Advances in Intergroup Contact

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4 Generalized effects of intergroup contact

The secondary transfer effect

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Introduction

In chapter 5 of his seminal book, *The Nature of Prejudice*, Gordon Allport (1954) described a study performed in 1946 by E.L. Hartley in which college students were asked about their attitudes towards 35 nations and races. Hidden among the 35 nations were the Daniereans, Pireneans, and the Wallonians – three fictitious ethnic groups. What Hartley found was quite surprising: not only were attitudes to the 32 real groups highly correlated, but the correlations between the real and fictitious groups were also extremely high (around .80). Indeed, one of the more prejudiced participants remarked, "I don't know anything about [the fictitious groups]; therefore I would exclude them from my country" (p. 66). This study resonates with the point Allport made a few sentences earlier in the same chapter: "If a person is anti-Jewish, he is likely to be anti-Catholic, anti-Negro, anti any out-group" (1954, p. 66). If our attitudes are so highly inter-correlated, and if Allport's assertion is correct, then if we improved attitudes towards one outgroup, would this lead to improved attitudes to other outgroups? Research on the *secondary transfer effect* addresses precisely this research question.

The secondary transfer effect (Pettigrew, 2009) describes the phenomenon whereby coming into contact with a primary outgroup has an effect on one's attitudes towards other, secondary outgroups not involved in the contact. In this chapter, we will provide an extensive review of the sparse literature on the secondary transfer effect. We start our discussion with a brief exposition of Allport's (1954) *contact hypothesis*, after which we discuss early research on secondary transfer effects and then review more recent research on this topic. Next, we will turn our attention to the two main purported mediating processes, attitude generalization and deprovincialization, after which we will discuss a third, less tested mediator, intergroup empathy. We then review possible moderators of the link between primary outgroup contact and secondary outgroup attitude as well as the link between primary and secondary outgroup attitudes. Lastly, we turn our attention to some limitations of extant research on the secondary transfer effect, and then suggest some issues for future research in this domain.

Intergroup contact theory and the secondary transfer effect

Intergroup contact theory

In *The Nature of Prejudice*, Allport (1954) set out what was to become one of the most influential hypotheses in social psychology today, the *Contact Hypothesis*. Favoring parsimony, the hypothesis states that when two social groups come into contact under the conditions of equal status, collaborative work towards a common goal, and when contact is sanctioned by authorities, there will be a reduction in intergroup prejudice. Cross-group friendship has been highlighted as, and shown to be, an especially potent form of intergroup contact as it is said to embody most of Allport's facilitating conditions (Davies, Tropp, Aron, Pettigrew, & Wright, 2011; Hamberger & Hewstone, 1997; Pettigrew, 1997; see chapter by Davies, Wright, Aron & Comeau, this volume). With 50 years of research confirming that contact is associated with reduced intergroup animosity (see Brown & Hewstone, 2005; Dovidio, Gaertner, & Kawakami, 2003; Pettigrew & Tropp, 2006) there is little doubt left as to its effectiveness at improving intergroup relations. Indeed, the amount of work available that supports the contact hypothesis, and the progress made in understanding its mechanisms, has been argued to surely afford Allport's "hypothesis" the title of a bona fide *theory* (Hewstone, 2009; Hewstone & Swart, 2011).

One of the earliest questions that faced social psychologists interested in intergroup contact was that of attitude generalization; if contact theory is to have wider consequences its effects need to generalize. Three forms of attitude generalization have been identified in the literature (Pettigrew, 1998) and their effect size estimated by Pettigrew and Tropp (2006) in their authoritative meta-analysis of over 500 studies: (a) whether attitudes towards an outgroup generalize across situations, (b) whether a change in attitudes towards one outgroup member generalizes to the outgroup as a whole, and (c) whether attitudes generalize from one outgroup to another, uninvolved outgroup. We will briefly discuss the first two forms of attitude generalization before focusing in this chapter on the third aspect of attitude generalization, namely generalization across multiple outgroups.

Attitude generalization across situations

Minard (1952), who studied the behavior of White miners towards their Black colleagues in a coal mine in West Virginia, observed that while race relations were friendly below ground, lack of contact and segregation were the norm above ground. Similarly, Harding and Hogrefe (1952) found in their study of White department store employees that equal status contact with Blacks at work increased willingness to work with Blacks, but had no effect on willingness to accept other kinds of interracial relationships (see Amir, 1969, for a review). Pettigrew and Tropp (2006) tested this form of attitude generalization meta-analytically using 17 tests from 9 samples. They found that intergroup contact effects did indeed generalize across situations ($r = –.244$, $p < .001$).

Attitude generalization from an outgroup member to the outgroup as a whole

This is the most widely studied type of generalization and, despite earlier pessimism (e.g., Amir, 1969; Hewstone & Brown, 1986), there is now extensive evidence demonstrating generalization from specific individuals to the outgroup as a whole (see Brown & Hewstone, 2005, for a review; see also Pettigrew & Tropp, 2006).

A large number of studies have shown that this member-to-outgroup generalization is most likely to happen when categories are salient during contact (see Hewstone & Brown, 1986) and when the encountered group member is typical of the group in general (see Rothbart & John, 1985). For example, Wilder (1984), manipulated both the behavior (pleasant vs. unpleasant) and the typicality (typical/atypical) of an outgroup member in a contact situation and found that, only when the encountered group member behaved in a pleasant way and was typical of her group, did ratings of the outgroup in general become more favorable. Similarly, Van Oudenhoven, Groenewoud, and Hewstone (1996) demonstrated that Dutch students' evaluations of Turkish people in general were more positive after a cooperative interaction with a Turkish confederate when his nationality was explicitly mentioned during the interaction than when it was not mentioned. Similarly, a series of correlational studies found that contact was more strongly associated with positive outgroup attitudes for respondents who reported having been aware of the group memberships during contact (e.g., Brown, Vivian, & Hewstone, 1999; Voci & Hewstone, 2003). Based on 1,164 tests, Pettigrew and Tropp (2006) found a reliable relationship between contact with an individual outgroup member and prejudice towards the outgroup as a whole ($r = –.213$, $p < .001$). Thus, there is substantial evidence that creating awareness of social categories during contact, either by making categories explicitly salient or by presenting representative outgroup members, can lead to generalized attitude change.

Evidence for the secondary transfer effect

Initial evidence from three studies conducted in the 1970s is consistent with the secondary transfer effect, but not necessarily conclusive. First, in one of the earliest studies showing support for secondary transfer effects of contact, Weigert (1976) found that for Black soldiers, the forming of friendships with White soldiers stationed in Germany was associated with less prejudice towards German civilians even after controlling for demographics, ideological orientation, and – most impressively – previous contact with Germans. Second, Clement, Gardner, and Smythe (1977) found that Canadian Anglophones who reported having had more contact with French Quebecers while on an excursion to Quebec showed improved attitudes towards French Quebecers, as well as European French people, when compared with those who (a) reported having had less contact during the trip, and (b) a control group who did not partake in the excursion. Third, Caditz (1976) found that, of her 204 participants sampled from an American politically liberal organization, those who moved in more religiously diverse circles were

more supportive of policies aimed at racial integration than those who were part of more homogeneous friendship networks.

Analyzing data from several European national probability samples, Pettigrew (1997) found that measures of cross-group friendships with immigrants found in each country predicted more favorable attitudes towards both those immigrant groups as well as towards a variety of other immigrant outgroups, even those not found in the respondent's own country. Pettigrew noticed that it was not just intergroup friendships that showed wider attitude influence; intergroup contact as co-workers was also associated, albeit to a lesser degree, with improved attitudes towards a variety of outgroups.

More recently, Eller and Abrams (2004, Study 1) provided the first longitudinal test of the secondary transfer effect. Using a small sample size of 34 British undergraduates, they were able to show that having more French friends directly predicted less prejudiced attitudes towards Algerians 6 months later. Corroborating Pettigrew's (1997) assertion that intergroup friendships are an especially effective form of intergroup contact, general contact with French people at University failed to improve attitudes towards Algerians. More impressively, Van Laar, Levin, Sinclair, and Sidanius (2005) collected longitudinal data spanning a period of 5 years based on over 2100 students at University of California (UCLA), Los Angeles. Among other hypotheses, the researchers investigated the effects of living with White, Latino, African American, and Asian American outgroup roommates on attitudes towards the respective groups. The authors found that those participants who were randomly assigned a Latino roommate during their second and third year at UCLA not only held less prejudiced attitudes towards Latinos during their fourth year, but their attitudes towards African Americans also showed improvement. A similar, reciprocal relationship held for those who were randomly assigned an African American roommate, in that respondents' attitudes towards Latinos improved as well. What is more, the authors were able to control for both previous contact and attitudes towards the various outgroups.

