Chapter 12

Online Intergroup Contact

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Introduction

In our globalized world we live and work in close contact with people from various backgrounds. However, globalization does not necessarily cause homogenization; quite the opposite in fact: We now have to deal with differences between ethnic, racial, and religious groups in a more direct way (Nolan, 1999). It has become crucial to everyday life to accept differences in values, beliefs, and interests between various social groups while building on commonalities. Nonetheless, we are witnessing a growing trend toward segregation and separatism in many places in the world (Hoter et al., 2009). Prejudice and discrimination against rival groups often result in conflict, ranging from mild hostility to all-out war, leading to the loss of thousands of lives each year. Especially in areas of intractable conflict, intergroup bias is characterized and reinforced by "antagonistic group histories, exclusionist myths, demonizing propaganda and dehumanizing ideologies" (Ramsbotham et al., 2011, p. 103).

The preamble to the United Nations Educational, Scientific and Cultural Organization (UNESCO) Constitution states that "since wars begin in the minds of men, it is in the minds of men that the defenses of peace must be constructed" (UNESCO Constitution, 1945). The challenge of reducing intergroup bias within the human mind lays a great necessity upon social psychological research. Many social psychologists have attempted to understand the complex phenomenon of intergroup conflict, and to provide solutions to end it. One of the leading theories advocated to reduce intergroup conflict is the Contact Hypothesis proposed by Allport (1954). The Contact Hypothesis specifies the key conditions needed to reduce intergroup bias and improve the relations between rival groups. These conditions have received empirical support in numerous intergroup contact studies (see Pettigrew, 1998; Pettigrew & Tropp, 2000, 2006 for reviews). In recent years, research attention has shifted from *what* conditions are important to *when* and *how* intergroup contact leads to positive outcomes (Pettigrew & Tropp, 2008). These studies explore the mediating processes underlying intergroup interactions, as well as moderators that facilitate or inhibit the success of intergroup contact (Dovidio et al., 2003). While earlier contact studies were mainly conducted in face-to-face (FtF) settings, more recent studies report on intergroup encounters using computer-mediated communication (CMC) (Harwood, 2010).

The Internet has become an accessible and important medium of communication. It provides ample opportunities for social interactions across geographical and time boundaries, and has the ability to break down barriers between members of rival groups (Amichai-Hamburger & Furnham, 2007; Ruesch, 2011). One of the greatest advantages of the Internet lies in its inherent ability to allow for tailoring and tweaking of various features in order to create optimal conditions for a specific contact situation (Amichai-Hamburger & McKenna, 2006). We argue in the current chapter that online intergroup contact may be easier to establish, and in some cases may be even more successful than FtF meetings.

Previous online intergroup research was mostly based on disembodied, textual forms of CMC. Although text-based CMC continues to be the dominant modality in which people interact with each other on the Internet, newer and more diversified forms of CMC have emerged that move beyond traditional text-only modes. These newer forms of CMC include multimedia and multi-user applications, such as video-conferencing and social media (e.g., social networking sites). Another notable trend is the use of shared three-dimensional virtual environments in which participants interact as avatars (i.e., graphical representations of themselves) (Lee, 2009). Avatar-based interactions are considered to be a form of re-embodiment in online environments, which resemble some characteristics of FtF interaction in the physical world. However, CMC is still very different from FtF contact, and has a different impact on the way people present themselves, interact, and perceive each other. Despite the relatively new emergence of embodied forms of CMC, several studies have already explored its potential for intergroup interactions. We integrate these empirical findings on embodied online interaction into our discussion of how the Internet can be used to reduce intergroup bias.

The chapter builds on established theoretical models of disembodied and embodied forms of CMC, and on previous intergroup contact research conducted in both FtF and CMC contexts. We start with a brief explanation of intergroup bias and conflict. Then we present the key conditions outlined in the Contact Hypothesis (Allport, 1954) for intergroup contact to be successful. We summarize and extend the arguments proposed by Amichai-Hamburger and McKenna (2006) in their Internet Contact Hypothesis that explains how Allport's (1954) conditions can be applied to online contact. Following the newer developments in contact research, we describe the most extensively studied moderator and mediator variables and how they may influence the success or failure of online intergroup encounters. We illustrate how the respective moderators and mediators of contact effects can be practically implemented (e.g., in educational games and community websites). Then we discuss the design and evaluation results of field studies conducted with members of rival groups in conflict regions. We conclude with an agenda for future research on online intergroup contact and conflict resolution.

Explaining Intergroup Bias and Conflict

Social (Self-) Categorization Theory (SCT) (Tajfel & Turner, 1979, 1986; Turner, 1975; Turner et al., 1987) addresses the fundamental role of social group identities in the development of intergroup bias and conflict. According to SCT, people identify themselves not only as individuals, but also as parts of a social group that they belong to (i.e., ingroup). This ingroup is distinguished from an outgroup (i.e., a group that an individual does not belong to) regarding distinct social categories, such as religion, race, or culture. Social categorization regarding ingroup versus outgroup membership accounts for cognitive, affective, and behavioral aspects of intergroup bias (Dovidio et al., 2003). Intergroup bias is especially pronounced if rival social groups differ in values, beliefs, and interests. Although ingroup/outgroup categorization and subsequent intergroup bias may result from any kind of social characteristic, such as age or gender, the focus of the current chapter lies on interethnic conflicts.

Cognitive Components of Intergroup Bias

People generally believe that their ingroup is a heterogeneous group, whereas the outgroup is perceived as relatively homogeneous (Linville & Jones, 1980; Linville et al., 1989). This leads to the tendency to stereotype members of the outgroup, and to generalize that they are all, for example, hostile, liars, or lazy. In addition, outgroup members are often perceived as being different

from one's ingroup (Dion, 1973; Wilson & Kayatani, 1968). This "us versus them" perception serves to enhance the stereotypical—oftentimes negative—perception of outgroup members regarding a variety of traits, physical characteristics, and expected behavior. Stereotyping occurs automatically and unintentionally most of the time (Devine, 1989). It requires conscious effort and training to overcome the activation of stereotypes within intergroup encounters (Kawakami et al., 2000; Sassenberg & Moskowitz, 2005).

Affective Components of Intergroup Bias

Intergroup relations are often characterized by perceptions that the outgroup poses an actual or imagined threat to ingroup interests or survival. Intergroup anxiety may be augmented when there are negative stereotypes and prejudice toward the outgroup, and a history of protracted conflict (Stephan & Stephan, 1985). Prejudice held against members of the outgroup can simultaneously increase positive affect, sympathy, and trust toward other members of the ingroup. People consequently show greater attachment to, and preference for, their ingroup than to the outgroup (Brewer, 1999; Otten & Moskowitz, 2000). Since people are mostly unaware of their attitudes, it is challenging to change outgroup prejudices (Amichai-Hamburger, 2008).

Behavioral Components of Intergroup Bias

Intergroup bias is behaviorally manifested in overt or covert discrimination against the outgroup, which may occur intentionally or unintentionally. People are generally more helpful toward ingroup members than toward outgroup members (Dovidio et al., 1997), and work harder for their ingroup in the presence of an outgroup (Worchel et al., 1998). Furthermore, there is a strong tendency for people to treat outgroup members in line with their preconceived perceptions of them, while disregarding the way in which they actually behave. This is likely to make outgroup members respond in accordance with their expected, stereotypical behavior, which in turn provides confirming evidence that the initial negative stereotypes held against them were correct. This self-fulfilling prophecy creates a closed cycle of negative conduct from which it is hard to break (Word et al., 1974).

The Contact Hypothesis in Face-to-Face and Online Settings

The goal of positive intergroup contact is to enhance the relations between members of rival groups by reducing intergroup bias. Thus, intergroup contact is considered successful if it reduces negative stereotypes, prejudice, and discriminatory behavior toward members of the outgroup. The Contact Hypothesis (Allport, 1954) posits that mere contact between rival groups is unlikely to be sufficient. Rather, for contact to be successful, certain conditions must be fulfilled. These optimal conditions are (1) equal status between group members, (2) intergroup cooperation, (3) superordinate goals, and (4) support of authorities. Several other conditions were later added; among which "acquaintance potential" (Cook, 1962) that permits participants to build meaningful interpersonal relationships has been proposed as one of the most important (Pettigrew, 1998).

Pettigrew and Tropp's (2000, 2006) meta-analytic reviews of more than 500 studies showed that contact which meets the conditions outlined in the Contact Hypothesis has significantly decreased intergroup bias for various types of social groups, beyond racial and ethnic groups, for which it has been originally formulated. The more conditions applied, the more likely it was for contact to reduce intergroup bias (Pettigrew & Tropp, 2006). However, they also noted that these conditions are not essential, and that contact can be effective without all being fulfilled. Instead of treating them as necessary conditions, the authors suggested that they act as facilitating factors.

While Allport's (1954) conditions are difficult to implement in some FtF settings, the Internet is uniquely suited to set out these conditions, and may be even more effective in putting the Contact Hypothesis into practice (Amichai-Hamburger, 2008; Amichai-Hamburger & McKenna, 2006). We describe each of Allport's (1954) conditions in the following sections, identify the challenges associated with their implementation in organized FtF contact between rival groups in conflict, and discuss the opportunities that the Internet offers to overcome related difficulties.

