Diverse Ties, Diverse Effects: Looking to Networks to Help Explain Tolerance towards Ethnic Minorities

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ABSTRACT

Research in the "contact hypothesis" tradition shows that some types of contacts can lead to more positive attitudes towards minorities. This paper compares the effects of friends, networks, and voluntary associations on positive attitudes towards immigrants and ethnic minorities in Canada, using the 2004 Canadian federal election survey. We assess the impact of a person's network as a whole through a gendered position generator. This allows us to measure the variety of contacts people have with middle class occupations and with working class occupations, as well as the number of occupations in which they know men and the number in which they know women. Consistent with a social influence argument, we find that (1) the occupational variety of ties to men or women make no difference (because men and women do not differ in their level of tolerance in Canada today). Consistent with both a social influence argument and a competitive threat argument, (2) varied contacts with middle class people increase tolerance while varied working class contacts reduce tolerance (because higher status people are both more educated, which increases tolerance, and less in competition with minorities for lower status jobs). We compare these effects to the possible effects of close ties (are people with more ethnically diverse friends more tolerant?) to further assess contradictory arguments about the relative importance of strong ties, weak ties, and contacts with local strangers.
INTRODUCTION

As recent waves of immigrants to Canada and the United States increasingly include non-whites, the categories of minority, non-white, and immigrant have become blurred. The ensuing climate is a constant renegotiation to increase tolerance towards changing minority groups. Research increasingly looks at factors that impact tolerance as a way of contributing to a solution and in part tells us that our friends and family have the capacity to exert varying levels of influence in our lives. Social tolerance or the capacity to accept people who are different from us is in part explained this way. Inter-group friendships in the form of network ties play an important role in facilitating increased tolerance and decreased prejudice of ethnic minorities and immigrants. As an example, people with diversified networks, including many different kinds of contacts, gain positive experience of others not like themselves. They share interests with people outside their own groups, interact with them, come to like them, learn about their contributions and the problems they face, and become more supportive of policies helpful to them. That is, they become more tolerant in our sense. This argument has been developed for personal networks and extended to activity in voluntary associations. Association activity often brings people into contact with others who are very different from themselves yet share the common interests on which associations are based.

Earlier research does not do full justice to the complexities of the connections between social networks and tolerance. One kind of complexity concerns the variable nature of social networks ties and their effects. We argue that diversity is not unitary. There are different kinds of networks and network diversity, which for good theoretical reasons have different results. For example, do relationships with close friends and family members provide the education and close contact necessary to impact tolerance, or is it the diversity and range of weak ties that provides a broad range of experiences and types of contact with minorities to impact tolerance? With this study, we will show that while one form of network diversity increases tolerance, others reduce tolerance or have no effect at all. We will further show that while strong and weak ties have an effect on tolerance towards ethnic minorities, our data show that this is not necessarily the case. This variability is not confined to our outcome, tolerance. It is well known that many aspects of social networks vary from positive to neutral to negative, depending on the outcome of interest, the context, and the particular form that the network variable takes.

We begin with a brief review of our theoretical engines. These include contact theory, as revised by Putnam and further revised by us; the threat or competition hypothesis, as originated by Bonacich (1972, 1976); learning; and social network influence. We then use these theoretical resources to develop a series of alternative hypotheses connecting networks and tolerance in various ways. We examine these arguments using the 2004 Canadian federal election survey, a large national survey with the range of variables needed to look at the diverse nature of factors leading to tolerance.
EXPLAINING TOLERANCE: GENERAL THEORIES

The Contact Hypothesis

The contact hypothesis asserts that positive orientations towards a group grow as contact with group members increases, provided that the contact is of the right kind. For example, economic competition (discussed below) can lead to negative orientations toward a competing group. Positive orientations flow from contact that is personal, positive, equal status, voluntary, and includes shared goals (Dixon and Rosenbaum 2004; Erickson and Nosanchuk 1998; Sigelman, Welch, Combs and Bledsoe 1996). This kind of contact encourages people to interact, to cooperate, to share valued experiences, to come to like each other, and to learn relatively accurate and positive things about each other. If people have the right kind of contact with minorities, their orientations toward minorities should become more positive. When people study possible effects of contact on tolerance, they often focus on contact with close ties such as friends and families (Pettigrew 1997; 1998).