Pettigrew and Tropp's (2006) meta-analysis reported on 18 samples that tested this relatively understudied form of attitude generalization from primary to secondary outgroups; they found a small but significant effect size ($r = -.19$, $p < .001$). Of these 18 tests, 14 were taken from relatively loosely controlled studies that were therefore not able to rule out possible alternative explanations (Pettigrew, 2009).

One of the most fundamental questions facing contact research is that of causal order: does contact reduce prejudice, or do less prejudiced people seek more contact (see Hodson, Costello, & MacInnis, this volume)? Evidence shows that there is typically a bi-directional relationship between contact and prejudice, with the negative path from contact to prejudice being the stronger relationship (Pettigrew & Tropp, 2006; Swart et al., 2011). In terms of the secondary transfer effect, do less prejudiced people seek contact from a wider pool of outgroups? Tausch, Hewstone, Kenworthy, Psaltis, Schmid, Popan et al. (2010) tested a two-wave longitudinal model whereby attitudes at wave 1 predicted contact with members of the secondary outgroup one year later. They found that none of their attitude measures predicted contact with either the primary or secondary outgroups. From

this analysis, we have the first evidence showing that less prejudiced people do *not* necessarily seek more intergroup contact with diverse groups. While this provides the first tentative evidence for the causal order from more contact to less prejudice, more research is needed to verify this causal relationship.

Having established the existence of a direct relationship between primary outgroup contact and secondary outgroup attitudes, researchers next sought to uncover the mechanism(s) whereby contact is able to have such widespread influence. We now turn our attention to the mediators of the secondary transfer effect.

Mediators of the secondary transfer effect

It was not until twelve years after Pettigrew's (1997) initial study that the first formal paper studying the *secondary transfer effect* and its underlying mechanisms appeared (Pettigrew, 2009). Pettigrew (2009) investigated two of his mediational hypotheses, namely the attitude generalization and deprovincialization hypotheses (Pettigrew, 1997). In this next section, we will explore both of these hypotheses and the support that has amounted for each. Next, we investigate the first evidence for Pettigrew's (1997) third hypothesized mediational process of the secondary transfer effect, that of intergroup empathy.

The attitude generalization hypothesis

Based on research concerning attitude generalization – a process whereby attitudes towards an object generalize to other, similar objects (Fazio, Eiser, & Shook, 2004; Shook, Fazio, & Eiser, 2007) – the attitude generalization hypothesis describes a process by which attitudes towards a primary outgroup mediates the relationship between primary outgroup contact and secondary outgroup attitudes (Pettigrew, 2009; Tausch et al., 2010). In other words, this hypothesis predicts that the beneficial effects of contact with the primary outgroup on attitudes towards the primary outgroup will generalize to attitudes towards secondary outgroups (often even after controlling for prior contact with the secondary outgroups; see Figure 4.1, paths a through b). In the relatively sparse literature on the secondary transfer effect, this mediational hypothesis has received the most support (Al Ramiah, 2009; Harwood, Paolini, Joyce, Rubin, & Arroyo, 2011; Lolliot, Schmid, Hewstone, Swart, & Tausch, 2011; Pettigrew, 2009; Schmid, Hewstone, Küpper, Zick, & Wagner, 2012; Tausch et al., 2010). Furthermore, attitude generalization has also been shown to play a role in improving attitudes towards secondary outgroups when an intergroup contact scenario is simply imagined (Harwood et al., 2011), rather than based on actual, face-to-face contact. Attitude generalization is now, as we shall argue, an important and robust mechanism underlying secondary transfer effects. We consider, first, cross-sectional evidence and then more compelling longitudinal and experimental evidence for mediation of the secondary transfer effect via attitude generalization. We also consider reverse secondary transfer effect models whereby we test whether contact with a secondary outgroup can improve attitudes towards the primary outgroup as mediated by secondary outgroup attitudes.

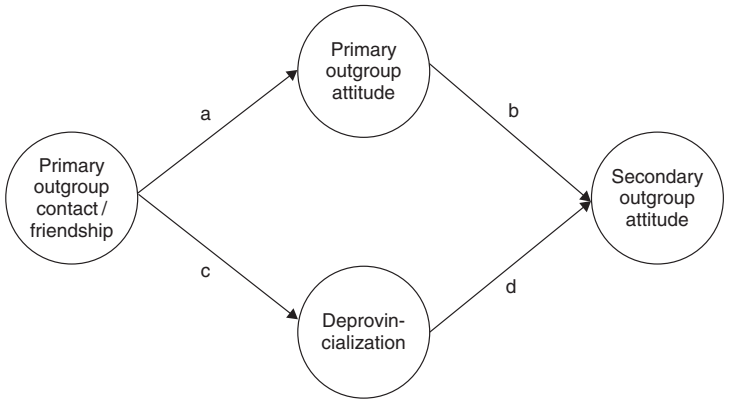

Figure 4.1 Structural model illustrating the attitude generalization and deprovincialization hypotheses

Analyzing two German national probability surveys, Pettigrew (2009) found that attitudes towards immigrants mediated the relationship between having more immigrant friends and improved attitudes towards two other outgroups, homosexuals and the homeless. Al Ramiah (2009) found support for the attitude generalization hypothesis in two of her three sample groups. She studied intergroup contact between three ethnic groups in Malaysia who were taking part in a three-month nation-building program of 'National Service' camps run for young people. Participants were randomly assigned to camps and participation was mandatory. She found that for ethnic Malay and Chinese respondents, camp contact with the respective outgroup not only improved attitudes towards that outgroup, but attitudes towards Indians also showed improvement. Attitudes towards the primary outgroup (Malays for Chinese respondents, and vice versa) mediated this relationship. What is impressive about this study is that the contact was a result of mandatory participation in a structured contact intervention (thus removing concerns about self-selection), and these effects were evident even after controlling for prior attitudes towards the secondary outgroups. Thus, Al Ramiah provides a stricter test of the attitude generalization hypothesis than typically found in cross-sectional studies.

Tausch and colleagues (2010) found support for the attitude generalization hypothesis in all three of their cross-sectional studies. Lending further confidence to the attitude generalization hypothesis, these three studies showed consistent support in diverse contexts ranging from Cyprus (Study 1) to Northern Ireland (Study 2) to America (Study 3). Furthermore, by controlling for contact with the secondary outgroups (Studies 2 and 3) as well as social desirability effects (Study 3) these studies helped rule out two important concerns: (1) that those who have more contact with one outgroup are likely to have more contact with other outgroup members, and (2) that the secondary transfer effect is a result of people not wanting to be seen as overtly prejudiced.

Even though these studies used powerful statistical techniques to investigate the hypothesized relationships between the variables, they remain nonetheless cross-sectional: one cannot confidently claim causality between variables in cross-sectional studies. Therefore, we now turn our attention to those few studies reporting longitudinal and experimental evidence, both methodologies permitting more confidence in inferences about the causal relationship between the variables under consideration (MacCallum & Austin, 2000).

In addition to the direct relationship from primary outgroup contact to secondary outgroup attitudes reported on earlier, Eller and Abrams (2004) provided initial longitudinal support for the attitude generalization hypothesis. Eller and Abrams also showed that having more French friends improved British students' attitudes towards Algerians six months later by increasing affective ties to French people; the mediation, however, failed to reach significance. Tausch et al. (2010, Study 4), using a second Northern Ireland sample, did, however, test and find support for the attitude generalization hypothesis using a two-wave longitudinal design. In other words, contact with the ethno-religious outgroup at wave 1 improved attitudes towards racial minorities one year later by improving attitudes towards the ethno-religious outgroup, even after previous contact with and attitudes towards racial minorities were controlled for.

Lastly, Harwood and colleagues (2011) provided the first experimental evidence for the attitude generalization hypothesis. An imagined contact paradigm asserts that imagining a contact scenario with an outgroup member is enough to improve attitudes towards that outgroup (see Crisp, Stathi, Turner, & Husnu, 2008), a contention that has received support (Crisp, Husnu, Meleady, Stathi, & Turner, 2010; see also Crisp & Turner, this volume). Harwood et al. (2011) instructed 128 American undergraduates to imagine one of three scenarios: (1) a positive or (2) negative interaction with an illegal immigrant (primary outgroup), or (3) an outdoor scene (control group). After the imagination exercise, they assessed participants' attitudes towards various outgroups. The authors found that those who imagined a positive interaction with an illegal immigrant also showed improved attitudes towards a handful of the secondary outgroups, with the relationship being mediated by attitudes towards illegal immigrants. They did not, however, control for previous contact with the secondary outgroups. We return to this study below, and speculate as to why the effects of primary-outgroup contact generalized to some, but not all, secondary outgroups.