Equal Status

According to the Contact Hypothesis, successful intergroup contact requires the establishment of equal social status between ingroup and outgroup members. McClendon (1974) argued that equal status increases the likelihood for perceived similarities between ingroup and outgroup members, which helps to reduce fixed stereotypes and prejudice (Pettigrew, 1971). However, status differences often exist in reality, that is, outside of an organized contact situation. Especially in the case of oppressed minority groups, extreme status differences can be predominant characteristics inherent to the nature of the conflict.

People are sensitive to very subtle cues of status that are transmitted through nonverbal channels in FtF interactions, such as dress code, body language, use of personal space, and seating positions (Amichai-Hamburger & McKenna, 2006). Therefore, equality of status is often difficult to establish in FtF meetings. In contrast, many of the nonverbal and social context cues that are indicative of a person's status are typically not in evidence when people communicate online. According to the Equalization Hypothesis (Dubrovsky et al., 1991), individuals appear as more equal in text-based CMC due to their visual anonymity. Consequently, potential disadvantages of low-status group members are expected to diminish in online contact. Spears et al. (2002) argued that CMC provides lower-status individuals with more confidence to "speak up" when status differences, which may have an intimidating effect in FtF interactions, are not visually salient. Thus, even when status differences of participating individuals are known, CMC tends to ameliorate some of the "real world" status differences by removing their visual salience. Therefore, it may be easier to establish equality of status in online intergroup encounters.

Cooperation Toward Superordinate Goals

One of the key conditions proposed by the Contact Hypothesis is that group members collaborate on a task, which is of equal importance to both groups. The task should be designed in a way that requires them to work toward a superordinate goal under which they need to combine their efforts. Cooperation, as opposed to competitive relationships, is expected to shift the focus more on the shared identity of the superordinate group. Based on their Common Ingroup Identity Model, Gaertner and Dovidio (2000) argue that the more integrated members of rival groups become into a newly created superordinate group, the less they perceive one another as members of an ingroup versus an outgroup. In other words, cooperation toward common goals reduces subgroup categorization, and transforms perceptions of "us" versus "them" into a more inclusive "we" (Gaertner et al., 2000). In order to establish a superordinate group identity, participants are required to find and rely on cross-cutting categories, which can be achieved by emphasizing shared interests and common goals (Brewer, 2000).

The formation of a superordinate group, which members of both sides can identify with and are willing to collaborate in, may be difficult to achieve in FtF settings. According to the Fault-line Theory (Lau & Murnighan, 1998), hypothetical dividing lines split members of a heterogeneous work group into subgroups along social categories. For instance, gender fault-lines would divide

a team into male and female subgroups. The division into subgroups is likely to impair team functioning as indicated by increased subgroup conflict, and lower levels of group performance and cohesion (Lau & Murnighan, 2005; Molleman, 2005; Sawyer et al., 2006). Subgrouping is likely to occur in heterogeneous groups because people generally prefer to cooperate with similar (i.e., ingroup members) than with dissimilar others (i.e., outgroup members). It is important to note that subgrouping is caused by the *salience* of social categories, and is not due to differences between group members per se (Lau & Murnighan, 1998; van Knippenberg et al., 2010). In the presence of an outgroup, the salience of typical social categories may exaggerate dissimilarities between ingroup and outgroup members.

Online collaboration may be the key solution in overcoming the challenges that diverse groups often confront when they collaborate FtF. There has been a growing amount of empirical evidence for an advantage of group diversity in online collaboration (Staples & Zhao, 2006). It has been found that more diversity among members of virtual teams (both regarding demographic variables and geographic distributions) was correlated with lower levels of interpersonal conflict and higher group performance (Mortensen & Hinds, 2001; Polzer et al., 2006). The less members of a virtual team had in common, the more they united through collaboration on their task, which facilitated identification with a superordinate group (Walther & Carr, 2010).

Support of Authorities

As one of the preconditions outlined in the Contact Hypothesis for successful intergroup contact, participants from both groups should receive support from their respective authorities. Approval by an authority is likely to create positive expectations regarding the contact, and helps to establish positive social norms for the contact situation. Support of authorities is of particular significance if the differences between the groups are deep-seated or potentially explosive (Amichai-Hamburger & McKenna, 2006). However, institutions that are willing to organize or support a FtF intergroup meeting may encounter practical obstacles. For instance, organizers may face challenges when it comes to finding a suitable physical meeting place, transporting the participants, and compensating them for their time and travel expenses. This is particularly true when the members of opposing groups live at some distance from another. In this case, participation in intergroup contact may be limited to those who have the financial resources and flexibility to travel to the meeting or to those who live in close proximity to the meeting location. In other cases, members of rival groups are precluded from meeting FtF by social norms, segregation, or threats to safety (Hoter et al., 2009). Hence, the size and number of possible contacts are severely restricted when intergroup meetings take place in physical locations, and can sometimes be difficult or dangerous to arrange (Amichai-Hamburger & McKenna, 2006).

Online contact is an attractive alternative to FtF meetings, as it helps to overcome logistical and financial issues. The Internet makes it possible to bring together a large number of participants without time or physical constraints. Online meetings are neither costly to set up nor time consuming for the participants. Therefore, online contact is more likely to be approved by authorities. Institutions may consider participation in an online intergroup contact setting as taking lower risk than FtF contact since it is less likely to have repercussions (Amichai-Hamburger & McKenna, 2006). Since the social costs for participating in online encounters are marginal, it may also be easier for institutions to support intergroup contacts that take place on the Internet.

Acquaintance Potential

An optimal contact situation provides the opportunity for personal acquaintance between the members of opposing groups, and for developing cross-group friendships (Cook, 1962).

The contact has to create a context in which participants can closely interact, and engage in mutual self-disclosure in order to properly get to know the other side. Individuals who engage in self-disclosure reveal significant aspects of themselves to the other person, and make them understand how they see themselves (Worthy et al., 1969). Self-disclosure personalizes an intergroup interaction in a way that the interacting individuals focus their attention on individuating characteristics. The more people reveal about themselves, the more detailed knowledge they acquire about the outgroup. Thus, self-disclosure helps to see outgroup members as more diverse, which is likely to reduce the application of stereotypes (Fiske & Neuberg, 1990). Disclosure of emotions, rather than merely exchanging facts and information, has been found to increase intimacy, and help to establish mutual trust and cross-group friendships (Laurenceau et al., 1998). In contrast, if the contact is restricted to casual encounters, stereotypes are likely to remain unchanged. In order to develop close interpersonal bonds, and to establish a sense of belonging and acceptance, extensive and repeated contact is required. Cook (1962) has suggested that the more intimate an intergroup relationship becomes, the more favorable the attitudes will be toward the outgroup.

Earlier research on CMC stated that visually anonymous online interactions, in which nonverbal and social context cues are filtered out, would result in shallow, impersonal, and even hostile relationships (Kiesler et al., 1984, 1985; Sproull & Kiesler, 1986). However, the Reduced Social Cues approach has been criticized for its rigid focus on the technologically determined limitations of CMC (Lea & Spears, 1991). More recent CMC theories, such as the Social Information Processing (SIP) theory (Walther, 1992), shifted the focus toward the social and psychological processes in online communication. Research following the SIP approach claims that visual anonymity in text-based CMC does not necessarily lead to negative consequences, but may enhance (rather than reduce or restrict) communication in online groups. The visual anonymity in CMC provides individuals with more control over how they present themselves. According to Walther's (1996) Hyperpersonal Model, online communication may enhance impression formation by allowing participants to emphasize specific personal characteristics while hiding others, which is impossible in FtF communication. Indeed it has been found that participants who engaged in online group interactions employed deeper self-disclosures, asked more intimate questions (Joinson, 2001; Tidwell & Walther, 2002), and liked their group members more than those who interacted FtF (Bargh & McKenna, 2004).

These contradictory findings can be explained by artifacts of laboratory experiments in which online groups only interacted for a short amount of time, rather than effects of the communication medium (Hobman et al., 2002). It has been found that when given enough time, online contact was equally suitable to promote cross-group friendships, and often resulted in more intimate relationships over time than FtF contact (Tidwell & Walther, 2002; Walther, 1992, 1997; Wilson et al., 2006). Online intergroup contact should therefore aim for long-term collaboration instead of a single meeting of ad hoc groups, which are prone to insults and negative relations (Walther, 2009). Moreover, online contact may be advantageous regarding the development of sustainable intergroup relations as follow-up intergroup meetings are easier and less expensive to organize over the Internet than FtF.

