

# INTERGROUP CONTACT THEORY

Thomas F. Pettigrew

Department of Psychology, University of California, Santa Cruz, California 95064;  
e-mail: pettigr@cats.ucsc.edu

KEY WORDS: affective ties, ingroup reappraisal, group categorization

---

## ABSTRACT

Allport specified four conditions for optimal intergroup contact: equal group status within the situation, common goals, intergroup cooperation and authority support. Varied research supports the hypothesis, but four problems remain. 1. A selection bias limits cross-sectional studies, since prejudiced people avoid intergroup contact. Yet research finds that the positive effects of cross-group friendship are larger than those of the bias. 2. Writers overburden the hypothesis with facilitating, but not essential, conditions. 3. The hypothesis fails to address process. The chapter proposes four processes: learning about the outgroup, changed behavior, affective ties, and ingroup reappraisal. 4. The hypothesis does not specify how the effects generalize to other situations, the outgroup or uninvolved outgroups. Acting sequentially, three strategies enhance generalization—decategorization, salient categorization, and recategorization. Finally, both individual differences and societal norms shape intergroup contact effects. The chapter outlines a longitudinal intergroup contact theory. It distinguishes between essential and facilitating factors, and emphasizes different outcomes for different stages of contact.

---

## CONTENTS

INTRODUCTION .....	66
<i>Allport's Intergroup Contact Hypothesis</i> .....	66
INITIAL EMPIRICAL EVIDENCE .....	67
RECENT EMPIRICAL EVIDENCE .....	68
PROBLEMS .....	69
<i>The Causal Sequence Problem</i> .....	69
<i>Independent Variable Specification Problem</i> .....	69
<i>Unspecified Processes of Change Problem</i> .....	70
<i>The Generalization of Effects Problem</i> .....	70
FOUR PROCESSES OF CHANGE THROUGH INTERGROUP CONTACT .....	70
THREE TYPES OF GENERALIZATION .....	73

A REFORMULATION OF INTERGROUP CONTACT THEORY .....	75
<i>Individual Differences Shape Contact Effects</i> .....	77
<i>Societies Shape Contact Effects</i> .....	78
GENERAL EVALUATIONS OF CONTACT EFFECTS .....	79
SUMMARY .....	80

## INTRODUCTION

Social scientists began to theorize about intergroup contact after World War II (Watson 1947, Williams 1947). Allport's (1954) hypothesis proved the most influential by specifying the critical situational conditions for intergroup contact to reduce prejudice. His hypothesis has received extensive attention both for its rare theoretical status and policy importance (Pettigrew 1971). Oddly, for a discipline that focuses on face-to-face interaction, social psychology rarely decomposes situations into their basic components. Allport's attempt is a prominent exception. And it has proven useful in applied settings, such as in the distinction between racial desegregation and integration in schools (Pettigrew 1975).

### *Allport's Intergroup Contact Hypothesis*

Allport (1954) held that positive effects of intergroup contact occur only in situations marked by four key conditions: equal group status within the situation; common goals; intergroup cooperation; and the support of authorities, law, or custom.

**EQUAL STATUS** Allport stressed equal group status *within* the situation. Most research supports this contention, although "equal status" is difficult to define and has been used in different ways (Cagle 1973, Riordan 1978). It is important that both groups expect and perceive equal status in the situation (Cohen & Lotan 1995, Cohen 1982, Riordan & Ruggiero 1980, Robinson & Preston 1976). Some writers emphasize equal group status *coming into* the situation (Brewer & Kramer 1985). Thus, Jackman & Crane (1986) show negative effects from contact with outgroup members of lower status. Yet Patchen (1982), in research on racially mixed high schools, found this to be less important than equal status within the situation. The meta-analytic results of Mullen et al (1992) clarify these disparities. They noted that ingroup bias increased with relative status in laboratory groups but decreased in field research with real groups.

**COMMON GOALS** Prejudice reduction through contact requires an active, goal-oriented effort. Athletic teams furnish a prime example (Chu & Griffey 1985, Miracle 1981, Patchen 1982). In striving to win, interracial teams need each other to achieve their goal. Goal attainment, such as a winning season, furthers this process.

**INTERGROUP COOPERATION** Attainment of common goals must be an interdependent effort without intergroup competition (Bettencourt et al 1992). Sherif (1966) demonstrated this principle vividly in his Robbers' Cave field study. Intergroup cooperation in schools provides the strongest evidence (Brewer & Miller 1984, Desforges et al 1991, Johnson et al 1984, Schofield 1989, Slavin 1983, Slavin & Madden 1979). Drawing on this thinking, Aronson's jigsaw classroom technique structures classrooms so that students strive cooperatively for common goals (Aronson & Patnoe 1997). This technique has led to positive results for a variety of children: Australians (Walker & Crogan 1997), Germans (Eppler & Huber 1990), Japanese (Araragi 1983), and Mexican Americans (Aronson & Gonzalez 1988).

**SUPPORT OF AUTHORITIES, LAW, OR CUSTOM** The final condition concerns the contact's auspices. With explicit social sanction, intergroup contact is more readily accepted and has more positive effects. Authority support establishes norms of acceptance. Field research underscores its importance in military (Landis et al 1984), business (Morrison & Herlihy 1992), and religious (Parker 1968) institutions.

## INITIAL EMPIRICAL EVIDENCE

Allport (1954) derived his hypothesis from early field research. An Alabama study revealed negative effects when all four conditions were violated (Sims & Patrick 1936). White college students from the North increased on average in antiblack prejudice with each year spent in the South.

Other studies investigated optimal conditions. After desegregation of the Merchant Marine in 1948, interdependency developed on ships and in the maritime union. The more voyages the white seamen took with blacks under these conditions, the more positive their racial attitudes became (Brophy 1946). Similarly, white police in Philadelphia who had worked with black colleagues had fewer objections to black police joining their districts, teaming with a black partner, and taking orders from qualified black officers (Kephart 1957).

Studies of public housing provided robust evidence. Deutsch & Collins (1951) compared racially desegregated housing projects in New York City with similar but segregated projects in Newark. Sharp differences emerged. Desegregated white housewives held their black neighbors in higher esteem and favored interracial housing more (75% to 25%). When asked to name black faults, they listed such personal issues as feelings of inferiority. Segregated white women voiced stereotypes such as "rowdy" and "dangerous."

Later public housing research extended these findings (Wilner et al 1955). Favorable racial attitudes developed among only one third of the white tenants who just had casual greetings with their black neighbors. But half who entered

into conversations and three fourths who had multiple interactions developed positive racial views. Social norms are crucial. In the desegregated projects, whites expected approval from their neighbors for their friendly interracial behavior. In the segregated projects, they feared social ostracism from other whites for such behavior. "Contact and perceived social climate tend to reinforce each other when their influence operates in the same direction, and to cancel each other out when their influence works in the opposite direction" (Wilner et al 1955, p. 106).

## RECENT EMPIRICAL EVIDENCE

Allport's formulation continues to receive support across a variety of situations, groups, and societies. Some research, conducted in situations that do not provide key conditions, uncovers negative effects. Poorly arranged entry of black workers into London's public transportation, for example, led to hostility by white workers (Brooks 1975). Interracial housing research sometimes reveals few effects on racial attitudes (Bradburn et al 1971, Meer & Freedman 1966, Zuel & Humphrey 1971). These findings support Allport, although some writers mistakenly view their results as falsifying his hypothesis. The erroneous notion that the hypothesis holds that intergroup contact "will of itself produce better relations between...groups" still persists (McGarty & de la Haye 1997, p. 155).