Additional support for the attitude generalization hypothesis comes from reverse secondary transfer effect models. These models test if contact with secondary outgroups improves attitudes towards the primary outgroup, with secondary outgroup attitudes mediating the relationship. Essentially, these reverse models provide another test for the secondary transfer effect and the attitude generalization hypothesis by using another outgroup as the focal outgroup. The few studies that have tested these reverse models found that attitudes towards the secondary outgroup did indeed mediate the relationship between secondary outgroup contact and primary outgroup attitudes (Schmid, Hewstone, & Tausch, 2012; Tausch et al., 2010). Even though these reverse models tend to yield weaker secondary transfer effects,[1] the finding that attitudes towards the secondary

outgroups also mediate the relationship between secondary outgroup contact and primary outgroup attitudes provides additional support for the attitude generalization hypothesis.

We have now reviewed the basic literature on attitude generalization as one of the mechanisms by which the secondary transfer effect works. As encouraging as these findings are, some methodological concerns remain. We now consider two of the most pertinent threats to the validity of the attitude generalization hypothesis, namely shared method variance and *the secondary contact problem* (Tausch et al., 2010).

Threats to the attitude generalization hypothesis

The use of similar measures may inflate the relationship between the variables being considered (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003) resulting in undue confidence in the relationship(s) between the variables under consideration. This is a valid concern for research regarding the secondary transfer effect as many of the studies reported here used the same rating scales when measuring attitudes towards the various primary and secondary outgroups. It could also be the case that people who have more contact with one outgroup will tend to have more contact with other outgroups, also known as the secondary contact problem (Tausch et al., 2010). In this section, we briefly evaluate concerns relating to both these forms of potential bias and evaluate the extent to which they limit the conclusions we can draw about secondary transfer effects.

As mentioned, most research on the secondary transfer effect has relied on using the same attitudinal measures when measuring attitudes towards the primary and secondary outgroups (Al Ramiah, 2009; Harwood et al., 2011; Lolliot et al., 2011; Tausch et al., 2010). For example, Tausch et al. (2010) and Harwood et al. (2011) both used feeling thermometers when measuring attitudes towards the various outgroups under investigation. Research reported by Pettigrew (2009) helps to reduce concerns about shared method variance. He found strong evidence for the attitude generalization hypothesis using different attitude scales when investigating the secondary transfer effect between Germans' contact with and attitudes towards immigrants (the primary outgroup), and their attitudes towards homosexuals, and the homeless (secondary outgroups). Schmid et al. (2012) conducted a large cross-national survey of eight European countries using different measures for attitudes towards primary (immigrants) and secondary (homosexuals and Jews) outgroups. The use of different measures helps reduce concerns relating to shared method bias. Neither the study by Pettigrew (2009) nor that by Schmid et al. (2012), however, controlled for contact with the secondary outgroups, leaving them prone to concerns about selection biases. Using British students, Lolliot et al. (2011) were able to show that friendships with Asians improved attitudes towards gay men, lesbian women and the homeless via improved attitudes towards Asians using not only different measures for the primary and secondary outgroups, but also when controlling for contact with the secondary outgroups. Similarly, Schmid et al. (2012, Study 2) showed in a study conducted in

Northern Ireland, that intergroup friendships with people from the other religious community (i.e., Catholics for Protestant respondents, and Protestants for Catholic respondents) improved attitudes towards immigrants and homosexuals – measured using feeling thermometers – by increasing the perceived group variability of the ethno religious outgroup. Perceived ethno-religious variability still mediated the relationship between friendships with people from the other ethno-religious community and attitudes towards gay men and immigrants even after controlling for contact with the secondary outgroups. Even though these studies afford us more confidence in the attitude generalization processes, they need to be replicated both longitudinally and experimentally before we can confidently rule out any possible spurious effects owing to shared method biases.

The deprovincialization hypothesis

Pettigrew (1997) stated that cross-group contact (especially in the form of cross-group friendships) leads ingroup members to realize that the ingroup is not the only yardstick by which to judge the social world. He termed this broadening of perspective *deprovincialization*. In addition to broadening one's gaze beyond the ingroup's norms, customs, and lifestyles, intergroup contact serves to humanize outgroup members and distance oneself from the ingroup (see Figure 4.1, paths c through d). In short, Pettigrew states that intergroup contact leads ingroup members to have a less provincial view of the world. To date, the deprovincialization hypothesis has received mixed support, with some studies providing confirming evidence (Pettigrew, 2009; Tausch et al., 2010, Study 1), and others not (Tausch et al., 2010, Studies 2–4). As will be discussed, one possible reason for these inconsistent results is that most studies testing the deprovincialization hypothesis used a narrow operationalization of the process, namely ingroup identification (Pettigrew, 2009) or ingroup attitude (Tausch et al., 2010). We will first discuss the mixed evidence for the deprovincialization hypothesis in the context of the secondary transfer effect. We will then discuss multiculturalism and social identity complexity as alternative conceptualizations of the deprovincialization hypothesis.

Mixed evidence for the deprovincialization hypothesis

Pettigrew (2009) provided the first evidence for the deprovincialization hypothesis. He found that identification with Germany significantly mediated the relationship between Germans' positive contact with German immigrants and their attitudes towards homosexuals and the homeless. Positive contact with immigrants predicted lower identification with Germany, which, in turn, was associated with improved secondary outgroup attitudes. Pettigrew did concede, however, that German identity was a weaker mediator of the secondary transfer effect than was attitude generalization. Tausch et al. (2010, Study 1) also reported evidence for the deprovincialization hypothesis; they found that for Greek and Turkish Cypriots in Cyprus ingroup attitude (operationalized as private collective self-esteem) mediated the relationship between contact with the primary outgroup (i.e., Turkish/

Greek Cypriots, respectively) and attitudes towards mainland Turks/Greeks (i.e., Greeks in Greece, or Turks in Turkey). Thus, contact with the Cypriot outgroup predicted lower private collective self-esteem which, in turn, predicted more positive attitudes towards the mainland (secondary) outgroup. Contrasting the mediation effects of attitude generalization and deprovincialization, Tausch et al. (2010) also found that attitudes toward the primary outgroup were a stronger mediator of the secondary transfer effect than were ingroup attitudes.

In their remaining three studies, however, Tausch et al. (2010) failed to find evidence for the deprovincialization hypothesis. Using feeling thermometers (Studies 2, 3 and 4) and private collective self-esteem (Study 4) as an indicator of ingroup attitude, contact with the primary outgroup reliably failed to predict attitudes towards the ingroup in all three studies, while in only two of their four studies did ingroup attitude predict outgroup attitudes (Studies 2 and 3). In their longitudinal study (Study 4), neither the ingroup feeling thermometer nor the measure of private collective self-esteem was predicted by contact, nor did they predict outgroup attitudes. The tenuous relationship between contact, ingroup attitude and outgroup attitudes is not as surprising as one may think. Brewer (1999) highlights the finding that the relationship between ingroup and outgroup attitudes varies across studies, even though it has predominantly been thought to be negative and ethnocentric, where ingroup attachment is associated with outgroup derogation. However, discrimination in favor of the ingroup over outgroups may be just that – preferential treatment of the ingroup, rather than outgroup derogation. Brewer goes on to say that, "most contemporary research on intergroup relations, prejudice, and discrimination appears to accept, at least implicitly, the idea that ingroup favoritism and outgroup negativity are reciprocally related" (1999, p. 430).

In light of this evidence, as well as Pettigrew's (1997) wider-reaching definition of deprovincialization, it remains questionable whether research focusing more narrowly on ingroup attitude as a mediator of secondary transfer effects has, to date, adequately operationalized deprovincialization (see also Tausch et al., 2010). We thus argue that exploring other aspects of Pettigrew's (1997) deprovincialization hypothesis may prove more fruitful. In the next section, we review two alternative accounts to studying the deprovincialization hypothesis, one based on multiculturalism, and the other operationalizing deprovincialization as social identity complexity.