But, as Putnam (2000) and others point out, contact with a small number of special people is too specific to lead to changes in one’s generalized orientations towards whole social groups. If one has a best friend from a minority group, one can easily define that friend as unique, and esteem the friend while still derogating the group. As such, researchers alternatively argue that tolerance flows from extensive contact with many people, from experiences in one’s entire network including acquaintances as well as the near and dear (Dovidio et al. 2003; Putnam 2000). Here, we address a more recent generalization of the contact hypothesis. People who have positive contacts with a variety of others do not just become more tolerant of the particular kinds of people they interact with. They generalize their positive experiences with many kinds of people different from themselves, and develop positive views of people of all kinds (Huckfeldt et al. 1995).

This generalized form of the contact hypothesis implies that we should find greater tolerance among people with diversified social networks, and among those who participate in more diversified social settings such as voluntary associations and metropolitan areas. But we argue that diversity is not unitary. There are many kinds of diversity in social networks, which bring different kinds of contact experiences and hence have different effects on tolerance, as we elaborate below.

The Competition Hypothesis

The competition hypothesis is the negative flip side of the contact hypothesis. Where cooperative contact fosters tolerance, competition and lack of personal contact fosters intolerance. A negative consequence of ethnic groups’ competing occurs when they perceive each other as threats and positive interpersonal contacts become fewer. Tensions increase, leading to negative views (Allport 1954, Bonacich 1972, Forbes 1997, Kunovich 2004, Olzak 1992). Competition and threat can take many forms, but the most discussed are threats to social status, such as economic competition for jobs or business (Bonacich 1972, 1976; Boswell 1986; Brown 2000; Kunovich 2004; Olzak 1992).

Competition with minorities is greatest where minorities are most numerous, in some but not all economic sectors in metropolitan areas. Minorities are highly concentrated in large cities in Canada, and too few to be much threat to anyone in smaller communities. Within cities, minorities are further concentrated in some kinds of work. Employers often discriminate against minorities.
and often undervalue immigrant human capital when it was gained outside of Canada. Minorities often cannot compete effectively for middle class jobs, even when qualified for them, and they are forced to compete for working class jobs instead. As a result, working class people may see minorities as a threat more often than middle class people. We discuss an extension of this hypothesis below.

**The Learning Hypothesis**

People become more tolerant of minorities through personal experience, but also because they have learned more about minorities and about issues of tolerance in general. This is the most popular explanation for the well-documented link between education and tolerance: education enlightens. The learning hypothesis is also part of the contact hypothesis; positive kinds of contact teach people positive things about others. Yet it is also part of the competition hypothesis. Groups in competition who see their rivals as threats or negative outgroups, pay more attention to negative ideas about them, and learn how intolerable they are.

People do not only learn about the people they have contact with, they also learn and are influenced by them (Pettigrew 1998). By extension, contact diversity only promotes tolerance when it consists of richly varied contacts with tolerant people (Kawakami et al. 2000). If people have varied contact with the intolerant, diversity increases intolerance. And if people have varied contacts with social groupings that are average in tolerance, their own tolerance levels will neither rise nor fall. Below we discuss different kinds of diversity in social networks, arguing that this diversity contributes to differential effects on tolerance, from positive, to negative, to neutral.

**EXPLAINING TOLERANCE: THE DIVERSE ROLES OF NETWORKS AND OTHER FACTORS**

**Social Networks**

The contact hypothesis predicts that close, personal and frequent contact with ethnic minorities will enhance tolerance. This would suggest that the most important ties in a network are family and friends that provide many opportunities to get to know individuals from a minority group. Ideally, the more close friends that are a part of a minority group, the more likely they are to be tolerant of that group. To evaluate the role of close friends and family, a measure of the racial or ethnic diversity of strong ties is required. Such a measure exists within the Canadian Elections Survey that allow us to look at several types of diversity within respondents close ties: educational, racial, occupational, age and gender. Since we are primarily interested in the effect of racial diversity of close ties on tolerance, we use this as a test of the classic contact hypothesis as well as a measure of the importance of strong ties.

A second type of network influence on tolerance stems from the generalized contact hypothesis. It predicts that widely diversified networks, especially diversified weaker ties, enhance tolerance. Our revision of this view calls for more refined attention to various kinds of diversity, which have varying effects on tolerance. We see it as essential for measuring and theorizing multiple forms of diversity in a person’s wider network, including acquaintances as well as the closer ties which previous studies of tolerance have emphasized.