Most studies report positive contact effects, even in situations lacking key conditions. Although it concentrates on school and housing situations (Ford 1986), the contact literature ranges from Chinese students in the United States (Chang 1973) and interracial workers in South Africa (Bornman & Mynhardt 1991) to German and Turkish school children (Wagner et al 1989) and Australians (McKay & Pitman 1993) and Americans (Riordan 1987) getting to know Southeast Asian immigrants. It involves attitudes toward a wide range of targets beyond ethnic groups—the elderly (Caspi 1984, Drew 1988), homosexuals (Eskilson 1995, Herek & Capitanio 1996), the mentally ill (Desforges et al 1991), disabled persons (Anderson 1995), victims of AIDS (Werth & Lord 1992), and even computer programmers (McGinnis 1990). In addition, diverse research methods yield supporting results—field (Meer & Freedman 1966, Ohm 1988), archival (Fine 1979), survey (Jackman & Crane 1986; Pettigrew 1997a,b; Robinson 1980; Sigelman & Welch 1993), and laboratory (Cook 1978, 1984; Desforges et al 1991).

Research with African Americans is also supportive. Works (1961) found that both black wives and husbands in a desegregated housing project felt more positively about their white neighbors than those in a segregated project. With longitudinal data, Smith (1994) found contact meeting Allport's conditions decreased prejudice among both black and white neighbors, though there were

group differences in contact effects. In a national probability sample, interracial friendships proved to be a strong predictor of blacks' racial attitudes (Ellison & Powers 1994, Powers & Ellison 1995).

These varied investigations broaden the application of the hypothesis. They also raise the question: Why does intergroup contact usually have positive effects even when the situation does not attain all of Allport's conditions? In addition, they typically do not address the basic problems with the original contact hypothesis—problems to which I now turn.

## PROBLEMS

### *The Causal Sequence Problem*

Selection bias limits the interpretation of many cross-sectional studies of contact. Instead of optimal contact reducing prejudice, the opposite causal sequence could be operating. Prejudiced people may avoid contact with outgroups. Three methods overcome this limitation. 1. Find an intergroup situation that severely limits choice to participate. In the Merchant Marine, police, and public-housing research, little choice was available to participants. 2. Statistical methods borrowed from econometrics allow researchers to compare the reciprocal paths (optimal contact lowers prejudice and prejudice decreases contact) with cross-sectional data. Powers & Ellison (1995) use endogenous switching regression models. Later I review the use of a nonrecursive structural equation model. 3. Although not without problems (Clogg 1986), longitudinal designs are best (Pettigrew 1996). Yet such research is rare in intergroup research; Sherif's (1966) study is a famous exception. Indeed, the major findings of the Robbers' Cave study would not have emerged without its longitudinal design (Pettigrew 1991a). The initial intergroup contact situations had little effect. Only after repeated treatments did the positive results cumulate.

### *Independent Variable Specification Problem*

Allport's hypothesis risks being an open-ended laundry list of conditions—ever expandable and thus eluding falsification (Pettigrew 1986, Stephan 1987). Researchers keep advancing new situational factors for optimal contact. From Germany, Wagner & Machleit (1986) concluded that positive effects require a common language, voluntary contact, and a prosperous economy. From Israel, Ben-Ari & Amir (1986) held that the group's initial views of one another cannot be too negative. From the United States, Cook (1978) insisted that stereotype disconfirmation is crucial.

This growing list of limiting conditions threatens to remove all interest from the hypothesis. Too many factors would exclude most intergroup situations. The hypothesis would rarely predict positive results from contact, al-

though research typically finds positive results. The problem is that writers often confuse *facilitating* with *essential* conditions. Many factors suggested for optimal contact may not be essential but relate to the underlying mediating processes. This point leads to the third problem.

### *Unspecified Processes of Change Problem*

The original hypothesis says nothing about the *processes* by which contact changes attitudes and behavior. It predicts only *when* contact will lead to positive change, not *how* and *why* the change occurs. A broader theory of intergroup contact requires an explicit specification of the processes involved, which I provide below.

### *The Generalization of Effects Problem*

Nor does the hypothesis specify how the effects generalize beyond the immediate situation. Such generalization is pivotal if intergroup contact is to have broad and lasting consequences. There are three distinct types of generalization: *Situational*—do the changes generalize across situations? *Individual to group*—do the changes generalize from the specific outgroup members with whom there is contact to the outgroup? *To uninvolved outgroups*—do the changes toward the outgroup generalize to other outgroups not involved in the contact? (For analyses of the generalization of different effects, see Brewer & Miller 1988 and Hewstone 1996.) Thus, a broader theory of intergroup contact also requires explicit predictions of how the contact effects will generalize, another task I undertake below.

## FOUR PROCESSES OF CHANGE THROUGH INTERGROUP CONTACT

Recent work suggests that four interrelated processes operate through contact and mediate attitude change: learning about the outgroup, changing behavior, generating affective ties, and ingroup reappraisal.

**LEARNING ABOUT THE OUTGROUP** Initial theory held this process to be the major way that intergroup contact has effects. When new learning corrects negative views of the outgroup, contact should reduce prejudice. Support for such a benign process is available, though plausible rival explanations remain. Consider Jeffries & Ransford's (1969) findings on middle-class white reactions to the Watts race riot in Los Angeles. Those who had prior interracial contact were significantly less fearful of blacks, less punitive, and less likely to view the riot as caused by outside agitators.

Yet cognitive research has uncovered a host of mechanisms that limit learning material that counters our attitudes and stereotypes. Writing from this per-

spective, Rothbart & John (1985) conclude that disconfirming evidence alters stereotypes only if (a) the outgroup's behavior is starkly inconsistent with their stereotype and strongly associated with their label, (b) occurs often and in many situations, and (c) the outgroup members are seen as typical. These restrictions eliminate most intergroup contact situations.

Nonetheless, new information about an outgroup can improve attitudes. Stephan & Stephan (1984) found that contact allowed Anglo students to learn more about Chicano culture that in turn led to more positive attitudes toward Chicano classmates. "Ignorance," they assert, "promotes prejudice..." (Stephan & Stephan 1984, p. 238). Other studies with the cultural assimilator technique of Triandis (1994) provide further evidence that learning about an outgroup can improve intergroup attitudes and stereotypes (Gardiner 1972, Weldon et al 1975).

Still, the dominant consensus of cognitive analyses denies the likelihood of positive effects from most contact situations. Yet the research literature suggests that positive effects are more common than either the contact hypothesis or cognitive analyses predict. Why the contradiction? The basic reason is that learning about the outgroup is only one of several processes involved. Cognitive analyses are not so much wrong as they are incomplete. Other processes are also involved.

**CHANGING BEHAVIOR** Optimal intergroup contact acts as a benign form of behavior modification. Behavior change is often the precursor of attitude change. New situations require conforming to new expectations. If these expectations include acceptance of outgroup members, this behavior has the potential to produce attitude change. We can resolve our dissonance between old prejudices and new behavior by revising our attitudes (Aronson & Patnoe 1997). This behavioral process also benefits from repeated contact, preferably in varied settings (Jackman & Crane 1986). Repetition makes intergroup encounters comfortable and "right." Repetition itself leads to liking (Zajonc 1968). Appropriate rewards for the new behavior enhances the positive effects further.

**GENERATING AFFECTIVE TIES** Emotion is critical in intergroup contact. Anxiety is common in initial encounters between groups, and it can spark negative reactions (Islam & Hewstone 1993; Stephan 1992; Stephan & Stephan 1985, 1989, 1992; Wilder 1993a,b). Such anxious, negative encounters can occur even without intergroup prejudice (Devine et al 1996). Continued contact generally reduces anxiety, though bad experiences can increase it.

Positive emotions aroused by optimal contact also can mediate intergroup contact effects. Empathy plays a role here. Reich & Purbhoo (1975) found that school contact improved cross-group role-taking ability among both majority and minority Canadian students. And empathy for a stigmatized outgroup



member—a young woman with AIDS, a homeless man or a convicted murderer—can improve attitudes toward the whole outgroup (Batson et al 1997).

Positive emotions aroused by intergroup friendship also can be pivotal. The Oliners (1988) found that non-Jews who risked their lives to save Jews during World War II reported more close friendships as children with other groups. Similarly, Rippl (1995) found friendship to be decisive in shaping contact effects between West and East Germans. These findings support earlier claims by Amir (1976) concerning the importance of intimacy in intergroup contact.