Intergroup Contact Effects in Physical and Online Environments

One of the main critiques on the Contact Hypothesis is that it only predicts *what* conditions lead to positive outcomes of intergroup encounters, but does not specify *when* these facilitating conditions are important, and *how* contact works (Pettigrew, 1998). More recent contact research addresses the underlying processes that mediate the relationship between contact and intergroup

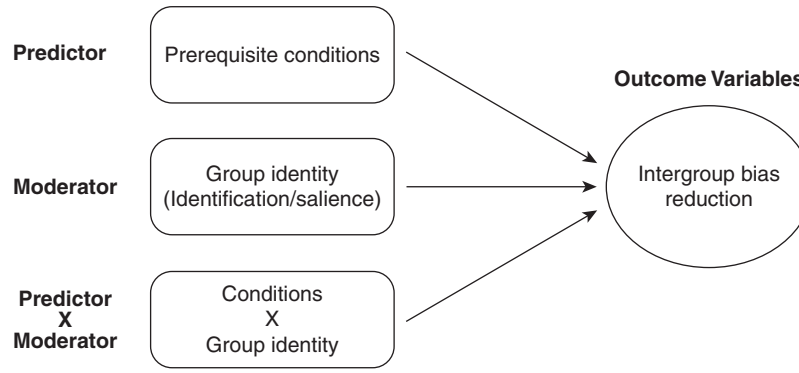

Fig. 12.1 A schematic model of moderators between contact and intergroup bias.

bias, and the factors that moderate (i.e., facilitate or inhibit) positive outcomes (Dovidio et al., 2003). Both moderators and mediators are third variables that influence the relation between independent and dependent variables, but they refer to different concepts (see Baron & Kenny, 1986). Moderators affect the direction and/or strength of the relationship between an independent variable and a dependent variable (see Fig. 12.1). Mediators refer to the mechanism through which an independent variable influences a dependent variable (see Fig. 12.2). In the context of intergroup relations, contact between rival groups constitutes the independent variable, and bias reduction the dependent variable.

Moderators of Contact Effects

The greatest challenge to the Contact Hypothesis is whether the results of a positive intergroup contact remain limited to the context of the meeting and the participants involved, or will be generalized to other situations and to the outgroup as a whole (Pettigrew, 1998). Generalization is crucial if intergroup contact is to have broad and lasting effects. If positive contact effects do not generalize further, bias against the outgroup will remain unchanged (Hewstone & Brown, 1986). The salience of an individual's group membership during an intergroup contact, and the extent to which the individual identifies with his or her ingroup, appear to be the most important moderators of generalization effects (Crisp & Beck, 2005; Dovidio et al., 2003). Fig. 12.1 shows a schematic moderator model of contact effects.

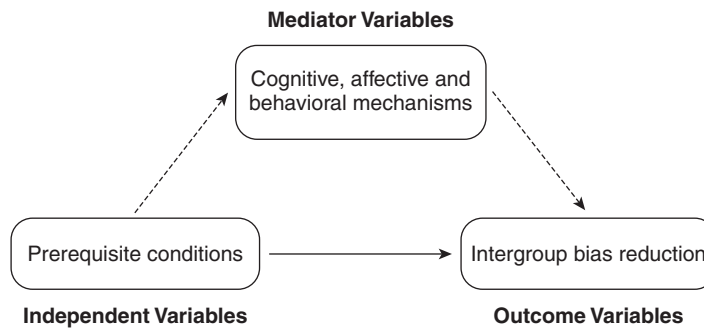

Fig. 12.2 A schematic model of mediators between contact and intergroup bias.

Group salience determines the extent to which individuals are perceived as representatives of their social group. Salience of social categories can be activated by various factors that emphasize the common characteristics of a group of people, such as religion, race, or culture. However, there is much debate among researchers about whether the salience of group membership should be high or low.

Hewstone and Brown (1986) argued that if a member of an outgroup is perceived only as an individual rather than also as a representative of his or her social group, then any change in attitude will remain target-specific. They claimed that outgroup identity must be highly salient for positive contact effects to generalize. Furthermore, individuals should be perceived as typical (rather than atypical) members of their group (Rothbart & John, 1985). If group salience is high, self-perception is dominated by the group membership, which leads to stronger ingroup identification and people's attitudes tend to shift toward the norm of their ingroup (e.g., majority opinion) (Sassenberg & Boos, 2003). This phenomenon illustrates the importance of creating a common ingroup identity, which integrates the values of both ingroup and outgroup members (Gaertner & Dovidio, 2000).

Conversely, Brewer and Miller (1984) among others have argued that group salience should be low as it could otherwise lead to activation of negative stereotypes during the contact. Miller (2002) claimed that personalized representations in which the focus of attention is directed toward participants' individual identities (i.e., high personal salience), while holding group salience low, would produce more favorable attitudes toward members of the outgroup (within and outside the given contact situation). This assumption is supported by studies on intergroup friendship, which stressed the value of personalized interactions (Pettigrew, 1997).

The question remains as to which level of group identity versus personal identity salience is optimal for bias reduction and generalization to occur, and how a superordinate group identity can be established and maintained in intergroup contact. Gaertner and Dovidio (2000) proposed a trade-off hypothesis according to which high personal salience was beneficial in initial contact, whereas group salience should be heightened in subsequent meetings in order to foster generalization. Dovidio et al. (2003) further suggested that the relative effectiveness of each of these strategies was moderated by situational and temporal factors, as well as individual differences.

One of the main advantages of CMC is that the degree of which personal identity versus group identity is salient can be easily manipulated depending on the particular needs of a given contact situation in order to achieve a desired outcome (Amichai-Hamburger & McKenna, 2006). In experimental studies using text-based CMC, high group salience is typically evoked by instructions that repeat the word "group," and encouraging participants to look for distinct attributes that are characteristic of their group (Walther & Carr, 2010). In anonymous CMC interactions, any social category can be magnified as the most important characteristic that distinguishes ingroup and outgroup members. High group salience can be achieved by using anonymous names that are evocative of the groups that participants are representing (e.g., Pakistan 1, Pakistan 2, India 1, etc.). On the other hand, high personal salience can be attained by instructions that frequently use the word "individuals," and prompt participants to look for diversifying characteristics of their group members (Walther & Carr, 2010). While participants are visually anonymous in text-based CMC, their personal or group identity can be visually represented and transformed in avatar-based CMC. Avatar appearance can be easily modified, and different attributes of participants' identities can be emphasized or hidden. Moreover, avatars can be used to create an online identity that does not need to correspond to a person's actual (offline) identity (Lee, 2009).

The Social Identity Model of Deindividuation Effects (SIDE) (Postmes et al., 1998; Reicher et al., 1995) presents a theoretical framework that explains how CMC triggers different identification

processes as a consequence of participants' anonymity in online interactions. SIDE posits that anonymity leads to depersonalization and de-individuation, which increases participants' awareness of social categories, if they are made salient during an online group interaction. SIDE theorists have suggested that high salience of group membership in anonymous, text-based CMC would magnify social attraction toward the ingroup, and at the same time increase negative responses toward the outgroup.

Research on intergroup dynamics in CMC showed inconsistent results (Walter & Carr, 2010). CMC experiments that led participants to believe that the opposing group consisted of participants from a social group that was different from their own (e.g., being from different countries or rival universities), have not produced the predicted ingroup/outgroup effects (Lea et al., 2001; Postmes et al., 2002). The failure to generate these effects could be interpreted in a positive light. It appears that anonymous online groups comprised of members from distinctive subgroups are not as prone to ingroup/outgroup bias, as compared to equivalent intergroup contact situations in FtF settings. Instead, online groups may relate to all participants as members of a superordinate ingroup, while disregarding the fact that they represent different social groups (Amichai-Hamburger & McKenna, 2006).

This constitutes a beneficial effect for intergroup encounters, which can be used in a purposeful way in order to enhance an online contact situation. CMC can both heighten the perception of individual members as representatives of their respective social groups (in case of high group identity salience), and foster the formation of interpersonal relationships (in case of high personal identity salience), while simultaneously increasing attachment to a newly created superordinate ingroup (Amichai-Hamburger & McKenna, 2006; Thompson & Nadler, 2002). Such settings can enhance the desired balance of both "us" and "them" among participants, which facilitates acceptance and generalization (Amichai-Hamburger & McKenna, 2006).

Recent studies also tested ingroup/outgroup effects as predicted by SIDE theory in avatar-mediated interactions. Kim and Park (2011) used groups of participants that were represented either as identical or dissimilar avatars in online discussions. They predicted that uniform appearance would lead to higher group identification and increase participants' willingness to conform to the group norm. Conversely, it was expected that participants may experience a threat to their individuality due to uniform appearances, and would therefore diverge from the group norm in order to restore their uniqueness. This contradictory hypothesis is based on Optimal Distinctiveness Theory (Brewer, 1991, 1993), which states that individuals desire to attain an optimal balance of inclusion and distinctiveness both within and between social groups. These two conflicting motives are simultaneously activated in social interactions, resulting in compensation effects in case of a perceived threat to individuality as opposed to assimilation to group norms in order to satisfy the need for belonging. Indeed, both disparate processes were found to be activated and negated the impact of visual similarity on participants' intention to conform to the group norm (Kim, 2011; Kim & Park, 2011). Thus, too much visual similarity may inhibit potentially beneficial processes in avatar-based intergroup interactions. However, it remains unclear where the equilibrium between similarity and uniqueness in avatar appearance should be for an optimal outcome of online intergroup encounters.

Mediators of Contact Effects

One key concern in the current contact research is related to mediators of contact effects; that is, the question of *how* contact reduces intergroup bias. Fig. 12.2 shows a schematic mediator model of contact effects.

