintin et al., 2017), *outgroup humanization* (Capozza et al., 2013; Visintin et al., 2017), *competitive victimhood* (Andrighetto et al., 2012), *behavioral intentions* (Tam et al., 2009, Study 2), and *social distance* (Visintin et al., 2016).

### Forgiveness

Forgiveness is a crucial variable studied in contexts of severe intergroup conflict, where people have experienced direct harm inflicted by the outgroup. Forgiveness requires the ingroup to deal with negative emotions (e.g., anger, desire for revenge), cognitions, and behaviors (e.g., avoidance) (McCullough, Pargament, & Thoresen, 2000).



De Tezanos-Pinto, Mazziotta, and Feuchte (2017) examined the effects of extended contact in the context of the aftermath of the two Liberian civil wars (1989-2003) that involved severe violence, including killing, rape, torture, and looting. A large number (N = 181) of Liberian refugees from 15 of the 16 ethnic groups in Liberia were contacted in a refugee camp in Ghana. Extended contact was operationalized by asking participants to indicate how many of their ingroup friends are friends with outgroup members. Using multilevel analyses, the authors found at the within-individual level (i.e., toward specific ethnic groups), that extended contact was related to positive attitudes toward the outgroup. The relationship between extended contact and outgroup attitudes was stronger for those refugees who were more traumatized by the war (e.g., being attacked or witnessed attacks and deaths). At the between-individual level (i.e., other ethnic groups in general), a single index of extended and direct contact was formed which predicted outgroup attitudes and, in turn, forgiveness, empathy, and trust.

### Intergroup Threat

Intergroup threat theory (Stephan, Ybarra, & Morrison, 2009) describes the perceived threat ingroup members can experience in relation to outgroups, which in turn can be detrimental for positive intergroup relations. Intergroup threat can be divided into two components of threat: symbolic and realistic threat (Stephan & Stephan, 2000). Realistic threat involves the perceived threat to the group's physical well-being and existence, competition for limited resources, and economic and political power. In contrast, symbolic threat involves the perceived threat to the group's worldview, such as its values, beliefs, morals, ideology, and religion. Both types of threat have an independent effect on outgroup attitudes (for a metaanalysis, see Riek, Mania, & Gaertner, 2006). There is growing evidence that direct contact leads to more positive intergroup relations via reduced perceived threat (e.g., Schmid et al., 2014; Tausch, Hewstone, Kenworthy, Cairns, & Christ, 2007), but recently there is also evidence for the link between extended contact and intergroup relations via perceived threat (see also Abrams & Eller, 2017).

Perceived intergroup threat has been found to mediate the effects of extended contact on outgroup attitudes, and this effect was found both for realistic threat (Dhont & Van Hiel, 2011; Pettigrew, Christ, Wagner, & Stellmacher, 2007) and symbolic threat (Pettigrew et al., 2007). For example, Pettigrew et al. asked 1,383 German adolescents and adults about their perceptions of foreigners, and found that extended contact was associated with lower intergroup threat. In particular, having German friends that were friends with foreigners reduced personal realistic threat (e.g., personal economic situation) and group-level symbolic and realistic threat (e.g., targeting the culture and security of the ingroup). Subsequently, reduced individual and collective threat were associated with fewer negative attitudes towards foreigners.

### Affective Attitudes

Scholars have defined prejudice as a negative attitude toward a group and its individual members because of their group membership (Brown, 2011). According to the multicomponent model of attitudes (Zanna & Rempel, 1988), attitudes can be divided into three different components: affective, cognitive, and behavioral. Therefore, prejudice involves a combination of negative emotional responses toward the outgroup (affect), stereotypes about a group of people (cognition), and discrimination (behavior) (Farley, 2005). Intergroup contact reduces all three forms of prejudice (Hodson & Hewstone, 2013). Affective prej-



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udice is reduced so that feelings and emotional responses toward the outgroup become more positive. Cognitive prejudice is reduced so that judgements become more positive and the outgroup is seen as a group of highly varying members (Tropp & Pettigrew, 2005; Wolsko, Park, Judd, & Bachelor, 2003). Behavioral prejudice, that is, discrimination, is reduced by improving affective responses and reducing negative stereotypes. Studies included in this review focus on affective measures of prejudice, using classic measures such as the feeling thermometer (e.g., Haddock, Zanna, & Esses, 1993) or some other type of affective measure similar to Wright et al.'s (1997) general evaluation scale. This scale asks participants to indicate how they feel toward a certain outgroup on a semantic differential, for example, warm–cold or negative– positive (Lolliot et al., 2015).