The most extensive data on intergroup friendship derive from 1988 surveys in Western Europe (Pettigrew 1997a,b; Pettigrew & Meertens 1995). (For survey details, see Reif & Melish 1991; for a different, though consistent, analysis of these data, see Hamberger & Hewstone 1997). Over 3800 majority group respondents in seven probability samples of France, Great Britain, the Netherlands, and West Germany were asked their attitudes toward major minority groups in their country and whether they had friends of another nationality, race, culture, religion, or social class. In all samples, Europeans with outgroup friends scored significantly lower on five prejudice measures even after controlling for seven variables. The largest effect occurred for a two-item measure of affective prejudice. Those with intergroup friends significantly more often reported having felt sympathy and admiration for the outgroup. Few studies in the contact literature have used affective dependent variables. When they have, similar results emerge (Wright et al 1997).

Figure 1 compares the paths between intergroup friends and affective prejudice. Note that living in an intergroup neighborhood makes it more likely that a European will have an outgroup friend (+.356). There is no direct relationship, however, between mixed neighborhoods and affective prejudice. This allows a test of the paths between friendship and affective prejudice (Bollen 1989, Heist 1975). As in other research (Herek & Capitanio 1996), the prejudiced avoid intergroup contact (−.137). But the path from friendship to reduced affective prejudice is significantly stronger (−.210), a finding consistent with that of Powers & Ellison (1995). In short, like prejudice, contact involves both cognition and affect.

**INGROUP REAPPRAISAL** Optimal intergroup contact provides insight about ingroups as well as outgroups. Ingroup norms and customs turn out not to be the only ways to manage the social world. This new perspective can reshape your view of your ingroup and lead to a less provincial view of outgroups in general (“deprovincialization”). In the European surveys, outgroup friendship related to significantly less “pride” in nationality even after education, age, and political conservatism are controlled (Pettigrew 1997c). (A comparable



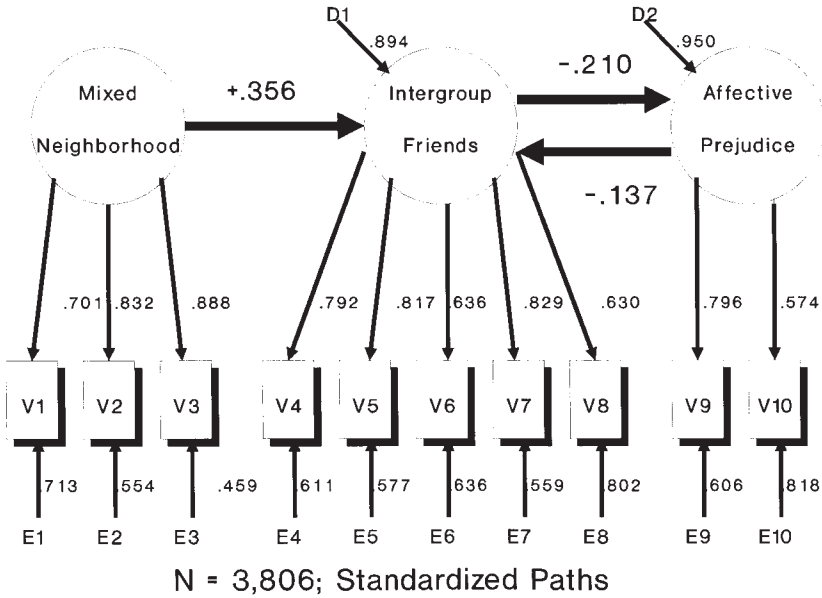


Figure 1 Friends—prejudice model

analysis to Figure 1 reveals similar results with a significant path from outgroup friends to less national pride.)

Part of this process involves having less contact with the ingroup as a result of more contact with the outgroup. Wilder & Thompson (1980) covaried contact with the ingroup and outgroup in a laboratory study. While it had no impact on ingroup ratings, less ingroup contact led to less bias toward the outgroup. This finding is consistent with meta-analytic results that show ingroup bias is positively related with ingroup salience (Mullen et al 1992).

### THREE TYPES OF GENERALIZATION

**GENERALIZATION ACROSS SITUATIONS** World War II research showed major improvements in white attitudes toward black soldiers after combat together (Stouffer et al 1949). Yet whites continued to favor racially separate post exchanges (military stores). Other early studies also demonstrated limited generalization across situations (Biesanz & Smith 1951, Deutsch & Collins 1951, Harding & Hogrefe 1952, Minard 1952, Reitzes 1953, Saenger & Gilbert 1950).

Recall that the first cooperative encounters of the Robbers' Cave study did not generalize either. Only the cumulative effect of repeated optimal situations

altered the attitudes of the rival groups. Similarly, only after the US Army offered many types of optimal interracial situations could it conclude that its program of racial desegregation “works” (US Department of Defense 1955, Moscos & Butler 1996).

GENERALIZATION FROM THE OUTGROUP INDIVIDUAL TO THE OUTGROUP Brown & Turner (1981) questioned the generalization of effects between *interpersonal* and *intergroup* phenomena. They doubted whether positive effects from getting to know an outgroup member (interpersonal) could affect attitudes about the outgroup (intergroup).

Following this reasoning, Hewstone & Brown (1986) theorized that contact effects generalize to the outgroup only when group membership is salient. When group saliency is low, the situation is interpersonal and no intergroup effects should result. Only when the interactants view one another as group representatives does the contact become an intergroup event. Research that supports this *salient categorization strategy* shows stereotype change generalizes best to the intergroup level when the individuals involved are typical group members (Johnston & Hewstone 1992, Vivian et al 1995, Weber & Crocker 1983, Wilder 1984). As typical members, their group memberships were more salient.

This poses a problem. Typical members of real groups are different in many ways, but people with similar interests and status seek each other out—the similarity principle (Byrne 1971). People from different groups who have contact, then, are more likely to share similar interests and values. And outgroup members with similar interests to the ingroup often will not typify their group or make group membership salient. Hence, Brewer & Miller (1984) advocate a *decategorization strategy*. The opposite of salient categorization, it holds that intergroup contact is most effective when group saliency is low.

So, given real differences between groups, those most likely to have intergroup contact are atypical of their groups. Yet contact effects generalize best when the participants are typical group members. Thus, people most likely to engage in intergroup contact are the least likely to evoke changes that generalize to their groups.

How, then, can effective contact take place? First, the similarity principle is not the whole story. Durkheim (1960) pointed out that similarity (mechanical solidarity) is only one form of social bond. Society could not exist without bonds across reciprocal roles—parents and children, clerks and customers. So differences (organic solidarity) also are important for social bonds. These differences, widespread in modern society, guarantee that contact takes place between dissimilar people. Further, under some conditions, optimal contact leads to positive changes that generalize even when atypical members are involved (Hamburger 1994, Werth & Lord 1992).

Second, the time sequence is crucial. Conflicting as they seem, both strategies are possible if they occur sequentially. Diminished saliency of group categories can be important when intergroup contact is initiated. Once established, salient group categorization is required for the effects to generalize to the intergroup level (Van Oudenhoven et al 1996).

In time, the Common Ingroup Identity Model emphasizes that *recategorization* becomes possible (Anastasio et al 1997; Gaertner et al 1993, 1994). After extended contact, people can begin to think of themselves in a larger group perspective. Recategorization adopts an inclusive category that highlights similarities among the interactants and obscures the “we” and “they” boundary (Perdue et al 1990). Note, however, that recategorization is the final state many interacting groups never reach. The progression through these three stages of categorization is not automatic, and recategorization into a single group often will not be attained.

Wright and his colleagues propose a further form of generalization involving friendship. Using both questionnaire and experimental methods, they show that even knowledge of an ingroup member’s friendship with an outgroup member relates to more positive attitudes toward the outgroup (Wright et al 1997). Such an “extended contact effect” does not require intergroup friendship for the perceiver.