Measuring such diversities may well seem a daunting, even impossible task, since people do not know the distribution of important social groupings in their networks. Fortunately, social network researchers have developed a simple, effective, and theoretically well grounded way...
around this obstacle. The first and still core strategy is to sample occupations which are fairly well represented and range from high to low in prestige in the society one is studying. Respondents are asked whether they know anyone in each of the occupations, and the researcher counts the number in which a respondent knows at least one person. The result is an effective measure of the occupational diversity in a person’s network as a whole. Since occupation plays a very powerful role in modern societies, it is strongly related to a host of other important variables, so the occupational diversity measure is the best single proxy for network diversity overall. Lin and Dumin (1986) launched this approach, and Lin et al. (2001) provide a recent update. Since occupational diversity is not the only important kind, Erickson (2004) developed an extension to include gender. This version selects occupations that vary in gender composition at each level of prestige, and asks respondents whether they know a man and whether they know a woman in each occupation; not just whether they know anyone of indeterminate gender.

Since Erickson’s new measure was included in the 2004 federal election study in Canada, we can assess network diversity of two kinds in this paper: middle class diversity (do respondents know people in many or few middle class occupations?), working class diversity (do people know others in many or few working class occupations?), and male and female diversity (do respondents know men in many or few occupations? or women in many or few occupations?).

These measures are guides to the kinds of people in a network, as well as the kinds of influences network members will exert on tolerance. Middle class people are likely to be more tolerant for two reasons. They are better educated, and more educated people are more tolerant. They are also less often in competition with minorities, because minority group members do not have equal access to middle class positions (e.g. Li 1992). Contacts with many middle class people should bring influences that increase tolerance. People in working class positions are less well educated, and more often in competition with minorities. They are more likely to see minorities as threats, so extensive contacts with working class people bring influences that reduce tolerance.

Gender (as we shall see) was not overly correlated with tolerance towards minorities in Canada in 2004. Thus diversity of ties to men or to women should not have any impact on tolerance either, if networks shape tolerance through social influence. This set of strong and weak tie network diversity measures provides a neat opportunity to explore our claim that network diversity can have all three possible effects on tolerance (positive, negative, or null) depending on the type of diversity. We can also compare the relative effect of strong versus weak tie diversity on tolerance.

**Individual Attributes**

Networks are made-up of individuals that ultimately impact the nature of diversity within them. Given the focus of this paper considers the impact of diversity within types of networks on tolerance, we will briefly review the relative impact of personal attributes on tolerance and also show how they relate to networks.

Education is one of the strongest correlates of tolerance (Bobo and Licari 1989; Jackman and Muha 1984; Kingston et al. 2003; Schumann et al. 1997). This may be because the learning hypothesis applies: education opens people’s minds to critical debunking of received stereotypes and enhances people’s knowledge of the real positive aspects of many different groups. But the correlation of education with tolerance may not be a direct product of education itself. More educated people have more diversified social networks (Erickson 2004) and are more active in
voluntary associations (Curtis and Grabb 1992): two forms of experience thought to develop tolerance (see below). If so, the oft-reported Aeffect of education on tolerance will vanish or at least weaken after controlling for network diversity and/or association activity.

Occupation is an indicator of class status and is also correlated with tolerance (Grabb 1979). In comparing people in working class occupations to middle class occupations, it is the working class who are least tolerant of ethnic minorities. The competition hypothesis provides details as to why: given the number of immigrants that are forced into working class jobs, the perceived threat to the working class is tangible. Where full time jobs are also scarce, this may intensify the feeling of having employment security threatened.

Membership in a minority group is associated with more positive feelings towards minorities, in part because people tend to see their own groups in a more positive light compared to other groups (Judd and Park 1993), and in part because people have better knowledge of their own groups and are less reliant on stereotypes for ideas and judgments. Unlike the effect of education, there is little reason to think that the apparent effect of ethnic or immigrant status is really a masked effect of networks, since minorities have less network diversity (e.g. Erickson 2004).

Residents of urban areas have many opportunities for positive learning about minority groups, from extensive and explicit diversity education in schools to discussions of local issues in the media (Nunn, Crockett, and Williams 1978; Stouffer 1955). Cities provide many settings in which members of different groups participate, interact, and feel some kind of common cause such as the vibrancy of ethnically diversified neighborhoods. Since most immigrants flock to the metropolitan areas, and avoid rural ones, such processes are especially relevant to urban dwellers. Cities provide a rich array of subcultures and voluntary associations, and an equally rich range of opportunities to meet many diversified people, so one might expect part of the apparent effect of cities to operate through the more diversified networks and greater associational activity of city dwellers. Except that network diversity is actually greatest in rural areas and lowest in the metropolis (Erickson 2004).

Youth is often associated with tolerance (Cutler and Kaufman 1975; Stouffer 1955), since younger people are more flexible in their views. Researchers also suggest the presence of a cohort effect (Davis 1975; Wilson 1994) perhaps because the younger people are, the more diversified and tolerant society was during their formative period. Younger people may also be more tolerant because they are more highly educated, more often live in urban areas, and are more often themselves minorities. We find no effect of age in 2004, and will leave this discussion alone for now.