Several potential mediators have been investigated that translate contact into positive intergroup relations, including cognitive and affective mediator variables (Dovidio et al., 2003;

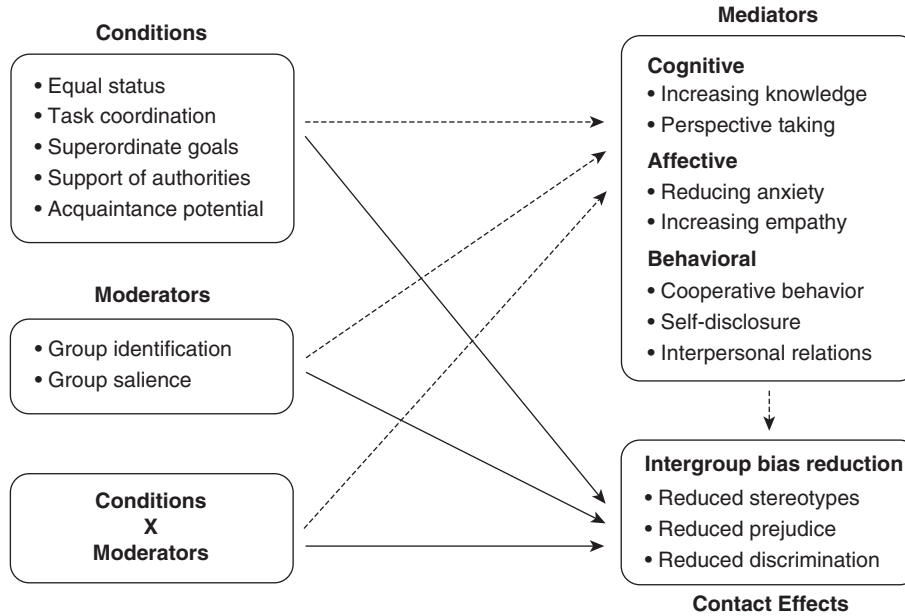

Fig. 12.3 An integrated model of Allport's (1954) conditions, and moderators and mediators of intergroup contact effects.

Pettigrew & Tropp, 2008). There are also a number of behavioral or communication-related mediators discussed in the contact literature, which determine the way in which members of opposing groups interact with one another. For example, it has been found that cooperative behavior mediates the relationships between other conditions (i.e., equal status, goal interdependence, and authority support) and intergroup bias (Koschate & van Dick, 2011). Self-disclosure has also been found to be a behavioral mediator between contact and intergroup bias (Turner et al., 2007). While these factors have already been discussed earlier as part of the facilitating conditions for successful intergroup contact, we focus here on the cognitive and affective mediators that have been most extensively studied, and received empirical support in FtF and CMC contexts.

Increasing knowledge about the outgroup is one of the most widely discussed cognitive mediators. Affective mediators include reducing negative emotions, such as anxiety and uncertainty, and increasing positive emotions, such as empathy through perspective-taking. We discuss how these mediating variables operate in intergroup interactions in FtF settings and on the Internet. Figure 12.3 shows an integrated model of the facilitating conditions for successful intergroup contact, and the moderator and mediator variables of contact effects.

Increasing Knowledge about the Outgroup

Based on the assumption that ignorance promotes prejudice (Stephan & Stephan, 1984), learning about the outgroup is considered to be a critical step in how intergroup bias can be reduced through contact (Pettigrew, 1998). With more information about outgroup members, people are more likely to see each other in individuated and personalized ways, which allows for the creation of new, nonstereotypic perceptions of the outgroup (Kawakami et al., 2000). Increased knowledge may also reveal similarities between different social groups, which are expected to lead to more favorable perceptions of outgroup members (Pettigrew, 1998). A better understanding, for

example, of the beliefs and values of an outgroup, may further reduce uncertainty about how to interact with others (Stephan & Stephan, 1985). Reduced uncertainty in turn, is likely to reduce the avoidance of contact with outgroup members and discomfort in intergroup interactions (Gaertner & Dovidio, 1986). Such cognitive mediators may also be effective when there are opportunities to learn about others when an individual is not directly involved in an intergroup contact; for example, when observing or reading about interactions between other ingroup members with members of an outgroup (Dovidio et al., 2011).

The Internet makes it possible for everyone to access large amounts of information from various sources, such as news websites, blogs, or forums. Information can be found about the history of conflicts, reports on current political and social events, along with different viewpoints and opinions. Information about different types of social groups can be presented on the Internet in a more interactive and engaging way, especially with a higher level of self-involvement than traditional mass media channels (Harwood, 2010). Such online knowledge bases are available for educational purposes in order to prepare for an intergroup contact, or can be created by members of the involved social groups as a collaboration task.

Social networking sites, like Facebook, are popular examples of online cross-border communication and information sharing. Facebook explicitly states that it "is proud to play a part in promoting peace by building technology that helps people better understand each other. By enabling people from diverse backgrounds to easily connect and share their ideas, we can decrease world conflict in the short and long term" (Facebook, 2011). Other Internet services are particularly designed for rapid information sharing, such as Twitter, a micro-blogging network used by millions of people worldwide. Social networking and information sites also exist for particular conflict regions, for example the MidEast Web,[1] as well as for global peace communities, such as the Peace and Collaborative Development Network.[2]

A great potential for self-paced and collaborative learning is provided by social and educational virtual worlds, online learning games, and training simulations, which do not only disseminate information about other cultures, but enable the learner to acquire language and culture-specific nonverbal communication skills. A good example is the educational game series *Global Conflicts*,[3] which provides educators with game-based learning tools and additional course materials for teaching about different conflicts throughout the world. *Global Conflicts* games present interactive, immersive role-play scenarios to explore and learn about various topics, such as democracy, human rights, globalization, terrorism, climate, and poverty. Several role-play and simulation games have been developed specifically about the Israeli–Palestinian conflict. For example, the *PeaceMaker*[4] game simulates the Israeli–Palestinian conflict in a virtual environment, including footage and photographs from actual events. Players are confronted with information about political processes and facts about the conflict, and learn about the various social, economical, and moral issues involved in this multifaceted conflict.

Other interesting examples of educational virtual worlds can be found in *Second Life*.[5] For example, the Second China island in *Second Life* has been built to facilitate the learning of Chinese culture using immersive scenarios, buildings, and interaction with virtual humans (i.e., nonplayer characters controlled by artificial intelligence) (Fishwick et al., 2008).

[1] http://mideastweb.org

[2] http://www.internationalpeaceandconflict.org

[3] http://www.globalconflicts.eu

[4] http://www.peacemakergame.com

[5] http://secondlife.com

Second China offers spaces for culturally relevant "edutainment" as well as spaces for exploring news and current affairs. Another *Second Life* project called Understanding Islam through Virtual Worlds shows how people can get to know more about Muslim culture in an authentic, experiential way by visiting historical places, mosques, houses, and museums inside the virtual world that are built according to real-world examples, and to interact with others while learning about religious rituals, Islamic customs and values (King & Fouts, 2009). The authors noted that virtual worlds are ideal instruments for immersive story-telling that offer new opportunities for greater first-hand understanding of Islam for policy-makers, diplomats, and people worldwide.

Alelo[6] delivers a set of training tools to promote better intercultural communication. Most of the training tools have been developed to prepare military soldiers for operations in different cultural environments. For example, Alelo's Virtual Cultural Awareness Trainer (VCAT) has been designed for cultural skills training to effectively master social interactions between culturally diverse populations (Johnson, 2009). VCAT utilizes simulations of intercultural situations that trainees are likely to encounter while carrying out their jobs or missions. These training systems give trainees the opportunity to practice conversations in realistic, animated settings by utilizing interactive dialogues in which they interact as avatars with nonplayer characters. Trainees are required to make choices in the context of the situation and thereby learn how to behave in culturally appropriate ways in respect to specific social encounters. These scenarios include greetings, introductions, arranging meetings, and discussing business with counterparts.

While these information sites and training systems mainly prepare individuals for intergroup contact, increased knowledge is also likely to occur as a result of an online intergroup contact. However, it has been found that knowledge alone is not sufficient in order to reduce intergroup bias (Pate, 1981). Meta-analytic tests of contact studies showed that the mediating value of cognitive variables generally appears to be weaker than affective mediators (Pettigrew & Tropp, 2008).

Reducing Anxiety about Intergroup Contact

Initial intergroup encounters are often accompanied with anxiety (Pettigrew, 1998). Anxiety may result in negative responses toward the outgroup *during* contact, and lead to *anticipatory* anxiety about future meetings (Plant & Devine, 2003; Stephan et al., 1999). In a state of anxiety, people experience uncertainty about how they should act or how they might be perceived by others (Stephan & Stephan, 1985), and are more likely to apply stereotypes (Bodenhausen, 1990). Intergroup anxiety may to lead to miscommunication and distrust toward outgroup members (Dovidio et al., 2002), or even result in avoidance of intergroup contact (Plant & Devine, 2003; Shelton & Richeson, 2005). Consequently, intergroup anxiety and uncertainty hinders the formation of harmonious intergroup relations (Dovidio et al., 2003). A number of contact studies have demonstrated that reduced anxiety operates as a mediator between intergroup contact and reduced prejudice toward the outgroup (Pettigrew & Tropp, 2008). While FtF contact may lead to high levels of anxiety among participants, online intergroup encounters are expected to evoke less anxiety both in anticipation of and during the contact situation (Amichai-Hamburger, 2008).