GENERALIZATION FROM THE IMMEDIATE OUTGROUP TO OTHER OUTGROUPS  
This higher-order form of generalization presupposes the other forms and is seldom studied because many regard it as highly unlikely (but see Reich & Purbhoo 1975, Weigert 1976). Nonetheless, the European surveys show that such generalization is possible. Having an ingroup friend related to greater acceptance of minorities of many types (Pettigrew 1997a,b). The 3800 respondents rated how favorable they were toward eight outgroups, many of whom were not in their country. In all samples, significant relationships emerged even after seven variables were controlled. For each outgroup, those with intergroup friends were significantly more positive in their views. And a test like that of Figure 1 showed that the path from friendship to reduced prejudice is significantly stronger than the prejudice to less friendship path. These findings challenge Rose’s (1981) assertion that intimate relationships cannot generalize to different persons and groups.

## A REFORMULATION OF INTERGROUP CONTACT THEORY

These considerations provide direction for a reformulation of Allport’s hypothesis. At least four processes, not one, are involved, and these processes may well overlap and interact in complex ways. Intergroup friendship is potent

because it potentially invokes all four mediating processes. This suggests that constructive contact relates more closely to long-term close relationships than to initial acquaintanceship—a dramatic shift for the intergroup contact research literature.

Optimal intergroup contact requires time for cross-group friendships to develop. Past work has focused chiefly on short-term intergroup contact—the very condition that Sherif's (1966) Robbers' Cave field experiment found minimally effective. Once we adopt a long-term perspective that allows cross-group friendship to develop and the full decategorization, salient categorization, and recategorization sequence to unfold, we can expect striking results. Such a revised perspective explains why extended intergroup contact often has more positive results than either the contact hypothesis or cognitive analyses predict.

The power of cross-group friendship to reduce prejudice and generalize to other outgroups demands a fifth condition for the contact hypothesis: *The contact situation must provide the participants with the opportunity to become friends*. Such opportunity implies close interaction that would make self-disclosure and other friendship-developing mechanisms possible. It also implies the potential for extensive and repeated contact in a variety of social contexts. Allport (1954) alluded to this point when he favored intimate to trivial contact; Cook (1962) called it "acquaintance potential." These European results suggest that "friendship potential" is an essential, not merely facilitating, condition for positive intergroup contact effects that generalize. Further, they suggest that Allport's conditions are important in part because they provide the setting that encourages intergroup friendship.

Instead of a list of conditions, then, I propose a longitudinal model as schematically outlined in Figure 2. Note first that this version of intergroup contact theory involves the meso-level of analysis. Yet it is placed within the micro- and macrolevel contexts of (*B*) the participants' experiences and characteristics as well as the larger societal setting of the situation. The basic features of this reformulated version consist of (*A*) the essential and facilitating situational factors and (*C, D, E*) the time dimension. Each of these features involves details not shown in Figure 2.

(*A*) From the previous discussion, the theory posits Allport's four conditions and friendship potential as essential situational factors for positive intergroup outcomes—less negative stereotyping, prejudice, and discrimination. An array of additional factors, such as equivalent group status outside the situation, act as facilitating factors for such effects. Complicating the picture further, such factors might prove important at different stages of the intergroup contact.

(*C, D, E*) in Figure 2 designate only three stages. As diagrammed, this time dimension is obviously oversimplified. The stages will overlap, and at any point the groups can break off contact. This heuristic, however, following the

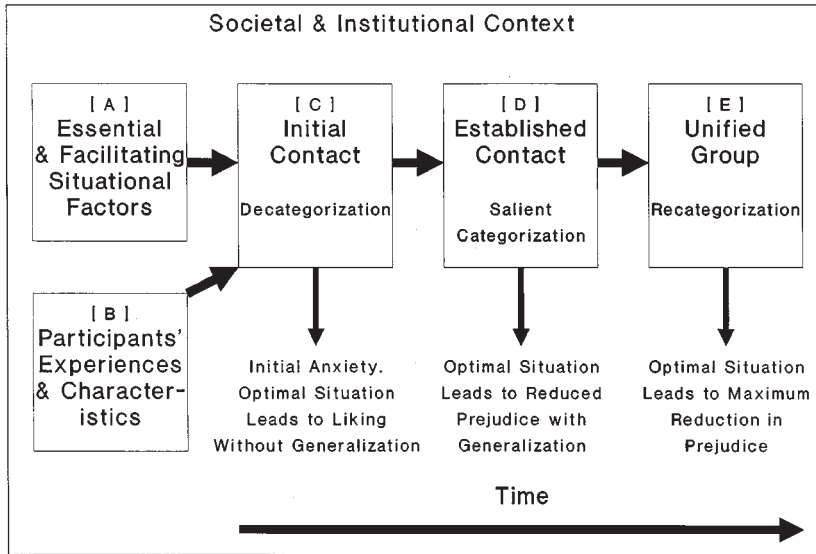


Figure 2 Reformulated contact theory.

three research traditions on group categorization, allows the theory to predict different outcomes at different stages.

We need research on several points. While the recategorization of the unified group, if attained, appears to yield the maximum in prejudice reduction, we have little data on how this effect generalizes. Further, we must understand how the four contact processes of change are activated and become important at each stage. The thrust of the time dimension is to underline the need for longitudinal research on intergroup contact. Though rare in this literature, this reformulated theory holds that such research designs are necessary for further progress.

Conceptualizing intergroup contact as a meso-level, situational phenomenon links it to both the microindividual and macrosocietal levels of analysis (Pettigrew 1991b, 1996). Research has shown how important these cross-level links can be.

### *Individual Differences Shape Contact Effects*

Prior attitudes and experiences influence whether people seek or avoid intergroup contact, and what the effects of the contact will be. Figure 1 showed that prejudiced Europeans are less likely to have outgroup friends. Other characteristics also deter contact. Value differences shaped differential readiness for in-

tergroup contact among both Israeli Arabs and Jews (Sagiv & Schwartz 1995). Cook (1984) found large individual differences in the effects of even optimal contact; 40% of his experimental subjects, compared with 12% of controls, evinced sweeping attitude changes. Yet other experimental subjects averaged little change.

High intergroup anxiety and threat also can impede both contact and its positive effects (Islam & Hewstone 1993; Stephan 1992; Stephan & Stephan 1985, 1989, 1992, 1996; Wilder 1993a,b; Wilder & Shapiro 1989). Such emotions often derive from no prior experience with the outgroup. Black and white high school students who had the most favorable earlier interracial experience were more positive toward the other race (Patchen 1982). Thus, intergroup contact and its effects are cumulative—we live what we learn. Braddock (1989) found that black graduates of segregated high schools were significantly less likely later to work with whites. Since jobs with white co-workers have better pay and promotions, this result helps to explain why black graduates of interracial schools do better in later life than those from segregated schools (Braddock 1989, Braddock et al 1984, Braddock & McPartland 1987).

### *Societies Shape Contact Effects*

Situations are embedded in social institutions and societies. Thus, institutional and societal norms structure the form and effects of contact situations (Kinloch 1981, 1991). Consider intergroup strife in Northern Ireland and Quebec. These societal contexts severely limit all forms of intergroup contact. Moreover, they render the contact that does occur less than optimal. Implicit in Allport's equal-status condition is equivalent group power in the situation. This is difficult to achieve when a struggle over power fuels the larger intergroup conflict.

The meager equal-status contact between groups that takes place in such societies is typically subversive in character. In Northern Ireland, neighboring Catholic and Protestant farmers cooperate in their agricultural pursuits but remain apart in other activities (Harris 1972, Kirk 1993). Even conversations are circumscribed. In both Quebec and Northern Ireland, intergroup interaction focuses on local issues and avoids divisive group concerns (Taylor et al 1986, Trew 1986). It is at best constrained discussion, not the easy banter of friends.