Women are often thought to be more nurturing and social than men, and women in Canada today are more liberal than men on many issues (Gidengil, Blais and Nadeau 2003). Thus women might be more tolerant. However, both men and women are found in all ethno-racial groups and in both immigrant and native born populations. The tolerance-related experiences of men and women are probably much the same, and they probably do not experience tolerance issues as gender issues. Thus men and women may not differ in tolerance, as we will indeed show is partially the case.

Voluntary Associations

Participation in voluntary organizational life is another important source of tolerance (Cigler and Joslyn 2002; Paxton 2004; Pickering 2006; Stolle and Rochon 2001; Uslaner 1999;
Warren 2001). Voluntary associations at their best are settings meeting the key conditions of the contact hypothesis. People who differ in many ways, except for the special interest that their association serves, meet as equals on a fully voluntary basis and interact in pursuit of their common concerns. In this way, the opportunity to expand and diversify one's network increases with participation in voluntary associations. This is the main reason that Putnam (2000) and others stress the importance of voluntary associations as sources of civilized social views. Voluntary association activity may also have indirect effects on tolerance. Putnam (2000) argues that associations contribute to tolerance precisely because associations bring diverse people together, and Erickson (2004) shows that the extent of activity in voluntary associations is the strongest single predictor of network diversity.

Closely examined, such arguments imply that the effects of voluntary associations should vary, because associations vary in their levels of the factors thought to produce tolerance. Putnam (2000) acknowledges that some associations are toxic for tolerance, not supportive, although he argues strongly that associations have a good effect on average. Cigler and Joslyn (2002) report that tolerance is relatively low for members of veterans= and ethnic associations, and relatively high for members of political and cultural associations. They speculate that these variations stem from different levels of membership diversity, but cannot directly test this mechanism.

Some associations are settings favoring the competition hypothesis. Occupational groups, including labor unions, business groups, and professional associations, bring together people experiencing similar job pressures and tensions. Where market competition with minority groups is high, such associations can increase awareness of and discussion of such competition, heighten perception of group threats, and lead to relatively low levels of tolerance. With so many different kinds of associations, we expect that activity in associations will have all possible effects on tolerance: activity will increase tolerance, reduce it, or have no effect, depending on the nature of the association.

DATA AND MEASURES

The data source is the study of the May, 2004 federal election in Canada. This study selected a national representative sample and administered three surveys: a telephone survey during the election (N = 4,323, response rate 53%), another telephone survey just after the election (N = 3,138), and a mailed-out survey shortly afterwards (N = 1,674). The demographic composition of the three waves is similar, except for a slight under-representation of young respondents in the last wave. This paper uses variables from all three waves, with a total N of 1409.

The measure of tolerance. Our tolerance scale combines ten items concerning views of immigrants, non-whites, and minorities (see Figure 1). Since immigrants to Canada were once overwhelmingly white, but have become predominantly non-white in recent decades, the three categories (immigrants, non-whites, minorities) overlap as real populations and in popular perceptions. Thus the scale has good reliability (Cronbach=s alpha = .79). The scale combines awareness of the real problems of discrimination in Canada (AIṣ it more difficult for non-whites to succeed in Canada@), positive evaluation of immigrants in Canada (AImmigrants make an important contribution to society,@ “On a scale of 0 to 100, how do you feel about racial minorities?” where 100 is a positive evaluation of attitudes, and AToo many immigrants just don=t want to fit into Canadian society@), willingness to welcome new immigrants (ACanada should
admit more immigrants, and approval of social support for immigrants and minorities. We should look after Canadians born in this country first and others second, How much more should be done for minorities in Canada? coded so that doing much more ranks first, “We have gone too far in pushing equal rights in this country”, “Political parties spend too much time catering to minorities”, and “Minority groups need special rights”). In a final step, the scale values were reversed so that higher values represent more positive attitudes toward immigrants, non-whites and minorities.

**Measures of attributes.** Gender is coded 1 for female, 0 for male. Age is years of age, square rooted to correct for skew. Level of education is an ordinal variable with five levels from less than high school to a post-graduate degree. Place of residence is three dummy variables (for rural areas, mid-size areas, and metropolitan areas) with rural areas as the omitted category in multivariate tables. Employment status was recoded as a dummy variable: “1” included all respondents who were self-employed, working full and part time, “0” was all other categories of work status such as student, volunteer, unemployed and/or currently looking and retired.