The Internet creates a protected environment in which participating individuals meet while staying within their familiar physical surroundings. People are more likely to feel comfortable and less anxious when interacting with outgroup members from the privacy of their homes. Although the Internet is considered to be a public sphere, it still evokes a private feel for participants (McKenna, 2007; McKenna & Bargh, 2000). Research that has shown an increased activation and use of stereotypes (especially those tied to racial prejudice) in the public as opposed to private

[6] http://www.alelo.com

places where people are more open and willing to alter their habitual responses (Lambert et al., 2003; Zajonc, 1965). Thus, online intergroup contact is expected to inhibit the activation of stereotypes and may mitigate the anxiety that often accompanies FtF meetings (Amichai-Hamburger & McKenna, 2006; Walther, 2009).

Many of the social factors that lead to feelings of anxiety and uncertainty in FtF encounters (e.g., having to respond on the spot or being under visual scrutiny) are absent in online interactions. Online intergroup contact provides participants with a higher level of control over how they present themselves and their views. Participants may feel better able to express themselves in online intergroup encounters, and feel more at ease with their online partners than they would if they were interacting FtF (Amichai-Hamburger, 2005). They choose when to start and finish an online interaction by logging on and off, and have more time to compose their text messages. Thus, the high degree of control over the communication process creates stronger feelings of security and power in online contact compared to FtF encounters (Amichai-Hamburger & Furnham, 2007). At the same time, immediacy of feedback is given as online interactions can take place in real-time, providing the participants with a sense of co-presence. In particular, avatar-based interactions in shared virtual environments are said to increase the feeling of being together in the same (virtual) room, despite of the physical distance between participants (Schroeder, 2006).

However, it has been found that anxiety especially mediated the relationship between contact and prejudice when group salience was high. Mediation effects were less pronounced when the salience of group identity was low (Voci & Hewstone, 2003), and may only occur for members who strongly identify with their ingroup (Tausch et al., 2007). These limitations on the mediating role of anxiety demonstrate the importance of considering group identification and salience of group identity as a moderator.

Virtual worlds bear a great potential for realistic intergroup interactions in which group identity can be made visually salient (e.g., by using avatars with ethnic connotations). On the other hand, transferring the physical characteristics of outgroup members into the virtual environment is likely to provoke high levels of anxiety as in equivalent FtF encounters. For example, Dotsch and Wigboldus (2008) found that Dutch participants who approached Moroccan avatars showed higher levels of stress as measured by increased skin conductance levels than if they approached White avatars. Indicators of implicit prejudice were also found in participants' behavior as they kept larger distances from Moroccan avatars than from White avatars. Thus, it appears that merely moving intergroup contact to online media may not be sufficient for a reduction in anxiety. Additional factors that influence the experience of an online intergroup interaction need to be considered, such as a means to increase positive emotions in preparation for and during the contact situation.

Increasing Empathy through Perspective-Taking

Intergroup bias has been found to be reduced by perspective-taking and enhancing empathic concern toward members of the outgroup (Pettigrew & Tropp, 2008). In studies of perspective-taking and empathic role-playing, participants were asked to imagine themselves or act as another person (e.g., an outgroup member with specific attributes). Especially when participants were requested to focus their attention on the feelings, as opposed to facts about the other person's situation, perspective-taking increased empathy. Participants who empathized with outgroup members expressed more positive feelings and attitudes toward members of the outgroup, and showed more prosocial behaviors (Batson et al., 1997; Galinsky & Moskowitz, 2000; Peng et al., 2010; Todd et al., 2011).

While empathy is clearly an affective mediator between contact and intergroup bias reduction, perspective-taking may also operate on a cognitive level (Galinsky & Moskowitz, 2000). Taking over the perspective of another person is assumed to activate neural processes that are typically being used to evaluate the self (Ames et al., 2008). The provoked overlap of the self and the other person may increase the perceived similarity between the individual and the respective outgroup member, which in turn is expected to lead to a reduction of stereotypes regarding the outgroup (Davis et al., 1996; Galinsky & Moskowitz, 2000).

Role-play and case studies have been found to be highly effective tools for empathic learning and promoting social change (Mezirow, 1997). Nonetheless, role-play can be difficult and expensive to organize if human actors are required. Using film or written case studies may be a more practical alternative. Narrative story-telling has been found to be an effective method of conflict reconciliation, which is widely used to promote various causes over the Internet (Kampf, 2011). The Internet is particularly suitable for this task because it enables practically everyone to post stories documenting their view on a conflict and its impact on their daily lives (e.g., via blogs), and to share photographs and video messages (e.g., via YouTube). Still, such case studies greatly limit the level of interactivity, and do not allow for a dialogue with the portrayed person. The observer is being placed in a rather passive position, and the empathy-evoking potential of such case studies greatly rely on the observer's ability to imagine being in the situation of the other person. A possible way to overcome the limited level of interactivity is collaborative story-telling, which makes use of the possibility to post comments and discuss stories with others online. Such collaborative story-telling approaches are expected to enhance mutual understanding and empathy (Stock et al., 2009).

While case studies make it possible to imagine an outgroup member's lived experience, role-playing enables participants to take over someone else's perspective. There is a great variety of computer and video games, which provide highly interactive and immersive role-play environments. In online role-playing games, players have the ability to literally act as someone else through the use of virtual characters (i.e., avatars), and directly experience social situations from their perspective. Such role-play interactions can take place in a simulation of the other person's physical environment. Interacting in virtual environments has the great advantage of allowing participants to experience being in remote locations without having to leave home. Moreover, virtual environments make it possible to design a neutral place for intergroup encounters, whereas FtF meetings always take place in a culture-specific environment (Hasler, 2011; Hasler & Friedman, in press).

In the *PeaceMaker* game, players can choose to take on the role of the Israeli Prime Minister or the President of the Palestinian Authority. The game provides players with opportunities to resolve the Israeli–Palestinian conflict (i.e., establishing a two-state solution) by choosing political, economic, and security actions (Kampf, 2011). Players have to respond to in-game events like suicide bombings, army raids, and the demands of various interest groups, while interacting with political leaders and authorities (Burak et al., 2005). Players lose or win points depending on the effects of their actions. The goal is to achieve a balanced and positive score for both the Israeli and the Palestinian groups (Gonzalez & Saner, in press).

The first-person nature of computer games has been found to increase people's identification with the character they play and its actions, compared to merely observing a character in a film (Eastin et al., 2009; Fischer et al., 2010; Klimmt et al., 2009). The appearance of one's avatar plays a crucial role in perspective-taking and identification processes. Avatars make it possible to transform people's real-world identities, and to let them temporarily adopt an outgroup member's identity and appearance in a virtual environment. People have been found to evaluate themselves

in ways an imaginary third party would while observing their own behavior in a virtual body with physical characteristics of an outgroup member (e.g., race). The phenomenon that people infer their expected behaviors and attitudes from observing their avatar's appearance has been termed the Proteus Effect (Yee & Bailenson, 2007). Through a series of studies, Yee and his colleagues demonstrated that such altered self-representations can have significant and instantaneous impacts on how people interact with others (Yee & Bailenson, 2006, 2007; Yee et al., 2009). Changes in behavior not only occurred during the embodiment in a virtual environment, but also persisted through subsequent social interactions in the real world (Yee et al., 2009). Such transfer effects from the virtual into the physical world are of crucial importance for lasting outcomes of intergroup contact interventions.

Empirical findings on embodied perspective-taking are inconsistent. Yee and Bailenson (2006) conducted a virtual reality (VR) experiment in which participants were embodied as an elderly avatar. Participants reduced their prejudice and reported more positive attitudes toward elderly people afterwards. Gonzales et al. (2010) found in their study on racial prejudice in *Second Life* that White participants who were represented as Black avatars lessened their racist attitudes. Both men and women showed reduced implicit negative attitudes (as measured through a linguistic analysis of chat protocols) toward Black people after playing Black avatars. After being embodied as a Black avatar, compared to those who were represented as a White avatar, only female participants reported more explicit positive attitudes toward Black people in a post-experiment questionnaire.

In contrast, Groom et al. (2009) found in their VR study that regardless of participants' actual race, those who were represented as Black avatars had their stereotypes activated and showed greater racial bias than participants who were represented as White avatars. Eastin et al. (2009) also found that White players showed more hostile thoughts after playing a violent video game as a Black character than after playing a White character. Players may have activated their stereotypes of Black people as being more aggressive, which may have led not only to having more aggressive thoughts, but also unconsciously acting out the violent stereotype by playing more aggressively. A similar study was conducted by Peña et al. (2009) who found a negative priming effect of avatar appearance. Participants who were represented as avatars wearing black cloaks showed more aggressive attitudes than those who were represented as white-cloaked avatars. This effect was replicated in a second experiment in which participants that were represented as Ku Klux Klan avatars developed more aggression than those using avatars dressed as doctors. Thus, the act of observing oneself embodied as a prototypical outgroup member may either enhance empathy and promote the extension of positive concepts of the self, or could, on the other hand, prime or activate pre-existing negative stereotypes. It has yet to be investigated under which conditions each effect may occur and how it can be positively tweaked.