While previous research has focused largely on positive extended contact, scholars have recently started to examine distinct forms of positive and negative contact. For example, Mazziotta et al. (2015) tested whether both dimensions of extended contact uniquely predict outgroup attitudes. In a cross-sectional study with 286 non-Turkish German adults, they demonstrated that positive extended contact (having German friends who have positive contact with Turks) was related to more positive attitudes toward Turkish people, while negative extended contact (having German friends that have negative contact with Turks) was related to more negative attitudes. The extended contact effect was mediated by direct contact.

In order to address the methodological limitations associated with relying on self-reports in contact studies, researchers recently have turned to a new approach called social network analysis (Wölfer, Faber, & Hewstone, 2015; for a discussion of social network analysis in relation to extended contact, see Vezzali & Stathi, 2017). Wölfer, Jaspers, Blaylock, Wigoder, Hughes, and Hewstone (2017, Study 3) analyzed longitudinal data from 12,988 old children (14 years) in England, Germany, Netherlands, Sweden from both majority and minority groups in each country. They used network-based parameters of positive and negative extended contact as well as self-reports to examine the effects of extended contact. Both dimensions of extended contact uniquely predicted outgroup attitudes, measured using the feeling thermometer. Similarly, Wölfer, Schmid, Hewstone, and Zalk (2016, Study 1) used 6,457 majority students from the same dataset to demonstrate the link between extended contact and outgroup attitudes using social network analysis.

Extended contact has been found to improve affective outgroup attitudes toward various target outgroups (for an overview, see Table 2), for example a) *ethnic minorities and majorities* in the UK (Eller et al., 2011; Hutchison & Rosenthal, 2011; Paterson, Turner, & Conner, 2015; Turner, Hewstone, & Voci, 2007; Turner et al., 2008), the USA (Wright et al., 1997), Norway (De Tezanos-Pinto et al., 2010), Liberia (De Tezanos-Pinto et al., 2017), Italy (Vezzali et al., 2017; Visintin et al., 2016, 2017), Spain (Gómez et al., 2011), South Africa (Eller, Abrams, & Gómez, 2012), Germany (Mazziotta et al., 2015), Netherlands (Wölfer et al., 2016), Bulgaria (Visintin et al., 2016), Sweden (Wölfer et al., 2017); b) *older adults* (Drury et al., 2016); c) *religious groups* such as Muslims (Mazziotta et al., 2015; Vedder et al., 2017) and Catholics/Protestants (Paolini et al., 2004, 2007; Turner et al., 2013); and d) *gender* (Paolini et al., 2007). Extended contact was also found to positively affect implicit attitudes (Vezzali, Giovannini, & Capozza, 2012), which are primarily based on affect rather than cognition (Gawronski & Bodenhausen, 2014).

## SUGGESTION FOR FUTURE RESEARCH

Research has only recently started to examine affective factors in extended contact to a greater extent. Since affect plays a crucial role in intergroup relations, not only for prejudice-reduction (Pettigrew &

Study	Participants' ingroup	Target outgroup	Type of evidence	Type of measure			
Outcome: Explicit outcome attitudes							
De Tezanos-Pinto, Bratt, & Brown (2010)	Norwegian high-school students	Ethnic minorities (Turkish, Pakistani, Indian)	Correlational	Feeling thermometer			
De Tezanos-Pinto, Mazziotta, & Feuchte (2017)	Liberian refugees from 15 ethnic groups	Ethnic outgroup	Correlational	Feeling thermometer			
Drury, Hutchison, & Abrams (2016), Study 1	University students in the UK	Older adults	Correlational	Affective evaluation			
Drury et al. (2016), Study 2	University students in the UK	Older adults	Correlational	Affective evaluation			
Drury et al. (2016), Study 3	General population in the USA	Older adults	Correlational	Affective evaluation			
Eller, Abrams, & Gómez (2012), Study 1	South Africans of various ethnic groups	Ethnic outgroups	Correlational	Affective prejudice			
Eller, Abrams, & Zimmermann (2011)	Home country friends of international students spending 1 year in the UK	White British	Longitudinal	General evaluation scal			
Gómez, Tropp, & Fernandez (2011)	Spanish and immigrant high-school students	Spanish people and immigrants	Correlational	Feeling thermometer			
Hutchison & Rosenthal (2011), Study 2*	Non-Muslim British university students	Muslims	Correlational	General evaluation scal			
Mazziotta, Rohmann, Wright, De Tezanos- Pinto, & Lutterbach (2015), Study 1	Non-Turkish German adults, 92% of them university students	Turks	Correlational	Feeling thermometer			
Mazziotta et al. (2015), Study 2	Non-Muslim German university students	Muslims	Correlational	General evaluation scal			
Paterson, Turner, & Conner (2015)	White British university students	South Asians	Correlational	Positive outgroup affect			