For this paper, we were able to use two indicators to approximate non-white, minority or immigrant group status; Canadian Born and Non-European Heritage. Canadian Born began with the question “In what country were you born?” and where we can distinguish between immigrants and native born respondents. We created a dummy variable where “1” was Canadian Born and “0” included all other birth countries. Non-European uses the question To what ethnic or cultural group do you belong? All those reporting non-European ethnic identity were classified as Non-European (coded 1, with all others coded 0). 25 respondents to this first question declared themselves Canadians, so their responses were replaced by their answers to the follow-up question in addition to being Canadian, to what ethnic or cultural group did you, or your ancestors belong on first coming to this continent? 3 respondents still insisted they were just Canadians, but the rest reported non-European ancestry and we added these to the Non-European group. We also added First Nations, Métis, and Inuit peoples. Most or all Non-Europeans are non-white, though there may well be a few cases of (for example) white immigrants from the Caribbean...

For a measure of respondent’s occupation, we chose to use an occupational prestige measure instead of occupation only, consistent with our measure of weak tie network diversity (please see below for details). Initially, Blishen (1981) values were assigned to respondent occupations in determining prestige scores. When using only these scores however, we encountered a significant reduction in sample size. While many respondents were unable or refused to provide an occupation, others were simply left uncoded when there was not enough detail or information to distinguish what type of occupation the respondent held. We follow the method set-out by Ross and Mirowsky (1992) in order to include all possible responses and increase the sample size. This technique allows us to compare people with jobs to people without jobs by testing the effect of having an occupation or not, as well as the effect of occupational prestige for those with work. We create the following equation: Working (Prestige Score – Mean of Prestige), whereby “Working” is our employment status dummy variable and “Prestige” is the original occupational prestige variable. By following this equation, we are able to include those who are not working as part of the analysis, by assigning a value of “0”, while those with jobs and

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1 For a detailed description, please see Ross and Mirowsky (1992).
prestige scores are assigned values ranging from -27.96 to 31.66.

**Measures of network diversity.** For the election study, Erickson developed a new kind of measure of network diversity (Figure 2), a variant on the original developed by Lin and Dumin (1986); see Erickson (2004) for a more detailed explanation. Respondents were asked whether they knew a man, and whether they knew a woman, in each of 15 occupations ranging from high to low in prestige. Figure 2 reports the prestige scores, taken from Ganzeboom and Treimann (1996). To clarify the division into middle class (higher prestige) and working class (lower prestige) occupations, Figure 2 orders occupations by prestige, but the actual survey item randomized the order to prevent order effects on responses. From this question we created four kinds of network diversity measures. Middle class diversity is the number of middle class occupations in which the respondent reports knowing someone, with middle class occupations including lawyer, pharmacist, human relations or sales manager, social worker, and computer programmer. Working class diversity is the number of working class occupations in which the respondent reports knowing someone, including all remaining occupations in Figure 2 from Atailor, furrier or dressmaker@ to Aserver.@ Male diversity is the number of occupations in which the respondent knows a man, and female diversity is the number of occupations in which the respondent knows a woman.

The diversity of close ties within a respondent’s network is another important kind of network diversity that can account for tolerance toward ethnic minorities. The truest test of the contact hypothesis is to look at the diversity of racial groups represented within the respondent’s close ties network. The 2004 CES includes such a question, asking respondents to first indicate how many close friends they have, not including family members or relatives. Respondents then indicated whether most, some or none of these friends were of the same race as them (“How many of these friends are of the same race as you?”). For our purposes, this variable was reverse coded to reflect racial diversity as opposed to similarity in the network and then recoded as a dummy variable (0 = most; 1 = some/none).

**Measures of association activity.** Respondents reported whether or not they were active in several kinds of associations during the past five years. Note that these measures do not refer to mere memberships in associations, since many members take no active part in association activities and hence do not experience any of the processes by which associations may foster tolerance. Respondents reported whether or not they were active in associations of these kinds: parents association, religious association, sports association, ethnic association, labour union, women’s group, environmental association, professional association, business association, community association or other. Since we expected these types to have different effects on tolerance, we created dummy variables for each kind (1 for those active and 0 for those not active in a given type of group). Since the Aother@ category is a mysterious mix of things, we used it as the omitted category for multivariate analyses.

**RESULTS**

We begin with a series of multivariate regressions, showing the unstandardized coefficients for attributes, networks, and associations, alone and in combination in Table 1. We start by examining each set of possible predictors separately. Given that attributes such as education and are generally acknowledged to be strong predictors of tolerance and also lend
support to the various theoretical models we are developing, we begin by briefly looking at the relative impact of personal attributes on tolerance before focusing on forms of network diversity.