Russell (1961) showed how societal norms of discrimination poison intergroup contact. She tested a racially mixed neighborhood at the height of South Africa's *Apartheid* policy of intense racial segregation. This rare area had 50% whites, 20% Coloureds, and 30% Indians. Even here, modest improvements emerged in white attitudes toward their neighbors of color. Yet the larger social context constrained these effects. The improved attitudes did not general-

ize to Coloureds and Indians as groups, and whites were defensive about their interracial contact. Some avoided it, and the exchange that took place was not reciprocal. Whites received neighborly aid and entered nonwhite homes far more than the reverse. Many whites rationalized their interracial behavior with the exploitative nature of the relationship. All were aware that the then stern South African norms punished equal-status interracial contact. Such norms erode true neighborliness.

Alternatively, when a society embraces intergroup harmony, equal-status contact between groups is no longer subversive. Normative support makes attainment of other optimal conditions far easier.

## GENERAL EVALUATIONS OF CONTACT EFFECTS

Consider this reformulation in light of two efforts to test the chief contentions of contact theory, one with surveys and the other experimental.

In meta-analytic fashion, the European surveys tested the link between intergroup friendship and five different measures of prejudice across seven samples (Pettigrew 1997a). Weighting for sample size, the average correlations ranged between  $-.14$  and  $-.32$  without controls. With controls for seven variables and weighting for sample size, the average correlations ranged between  $-.10$  and  $-.25$ . These results are consistent with the preliminary findings of a meta-analysis of the full contact literature now under way (Pettigrew et al 1998).

Cook (1984) provided the most extensive laboratory test of the intergroup contact hypothesis. He set up an ideal interracial situation featuring equal status, a stereotype-disconfirming minority member, an interdependent task, task success, high friendship potential, and equalitarian social norms. Highly prejudiced white subjects worked with two partners who were confederates, one black and one white. They operated an imaginary railroad system over 40 sessions, sharing successes and failures but eventually winning bonus money. To enhance generalization, the black confederate told of a personal experience with racial discrimination after rapport had developed. Later, the white confederate disapproved of the discriminatory practice.

Cook recorded major changes. Subjects reported highly favorable opinions of their black partner, and these views generalized. In another context, the subjects evinced on average more positive racial views toward African Americans than controls. Observe the time sequence. First, the prejudiced subjects found the stereotype-disconfirming black as similar and grew to like her in the optimal situation. Next the black confederate made race salient by telling of past discrimination. Then the white confederate emphasized the link between their friend's bad treatment and racial discrimination.



## SUMMARY

Allport's hypothesis specified four conditions for optimal contact. The situation must allow equal group status within the situation, common goals, intergroup cooperation, and authority support. Recent research adds another: The contact situation must have "friendship potential."

Varied research supports the hypothesis—from field and archival studies to national surveys and laboratory experiments. However, cross-sectional studies suffer from a selection bias. Prejudiced people avoid intergroup contact, so the causal link between contact and prejudice is two-way. Yet those studies that have tested both paths find that the positive effects of cross-group friendship are larger than those of the bias.

Three additional problems limit the contact hypothesis. 1. Writers have overburdened the hypothesis with too many facilitating, but not essential, conditions. 2. The hypothesis does not address process. It predicts only when positive contact effects will occur, not how and why. The chapter details four interrelated processes underlying contact effects: learning about the outgroup, changing behavior, generating affective ties, and ingroup reappraisal. Intergroup friendship has strong positive effects, because it potentially entails all four processes.

3. The hypothesis does not specify how the effects generalize to other situations, the entire outgroup or uninvolved outgroups. Many effects do not generalize beyond the immediate contact situation and participants. There are three strategies to enhance generalization: decategorization, salient group categorization, and recategorization. Thinking of these strategies acting sequentially removes the apparent contradiction between them. Since similarity attracts, initial stages of intergroup contact benefit from not making group membership salient. Later, as anxiety and threat subside, group membership must become salient to maximize the generalization of positive effects beyond the immediate situation. Then recategorization becomes possible if the participants adopt an all-encompassing group identification.

Both individual differences and societal norms shape intergroup contact effects. The deeply prejudiced both avoid intergroup contact and resist positive effects from it. Societies suffering intergroup conflict both restrict and undercut intergroup contact. From these considerations, the chapter advances a longitudinal reformulation of the intergroup contact hypothesis. Within the contexts of the participants' characteristics and the situation's societal setting, the chapter outlines a meso-level theory with two key features. It distinguishes between essential and facilitating situational factors. And it emphasizes the time dimension with different outcomes predicted for different stages of intergroup contact.

## ACKNOWLEDGMENTS

I wish to thank my research colleagues over the past decade, James Jackson of the University of Michigan and Roel W. Meertens of the University of Amsterdam, for their invaluable collaboration with the European survey research. I also greatly appreciate the helpful comments on earlier drafts of this chapter by John Darley, Susan Fiske, Miles Hewstone, Marylee Taylor, and Linda Tropp.

Visit the *Annual Reviews* home page at  
<http://www.AnnualReviews.org>.

*Literature Cited*

- Allport GW. 1954. *The Nature of Prejudice*. Reading, MA: Addison-Wesley. 537 pp.
- Amir Y. 1976. The role of intergroup contact in change of prejudice and race relations. In *Towards the Elimination of Racism*, ed. PA Katz, pp. 245–80. New York: Pergamon. 444 pp.
- Anastasio P, Bachman B, Gaertner S, Dovidio J. 1997. Categorization, recategorization and common ingroup identity. See Spears et al 1997, pp. 236–56
- Anderson LS. 1995. *Outdoor adventure recreation and social integration: a social-psychological perspective*. PhD thesis. Univ. Minn., Minneapolis, MN. 271 pp.
- Araragi C. 1983. The effect of the jigsaw learning method on children's academic performance and learning attitude. *Jpn. J. Educ. Psychol.* 31:102–12
- Aronson E, Gonzalez A. 1988. Desegregation, jigsaw, and the Mexican-American experience. See Katz & Taylor 1988, pp. 301–14
- Aronson E, Patnoe S. 1997. *The Jigsaw Classroom*. New York: Longman. 150 pp. 2nd ed.
- Batson CD, Polycarpou MP, Harmon-Jones E, Imhoff HJ, Mitchener EC, et al. 1997. Empathy and attitudes: can feeling for a member of a stigmatized group improve feelings toward the group? *J. Pers. Soc. Psychol.* 72:105–18
- Ben-Ari R, Amir Y. 1986. Contact between Arab and Jewish youth in Israel: reality and potential. See Hewstone & Brown 1986, pp. 45–58
- Bettencourt BA, Brewer MB, Rogers-Croak MR, Miller N. 1992. Cooperation and the reduction of intergroup bias: the role of reward structure and social orientation. *J. Exp. Soc. Psychol.* 28:301–19
- Biesanz J, Smith LM. 1951. Race relations of Panama and the Canal Zone. *Am. J. Sociol.* 57:7–14
- Bollen KA. 1989. *Structural Equations with Latent Variables*. New York: Wiley. 514 pp.
- Bornman E, Mynhardt JC. 1991. Social identification and intergroup contact in South Africa with specific reference to the work situation. *Genet. Soc. Gen. Psychol. Monogr.* 117:437–62
- Bradburn N, Sudman S, Gockel GL. 1971. *Side by Side: Integrated Neighborhoods in America*. Chicago: Quadrangle Books. 209 pp.
- Braddock JH Jr. 1989. Social psychological processes that perpetuate racial segregation: the relationship between school and employment desegregation. *J. Black Stud.* 19:267–89
- Braddock JH Jr, Crain RL, McPartland JM. 1984. A long-term view of racial desegregation: some recent studies of graduates as adults. *Phi Delta Kappan* 66:259–64
- Braddock JH Jr, McPartland JM. 1987. How minorities continue to be excluded from equal employment opportunities: research on labor market and institutional barriers. *J. Soc. Issues* 43:5–39
- Brewer MB, Kramer RM. 1985. The psychology of intergroup attitudes and behavior. *Annu. Rev. Psychol.* 36:219–43
- Brewer MB, Miller N. 1984. Beyond the contact hypothesis: theoretical perspectives on desegregation. See Miller & Brewer 1984, pp. 281–302
- Brewer MB, Miller N. 1988. Contact and co-