 TABLE 2

 Studies showing effects of extended contact on affective outgroup attitudes

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(Table 2 continues)

# Table 2 (continued)

Study	Participants' ingroup	Target outgroup	Type of evidence	Type of measure
Paolini, Hewstone, & Cairns (2007), Study 1	University students in Australia	Older people, mature-aged students, vegetarians, engineering students	Correlational	Feeling thermometer, general evaluation scale
Paolini et al. (2007), Study 2*	Australian adults and university students	Opposite gender (men or women)	Correlational	Feeling thermometer, general evaluation scale
Paolini et al. (2007), Study 3	Northern Irish Catholic and Protestant adults	Religious outgroup (Catholics or Protestants)	Correlational	Feeling thermometer
Paolini, Hewstone, Cairns, & Voci (2004), Study 1	Northern Irish Catholic and Protestant university students	Religious outgroup (Catholics or Protestants)	Correlational	Feeling thermometer, general evaluation scale
Sharp, Voci, & Hewstone (2011)	White British university students	Asians and homosexuals	Correlational	Feeling thermometer
Turner, Hewstone, & Voci (2007), Study 2	British White and Asian male high-school students	Ethnic outgroup (Whites or Asians)	Correlational	Affective evaluation
Turner, Hewstone, & Voci (2007), Study 3	White British high-school students	Ethnic outgroup (Whites or Asians)	Correlational	Affective evaluation
Turner, Hewstone, Voci, & Vonofakou (2008), Study 1	White British university students	Ethnic outgroup (Whites or Asians)	Correlational	Feeling thermometer
Turner et al. (2008), Study 2	White British high-school students	Ethnic outgroup (Whites or Asians)	Correlational	General evaluation scale
Turner, Tam, Hewstone, Kenworthy, & Cairns (2013)	Northern Irish Catholic and Protestant children	Religious outgroup (Catholics or Protestants)	Correlational	Affective traits
Vedder, Wenink, & van Geel (2017)	Dutch secondary school students	Muslims	Correlational	General affective evaluation
Vezzali, Stathi, Giovannini, Capozza, & Visintin (2015)	Italian primary and secondary schoolchildren	Immigrants	Longitudinal	Feeling thermometer
Visintin, Brylka, Green, Mähönen, & Jasinskaja-Lahti (2016), Study 1	Bulgarian Turkish and Roma ethnic minorities in Bulgaria	Ethnic outgroup (Bulgarian Turkish or Roma)	Correlational	Feeling thermometer

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(Table 2 continues)

Table 2 (continued)

Study	Participants' ingroup	Target outgroup	Type of evidence	Type of measure
Visintin et al. (2016), Study 2	Estonian and Russian immigrants in Finland	Ethnic outgroup (Estonian or Russian immigrants)	Correlational	Feeling thermometer
Visintin, Voci, Pagotto, & Hewstone (2017), Study 1	Italians	Immigrants	Correlational	Affective evaluation
Visintin et al. (2017), Study 2	Italians	Immigrants	Correlational	Affective evaluation
Wölfer, Jaspers, Blaylock, Wigoder, Hughes, & Hewstone (2017), Study 3	14-year old children in England, Germany, Netherlands, Sweden	Immigrants	Longitudinal	Feeling thermometer
Wölfer, Schmid, Hewstone, & Zalk (2016), Study 1	14-year old children in England, Germany, Netherlands, Sweden	Immigrants	Correlational	Feeling thermometer
Wright, Aron, McLaughlin-Volpe, & Ropp (1997), Study 1	White American university students	Ethnic outgroup (Asian Americans, African Americans, Latinos)	Correlational	Affective prejudice, general evaluation scale
Wright et al. (1997), Study 2	White American, Asian American, African American, Latino, other ethnicity university students	Ethnic outgroup (Whites or ethnic minorities)	Correlational	Affective prejudice, general evaluation scale
Wright et al. (1997), Study 3*	American university students	Minimal groups paradigm	Experimental	Differential evaluation
Dutcome: Implicit outgroup attitudes				
Vezzali, Giovannini, & Capozza (2012)	Italian preschool and elementary school teachers	Immigrants	Correlational	Implicit Association Tes

*Note:* The asterisk after the citation indicates that the study did not control for either direct contact or contact opportunity. General evaluation scale (and adapted measures such as affective evaluation or affective prejudice) refers to the measure developed by Wright et al. (1997), used to assess outgroup attitudes.