These ambiguous effects are also reflected in the evaluation results of the *PeaceMaker* game. Several studies evaluated the impact of the *PeaceMaker* game on increased factual knowledge, changes in attitudes and perceptions, and decision-making strategies depending on players' personalities, religious and political affiliations, and trust attitudes (Gonzalez & Czlonka, 2010; Martin & Gonzalez, 2010). Game behavior and players' subjective reports have been compared across different groups of participants, and different game play settings have been evaluated, such as collaborative play versus single player (Kampf, 2011). The main findings show that players are biased regarding their game strategy and in-game decision-making, depending on which side they are favoring. However, it has been found to be advantageous if the game was played in dyads composed of players from the different groups. Such tandem playing resulted in higher game scores, and players learned more about each other on a personal level during game play (Kampf, 2011).

Field Studies on Online Intergroup Contact in Conflict Regions

Although many social scientists have promoted the potential of the Internet for intergroup contact and conflict resolution, the majority of published work in this area is based on laboratory experiments using artificially created in/outgroups instead of participants from actual rival groups. Nevertheless, there are some notable exceptions of empirical field studies using means of CMC to facilitate intergroup contact among populations in conflict. Most of the documented field work on online intergroup contact has been conducted in regions with protracted conflict, such as between Catholics and Protestants in Northern Ireland (Austin, 2006), and between Israelis and Arabs/Palestinians in the Middle East (McKenna et al., 2009; Mollov, 2006).

Israeli Jews and Palestinians have difficulties meeting FtF due to security issues. They typically have to navigate checkpoints in contentious territories in order to meet. Movement restrictions and the severity of the violence in the Middle East often make it dangerous, and in some cases impossible, to organize FtF meetings. Online contact therefore becomes an attractive alternative, and is a hopeful option for constructive dialogues between rival sides (Ellis & Moaz, 2007). Other field studies focused on the tension between majority and minority groups within Israel, including participants from the Arab and Jewish sections (Hoter et al., 2009; Yablon, 2007). Although these two groups are not geographically separated but live in the same area or neighborhoods in mixed cities, they show a great psychological distance imposed by prejudice and stereotypes held against one another (Hoter et al., 2009). A similar social divide exists in Northern Ireland in which a deeply-rooted rivalry between Catholic and Protestant communities strongly affects almost every aspect of life (Trew, 1986). The religious polarization has a long and violent history, resulting in a deeply segregated society in an unstable political and social environment.

All of these online intergroup contact projects were designed based on the theoretical foundation of the Contact Hypothesis (Allport, 1954), and share similar goals. They aim to decrease intergroup bias, and increase mutual understanding in order to improve the relationship between rival groups. Most of these projects have been designed as peace-building interventions within educational contexts, while others examined online communities formed on social networking sites involving participants of rival groups (McKenna et al., 2009; Ruesch, 2011). The design and evaluation methods of these projects are summarized in Table 12.1. We note that many of these projects (at least partially) met the conditions proposed by the Contact Hypothesis (Allport, 1954), and found (sometimes very creative) ways to implement some of the moderator and mediator variables of contact effects discussed in the current chapter.

Online Contact between Catholics and Protestants in Ireland

The most extensively studied and well-documented online intergroup contact project is the Dissolving Boundaries program in Ireland, which aims to bridge Catholic and Protestant schools (Austin, 2006). The program facilitates cross-community links through collaborative online activities between small groups of pupils, which were paired with another group of similar ages and abilities from their partner schools.

Contact Effects

The evaluation results show an overall positive impact of the curricular and social intergroup interactions (Austin, 2006). The teachers reported an increased mutual understanding as well as respect and tolerance for opposing views. Austin also observed an increase in perceived ingroup/outgroup similarity, which was found to be stronger for primary school pupils than for the older

secondary school pupils. Younger pupils also reported that the program helped them to develop cross-group friendships more so than the older pupils did.

Lessons Learned

Facilitative recommendations have been derived based on the lessons learned from several iterations of the program (Austin, 2006). An important concern has been the successful integration of the conditions proposed by the Contact Hypothesis (Allport, 1954) with theories of collaborative online learning. Although equal status within the contact situation has been achieved by creating student groups of similar age and ability, the evaluation reports also indicate successful contact that involves students with special needs. Austin (2006) further discussed the issue of finding a suitable collaboration task for online intergroup projects. He recommends avoiding sensitive topics—at least in an initial phase. Support of both the schools as institutions and the teachers as authorities has been identified as one of the most crucial factors. Austin (2006) stressed that the teachers' enthusiasm is critical for the success of an online intergroup encounter, but is insufficient if the aspirations of the program are not supported by the participating schools.

Online Contact between Israeli Jews and Arabs

Hoter et al. (2009) described an educational online project involving religious and secular Jewish and Arab teacher colleges within Israel organized by the Center for Multiculturalism and Technology. The project aimed at teaching prospective educators to master educational technologies effectively, and to provide them with the opportunity to develop multicultural views with intended carry-over effects in their own futures as school teachers. The center's approach is based on collaborative online learning in small multicultural groups, each of which is supervised by trained local instructors.

Contact Effects

The initial evaluation of the project revealed a high level of satisfaction with the course, particularly regarding the multicultural learning experience (Hoter et al., 2009). Based on participants' qualitative responses, the authors remarked that many had formed strong bonds with their group members on an interpersonal level, and appeared to value their newly developed empathy for one another. The qualitative analysis also revealed indicators of group-level effects regarding an increase in perceived ingroup/outgroup similarity. The authors concluded that structured online intergroup contact interventions "can reduce bias, stigmas, and ethnic prejudice among prospective teachers" (Hoter et al., 2009, p. 10).

Lessons Learned

In addition to the conditions proposed in the Contact Hypothesis (Allport, 1954), the authors identified specific factors based on their experiences and evaluation results that further facilitate a successful online intergroup contact in an educational context (Hoter et al., 2009). The project appeared to benefit from (1) dealing with general subjects instead of conflicts (e.g., history or politics), (2) focusing on long-term collaboration, (3) gradually progressing over media from text-based CMC to audio/video channels, and finally FtF meetings, as well as (4) employing team teaching by course instructors from different cultural groups. In particular, the gradual increase in media richness of the intergroup contact has been regarded as an effective way to reduce anxiety in initial phases of the contact. Although mediated contact facilitated the perception of equal status, the authors noted a disadvantage for Arab students when communicating in Hebrew with native-speaking Israeli Jews. In order to overcome language barriers, the authors introduced a policy in the curriculum that spelling or grammar errors would be disregarded.

Another online contact project between Israeli Jews and Arabs called Feeling Close from a Distance has been described by Yablon (2007). The project was designed as an after school program for high school students, and aimed at establishing positive relationships between the opposing groups through long-term online interactions.

Contact Effects

While the project's evaluation results have not been published yet, Yablon (2007) refers to the evaluation of an earlier project on online intergroup contact using an equivalent setting. Yablon and Katz (2001) concluded that chat and email exchange between the two groups was suitable for the establishment of positive interpersonal relationships and to bring about attitudinal change. However, an increase in positive attitudes toward the outgroup has only been observed in the group of Jewish students, while the Arab students maintained their a priori higher level of positive attitudes toward their Jewish counterparts throughout the contact. The failure to detect a statistically significant increase in the Arabs' attitudes has been explained by a "ceiling effect," which left little room for the measurement of potential improvements.

Lessons Learned

Yablon and Katz (2001) particularly stressed the importance of organizing *intra*group meetings in addition to *inter*group encounters. Intragroup workshops, in which participants had the opportunity to clear up potential misconceptions within their own ethnic group, led to deeper and more thorough intergroup discussions, which also touched the most sensitive issues of the conflict. In contrast to other studies, in which conflict-related topics were avoided, Yablon and Katz (2001) considered this openness and inclusion of sensitive topics as crucial for an effective online intergroup contact.

Israeli–Palestinian Online Contact

Mollov (2006) provides an evaluation of an Arab–Jewish online dialogue organized by an Israeli university in cooperation with a Palestinian counterpart. The project facilitated email-based one-on-one contacts between Jewish Israeli and Palestinian students. The online dialogue focused specifically on Jewish and Islamic religious practices, and was carried out over a period of 2 months.

Contact Effects

A pre–post comparison revealed an increase in participants' knowledge about the practices and holidays of the two religions, but no statistically significant change in attitudes toward the respective outgroup (Mollov, 2006). The missing change in mutual perceptions has been attributed to the fact that participants' attitudes were already positive prior to the contact, and remained positive throughout the dialogue encounter. Thus, the failure to detect attitudinal changes should not be interpreted as a negative result, but rather as a consequence of a "ceiling effect" in the measurements, which has also been the case in Yablon and Katz's (2001) study. A qualitative analysis of the messages showed that students did not only exchange topic-related information about their religions, but also engaged in mutual self-disclosure.

Lessons Learned

Mollov (2006) concluded that an intergroup dialogue may be most effective when both online and offline meetings are combined as in the reported project. He further stressed the importance of choosing a topic, such as religion, that both sides can relate to. The religious dialogue resulted in a constructive and positive discussion, and made it possible for participants to discover

similarities between themselves—not only on an interpersonal level but also on an intergroup level. The assumption that political or historical topics may have led to less favorable outcomes is supported by Ellis and Moaz's (2007) study of an online argument between Israelis and Palestinians. They found that online dialogues that focused on political issues exacerbated the culturally-specific argument styles that promote conflict. Thus, focusing on a less sensitive topic, which makes it easier for both sides to converge and find commonalities, is likely to lead to more positive outcomes than discussing conflict-related issues.