Attributes and Tolerance

Are attributes correlated with tolerance as expected? The answer is in Model 1 of Table 1. As predicted, we find that tolerance is greater for those with more education. Some researchers argue that part or all of the apparent effect of education consists of response bias. More educated respondents often react negatively to questions that are too simplistically worded, that use qualified language, or that use categorical responses (Campbell et al. 1960, Peabody 1961, Jackman 1973, Jackman and Senter 1980). Yet other research argues that education has real positive effects (Jacob 1957). A study designed to assess real effects beyond response bias found that education is positively related to racial attitudes (Jackman and Muha 1984: 758). Since our tolerance questions (Figure 1) are clear, concrete, and varied in orientation so that a negative response is sometimes tolerant and sometimes intolerant, we argue that the education effect is more reality than response set. This supports the learning hypothesis.

We also find the expected results for ethnicity, Canadian born and size of community. Tolerance is greater for those who are themselves ethnically Non-European and hence members of some (probably non-white) minority group. Tolerance is also greatest for those who were not born in Canada, in other words, who are themselves immigrants and perhaps more sympathetic to the plight of other immigrant groups. Tolerance is lowest for those in rural areas, higher in mid-size areas and significantly highest in metropolitan areas.

In comparing only attributes, our data initially confirm women’s general reputation for tolerance. There is a significant correlation between gender and tolerance for minorities in Canada 2004. This may be because men and women differ in other attributes we find related to tolerance: age, Non-European status, education, or residence in metropolitan areas. Thus men and women may well have life experiences that affect their tolerance levels in very different ways. We find however, that this effect does not hold-up when compared with other factors.

The role of age in increasing tolerant behavior was not confirmed. As results turn out, age is not an important predictor of tolerance towards ethnic minorities or immigrants in Canada in 2004. This result provides evidence contrary to the learning hypothesis, perhaps suggesting that other factors are more important than number and frequency of contact with minorities over time.

Voluntary Associations and Tolerance

As anticipated, model 2 of Table 1 shows an intriguing mix of correlations between association activities and tolerance. Depending on the type of association, those active are sometimes more tolerant, sometimes less, and sometimes just average. These effects may result from associational activity itself, or may operate through the strong role associations play in network diversity, or may be spurious associations stemming from the kinds of people who join these kinds of associations.

Network Diversity and Tolerance

If social network relationships with different people are a form of positive contact, and if people generalize such positive experiences to different others in general, then all kinds of network diversity should build tolerance for minorities. With this data, we have the opportunity to compare the effect of strong ties versus weak ties on tolerance. Arguments have suggested that close ties are a more important form of contact, and that it is this type of network diversity that can positively
impact tolerance towards minorities. Alternatively, the equally important role of weak ties has been researched and shown to be plausible. Given we can look at both forms of network ties on tolerance we are able to see if there is a difference in the relative effect of each on tolerance. We also suggest that not all forms of network diversity are positive influences on tolerance. If network relationships affect tolerance through social influence processes, then different kinds of network diversity will have different kinds of impacts on tolerance. This is what we find in our data and what we explore below.

As we see in our final model, gender is not related to tolerance. Consistent with a social influence argument, tolerance is also not related to network diversity of contacts with men nor to network diversity of contacts with women. Since these null results are important but not significant, we do not report the details. More lively are the results for class, shown in Model 3 of Table 1. Those with more richly diversified ties to middle class people are significantly more tolerant, while those with more diversified ties to working class people are significantly less tolerant. These results are consistent with a social influence argument, in which middle class people provide more tolerant influences because of their higher education and there relative insulation from economic competition with minorities. Since it is only network diversity with respect to class that is related to tolerance, we will only consider these forms of diversity in our models.

We next consider the role of strong ties on tolerance. Model 4 of Table 1 shows that overall racial diversity of close ties has no effect on whether or not respondents are more tolerant towards ethnic minorities. However, the more interesting question is whether this effect is different for nonwhites as opposed to whites. For example, do racially diverse networks increase tolerance of whites over nonwhites? The contact hypothesis would suggest this to be the case. Our data, however, show the opposite effect. Diverse close tie networks only matter for respondents of non-European background: in other words, who are already themselves most likely ethnic or racial minorities. For respondents of European background, racially diverse networks have little to no effect on whether or not this group is tolerant of ethnic minorities. According to this data, it would seem as though weak ties matter more for tolerance than do close tie networks, supporting the idea that influences lie perhaps outside the boundaries of close friends and family members and that for contact to be effective, it must also be diverse.