Theoretical extensions of the deprovincialization hypothesis: multiculturalism and social identity complexity

Multiculturalism: Adopting a multicultural outlook is said to nurture an acceptance of and appreciation for minority groups' identities and cultures (Verkuyten, 2005). This loose definition of multiculturalism seems to resonate with Pettigrew's (1997) proposal that intergroup contact results in a reappraisal of the ingroup's norms, values and customs. Intergroup contact has been associated with an increased endorsement of multiculturalism (Verkuyten, Thijs, & Bekhuis, 2010), which itself has been associated with improved outgroup attitudes (Verkuyten,

2005). By extension, understanding the world as a multicultural place should lead to a greater acceptance of a wider range of outgroups and not just a primary outgroup. Therefore, use of multiculturalism as a mediator seems to provide a compelling test for Pettigrew's (1997) deprovincialization hypothesis.

Testing this hypothesis using White students attending a British university, Lolliot et al. (2011) found that multiculturalism – measured by three items taken from Verkuyten et al. (2010) – mediated the relationship between cross-group friendships with Asians (primary outgroup) and improved attitudes towards homosexual men and women, but not towards the homeless. The mediation remained significant while controlling for previous contact with the secondary outgroups. Thus this study provided the first evidence that intergroup contact with a primary outgroup can help people develop a multicultural outlook, which, in turn, improves attitudes towards other, secondary outgroups (Lolliot et al., 2011). It should be kept in mind that multiculturalism is of primary relevance to interethnic groups, or groups with an established culture. While we acknowledge that the homeless do indeed have a culture (see Ravenhill, 2008; Wasserman & Clair, 2010), their cultural practices may differ substantially from other social groups' cultural practices. Such a discrepancy could offer an explanation as to why multiculturalism did not mediate the relationship between contact with Asians and attitudes towards the homeless. Multiculturalism, as a result, may only be useful when considering social groups that have salient or recognised cultural practices.

Social identity complexity: A person's social identity complexity refers to their cognitive representation of the interrelationships between their multiple ingroup identities (Brewer & Pierce, 2005; Roccas & Brewer, 2002). Put differently, people who are high in social identity complexity realize that they may share ingroup membership with another person on one category (for example, two people may both be social psychologists) but may perceive that person as an outgroup member on another category (e.g., one social psychologist may be a Democrat while the other is a Republican). People with low social identity complexity, on the other hand, will only consider Democrat (or Republican) social psychologists as part of their ingroup.

In a footnote, Pettigrew (2009) mentioned the possibility that social identity complexity might be a good proxy for deprovincialization (see also Brewer, 2008, for a more complete theoretical exposition of deprovincialization in terms of social identity complexity). Pettigrew's (1997) original formulation of the deprovincialization hypothesis refers to a *reappraisal* of the ingroup; social identity complexity seems to be well suited for the task, as individuals who have more intergroup contact tend to have more a more complex social identity which, in turn, is related to less prejudicial attitudes (Brewer & Pierce, 2005; Roccas & Brewer, 2002; Schmid, Hewstone, Tausch, Cairns, & Hughes, 2009).

In two correlational studies conducted in different contexts – Germany and Northern Ireland – Schmid et al. (2012) provided the first empirical test of this hypothesis in the context of the secondary transfer effect. In Study 1, conducted with a large sample of adults in Germany, they found that positive intergroup

contact with (non-German) Western Europeans improved Germans' attitudes towards people of Turkish and Russian descent; both paths were mediated by social identity complexity. In a second study using a large sample of adults from both Catholic and Protestant communities in Northern Ireland, Schmid et al. (2012, Study 2) examined the relationship between the number of ethno-religious outgroup friends and attitudes towards immigrants and homosexuals. The analyses revealed that social identity complexity, once again, acted as an intervening mechanism in the generalization of attitudes to the non-target outgroups, even after controlling for direct contact with each of the secondary outgroups. Thus it seems that part of the secondary transfer effect of contact can be explained by variations in cognitive re-structuring of one's social identity, that is, social identity complexity.

Empathy as a mediator of secondary transfer effects

Pettigrew (1997), considering the role of perspective taking in the secondary transfer effect, proposed that cross-group friendships lead to increased perspective taking abilities (see Reich & Purbhoo, 1975). Pettigrew (1997) did not, however, specify how perspective taking may improve attitudes beyond the contacted (i.e., primary) outgroup to secondary outgroups. In this section, we will first define what we mean by empathy before discussing research involving empathy and wider attitude generalization. We then end this section by exploring the role of empathy in the secondary transfer effect.

Following Pettigrew's (1997) emphasis on perspective taking, we will also focus our review on this type of intergroup empathy (for a full review of the affective empathy states, see Batson & Ahmad, 2009). Perspective taking – a cognitive form of empathy – denotes the ability to put oneself in another's shoes; to see the world through their eyes. If a person asks, while putting him- or herself in the other's shoes, "How would *I* feel if *I* were in their situation?", then they are engaging in *imagine-self* perspective taking. On the other hand, a person engages in *imagine-other* perspective taking if they try to understand what goes through the target person's head, i.e., the person whose shoes they are filling.

Owing to space restrictions, unless otherwise specified, we will use the term *empathy* to refer to both perspective taking states.

Empirical evidence shows that empathy is associated with improved attitudes towards a variety of outgroups, ranging from ethnic groups (Swart, Hewstone, Christ, & Voci, 2010, 2011) to convicted murderers (Batson, Polycarpou, Harmon-Jones, Imhoff, Mitchener, Bednar et al., 1997, Study 4). The positive effects of empathy have also been shown to generalize from a single outgroup member to the outgroup as a whole (Batson et al., 1997). Furthermore, empathy has also been associated with pro-social behavior benefitting the group for which empathy is felt (Batson, Chang, Orr, & Rowland, 2002). Extending this previous research, we are interested in the possibility that empathy improves attitudes beyond a target (primary) outgroup to other, secondary outgroups. Three relevant studies offer inconsistent evidence of whether empathy does improve intergroup attitudes to

secondary outgroups, one study showing support (Galinsky & Moskowitz, 2000, Study 1) and two not (Shih et al., 2009; Vescio, Sechrist, & Paolucci, 2003). Galinsky and Moskowitz (2000, Study 1) found that participants who adopted an imagine-self perspective while writing an essay on a day in the life of an elderly person – when compared to stereotype suppression and control groups – showed improved attitudes towards the elderly (the primary outgroup) as well as more positive evaluations of African Americans (secondary outgroup). Shih et al. (2009) and Vescio et al. (2003), on the other hand, did not find any wider attitude generalization effects for participants in their empathy condition, who were instructed to adopt an imagine-other perspective for their primary outgroups, when compared to participants in other conditions.

It is interesting to note that the two studies using an imagine-other perspective (Shih et al., 2009; Vescio et al., 2003) did not find wider attitude generalization effects while the study that used the imagine-self perspective (Galinsky & Moskowitz, 2000) did. The two perspective taking states appear to have surprisingly different consequences on our psychological processes (Ames, Jenkins, Banaji, & Mitchell, 2008; Galinsky, Ku, & Wang, 2005; Ruby & Decety, 2004), although it may be argued that the different methodologies used in these three studies could have led to a more personalized (Shih et al., 2009; Vescio et al., 2003) or depersonalized (Galinsky & Moskowitz, 2000) experience with the target outgroup possibly leading to the inconsistent results. One common factor between the three studies is that none of them investigated how empathy may be elicited by intergroup contact; therefore, they cannot be taken to measure secondary transfer effects of contact. In the next section, we explore possible ways in which empathy may mediate secondary transfer effects.

Empathy and the secondary transfer effect

There is a small but growing body of research that suggests that empathy mediates the effects of intergroup contact on outgroup attitudes (Aberson & Haag, 2007; Harwood, Hewstone, Paolini, Voci, 2005; Hodson, 2008; Pagotto, Voci, & Maculan, 2010; Pettigrew & Tropp, 2008; Swart et al., 2010, 2011). From the previous section on the attitude generalization hypothesis, we know that attitudes towards a primary outgroup generalize to other outgroups. Therefore, empathy may influence attitudes towards secondary outgroups *through* attitudes towards

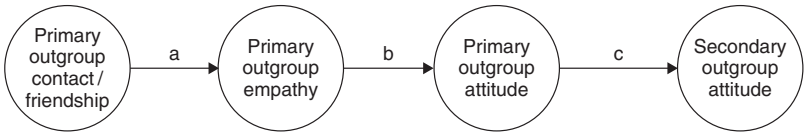

Figure 4.2 Structural model illustrating how intergroup contact with a primary outgroup can improve attitudes towards secondary outgroups through the double mediated mechanisms of primary outgroup empathy and primary outgroup attitudes

the primary outgroup, with empathy itself being influenced by intergroup contact (see Figure 4.2).