In a similar attempt to bridge conflict groups in the Middle East through online contact, McKenna et al. (2009) set up a Good Neighbors Blog for intercultural exchange. The project aimed at including invited blog authors who represented all of the major regions of the Middle East including the various religious and political factions within each region.

Contact Effects

McKenna et al. (2009) observed positive trends among those who were willing to participate. A content analysis of the blog entries indicated (sometimes radical) changes in attitudes over time. Some of the blog authors' opinions and argument styles shifted toward commonly held values, goals, and world-views. They also observed increased knowledge and mutual understanding, an increased level of perceived similarity, and generalization from the positive interpersonal contacts between blog authors toward the respective outgroup as a whole. However, these newly developed positive perceptions have often been challenged—and even negated—by real-life events (e.g., acts of violence on either side). Thus, it remains unclear how robust and sustainable such changes in attitudes would be.

Lessons Learned

McKenna et al. (2009) reported great difficulties in recruiting blog authors from the various sides as active participants for their project. They identified three main reasons: Fear, language insecurity (i.e., communicating in English), and unwillingness to interact with the "enemy". Guaranteed anonymity and a neutral server location did not appear to be sufficient for reducing participants' fears associated with potential risks of taking part in an intergroup contact that is not embraced by their respective societies.

Intergroup Contact in Uncontrolled Virtual Spaces

All of the field studies discussed so far were conducted in controlled virtual spaces with conflict resolution and peace-making as their primary goals. However, there are also numerous intergroup interactions taking place on the Internet (e.g., in forums, social networking sites, etc.) that are not initiated by institutions or guided by facilitators. Ruesch (2011) analyzed 770 Facebook groups about the Israeli–Palestinian conflict as an example of naturally-occurring intergroup contacts in an uncontrolled virtual space. Ruesch's (2011) case study revealed a "highly fragmented, polarized virtual sphere with little intergroup contact" (p.11). One of her major observations was the considerable number of extremist groups as opposed to only 14.4% of groups that self-identified as "peace groups" dedicated to intergroup dialogue and peace initiatives. Thus, it appears that Facebook groups are more often used for intragroup mobilization and self-expression than for intergroup contact. Members of the extremist groups tended to express hateful, antagonistic opinions with little tolerance for the outgroup's positions or more moderate views.

This finding is in line with the conclusions from Ellis and Moaz's (2007) study on online arguments between Israelis and Palestinians, which showed that unstructured political online dialogues are unlikely to be successful in terms of reducing intergroup biases. Ruesch's (2011)

observation also provides supporting evidence for the issues raised by Kahn et al. (see Chapter 11), which illustrated the negative potential consequences of social networking sites for intergroup relations. The Internet provides an easy way for prejudiced individuals to find like-minded others and build online hate groups. However, the extremist groups in Ruesch's (2011) case study were found to be less active in their discussion forums than the moderate or neutral groups. Although these results challenge the utopian views of the inherently positive nature of the Internet, Ruesch (2011) acknowledged that the mere fact that peaceful Facebook groups exist shows the potential for its positive use within intergroup contact and conflict resolution.

An Agenda for Further Research on Online Intergroup Contact

In regard to publications, there are few empirical field studies on online intergroup contact available, which makes it difficult to draw reliable conclusions. Despite their higher ecological validity than laboratory experiments using artificially created in/outgroups, field studies have methodological drawbacks. Online intergroup encounters examined in field studies often lack representativeness due to a self-selection bias of participants. Those who are willing to participate in an intergroup contact may not be representative of other members of their group, or only represent a specific subgroup that holds more moderate views. It also remains unclear to what extent the results obtained for a specific group of participants can be generalized to other conflict populations. For instance, ceiling effects are likely to occur if those who are willing to participate in an intergroup contact project already hold relatively positive a priori attitudes toward the outgroup. This tendency is reflected in Pettigrew and Tropp's (2006) meta-analytic study, which involved the factor of whether or not participants had a choice in taking part in an intergroup contact. They found that studies with coerced participation reported higher effect sizes of contact effects than studies in which participation was voluntary. Although voluntary participation has been stated as an important prerequisite for successful intergroup contact (Amir, 1969), the trade-off effect associated with participants' choice and selection bias deserves further research. Future empirical field studies would greatly benefit from evaluating the outcome of an online intergroup contact against a "no contact" control condition. None of the field studies discussed earlier involved a control group design or tested experimental variations, which makes it difficult to interpret their evaluation results.

The evaluation results of the field studies discussed in the current chapter also have to be interpreted with caution since they are often based on observations of individual participants and the authors' subjective experiences. Nonetheless, these studies are important first steps toward a theory-driven design of online intergroup contacts. They illustrate how Allport's (1954) conditions can be implemented in online meetings, and (implicitly or explicitly) address some of the cognitive, affective, and behavioral variables that have been identified as moderators or mediators of contact effects (see Table 12.1 for a summary). In addition, some facilitating factors and issues are emerging from these studies that deserve special consideration in future research: (1) The role of facilitators or instructors as supporting authorities, (2) the issue of topic sensitivity, (3) language barriers as hindrances of intergroup interactions, and (4) the relationship between the duration and impact of an intergroup contact.

Some hindrances of online intergroup contacts could be resolved in the near future through technological advancements. For instance, machine-translation systems are a promising technical solution to overcome the issues associated with language barriers in multicultural online encounters (Aiken et al., 2011). Other factors, such as the choice of an appropriate topic, the design of a collaboration task, and the guidance of participants during a contact project are unlikely to be

Table 12.1 Overview of online intergroup contact projects in conflict regions.

Project title (website)	Participating groups	Contact modes/ media	Conditions	Moderators	Mediators	Evaluation methods	References
Dissolving Boundaries (http://www.dissolvingboundaries.org)	Pupils from Catholic and Protestant schools of Northern Ireland and the Republic of Ireland	Various asynchronous collaboration tools; video-conferencing for synchronous communication	Support of authorities; equal status; cooperation and common goals; acquaintance potential	Emphasis on intergroup rather than interpersonal contact (interactions between paired small groups) Manipulation of group/ personal identity salience by sharing personal or group photographs and self-descriptions	Facilitating *cross-group friendships* through information exchange in an "online student cafe"	Ethnographic study (including questionnaires and interviews) of teachers' and students' perceptions	Austin (2006)
Center for Multiculturalism and Technology (http://tak.macam.ac.il)	Students from religious and secular Arab and Jewish teachers' colleges in Israel	Gradual process from asynchronous textual CMC to synchronous audio/ video communication, and final FtF meetings	Support of authorities; equal status;[a] cooperation and common goals; acquaintance potential	Manipulation of group/ personal identity salience by gradually progressing from visually anonymous textual CMC to real-time video/FtF contact	Encouraging *cooperative behavior* by providing both individual and group grades *Reducing anxiety* through initial contact in asynchronous textual form	Quantitative evaluation of course satisfaction; qualitative analysis of self-reports in blog posts and FtF meetings	Hoter et al. (2009)
Feeling Close from a Distance	Afterschool interaction program between Arab and Jewish teenagers in Israel	Online group discussions (chat, email) with initial and final FtF meetings	Support of authorities; equal status;[a] cooperation and common goals; acquaintance potential	Ingroup meetings in addition to intergroup contact, in which students discussed issues related to their self-identity, ingroup relationships, as well as to the Israeli–Arab conflict	Encouraging *cooperative behavior* through earning "group money" Fostering *self-disclosure* through personal homepages *Increasing knowledge* through weekly quizzes Facilitating trust and *relationship building* through long-term interaction (1 year)	Descriptive analysis of online interactions; amount of "group money" collected (as a measure of cooperation)	Yablon (2007)

Project for Arab–Jewish Dialogue	Israeli-Jews and Palestinian university students	Email exchange with initial and final FtF meetings	Support of authorities; equal status;[a] acquaintance potential	Salience of personal identity through interpersonal dialog; salience of group identity through discussion of religions as group-specific characteristics	*Increasing knowledge* through one-to-one religious dialogs	Quantitative pre–post assessment of knowledge acquisition and attitude change; qualitative evaluation of email messages	Mollov (2006)
Good Neighbors Blog	Bloggers who represent different national, political, and religious groups in the Middle East	Anonymous, public blog posts by invited authors (with comments from visitors), email exchange and FtF meeting among some of the bloggers	Acquaintance potential (at least among bloggers; not including anonymous visitors)	Salience of group identity using flag icons of each member's country Heightened common ingroup identity by using terms like "we," "us," "our" on the informational pages of the website; visitors are invited to "join our neighborhood"	Fostering *self-disclosure* through personal "introduction" posts by the bloggers *Reducing fear* of participation by guaranteeing anonymity and neutral server location	Ethnographic study of blog entries	McKenna et al. (2009)

[a] The condition of "equal status" within the contact situation was given in these projects by pairing students of the same educational level and study background. However, status differences exist in real life (i.e., outside of the organized contact situation) due to considerable power asymmetry between the opposing groups (i.e., discrimination of the Arab minority in Israel, and oppression of people in the Palestinian territories).

resolved solely by technological advancements, but instead require the efforts of trained human facilitators. More research is needed regarding the specific strategies that are effective in moderating online discussions between groups in conflict, and group-specific topics and collaboration tasks. Facilitators and instructors may play a crucial role, especially when sensitive (i.e., conflict-related) issues are discussed in an intergroup encounter (Yabon & Katz, 2001). Both experimental laboratory studies (e.g., Walther, 2009) and the field studies discussed in the current chapter indicate that long-term collaboration tends to result in more positive outcomes. However, research should also focus specifically on how technical solutions and human forces need to be combined for successful outcomes of short-term interventions, as long-term interactions may not always be feasible. There is a great potential in methodological advancements that would further develop empirical research on online intergroup contact.