Mixed Effects of Attributes

It is possible that the apparent effects of attributes are not direct effects of those attributes themselves, but of the kinds of networks or the kinds of association activity with which the attributes are associated.

We explore the possible mediating role of network diversity by comparing Model 5 of Table 1 (attributes plus network diversity) to Model 1 (attributes alone). The regression coefficients for attributes are essentially the same before and after controlling for networks. This is somewhat surprising for education at first, since we know that educated people tend to have more diversified networks. However, we also know that more educated and higher status people tend to have more diversity of ties up and down the ladder of stratification, with more ties that are both high and low status. It is lower status people who tend to have ties limited to just part of the range (their own, lower status part) (e.g. Lin 1982). More educated people have both more diverse ties to middle class people with their influence towards greater tolerance, and more diverse ties to
working class people with their influences toward less tolerance, and the two opposite kinds of network influence cancel each other out. Other attributes associated with tolerance also remain associated once network diversity is controlled, with the exception of the effect of living in a metropolitan center.

**Mixed Effects of Network Diversity**

Perhaps our network diversity measures go with tolerance because a wide range of contacts brings many invitations to join voluntary associations, and people learn tolerance in associations rather than in networks themselves. However, comparing Model 7 of Table 1 to Model 3 shows that the coefficients for our network measures are about the same whether we control for association activity or not. There may perhaps be a slight decline in the strength of the effect of middle class diversity, because middle class people are more active in associations, and likely to recruit new members into associations full of tolerant middle class people. However, the apparent effect of middle class diversity is still strong after controlling all sorts of association activity, so associations do little if anything to account for possible network effects.

Network diversity may also be related to tolerance in spurious ways, because the kinds of people who differ in tolerance are also the kinds of people who differ in their networks. Education, for example, is a source of both network diversity and tolerance. Network effects on tolerance are in part, but only part, spurious with respect to attributes. Comparing Model 5 to Model 3 in Table 1, we find that network effects are indeed reduced after controls for attributes, but still clearly significant.

When we control for both voluntary association activity and attributes in Model 8, we see no further change in the network effects compared to just controlling attributes in Model 5. Looking at our final model (Model 8) and the relative effect of racial diversity of strong ties on tolerance, we see its effect significantly diminished in contrast to that of weak tie diversity. This suggests that in Canada, in 2004, strong ties were not an important predictor of tolerance. The bottom line however, is that a healthy amount of network effects for weak ties remains whatever we control. Interactions with middle class people, likely to be tolerant, influence people to be more tolerant themselves. Interactions with working class people, likely to be less tolerant, reduce tolerance. These findings provide strong evidence for the social influence model of network diversity effects, but none for the view that all forms of network diversity teach or equally influence tolerant attitudes.

**Mixed Effects of Voluntary Associations**

Putnam and others have argued that associations produce tolerance by bringing people into contact with a healthy variety of other people. If so, any apparent effects of associations should shrink or vanish when we control for social network diversity. This could be true both for associations for which activity is positively related to tolerance (because such associations have usefully diverse members, especially perhaps diverse middle class members) and for associations for which activity is negatively related to tolerance (because such associations lack member diversity, or have diverse working class members). But, when we compare Model 7 to Model 2, we find that the coefficients for all types of associations are much the same whether we control for network diversity or not. If we could look closely at more detailed types of associations, or better yet individual associations, we would see more variation in the extent and type of diversity in associations. This might uncover more of a role for social network formation within specific
associations. But we cannot do that here.

It is also possible that some associations do not correlate with tolerance because of association activities, but because of the kinds of people who choose to engage in these activities. If the apparent effects of associations are spurious with respect to attributes, they should weaken or vanish when attributes are controlled. Comparing Model 6 to Model 2, we do indeed see some changes of this kind. The coefficient for professional association activity goes from quite strong and significant to nothing at all, quite likely because professionals are highly educated. The effect for parents associations, community associations and ethnic groups also weaken. When we control for network diversity as well as attributes, in Model 8 of Table 1, we see no further change in the effects of associations as compared with Model 6, in which only attributes are controlled.

CONCLUSIONS

Our research shows that different types of networks, attributes and associations all contribute to tolerance but not in all of the ways that have been argued in past work.

The contact hypothesis, most generally, asserts that network diversity leads to greater tolerance. People generalize their positive experiences with some forms of diversity to positive views of all forms of diversity. But, as we expected, diversities differ in their effect. Contact with others consists of channels for social influence, and the effect of a given kind of diversity depends on the kind of influence that those known are likely to exert. We found much stronger support for this view, since different forms of network diversity had very different relationships with tolerance.