In other words, intergroup contact may improve attitudes to secondary outgroups by increasing levels of empathy towards the primary outgroup (path a), which then may improve attitudes towards the primary outgroup (path b). These improved attitudes towards the primary outgroup should then generalize to the secondary outgroups (path c). Lolliot et al. (2011) have collected evidence for such a double mediated path in their recent research using a sample of Catholic and Protestant students in Northern Ireland. They found that cross-group friendships with the ethno-religious outgroup increased respondents' empathy felt for the ethno-religious outgroup. These heightened empathic feelings, in turn, reduced prejudice towards the secondary outgroups (i.e., racial minorities and homosexual men) with this path mediated by improved attitudes to the primary ethno-religious outgroup.

In addition to the above model, empathy towards the primary outgroup may also influence attitudes towards secondary outgroups by first eliciting a greater empathic response towards these secondary outgroups (see Figure 4.3). In this model, contact with a primary outgroup may induce empathy towards a primary outgroup (path a) which will lead to more empathic feelings for other outgroups (path b). These heightened empathic feelings towards the secondary outgroups should then improve attitudes towards the secondary outgroups (path c).

Vezzali and Giovannini (2011) simultaneously tested the two double-empathy mediation secondary transfer effect models we have just described. Furthermore, they expanded on these two models by including intergroup anxiety as a potential mediator of the secondary transfer effect. Using a sample of 175 Italian high school students, Vezzali and Giovannini tested if the relationship between contact with immigrants (their primary outgroup) and attitudes towards immigrants was mediated by an increase in perspective taking and a reduction in anxiety towards immigrants. Having found significant mediations for these primary transfer effects, they next tested two secondary transfer effect models – one for each of their secondary outgroups (the disabled and homosexuals). First (see Figure 4.2), they explored if the reduced social distance towards immigrants that was associated with more intergroup contact with immigrants – as mediated by reduced anxiety and increased perspective taking towards immigrants – was associated with reduced social distance towards homosexuals and the disabled (i.e., their secondary outgroups). The data supported this model even after controlling for secondary outgroup contact, anxiety and perspective taking. Secondly (see Figure 4.3), they tested if contact with the

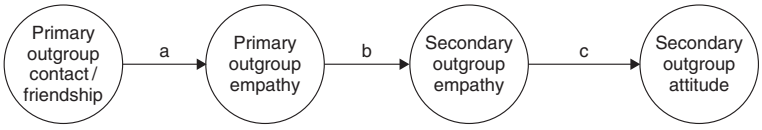

Figure 4.3 Structural model illustrating how intergroup contact with a primary outgroup can improve attitudes towards secondary outgroups through the double mediated mechanisms of primary and secondary outgroup empathy

primary outgroup increased perspective taking and reduced anxiety towards each of the secondary outgroups (as mediated by perspective taking and anxiety, respectively, towards the primary outgroup), and if this increase in empathy and reduction in anxiety towards the secondary outgroups would reduce social distance towards the secondary outgroups (i.e., the second double mediated model described above). Once again, their data supported this hypothesis for both secondary outgroups. Not only is this study the first to show the two above-described double mediation paths, it is also the first to show both perspective taking and intergroup anxiety as mediators of the secondary transfer effect. These effects are quite noteworthy as the available sample was quite small and the models tested rather complex. This makes detecting these effects difficult. Having said this, this study remains cross-sectional, and therefore needs to be verified using longitudinal and experimental designs.

Given the complex causal relationships between these various variables, however, it will be necessary to undertake either experimental or longitudinal research to determine the relative merits of these two models.

Summary of the mediators of the secondary transfer effect

Having reviewed the literature on the three main proposed mediating processes thought to underlie the secondary transfer effect, we find substantial support for the attitude generalization hypothesis, mixed support for the deprovincialization hypothesis, and initial evidence for the mediating role of intergroup empathy. Attitude generalization has received consistent support as a process explaining secondary transfer effects of contact. Our confidence in this hypothesis is bolstered by the finding that primary outgroup attitudes remain a significant mediator of the link between primary outgroup contact and secondary outgroup attitudes after controlling for a number of demographic variables (Pettigrew, 2009; Schmid et al., 2012), right wing authoritarianism (Pettigrew, 2009), and social desirability (Tausch et al., 2010, Study 3). Furthermore, we were able to systematically rule out concerns that the mediation is due to shared method biases. We can therefore confidently state that attitude generalization is a robust mediator of the secondary transfer effect.

The deprovincialization hypothesis, on the other hand, has received mixed results in the literature. This comes as no surprise given the inconsistent relationship between ingroup attitude and outgroup attitudes (Brewer, 1999), as well as inconsistent operationalizations of deprovincialization. Rather than relying on measures of ingroup attitude or evaluation, we have argued that future research may consider operationalizing deprovincialization in terms of multiculturalism and social identity complexity. Whereas the former speaks to Pettigrew's (1997, 1998) notion of intergroup contact widening an individual's perspective on ingroup norms, values and lifestyles, the latter speaks to the notion of ingroup reappraisal. Although initial evidence for both mediational processes exists, it remains for future research to replicate their involvement in secondary transfer effects.

With the relative paucity of tests for the role of empathy within secondary transfer effects, the two models proposed in this section need to be tested empirically.

One of the most prevalent concerns relating to empathy, however, is the nature and history of intergroup relations as inducing empathy for an outgroup may prove difficult in contexts that are characterized by a history of conflict. Furthermore, intergroup relations that are characterized by extreme levels of intergroup violence may induce a negative empathic response, such as pleasure in the outgroup member's misfortune (see, for example, work on intergroup schadenfreude; Spears & Leach, 2004). Despite the present lack of clarity, empathy remains a potentially powerful mediator of the effects of intergroup contact on outgroup attitudes, with the full extent of its effects still to be rigorously tested.

Moderators of the secondary transfer effect

Most research on processes associated with the secondary transfer effect has focused on understanding *how* it works, i.e., processes that mediate the secondary transfer effect. From these mediational analyses, however, a new set of questions has emerged, many of which point towards moderation processes that explain *when* secondary transfer effects may come about. In this section, we will cover some of the moderation hypotheses that have been proposed as well as review the first studies that have investigated them. We will argue that exploring moderation effects can help us understand both how societal influences and dispositional effects can intersect, providing a more complete understanding of the secondary transfer effect.

Moderators of the primary outgroup contact to primary outgroup attitude link and beyond

Asbrock, Christ, Hewstone, Pettigrew, and Wagner (2011) were able to show stronger secondary transfer effects for secondary outgroups that were rated as similar to a primary outgroup on the warmth and competence dimensions of Fiske, Cuddy, Glick, and Xu's (2002) Stereotype Content Model. The researchers also hypothesized that a similarity gradient would only be evident for direct contact, while extended contact – knowing that an ingroup friend has an outgroup friend(s) – would predict improved attitudes towards all secondary outgroups. Arguing that extended contact influences intergroup norms (see Turner, Hewstone, Voci, & Vonofakou, 2008; Wright, Aron, McLaughlin-Volpe, & Ropp, 1997), and that norms are not group-specific, changing attitudes towards one outgroup would then be extended to a wider range of outgroups through a change in norms. This is exactly what Asbrock, Christ, Hewstone et al. (2011) found in their German sample. While direct contact with foreigners in Germany (primary outgroup) was directly associated with improved attitudes to all secondary outgroups (with the exception of attitudes towards Jews), this direct link was stronger for those groups rated more (Muslims, homeless people, homosexuals) than those rated less (non-traditional women, Jews) similar in terms of the warmth and competence dimensions of the stereotype content model (Fiske et al., 2002) to the primary outgroup. Confirming their second hypothesis, there were no differences between the

strength of the generalization paths for extended contact when comparing similar and dissimilar outgroups. Asbrock, Christ, Hewstone et al. (2011) did not, however, control for direct or extended contact with the secondary outgroups, nor did they test their hypothesis using attitudes towards the primary outgroup as a mediator. Asbrock, Christ, Hewstone et al. (2011), did, however, find a second moderator of the secondary transfer effect for extended contact. Corroborating previous findings (Christ et al., 2010), Asbrock, Christ, Hewstone et al. (2011) showed that extended contact with their primary outgroup was especially effective in improving secondary outgroup attitudes for those individuals who had less direct contact with the primary outgroup than those who had more direct contact.