- operation: when do they work? See Katz & Taylor 1988, pp. 315–26
- Brooks D. 1975. *Race and Labour in London Transport*. London: Oxford Univ. Press. 389 pp.
- Brophy IN. 1946. The luxury of anti-Negro prejudice. *Public Opin. Q.* 9:456–66
- Brown RJ, Turner JC. 1981. Interpersonal and intergroup behavior. In *Intergroup Behavior*, ed. J Turner, H Giles, pp. 33–65. Chicago, IL: Univ. Chicago Press. 277 pp.
- Byrne D. 1971. *The Attraction Paradigm*. New York: Academic. 474 pp.
- Cagle LT. 1973. Interracial housing: a reassessment of the equal-status contact hypothesis. *Sociol. Soc. Res.* 57:342–55
- Caspi A. 1984. Contact hypothesis and interage attitudes: a field study of cross-age contact *Soc. Psychol. Q.* 47:74–80
- Chang H. 1973. Attitudes of Chinese students in the United States. *Sociol. Soc. Res.* 58: 66–77
- Chu D, Griffey D. 1985. The contact theory of racial integration: the case of sport. *Sociol. Sport J.* 2:323–33
- Clogg CC. 1986. Invoked by RATE. *Am. J. Sociol.* 92:696–706
- Cohen EG. 1982. Expectation states and interracial interaction in school settings. *Annu. Rev. Sociol.* 8:209–35
- Cohen EG, Lotan RA. 1995. Producing equal-status interaction in the heterogeneous classroom. *Am. Educ. Res. J.* 32:99–120
- Cook SW. 1962. The systematic analysis of socially significant events: a strategy for social research. *J. Soc. Issues* 18:66–84
- Cook SW. 1978. Interpersonal and attitudinal outcomes in cooperating interracial groups. *J. Res. Dev. Educ.* 12:97–113
- Cook SW. 1984. Cooperative interaction in multiethnic contexts. See Miller & Brewer 1984, pp. 155–85
- Desforges DM, Lord CG, Ramsey SL, Mason JA, Van Leeuwen MD, et al. 1991. Effects of structured cooperative contact on changing negative attitudes toward stigmatized social groups. *J. Pers. Soc. Psychol.* 60:531–44
- Deutsch M, Collins M. 1951. *Interracial Housing: A Psychological Evaluation of a Social Experiment*. Minneapolis: Univ. Minn. Press. 173 pp.
- Devine PG, Evett SR, Vasquez-Suson KA. 1996. Exploring the interpersonal dynamics of intergroup contact. In *Handbook of Motivation and Cognition: The Interpersonal Context*, ed. RM Sorrentino, ET Higgins, 3:423–64. New York: Guilford. 646 pp.
- Drew B. 1988. *Intergenerational contact in the workplace: an anthropological study of relationships in the secondary labor market*. PhD thesis. Rutgers Univ., New Brunswick, NJ. 285 pp.
- Durkheim E. 1960. (1893). *The Division of Labor*. Glencoe, IL: Free Press. 439 pp.
- Ellison CG, Powers DA. 1994. The contact hypothesis and racial attitudes among Black Americans. *Soc. Sci. Q.* 75:385–400
- Epler R, Huber GL. 1990. Wissenserwerb im Team: Empirische Untersuchung von Effekten des Gruppen-Puzzles. *Psychol. Erzieh. Unterr.* 37:172–78
- Eskilson A. 1995. *Trends in homophobia and gender attitudes: 1987–1993*. Presented at Annu. Meet. Am. Sociol. Assoc., 90th, Washington, DC
- Fine GA. 1979. The Pinkston settlement: an historical and social psychological investigation of the contact hypothesis. *Phylon* 40:229–42
- Ford WS. 1986. Favorable intergroup contact may not reduce prejudice: inconclusive journal evidence 1960–1984. *Sociol. Soc. Res.* 70:256–58
- Gaertner SL, Dovidio JF, Anastasio PA, Bachman BA, Rust MC. 1993. The common ingroup identity model: recategorization and the reduction of intergroup bias. *Eur. Rev. Soc. Psychol.* 4:1–26
- Gaertner SL, Rust MC, Dovidio JF, Bachman BA, Anastasio PA. 1994. The contact hypothesis: the role of a common ingroup identity on reducing intergroup bias. *Small Group Res.* 25:224–49
- Gardiner GS. 1972. Complexity training and prejudice reduction. *J. Appl. Soc. Psychol.* 2:326–42
- Hamberger J, Hewstone M. 1997. Inter-ethnic contact as a predictor of prejudice: tests of a model in four West European nations. *Br. J. Soc. Psychol.* In press
- Hamburger Y. 1994. The contact hypothesis reconsidered: effects of the atypical outgroup member on the outgroup stereotype. *Basic Appl. Soc. Psychol.* 15:339–58
- Harding J, Hogrefe R. 1952. Attitudes of white department store employees toward Negro co-workers. *J. Soc. Issues* 8:18–28
- Harris R. 1972. *Prejudice and Tolerance in Ulster*. Manchester, UK: Manchester Univ. Press. 234 pp.
- Heist DR. 1975. *Causal Analysis*. New York: Wiley. 301 pp.
- Herek GM, Capitano JP. 1996. “Some of my best friends”: intergroup contact, concealable stigma, and heterosexuals’ attitudes toward gay men and lesbians. *Pers. Soc. Psychol. Bull.* 22:412–24