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Tropp, 2008), but also in driving social change (e.g., see Tausch, Becker et al., 2011; Van Zomeren, Leach, & Spears, 2012), and is a key variable to take into account in intractable conflicts (e.g., see Gross, Halperin, & Porat, 2013), a focus on affect and intergroup emotions (Mackie, Smith, & Ray, 2008) would be important for future research on extended contact. While there is large evidence for the role of intergroup anxiety, other intergroup emotions are under-researched, such as forgiveness, guilt, or disgust.

Recently researchers have started to investigate the distinct effects of positive and negative contact. A fruitful avenue for future research would be follow Pettigrew's (2008) call to distinguish positive and negative forms of contact, and investigate affective factors of extended contact separately for both dimensions (e.g., see Mazziotta et al., 2015). This is particularly important in light of the finding that negative contact has a more detrimental effect on intergroup relations than the positive effect of positive contact (Barlow et al., 2012). Negative contact has a greater effect than positive contact on attitudes due to its higher likelihood to act on a cognitive factor (i.e., group salience; cf. Graf & Paolini, 2017). However, this does not mean that negative contact will primarily affect cognitive rather than affective variables. Future research could disentangle the similar or distinct effects of positive and negative contact on cognitive and affective variables. Overall, scholars should examine in more detail the different cognitive and/or affective routes driving the effects of both positive and negative extended contact.

Given the methodological limitations of studying contact via self-report measures, future research should identify less biased ways of capturing extended contact, such as through social network analysis (e.g., see Wölfer et al., 2015; Wölfer & Hewstone, 2017). One pioneering study was conducted by Wölfer and colleagues (2017), capturing extended contact by means of social network analysis and demonstrating that positive and negative extended contact had unique effects. In line with what we proposed above, research should examine the consequences and the mediators of both forms of extended contact by using social network analysis.

Finally, although some initial steps have been taken in this direction (Capozza et al., 2013), future research should clarify the reciprocal relation between cognitive and affective factors as a consequence of extended contact. In fact, it may be that cognitive factors are the immediate consequence of extended contact and in turn influence affective factors, which might serve as the most proximal predictor of outcome variables. Alternatively, it may be that affective factors precede cognitive factors, or that the two types of factors follow parallel routes. A final possibility is that cognitive and affective factors following extended contact have interactive effect.

### CONCLUSION

Research has shown that affective factors play a crucial role in intergroup relations, in particular in explaining the processes through which intergroup contact reduces prejudice (Brown & Hewstone, 2005; Pettigrew, 1998; Pettigrew & Tropp, 2008). Furthermore, affective rather than cognitive factors have been shown to play a larger role in prejudice-reduction as a consequence of direct contact (Pettigrew & Tropp, 2008). While direct contact has been shown to reduce prejudice via affect (e.g., intergroup anxiety, empathy, threat, for a review see Pettigrew & Tropp, 2008), research on extended contact has focused more on cognitive factors (e.g., ingroup and outgroup norms, inclusion of other in self, for a review see Vezzali et al., 2014). Vezzali et al. outlined a theoretical model that showed that extended contact exerts its effects via both a cognitive factors. In the past years, more evidence on the affective factors underlying the extended contact-prejudice path has been introduced. The aim of the present review was to specifically focus



on presenting evidence of the impact of extended contact on affective variables, in particular intergroup anxiety, empathy, trust, intergroup threat, and affective outgroup attitudes. Most of these variables serve as mediators between extended contact and intergroup relations. Interestingly, the studies reviewed demonstrate that extended contact not only has the ability to reduce negative affect (such as anxiety and threat) but *also* promote more positive affect such as empathy and trust. A large number of studies have focused on intergroup anxiety as an affective outcome. This is particularly important as intergroup anxiety has been linked to various negative outcomes such as prejudice and contact avoidance (Stephan, 2014).

Extended contact has several benefits over direct contact, especially when direct contact is difficult to establish, for example in segregated communities. Given the prominence of affective factors in determining our everyday lives, and the potential impact of extended contact on prejudice-reduction, we believe that a more thorough understanding of the relationship between extended contact and affect should be at the core of future research.

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