In the literature considering intergroup contact and prejudice, research has recently focused on the interplay between individual difference measures and intergroup contact. Social dominance orientation is a construct that has received particular interest as a potential moderator of intergroup contact effects (Asbrock, Christ, Duckitt, & Sibley, 2011; Dhont & Van Hiel, 2009; Hodson, 2008). Social dominance orientation is an individual difference measure tapping into an individual's support for an ideology of inequality. More specifically, it measures the extent to which an individual views different groups in society as being hierarchically structured or not, and is a strong predictor of intergroup prejudice (Altemeyer, 1998; Pratto, Sidanius, & Levin, 2006; Pratto, Sidanius, Stallworth, & Malle, 1994). While some authors argue that intergroup contact is especially effective at reducing prejudice for people high in social dominance orientation (Dhont & Van Hiel, 2009; Hodson, 2008), others hypothesize that highly socially dominant individuals may be more resistant to the beneficial effects of intergroup contact (Asbrock, Christ, Duckitt et al., 2011). These studies have found support for their respective hypotheses, leaving the role of social dominance orientation as a moderator of intergroup contact effects unclear.

For example, Hodson (2008), using samples of convicts from two British prisons, tested the hypothesis that individuals high in social dominance orientation benefit the most from intergroup contact. In both studies, Hodson showed that intergroup contact was associated with less ingroup bias – a measure created by subtracting outgroup attitude from ingroup attitude – for individuals high in social dominance. Intergroup contact had no effect on ingroup bias for those low in social dominance orientation. Dhont and Van Hiel (2009) obtained similar interaction effects between contact and social dominance orientation in one of two studies conducted in Belgium (Study 2). They found that for individuals high in social dominance, the positive relationship between positive contact and attitudes was stronger, and the negative relationship between negative contact and attitudes was stronger than for low social dominance orientation scorers.

Asbrock, Christ, Duckitt et al. (2011), however, argue that intergroup contact may hold beneficial effects for individuals low in social dominance orientation. They argue that since prejudice functions as a strategy to enforce the social hierarchies that are important to socially dominant individuals, individuals high in social dominance orientation may be particularly reluctant to change attitudes that help maintain the perceived social hierarchy. Using longitudinal (Study 1) and

cross-sectional (Study 2) designs, Asbrock, Christ, Duckitt et al. found evidence for the second social dominance orientation moderation hypothesis whereby contact was only associated with less prejudice for individuals low in social dominance orientation and not for individuals high in social dominance orientation while controlling for right-wing authoritarianism in Study 1. While the interaction effect fell just short of significance ($p < .07$) in their year-long two-wave longitudinal analysis, the pattern of relationships for high and low socially dominant individuals remained the same. Asbrock, Christ, Duckitt et al. (Study 2) cross-sectionally replicated the findings of their first study by showing that contact was more strongly associated with a reduction in prejudice for individuals low in social dominance orientation than those who were high in social dominance orientation; contact was still significantly associated with a reduction in prejudice for individuals high in social dominance orientation. Potential reasons for the discrepancies between studies could be a result of either the different type of samples employed or the items used to measure social dominance orientation. Therefore, it remains for future research to disentangle these effects.

Social dominance orientation has important implications for the secondary transfer effect because of its established close association with intergroup prejudice. Schmid et al. (2012) recently investigated social dominance orientation as a moderator of the secondary transfer effect. Using a large multinational sample drawn from eight European countries, they examined the relationship between contact with immigrants (the primary outgroup), and attitudes towards two secondary outgroups – Jews and homosexuals – mediated by attitudes towards the primary outgroup. They further tested whether the relationship between primary outgroup contact and primary outgroup attitudes was moderated by social dominance orientation. Analyzing data from all eight countries simultaneously, Schmid et al. (2012) found, as had Asbrock, Christ, Duckitt et al. (2011), that primary outgroup contact was more strongly related with more positive primary outgroup attitudes for individuals low in social dominance orientation, while the relationship fell short of significant for individuals high in social dominance orientation ($p = .07$). Moreover, Schmid et al.'s study (2012) revealed a moderated mediation of primary outgroup contact effects on secondary outgroup attitudes. They found that for individuals who scored low in social dominance orientation, effects emerged between contact with the primary outgroup and attitudes towards both secondary outgroups, mediated by attitudes towards the primary outgroup. The link between contact with the primary outgroup and attitudes towards the secondary outgroups for individuals high in social dominance orientation was also mediated by attitudes towards the primary outgroup, albeit to a weaker degree.

In not only finding a significant moderation effect, but a moderated mediation effect, Schmid et al. (2012) provide the first evidence for a more refined understanding of the mechanisms underlying the secondary transfer effect. Therefore, contact may be primarily associated with more positive attitudes towards secondary outgroups for people who are low to medium in social dominance orientation, but people who show high levels of social dominance orientation might be more

resistant, though not impervious, to the otherwise powerful generalized effects of contact.

Moderators of the primary to secondary outgroup attitude link

Pettigrew (2009) noticed that attitudes generalized more readily between certain outgroups. He hypothesized that a similarity gradient may help explain this phenomenon. At this point, it may be useful to apply Goffman's (1963) typology of social stigma to the secondary transfer effect. Goffman's typology categorizes social stigma as falling into one of three types (which we have re-labeled in more acceptable contemporary language); "tribal stigma" (e.g., devalued ethnic, racial or religious groups; henceforth referred to as *category stigma*), "abominations of the body" (e.g., physically handicapped groups; henceforth referred to as *physical stigma*) and "blemishes of individual character" (e.g., homosexuals, homeless, drug-addicts; henceforth referred to as *character stigma*). Early studies on the secondary transfer effect mainly show attitude generalization within the same type of stigma, chiefly concerning category stigma; for example, attitude generalization from French Canadians towards European French (Clement et al., 1977). There is evidence, however, of attitudes generalizing across types of stigma, such as from an ethnic outgroup attitude (category stigma) to attitudes towards homosexual men (character stigma); (Lolliot et al., 2011; Schmid et al., 2012; Schmid et al., in press; Tausch et al., 2010). The natural question then is: why do we see attitude generalization between seemingly unrelated groups? Similarity gradients may go some way to explaining when and why we see, in terms of Goffman's (1963) stigma typology, inter-category attitude generalization.

Pettigrew (2009) does admit that it is difficult to define precisely what is meant by "similarity." He argued that it could range from similarity in dominant stereotypes to prior experiences with the outgroups. There are plenty of studies that show that objects that appear similar to each other do show stronger attitude generalization effects than dissimilar attitude objects, including evidence from a diverse set of empirical paradigms: mere exposure effects (Monahan, Murphey, & Zajonc, 2000; Zajonc, 2001); attitude generalization from a single group member to the outgroup as a whole (Brown & Hewstone, 2005; Hewstone & Brown, 1986); implicit attitude generalization (Ranganath & Nosek, 2008); group entitativity (Crawford, Sherman, & Hamilton, 2002); and objects in a computer game (Fazio et al., 2004; Shook et al., 2007).

Pettigrew (2009) makes reference to findings from other areas of social psychology that may help explain why we see wider attitude generalization even between unrelated outgroups (Martin & Hewstone, 2008). Martin, Laing, Martin and Mitchell (2005) found that participants who scrutinized an argument in favor of voluntary euthanasia not only showed attitude change to euthanasia in the direction of the argument, but a similar attitude change was also witnessed towards abortion. Similarly, Martin and Hewstone (2008) showed that participants who read an argument put forward by a minority group in favor of euthanasia showed attitude change to both voluntary euthanasia and genetic screening.

Martin et al. (2005) argue that the attitudes generalized from their direct measure (voluntary euthanasia) to their indirect measure (pro-abortion) because, as in Martin and Hewstone's (2008) study, both attitudinal objects referred to a common superordinate theme: the control of life. Therefore, testing for a similarity gradient seems highly relevant in the context of secondary transfer effects.

Initial evidence for a similarity gradient can be inferred from a study by Swart (2008). In two South African samples – one using White and the other Colored (persons of mixed racial heritage) South African respondents – Swart found seemingly contradictory secondary transfer effects. For his White sample, cross-group friendships with Colored South Africans improved attitudes towards Black South Africans (persons of black African ancestry), via improved attitudes towards Colored South Africans (while controlling for friendships with Black South Africans). The reverse model also found support for the secondary transfer effect whereby contact with Black South Africans improved attitudes towards Colored South Africans via improved attitudes towards Black South Africans (while controlling for friendships with Colored South Africans). For his Colored South African sample, however, cross-group friendships with White South Africans predicted less prejudiced attitudes towards White South Africans, but these attitudes failed to generalize towards Black South Africans (while controlling for friendships with Black South Africans). Testing the reverse model, Swart found similar results in that cross-group friendships with Black South Africans, although associated with less prejudiced attitudes towards Black South Africans, failed to improve attitudes towards White South Africans (while controlling for friendships with White South Africans). In explaining why secondary transfer effects were witnessed for the White sample and not for the Colored sample, Swart hypothesizes that Colored and Black South Africans seem to share greater historical and political similarity than White and Black South Africans share. These results are also in line with Tropp and Pettigrew's (2005) findings that contact functions differently for majority versus minority groups.