Methodological Advancements

More sensitive measurements are required in order to effectively evaluate the success of online intergroup contacts. These measurements need to be able to detect rather small changes in each of the three components of intergroup bias (i.e., affective, cognitive, and behavioral). Importantly, they would be designed in ways that do not interfere with the intergroup interaction and attention of participants.

Sensitive Measurements

Hamburger (1994) suggested that in order to assess the impact of intergroup contacts, it is vital to employ very sensitive measurements. Participants are highly unlikely to change the central tendency of their stereotype perceptions immediately after contact, especially when this negative label is very much a cultural component. Instead, the change in the variability of the stereotype, which is likely to be more sensitive to change, should be measured. This is particularly important when two opposing groups have a deeply-rooted history of conflict. In such cases any changes in the attitudes of group members will initially be very slight, and will be missed by any assessment method that is not highly sensitive. Hamburger (1994) points out that if such assessments are not in place, effective intergroup projects may be abandoned for a seemingly lack of progress, despite an actual change; but the mechanism employed to measure such a modification was not sensitive enough to pick it up. This assumption has been supported by a number of intergroup contact studies (Garcia-Marques & Mackie, 2001; Hewstone & Hamberger, 2000; Paolini et al., 2004).

One of the challenges is to develop sensitive measurements that are capable of detecting the smallest changes in the stereotype perception before the individual is even aware of the change. For example, these measurements may relate to physiological indicators of which the participant is unaware. Previous studies have suggested that although implicit and explicit attitudes are related, they operate on different levels of awareness and may therefore lead to different evaluation results of an intergroup contact project (Yabar et al., 2006). Explicit measures collected in questionnaires and interviews may be especially influenced by social desirability factors. Measures of explicit prejudice, such as the Affective Thermometer (Abelson et al., 1982), require participants to indicate their feelings toward an ingroup or outgroup on a "very positive" to "very negative" scale. While evaluation results based on such explicit measurements are likely to be biased, implicit measures may provide a more valid assessment of changes in participants' attitudes beyond their conscious awareness. A variety of tests have been developed and validated that provide implicit measures of prejudice and stereotypes, such as the Implicit Association Test (IAT) (Greenwald et al., 1998). The IAT presents positive and negative attributes that are paired with prototypical names or photographs of ingroup and outgroup members, and measures the speed

and accuracy of associative judgments. There are many versions of the IAT available as computer-based tests[7] for various kinds of social groups, which can be easily administered to assess whether an online intergroup contact reduced participants' implicit bias against their outgroup.

Another methodological issue is concerned with the sensitivity of coding instruments for content analysis of intergroup communications. In this regard we agree with Ellis and Moaz (2007), who stressed the importance of taking cultural differences in communication styles into account when analysing online discussions to avoid a "Western bias" in evaluating results. Moreover, cultural differences also add error variance in the coding and analysis of an interethnic contact dialogue as they are another source of variance in statements. This additional cultural variance could undermine the statistical power of the tests used to evaluate the success of an intergroup contact.

Unobtrusive Measurements

Instead of treating online contact as a substitute for FtF interactions, the advantages brought about by the distinct features of CMC need to be exploited to a greater extent. Researchers should take advantage of the fact that interacting in digital media generates a large amount of data, which can be easily recorded and used for behavior-based analysis. Collecting observational data on social behavior in physical environments often requires invasive and expensive methods, such as the placement of sensors or cameras at various locations, or involvement of human observers. In contrast, online environments make it possible to unobtrusively track and monitor participants' behavior in an extremely precise and automated way that does not interfere with the social interaction.

Kampf (2011) pointed to various unobtrusive measures for the purpose of studying intergroup interactions in virtual worlds and simulation games, as well as on social networking sites. She further stressed the importance of such unobtrusive measurement techniques because they make it possible to study intergroup encounters on a longitudinal basis. Based on such long-term observations of intergroup interactions, behavioral indicators of attitudinal changes may be detected that participants are not necessarily aware of; thus, they would not be captured in self-reports. While participants of an organized intergroup contact may seek social desirability and provide more positive responses in questionnaires and interviews, behavior-based observations are more likely to reveal an objective and valid assessment of contact effects.

Research on Moderator Variables of Contact Effects

Once such sensitive and unobtrusive measurement techniques are in place, they would be extremely useful not only for a post hoc analysis of intergroup behavior, but also as monitoring tools during the contact itself. Ideally, such tools would give an immediate indication of participants' perceptions of the contact, both on the interpersonal and intergroup levels. Online contact organizers would have an awareness of the participants' perceptions, and would be able to intervene in real time. For instance, such interventions could involve a careful adjustment of group versus personal identity salience without disturbing the flow of the positive processes of the contact. By following these two levels of intergroup contacts closely, we would also be able to advance our understanding of the components that affect both levels in either positive or negative ways. Thus, it would be possible to build a range of manipulations of the salience of group identity and personal identity, which can then be employed during a contact situation in ways that are both

[7] https://implicit.harvard.edu/implicit/

subtle and appropriate. These tools would also enable organizers to constantly verify the degree of change taking place on the interpersonal level and the impact on the intergroup level. For instance, in a situation where a positive impression on the interpersonal level has already been achieved, group salience has to be enhanced very gently. These unobtrusive measurements and real-time interventions would help us bring about a generalization from a positive interpersonal contact to the perception of the whole outgroup, which is the aim of an intergroup contact as promoted by the Contact Hypothesis (Hewstone & Brown, 1986).

Research on Mediator Variables of Contact Effects

As affective variables have been identified as the most crucial mediator variables of intergroup contact effects, special consideration is required for future studies of how empathy and perspective-taking can be fostered in online intergroup encounters—either by technological means or human facilitators. Moreover, we argue that a more refined view of affective variables is needed. Prejudice against outgroups may be based on different types of negative affect; that is, different types of emotion, such as anger, fear, guilt, envy, or disgust (Cottrell & Neuberg, 2005; Glick, 2002; Mackie & Smith, 2002). These different types of affect may result in different kinds of discrimination against the outgroup. For example, prejudice based on fear is likely to cause a defensive reaction in order to defend the ingroup status (Neuberg & Cottrell, 2002), whereas prejudice derived from guilt from the distress of being in the presence of the outgroup is likely to lead to avoidance (Glick, 2002). Any attempt to reduce prejudice must tackle the relevant affect. If efforts are mistakenly concentrated on an irrelevant affect, for example, the diminution of outgroup fears, when in fact the relevant affect is guilt, an intergroup contact intervention is unlikely to prove effective. For example, the facilitators (i.e., instructors or supervisors) of an online intergroup encounter can analyze the sources of a dominant affect and ensure that the task instructions or information in a knowledge database about the respective groups addresses these specific negative emotions. Facilitators may also address the specific conflict-related emotions in intragroup meetings in order to make sure that the participants transfer information to the other side in a way that will counteract this process.

Conclusions

The Internet has an enormous potential for providing tools to create effective intergroup contacts that may overcome many of the challenges associated with FtF meetings between rival groups in conflict. Its unique characteristics provide an excellent basis to put the Contact Hypothesis into practice, and to implement the various moderator and mediator variables of contact effects, as demonstrated in the current chapter. There are clearly potential obstacles in putting together an intergroup contact over the Internet (see Chapter 11). While taking the challenges fully into account, it is our belief that online contact is an exceptionally powerful tool that can improve interpersonal and intergroup relations.

However, the mere potential of the Internet is clearly not sufficient to bring about changes in prejudice, stereotypes, and discrimination toward outgroup members. Whether the Internet will in the long-term emerge as an effective tool for intergroup contact and conflict resolution largely depends on what we, as humans, make out of it (Ruesch, 2011). Although the facilitation of intergroup contact through technology (i.e., the Internet) has gained momentum in recent years, the number of empirical field studies that evaluate these efforts is still limited (Kampf, 2011). We strongly encourage further research that moves beyond explaining and understanding intergroup behavior in laboratory settings. A greater focus on fieldwork in conflict regions that makes

use of CMC for intergroup encounters would augment existing theories concerned with intergroup relations, and has the potential to bridge the gap between academic research and policy-makers (Power, 2011). By applying the theoretical models and integrating the findings of empirical studies in contexts outside of the laboratory (where actual intergroup conflict is occurring), social psychological research will have a greater impact on conflict resolution.

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