The most conservative interpretation of the contact hypothesis suggests that frequent and close contact with individuals from minority groups increases tolerance. In other words, it is the strong ties in one’s network that have the greatest impact on tolerance. By extension, racial diversity of strong ties should lead to tolerant attitudes towards the racial groups represented. We find however, that this is not necessarily the case. While racially diverse strong ties matter for non-European respondents, this is not true for European respondents. Further, when compared to other factors that impact tolerance, like diverse weak tie network measures, racially diverse strong tie measures become nonsignificant. Why these types of ties are more important for tolerant attitudes of ethnic minorities is an interesting question. Further study needs to be done in order to determine why this is the case.

Diversity of ties to middle class people goes with greater tolerance, consistent with the higher education levels of middle class people and their lower degree of economic competition with minorities, both of which contribute to higher tolerance. Diversity of ties to working class people goes with lower tolerance, consistent with their lower education levels and greater economic competition with minorities. These theoretically pivotal effects could not be explained away as disguised effects of attributes or voluntary associations, although attributes do help to account for a modest portion of the initial network effects.

We hasten to point out that these findings are not in any way a reflection of the essential nature of the working class or the middle class, as was once argued for the working class authoritarianism that we now know to be mythical. If working class people are more often in competition with minorities, this is not their doing, but the result of employer discrimination and government failure to intervene with policy levers like affirmative action or quick accreditation of
foreign-trained professionals. The ultimate sources of the conditions that promote intolerance lie in the upper and middle classes, not the working class. Given equally intense competition, middle class people will also be likely to see minorities as threats and to become less tolerant. Indeed, our strongest support for the competition hypothesis comes from the significant tendency for those active in professional associations to be less tolerant when in metropolitan areas where competition with minorities is greatest. For labor unions, which are more often working class, we found no such trend.

Associations also vary greatly in how they are associated with tolerance. Depending on the kind of association, activity in the association goes with greater tolerance, with lower tolerance, or with just average tolerance. Clearly, associations are not uniformly wonderful; they are not even mostly wonderful (as Putnam often argues). Further, some of the apparent effects of association life seem to be, in fact, membership composition effects while other apparent effects seem to be, in fact, real effects of participation in certain kinds of associations. Associations with well educated members, or a relatively high proportion of minority members, look good for tolerance because they include kinds of people disposed toward tolerance. Associations with poorly educated memberships look bad. But often the associations as such are doing nothing in particular beyond attracting people with different levels of education or different numbers of minorities.

However, we found that some kinds of association activities have real effects that do not vanish when we control attributes or various kinds of network diversity. We suspect that one important form of such activity is intense, direct discussion of related issues in an engaged or even emotional way. We think environmental groups may have positive forms of such discussion and action, while sports groups have more negative forms.

Clearly, future research needs to examine more detailed kinds of associations and to make more refined and direct measurement of association characteristics. How do ethnic groups for minority ethnic groups differ from others? How does the ethno-racial composition of an association affect the ethno-racial diversity of the networks of members, and how do both of these affect tolerance? How democratic is an association? What is the extent, and the intensity of discussion of issues connected to minorities?

Social networks are a major factor in tolerance, but not at all uniform. Social networks are diverse and come in many forms. These differ greatly as experiences of contact with minority groups, competition with the, learning about them, and influence concerning them. Social networks promote tolerance, erode it, leave it unaffected, and matters for some and not others, depending on the form it takes.
REFERENCES


FIGURE 1

Tolerance of Ethnic Minorities and Immigration

1. How much more should done for racial minorities in Canada?
   1 = much more, 2 = somewhat more, 3 = about the same as now, 4 = somewhat less, 5 = much less

2. . Immigrants make an important contribution to society.
   1 = strongly agree, 2 = agree, 4 = disagree, 5 = strongly disagree

3. We have gone too far in pushing equal rights in this country
   1 = strongly agree, 2 = agree, 4 = disagree, 5 = strongly disagree

4. Too many recent immigrants just don't want to fit into Canadian society.
   1 = strongly agree, 2 = agree, 4 = disagree, 5 = strongly disagree

5. We should look after Canadians born in this country first and others second.
   1 = strongly agree, 2 = agree, 4 = disagree, 5 = strongly disagree

(α = .699)
FIGURE 2

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<td>Computer Programmer</td>
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<td>Farmer</td>
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Middle Class Occupations

Working Class Occupations
### TABLE 1

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*?p<.10; * p<.05; ** p<.01; *** p<.001*