While Swart's (2008) findings provide preliminary evidence for a similarity gradient, two studies have directly tested this moderation hypothesis (Harwood et al., 2011; Lolliot et al., 2011). To gauge the similarity between their primary and secondary outgroups,[2] Harwood and his colleagues (2011) asked three undergraduates – who did not form part of the sample pool – to rate how similar a set of 20 outgroups were to illegal immigrants (their primary outgroup). Harwood and colleagues found stronger secondary attitude generalization effects among the 42 American undergraduates in the positive imagine contact condition who rated the secondary outgroups as more similar to the primary outgroup (illegal immigrants) than those who rated them as dissimilar.

The Harwood study relied on an externally provided measure of intergroup similarity. Intergroup similarity ratings were provided by a set of raters who were not involved in the study. Would we still see evidence for a similarity gradient if we asked the participants themselves to judge between-group similarity? Lolliot et al. (2011) asked White South African respondents if they thought White South Africans (the ingroup) treated Black and Colored South Africans similarly or

differently. In line with their hypotheses, they found a moderation effect whereby respondents who thought that the ingroup treated the two outgroups similarly showed stronger secondary transfer effects than those who thought the two outgroups were treated dissimilarly by the ingroup. Following this line of reasoning, it might be useful to acquire information regarding the "level" of discrimination that each group is perceived to experience as this could be another path along which our attitudes generalize.

Schmid et al. (in press) propose that individuals may perceive secondary outgroups as belonging to an overarching, shared minority group, which may explain attitude generalization between seemingly "disparate" groups. Previous research seems to support such a hypothesis. Van Laar et al. (2005), for example, explain their reciprocal secondary transfer effect between Latinos and African Americans in terms of the two outgroups sharing a similar lower social status than White Americans. Thus, it seems that there is indeed a stimulus gradient in effect, inasmuch as groups that are perceived to be similar on some dimension tend to show stronger secondary transfer effects. As encouraging as these findings are, more research needs to be done in this area. Do attitudes generalize more strongly for novel outgroups versus groups that have a long history in the country? Tausch et al. (2010, Study 3), for example, reported that among American students the strongest secondary transfer effects occurred towards a relatively small and unknown secondary outgroup (Asian Indians), while Schmid et al. (2012, Study 2) found that in Northern Ireland, attitudes did generalize from the ethno-religious outgroup (either Catholics or Protestants) to racial minorities and homosexuals, but not towards Travellers – an outgroup that has had a long history characterized by marginalization in that country (Redmond, 2008).

Summary of moderators of the secondary transfer effect

Moderation hypotheses seem to be particularly important to the secondary transfer effect as they help explain (a) when we may see cross-category attitude generalization and (b) when stronger or weaker secondary transfer effects may occur. Speaking to the first point, some of the studies reported here have considered similarity gradients as a moderator of the secondary transfer effect. With evidence mounting that similarity gradients do indeed moderate the secondary transfer effect, this is an exciting area for future research. Regarding the latter point, and corroborating previous research on primary transfer effects (primary outgroup contact improving primary outgroup attitudes), social dominance orientation helps to explain when we see stronger or weaker secondary transfer effects. Schmid et al. (in press) found that intergroup contact seems to be beneficial only for individuals low in social dominance orientation, while individuals high in social dominance orientation seem to be more resistant to the beneficial effects of intergroup contact (see Asbrock, Christ, Duckitt et al., 2011). It must be kept in mind that there is also evidence for contact being especially effective for highly socially dominant individuals (Dhont & Van Hiel, 2009; Hodson, 2008; Hodson et al., this volume). While Schmid et al.'s (in press) findings are

impressive owing to the breadth and size of their sample, the study does have its limitations. Firstly, the study employed a cross-sectional design. Secondly, the study used a two-item measure of social dominance orientation. Therefore, the discrepancy between the findings that highly social dominant people are more receptive to the beneficial effects of intergroup contact (Dhont & Van Hiel, 2009; Hodson, 2008; Hodson et al., this volume) or are more resistant to the effects of intergroup contact (Asbrock, Christ, Duckitt et al., 2011; Schmid et al., in press) could be a result of either the different types of samples employed or the items used to measure social dominance orientation. For example, Hodson (2008) used British convicts as his sample group. Prisons are typically characterized by very clear group hierarchies and so social dominance tends to be a highly salient phenomenon in these environments. In the Dhont and Van Hiel (2009) study, participants were recruited by asking students to administer questionnaires to their adult neighbors. As a result, their sample appears to be slightly skewed towards individuals from higher socio-economic backgrounds. On the other hand, even though Asbrock, Christ, Duckitt et al. (2011) used more representative samples, they used a three-item measure of social dominance orientation whereas Hodson (2008) used the full 16-item social dominance orientation scale and Dhont and Van Hiel (2009) used a 14-item version. Therefore, it is important that future research clarifies the relationship between intergroup contact and attitudes towards outgroups as moderated by social dominance orientation. All in all, while research has only begun to scratch the surface of what promises to be a very fruitful field for future research, more research exploring and expanding on similarity gradients and social dominance orientation as moderators of the secondary transfer effect needs to be conducted, preferably using longitudinal and experimental designs. Below, we will explore other potential moderators of the secondary transfer effect.

Limitations and directions for future research

We turn now to some of the potential limitations of the work done on the secondary transfer effect and consider some promising directions for future research in this area.

Limitations of current research

Study design

One of the most concerning threats to the validity of the secondary transfer effect is that of study design. Much like the majority of research investigating intergroup contact theory (see Hewstone & Swart, 2011), most of the research reported in this chapter has relied on cross-sectional data. There is initial evidence of the secondary transfer effect in more restrictive longitudinal designs (Eller & Abrams, 2004; Pettigrew, 2009; Tausch et al., 2010, Study 4; Van Laar et al., 2005) and in more

controlled experiments (Clement et al., 1977; Galinsky & Moskowitz, 2000; Harwood et al., 2011); these studies, however, remain few and far between. Echoing Pettigrew's (2008) call for more longitudinal studies testing contact theory in general, longitudinal designs are needed to more thoroughly investigate the secondary transfer effect. The longitudinal designs that have shown the secondary transfer effect (Eller & Abrams, 2004; Pettigrew, 2009; Tausch et al., 2010) are, however, lacking in one main respect: they rely on two waves of data (with the exception of Van Laar et al., 2005). Testing the secondary transfer effect and its mediators inherently requires at least three waves of data in order to test the effect of contact on the mediators (for example, primary outgroup attitudes) from wave 1 to wave 2, and then the effect of the mediators on the outcome variables from wave 2 to 3 (Cole & Maxwell, 2003). To our knowledge, no three-wave longitudinal study has been conducted testing the secondary transfer effect and its mediators. Furthermore, more detailed multi-wave longitudinal studies will help test reverse secondary transfer effect models more accurately.

Longitudinal designs, as powerful as they are, cannot strictly test causal hypotheses (Cliff, 1983). Therefore, future research also needs to test the secondary transfer effect using experimental designs. Because one can manipulate contact conditions in experimental designs, they provide more confidence in the causal nature of the secondary transfer effect. Neither of the two experimental designs (Galinsky & Moskowitz, 2000; Harwood et al., 2011) covered in this review, however, manipulated direct contact. It should also be noted that Clement et al. (1977) found evidence for the secondary transfer effect using a quasi-experimental design – an experimental design that does not randomly assign participants to different conditions (Crano & Brewer, 1986) – comparing those students who went on a school trip to Quebec (contact condition) with students who did not attend the excursion[3] (control group). The relative lack of experimental studies exploring the secondary transfer effect deserves attention.

Secondary outgroup contact measures

Most research on the secondary transfer effect that has measured contact with the secondary outgroup has relied on relatively simple measures of contact, i.e., single item measures of secondary outgroup contact (for two exceptions, see Lolliot et al., 2011; Swart, 2008). Models testing reverse secondary transfer effects – where secondary outgroup contact predicts primary outgroup attitudes – have, to date, resulted in weak effects. This could be because of (a) the relatively small number of contact items used, and (b) the reliance on general quantity and quality of contact measures rather than measures of cross-group friendships. Including more detailed secondary contact measures would allow researchers to test reverse secondary transfer effect models more convincingly. Most research that has measured contact with the secondary outgroups has measured it using quantity and quality of general contact. Having established intergroup friendships as a powerful predictor of intergroup attitudes (see Hamburger & Hewstone, 1997; Pettigrew, 1997), using friendships with the secondary outgroup as a predictor

of secondary outgroup attitudes would also provide a more thorough test of the secondary transfer effect.