- Hewstone M. 1996. Contact and categorization: social-psychological interventions to change intergroup relations. In *Foundations of Stereotypes and Stereotyping*, ed. CN Macrae, C Stagnor, M Hewstone, pp. 323–68. New York: Guilford. 462 pp.
- Hewstone M, Brown R, eds. 1986. *Contact and Conflict in Intergroup Encounters*. Oxford: Blackwell. 231 pp.
- Islam MR, Hewstone M. 1993. Dimensions of contact as predictors of intergroup anxiety, perceived out-group variability, and out-group attitude: an integrative model. *Pers. Soc. Psychol. Bull.* 19:700–10
- Jackman MR, Crane M. 1986. "Some of my best friends are black...": interracial friendship and whites' racial attitudes. *Public Opin. Q.* 50:459–86
- Jeffries V, Ransford HE. 1969. Interracial social contact and middle-class white reaction to the Watts riot. *Soc. Probl.* 16: 312–24
- Johnson DW, Johnson RT, Maruyama G. 1984. Goal interdependence and interpersonal-personal attraction in heterogeneous classrooms: a meta-analysis. See Miller & Brewer 1984, pp. 187–212
- Johnston L, Hewstone M. 1992. Cognitive models of stereotype change: III. Subtyping and the perceived typicality of disconfirming group members. *J. Exp. Soc. Psychol.* 28:360–86
- Katz PA, Taylor DA, eds. 1988. *Eliminating Racism: Profiles in Controversy*. New York: Plenum. 380 pp.
- Kephart WM. 1957. *Racial Factors and Urban Law Enforcement*. Philadelphia: Univ. Pa. Press. 209 pp.
- Kinloch GC. 1981. Comparative race and ethnic relations. *Int. J. Comp. Sociol.* 22: 257–71
- Kinloch GC. 1991. Inequality, repression, discrimination and violence: a comparative study. *Int. J. Cont. Sociol.* 28:85–98
- Kirk T. 1993. *The polarisation of Protestants and Roman Catholics in rural Northern Ireland: a case study of Glenravel Ward, County Antrim 1956 to 1988*. PhD thesis. Queen's Univ., Belfast, North. Ireland. 541 pp.
- Landis D, Hope RO, Day HR. 1984. Training for desegregation in the military. See Miller & Brewer 1984, pp. 257–78
- McGarty C, de la Haye AM. 1997. Stereotype formation: beyond illusory correlation. See Spears et al 1997, pp. 144–70
- McGinnis SP. 1990. *Descriptive and evaluative components of stereotypes of computer programmers and their determinants*. PhD thesis. New York: City Univ. NY. 248 pp.
- McKay S, Pitman J. 1993. Determinants of Anglo-Australian stereotypes of the Vietnamese in Australia. *Aust. J. Psychol.* 45: 17–23
- Meer B, Freedman E. 1966. The impact of Negro neighbors on white house owners. *Soc. Forces* 45:11–19
- Miller N, Brewer MB, eds. 1984. *Groups in Contact: The Psychology of Desegregation*. Orlando, FL: Academic. 316 pp.
- Minard RD. 1952. Race relations in the Pocahontas coal field. *J. Soc. Issues* 8:29–44
- Miracle AW. 1981. Factors affecting interracial cooperation: a case study of a high school football team. *Hum. Organ.* 40: 150–54
- Morrison EW, Herlihy JM. 1992. Becoming the best place to work: Managing diversity at American Express Travel related services. In *Diversity in the Workplace*, ed. SE Jackson, pp. 203–26. New York: Guilford. 356 pp.
- Moscoss CC, Butler JS. 1996. *All That We Can Be*. New York: Basic Books. 198 pp.
- Mullen B, Brown R, Smith C. 1992. Ingroup bias as a function of salience, relevance, and status: an integration. *Eur. J. Soc. Psychol.* 22:103–22
- Ohm RM. 1988. *Constructing and reconstructing social distance attitudes*. PhD thesis. Ariz. State Univ., Tempe. 316 pp.
- Oliner SP, Oliner PM. 1988. *The Altruistic Personality: Rescuers of Jews in Nazi Europe*. New York: Free Press. 419 pp.
- Parker JH. 1968. The interaction of Negroes and whites in an integrated church setting. *Soc. Forces* 46:359–66
- Patchen M. 1982. *Black-White Contact in Schools: Its Social and Academic Effects*. West Lafayette, IN: Purdue Univ. Press. 387 pp.
- Perdue CW, Dovidio JF, Gurtman MB, Tyler RB. 1990. Us and them: social categorization and the process of intergroup bias. *J. Pers. Soc. Psychol.* 59:475–86
- Pettigrew TF. 1971. *Racially Separate or Together?* New York: McGraw-Hill. 371 pp.
- Pettigrew TF. 1975. The racial integration of the schools. In *Racial Discrimination in the United States*, ed. TF Pettigrew, pp. 224–39. New York: Harper & Row. 429 pp.
- Pettigrew TF. 1986. The contact hypothesis revisited. See Hewstone & Brown 1986, pp. 169–95
- Pettigrew TF. 1991a. The importance of cumulative effects: a neglected emphasis of Sherif's work. In *Social Judgment and Intergroup Relations: Essays in Honor of Muzafer Sherif*, ed. D Granberg, G Sarup,

- pp. 89–103. New York: Springer-Verlag. 280 pp.
- Pettigrew TF. 1991b. Toward unity and bold theory: Popperian suggestions for two persistent problems of social psychology. In *The Future of Social Psychology*, ed. CW Stephan, W Stephan, TF Pettigrew, pp. 13–27. New York: Springer-Verlag. 121 pp.
- Pettigrew TF. 1996. *How to Think Like a Social Scientist*. New York: Harper-Collins. 198 pp.
- Pettigrew TF. 1997a. Generalized intergroup contact effects on prejudice. *Pers. Soc. Psychol. Bull.* 23:173–85
- Pettigrew TF. 1997b. The affective component of prejudice: empirical support for the new view. In *Racial Attitudes in the 1990s: Continuity and Change*, ed. SA Tuch, JK Martin, pp. 76–90. Westport, CT: Praeger. In press
- Pettigrew TF. 1997c. Ingroup reappraisal: another intergroup contact process that reduces prejudice. Univ. Calif., Santa Cruz. Unpublished manuscript.
- Pettigrew TF, Meertens RW. 1995. Subtle and blatant prejudice in western Europe. *Eur. J. Soc. Psychol.* 25:57–75
- Pettigrew TF, Wright S, Tropp L. 1998. Intergroup contact and prejudice: a meta-analytic test of Allport's hypothesis. Dep. Psychol., Univ. Calif., Santa Cruz. Unpublished manuscript.
- Powers DA, Ellison CG. 1995. Interracial contact and black racial attitudes: the contact hypothesis and selectivity bias. *Soc. Forces* 74:205–26
- Reich C, Purbhoo M. 1975. The effect of cross-cultural contact. *Can. J. Behav. Sci.* 7:313–27
- Reif K, Melich A. 1991. *Euro-Barometer 30: Immigrants and Out-Groups in Western Europe, 1988*. Ann Arbor, MI: Inter-Univ. Consort. Polit. Soc. Res. 780 pp.
- Reitzes DC. 1953. The role of organizational structures: union versus neighborhood in a tension situation. *J. Soc. Issues* 9(1):37–44
- Riordan C. 1978. Equal-status interracial contact: a review and revision of the concept. *Int. J. Intercult. Relat.* 2:161–85
- Riordan C. 1987. Intergroup contact in small cities. *Int. J. Intercult. Relat.* 11:143–54
- Riordan C, Ruggiero J. 1980. Producing equal-status interracial interaction: a replication. *Soc. Psychol. Q.* 43:131–36
- Rippel S. 1995. Vorurteile und persönliche Beziehungen zwischen Ost- und Westdeutschen. *Z. Soziol.* 24:273–83
- Robinson JL Jr. 1980. Physical distance and racial attitudes: a further examination of the contact hypothesis. *Phylon* 41:325–32
- Robinson JW Jr, Preston JD. 1976. Equal-status contact and modification of racial prejudice. *Soc. Forces* 54:911–24
- Rose TL. 1981. Cognitive and dyadic processes in intergroup contact. In *Cognitive Processes in Stereotyping and Intergroup Behavior*, ed. DL Hamilton, pp. 145–81. Hillsdale, NJ: Erlbaum. 366 pp.
- Rothbart M, John OP. 1985. Social categorization and behavioral episodes: a cognitive analysis of the effects of intergroup contact. *J. Soc. Issues* 41:81–104
- Russell MJ. 1961. *Study of a South African Inter-Racial Neighbourhood*. Durban, S. Afr: Univ. Natal, Durban. 167 pp.
- Saenger G, Gilbert E. 1950. Customer reactions to the integration of Negro sales personnel. *Int. J. Opin. Attent. Res.* 4: 57–76
- Sagiv L, Schwartz SH. 1995. Value priorities and readiness for out-group social contact. *J. Pers. Soc. Psychol.* 69:437–48
- Schofield JW. 1989. *Black and White in School: Trust, Tension, or Tolerance?* New York: Teachers College Press. 255 pp.
- Sherif M. 1966. *In Common Predicament*. Boston: Houghton Mifflin. 192 pp.
- Sigelman L, Welch S. 1993. The contact hypothesis revisited: black-white interaction and positive racial attitudes. *Soc. Forces* 71:781–95
- Sims VM, Patrick JR. 1936. Attitude toward the Negro of northern and southern college students. *J. Soc. Psychol.* 7:192–204
- Slavin RE. 1983. *Cooperative Learning*. New York: Longman. 147 pp.
- Slavin RE, Madden NA. 1979. Social practices that improve race relations. *Am. Educ. Res. J.* 16:169–80
- Smith CB. 1994. Back and to the future: the intergroup contact hypothesis revisited. *Sociol. Inq.* 64:438–55
- Spears R, Oakes PJ, Ellemers N, Haslam SA, eds. 1997. *The Social Psychology of Stereotyping and Group Life*. Oxford, UK: Blackwell. 422 pp.
- Stephan CW. 1992. Intergroup anxiety and intergroup interaction. *Cult. Divers. Sch.* 2: 145–58
- Stephan CW, Stephan WG. 1992. Reducing intercultural anxiety through intercultural contact. *Int. J. Intercult. Relat.* 16:89–106
- Stephan WG. 1987. The contact hypothesis in intergroup relations. *Rev. Pers. Soc. Psychol.* 9:13–40
- Stephan WG, Stephan CW. 1984. The role of