Directions for future research

We see several exciting directions for future research on the secondary transfer effect. We first discuss potential mediators of the secondary transfer effect after which we explore possible moderators. We end this section by briefly discussing the secondary transfer effect in terms of different attitudinal measures.

Additional mediators of the secondary transfer effect

The theoretical extensions suggested in this chapter provide a good starting point for the next generation of research on the secondary transfer effect. The hypotheses regarding our revised deprovincialization theory – involving multiculturalism and social identity complexity – as well as those regarding the role of empathy in the secondary transfer effect need to be (a) replicated, and (b) tested using longitudinal and experimental designs.

In addition to the two models offered above, empathy as a mediator of the secondary transfer effect has a number of avenues which need exploring. Firstly, research needs to tease out the effects that the different forms of perspective taking – imagine-other and imagine-self – could have on wider attitude generalization. While both perspective taking states elicit an affective empathic response (Finlay & Stephan, 2000), they may have different consequences for attitude formation and change. Secondly, current research has focused mainly on cognitive forms of empathy and the secondary transfer effect, leaving the affective forms untested. Given that affective processes have received strongest support in research on mediators of direct contact effects (Pettigrew & Tropp, 2008), the role of empathic concern in the secondary transfer effect needs to be explored.

Gaertner and Dovidio's (2000) dual identity model also suggests an important mediator of secondary transfer effects. The dual identity model states that a more inclusive super-ordinate identity that both in- and outgroups can ascribe to *without* forsaking members' respective sub-group identities is beneficial for intergroup relations. Because the dual identity model aims at producing a shared identity that both ingroup and outgroup members can identify with, it can also be considered a process of deprovincialization as it could be argued to measure ingroup reappraisal. In addition, creating a shared ingroup identity has been associated with an increase in self-disclosure with (previous) outgroup members (Dovidio, Gaertner, Validzic, Matoka, Johnson, & Frazier, 1997), and therefore may affect attitudes towards the secondary outgroups via intergroup empathy as well.

Lastly, and given its powerful mediating effects uncovered in research towards *primary* outgroups (Pettigrew & Tropp, 2008; Stephan & Stephan, 1985), intergroup anxiety is an obvious candidate as a mediator of the secondary transfer effects (see Vezzali & Giovannini, 2011, for the first evidence of anxiety's role in the secondary transfer effect).

Additional moderators of the secondary transfer effect

As with the attitude generalization hypothesis, similarity gradients may help uncover stronger attitude generalization effects from primary outgroup empathy to secondary outgroup attitudes. Batson et al. (1997) hypothesized that the positive effects of empathy will generalize from a single outgroup member to the outgroup as a whole if the person's outgroup membership is a salient component of their plight. Therefore, the positive effects of empathy should generalize to secondary outgroups if the secondary outgroup is understood to suffer a similar type of discrimination as the primary outgroup. Similarly, the *amount* or *level* of stigma may moderate the relationship between a mediator (such as primary outgroup attitudes or empathy) and secondary outgroup attitudes. For instance, if two outgroups are seen as experiencing similar levels of discrimination (i.e., two outgroups may experience different *types* of discrimination, but if the individual perceives them as both experiencing high *levels* of their respective discrimination), then the positive effects of contact may generalize from the primary outgroup to a secondary outgroup. Thinking back to Goffman's (1963) stigma typology, this moderated mediation hypothesis could help explain possible inter-category attitude generalization effects as mediated by empathy towards a primary outgroup. While Lolliot et al. (2011) provide initial evidence for the level of stigma moderating the attitude generalization path, more research needs to replicate this finding.

Attitude strength may help us uncover when attitudes generalize more strongly. Since attitude strength increases with the amount of exposure to the attitude object (Krosnick & Petty, 1995), if an individual has had little contact with an outgroup (see Christ et al., 2010, and Vonofakou, Hewstone, & Voci, 2007, for evidence of intergroup contact increasing attitude strength), their attitudes towards that outgroup may be more malleable. Therefore, we hypothesize that attitude strength could act as a potential moderator such that intergroup contact with a primary outgroup will show stronger secondary transfer effects for attitudes towards secondary outgroup(s) that are low in attitude strength than those that are held strongly.

An individual's need for cognition (Cacioppo & Petty, 1982) – an individual difference measure that measures a person's enjoyment and willingness to engage in thinking – may also moderate secondary transfer effects. Individuals low in need for cognition have been shown to be more prejudiced (Waller, 1993) and rely more on stereotyping (Schaller, Boyd, Yohannes, & O'Brien, 1995). Therefore, intergroup contact may be especially effective for individuals who score low on the need for cognition measure as they may show more blanket attitude generalization effects than individuals who are high in their need for cognition. Similarly, need for closure – a construct that measures an individual's preference for definite answers and the avoidance of ambiguity (Kruglanski & Webster, 1996) – could moderate secondary transfer effects. While need for closure has been positively associated with prejudice (Roets & Van Hiel, 2006; Van Hiel, Pandelaere, & Duriez, 2004), Dhont, Roets, and Van Hiel (2011) showed that intergroup contact was especially effective at improving intergroup attitudes for participants who scored high in need for closure than for low scorers. They hypothesized that

individuals high rather than low in their need for closure would gain more certainty from an intergroup encounter which would reduce anxiety. This reduction in anxiety would then mediate the relationship between contact and prejudice. This is exactly what they found; anxiety was a stronger mediator of intergroup contact effects for those high rather than low in need for closure (Dhont et al., 2011, Studies 4 and 5). By simple extension then, individuals who are high in need for closure should show wider attitude generalization effects than those who do not need closure, a process that would also be mediated by a reduction in intergroup anxiety.

Concluding remarks

Societies are becoming more diverse. For example, citizens from more than 170 countries worldwide reside in London alone (Vertovec, 2007). As technology increases, international transport becomes more feasible, and international boarders more permeable, it is with little surprise that we read: "There are far more international migrants in the world today than ever previously recorded, and their number has increased rapidly in the last few decades" (International Organization for Migration, 2010, p. 3). Therefore, it is no wonder that some authors refer to modern cities as "super-diverse" (Vertovec, 2007; see also Benedictus, 2006). The obvious challenge, then, is for societies to find some way in which this myriad of social groups can function peacefully. With growing evidence for the existence of secondary transfer effects, intergroup contact, although not a panacea for prejudice (Hewstone, 2003), seems to be even more suited for this task than previously thought. Given the implications of the secondary transfer effect for improving intergroup relations beyond what was previously thought possible, attention does need to be focused on policy development within our diversifying societies (Brown & Hewstone, 2005; Pettigrew, 2008). The development of theories relating to the secondary transfer effect, such as deprovincialization for example, provides useful backdrops against which policy development can take place.

Looking further than community-based intergroup relations, there is great current interest across a number of social and behavioral sciences in the concept of "cosmopolitanism." This work concerns its ethical and philosophical dimensions, especially regarding questions of how to live as a "citizen of the world," in open acceptance of diversity and with a willingness to engage with others (e.g., Appiah, 2006; see Vertovec, 2010). If intergroup contact can improve attitudes beyond an immediately contacted outgroup – which the research reported in this chapter attests to – then intergroup contact represents one of the most powerful tools available for improving intergroup relations in the world's growing cosmopolitan societies.

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Notes

1 Most studies testing the secondary transfer effect have, owing to space constructions, had to rely on general contact quantity scales when measuring contact with the secondary outgroups (see Lolliot et al., 2011; Swart, 2008, for two exceptions), while contact with the primary outgroup has usually been measured using intergroup friendship scales which show stronger intergroup contact effects (Hamberger & Hewstone, 1997; Pettigrew, 1997).
2 Harwood et al. (2011) intentionally left the term "similarity" undefined in order to make the similarity judgments as global a measure as possible (see Pettigrew, 2009).
3 See Dhont, Roets, and Van Hiel, 2011 (Study 3) for a true experimental version of this design. Dhont et al. randomly allocated Belgian school students involved in an intercultural exchange program to either go on a 1-week school trip to Morocco (contact condition) or to stay behind. Students who participated in the week-long trip showed significantly less prejudice towards the outgroup than control participants did.

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