- ignorance in intergroup relations. See Miller & Brewer 1984, pp. 229–56
- Stephan WG, Stephan CW. 1985. Intergroup anxiety. *J. Soc. Issues* 41:157–75
- Stephan WG, Stephan CW. 1989. Antecedents of intergroup anxiety in Asian-Americans and Hispanic-Americans. *Int. J. Intercult. Relat.* 13:203–19
- Stephan WG, Stephan CW. 1996. *An integrated threat theory of prejudice*. Presented at Int. Psychol. Congr., 26th, Montreal
- Stouffer SA, Suchman EA, DeVinney LC, Star SA, Williams RM Jr. 1949. *The American Soldier: Adjustment During Army Life*. Princeton, NJ: Princeton Univ. Press. 756 pp.
- Taylor DM, Dube L, Bellerose J. 1986. Intergroup contact in Quebec. See Hewstone & Brown 1986, pp. 107–18
- Trew K. 1986. Catholic-Protestant contact in Northern Ireland. See Hewstone & Brown 1986, pp. 93–106
- Triandis HC. 1994. *Culture and Social Behavior*. New York: McGraw-Hill. 330 pp.
- US Department of Defense. 1955. *A Progress Report on Integration in the Armed Services, 1954*. Washington, DC: US Gov. Print. Off. 165 pp.
- Van Oudenhoven JP, Groenewoud JT, Hewstone M. 1996. Cooperation, ethnic salience and generalisation of interethnic attitudes. *Eur. J. Soc. Psychol.* 26:649–61
- Vivian J, Brown R, Hewstone M. 1995. Changing attitudes through intergroup contact: the effects of group membership salience. Univ. Kent & Cardiff, Wales. Unpublished manuscript.
- Wagner U, Hewstone M, Machleit U. 1989. Contact and prejudice between Germans and Turks. *Hum. Relat.* 42:561–74
- Wagner U, Machleit U. 1986. "Gestarbeiter" in the Federal Republic of Germany: contact between Germans and migrant populations. See Hewstone & Brown 1986, pp. 59–78
- Walker I, Crogan M. 1997. *Academic performance, prejudice, and the jigsaw classroom: new pieces to the puzzle*. Presented at Annu. Meet. Soc. Aust. Soc. Psychol., 3rd, Wollongong
- Watson G. 1947. *Action for Unity*. New York: Harper. 165 pp.
- Weber R, Crocker J. 1983. Cognitive processes in the revision of stereotypic beliefs. *J. Pers. Soc. Psychol.* 45:961–77
- Weigert KM. 1976. Intergroup contact and attitudes about third-group: a survey of Black soldiers' perceptions. *Int. J. Group Tens.* 6:110–24
- Weldon DE, Carlston DE, Rissman AK, Slobodin L, Triandis HC. 1975. A laboratory test of effects of culture assimilator training. *J. Pers. Soc. Psychol.* 32:300–10
- Werth JL, Lord CG. 1992. Previous conceptions of the typical group member and the contact hypothesis. *Basic Appl. Soc. Psychol.* 13:351–69
- Wilder DA. 1984. Intergroup contact: the typical member and the exception to the rule. *J. Exp. Soc. Psychol.* 20:177–94
- Wilder DA. 1993a. The role of anxiety in facilitating stereotypic judgments of outgroup behavior. In *Affect, Cognition, and Stereotyping: Interactive Processes in Group Perception*, ed. DM Mackie, DL Hamilton, pp. 87–109. San Diego: Academic. 389 pp.
- Wilder DA. 1993b. Freezing intergroup evaluations: anxiety fosters resistance to counterstereotypic information. In *Group Motivation: Social Psychological Perspectives*, ed. MA Hogg, D Abrams, pp. 68–86. London: Harvester Wheatsheaf. 240 pp.
- Wilder DA, Shapiro PN. 1989. Role of competition-induced anxiety in limiting beneficial impact of positive behavior by an outgroup member. *J. Pers. Soc. Psychol.* 56:60–69
- Wilder DA, Thompson JE. 1980. Intergroup contact with independent manipulations of in-group and out-group interaction. *J. Pers. Soc. Psychol.* 38:589–603
- Williams RM Jr. 1947. *The Reduction of Intergroup Tensions*. New York: Soc. Sci. Res. Council. 153 pp.
- Wilner DM, Walkley R, Cook SW. 1955. *Human Relations in Interracial Housing: A Study of the Contact Hypothesis*. Minneapolis: Univ. Minn. Press. 167 pp.
- Works E. 1961. The prejudice-interaction hypothesis from the point of view of the Negro minority group. *Am. J. Sociol.* 67:47–52
- Wright SC, Aron A, McLaughlin-Volpe T, Ropp SA. 1997. The extended contact effect: knowledge of cross-group friendships and prejudice. Univ. Calif., Santa Cruz. Unpublished manuscript.
- Zajonc RB. 1968. Attitudinal effects of mere exposure. *J. Pers. Soc. Psychol.* 9(Suppl. 2):1–27
- Zuel CR, Humphrey CR. 1971. The integration of black residents in suburban neighborhoods. *Soc. Probl.* 18:462–74



## CONTENTS

Sibling Relationship Quality: Its Causes and Consequences, <i>Gene H. Brody</i>	1
Memory-Based Language Processing: Psycholinguistic Research in the 1990s, <i>Gail McKoon, Roger Ratcliff</i>	25
Brain Plasticity and Behavior, <i>Bryan Kolb, Ian Q. Whishaw</i>	43
Intergroup Contact Theory, <i>Thomas F. Pettigrew</i>	65
Cognitive Neuroscience of Human Memory, <i>J. D. E. Gabrieli</i>	87
Giftedness: An Exceptionality Examined, <i>Ann Robinson, Pamela R. Clinkenbeard</i>	117
Performance Evaluation in Work Settings, <i>R. D. Arvey, K. R. Murphy</i>	141
Psychology and the Study of Marital Processes, <i>John Mordechai Gottman</i>	169
Models of the Emergence of Language, <i>Brian MacWhinney</i>	199
Reconciling Processing Dynamics and Personality Dispositions, <i>Walter Mischel, Yuichi Shoda</i>	229
Biases in the Interpretation and Use of Research Results, <i>Robert J. MacCoun</i>	259
The Cognitive Neuroscience of Constructive Memory, <i>Daniel L. Schacter, Kenneth A. Norman, Wilma Koutstaal</i>	289
CONSUMER BEHAVIOR: A Quadrennium, <i>J. Jacoby, G. V. Johar, M. Morrin</i>	319
Social Constructivist Perspectives on Teaching and Learning, <i>A. Sullivan Palincsar</i>	345
COMORBIDITY OF ANXIETY AND UNIPOLAR MOOD DISORDERS, <i>Susan Mineka, David Watson, Lee Anna Clark</i>	377
ADOLESCENT DEVELOPMENT: Challenges and Opportunities for Research, Programs, and Policies, <i>Richard M. Lerner, Nancy L. Galambos</i>	413
Judgment and Decision Making, <i>B. A. Mellers, A. Schwartz, A. D. J. Cooke</i>	447
Human Abilities, <i>Robert J. Sternberg, James C. Kaufman</i>	479
Lower-Level Visual Processing and Models of Light Adaptation, <i>D. C. Hood</i>	503
Categorical Data Analysis, <i>Thomas D. Wickens</i>	537
Theories Linking Culture and Psychology: Universal and Community-Specific Processes, <i>Catherine R. Cooper, Jill Denner</i>	559
Perceptual Learning, <i>Robert L. Goldstone</i>	585