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Author(s): Gretchen E. Lopez, Patricia Gurin, Biren A. Nagda

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Education and Understanding Structural Causes for Group Inequalities

Gretchen E. Lopez

Department of Psychology, Syracuse University

Patricia Gurin

Department of Psychology, University of Michigan

Biren A. Nagda

School of Social Work, University of Washington

Group inequalities in the United States are most often attributed to the characteristics of the individuals who belong to these groups; thinking about structural causes of group inequalities is rare. This paper reviews cognitive, cultural, and systemic reasons for this bias. The efficacy of education as a way to increase structural thinking was investigated in two studies of college students' causal thinking about group inequalities. Both studies involved a course on intergroup relations that covered structural sources of racial or ethnic inequalities. Results supported hypotheses that the course would increase structural thinking about racial or ethnic inequality, and that structural thinking would generalize to inequalities not explicitly covered in the course. Both course content and active learning pedagogy were related to structural thinking about inequalities. Active learning was also related to applying structural thinking to targets of change.

KEY WORDS: causal attribution, individualism, structural causation, intergroup relations

Discussions about group inequalities in the United States, whether they take place in the popular press, the political arena, or the academic forum, often involve a debate about the capacity of individuals in different groups to determine their own socioeconomic success. Two opposing explanations typically characterize this debate. One attributes group differences in socioeconomic success to the character, motivation, and dispositions of individuals belonging to various groups. The other explanation, a structural one, asserts that institutions treat different groups of people unequally, making success less attainable for some groups than for others. The

opinions of the American public most often correspond to the first of these explanations, in which the characteristics of individuals are the main cause of group inequalities.

This is as true now as ever. In a recent wave of the General Social Survey, more people attributed worse jobs, income, and housing among African Americans than among whites to individual rather than structural causes (Davis & Smith, 1994). This same pattern is revealed in the 1992 National Election Study (NES; Miller, Kinder, Rosenstone, & The National Election Studies, 1992). These survey results echo the findings of Kluegel and Bobo (1993) in their review of national surveys from the late 1970s through the 1980s (including a longitudinal series of the General Social Survey, the NES, and the ABC News/*Washington Post* survey). Across the surveys, about two-thirds of white Americans endorsed explanations that blame African Americans personally for their lower status. A similar individualistic pattern is demonstrated in people's thinking about class inequality and poverty specifically (Gurin, Miller, & Gurin, 1980; Hewstone, 1989; Smith & Kluegel, 1984). A majority of people in the United States believe that lack of effort, ability, and thrift among poor people are more important causes of poverty than are social and economic factors such as low wages, work discrimination, and relocation of jobs out of urban areas (Cook & Curtin, 1987; Kluegel & Smith, 1981). There are widespread individualistic interpretations in the United States for differences in job status and income.

This paper reviews explanations for why this individualistic bias prevails, and further, what makes structural thinking about inequality so difficult. Many studies, including those just described, have demonstrated the strong tendency toward individualistic thinking, but much less attention has been focused on what experiences might increase structural thinking. We present two quasi experiments that examined structural thinking about causes of group inequalities. Both involved undergraduates who participated in a course on intergroup relations and conflict that covered institutional and other structural sources of inequalities. Two main questions were addressed: (1) What was the effect of the course on causal thinking, and on structural thinking in particular? (2) Did the effect of the course generalize to social phenomena or types of intergroup relations and conflict not explicitly covered in the course?

Why Is Structural Thinking Difficult?

Research into social cognition, and into attributions in particular, provides one response to why structural thinking is difficult. Many studies have demonstrated the tendency to see human behavior as caused by the internal qualities of individuals; people less often perceive factors lying in the immediate social situation or the broader social structure (Hewstone, 1989; Ross & Nisbett, 1991). It has been argued that this tendency toward individualistic attributions is an automatic and "natural" human cognitive process and is thus particularly difficult to interrupt, change, or

unlearn (Gilbert, 1989). Yet other research shows that attribution biases, and causal thinking in general, vary in consistent ways across cultures. Individualistic attributions are more common in some cultures, whereas more situationally sensitive and structural attributions are more common in others (Moghaddam, Taylor, & Wright, 1993; Morris & Peng, 1994; Smith & Bond, 1993). This demonstrates that more than a simple notion of mental hard wiring is involved in how people explain inequality and other social phenomena. Evidence for cultural impact is also demonstrated by research showing that individualistic explanations increase with age in the United States, while the opposite pattern occurs in some other countries, such as India (Miller, 1984). Furthermore, research shows that people in the United States prefer, value, and socially reinforce other people who make individualistic attributions (Fincham & Jaspars, 1980; Jellison & Green, 1981). These developmental and social patterns have been linked to enculturation processes and the high value placed on individualism in the United States (Markus & Kitayama, 1991).

The import of culture goes beyond mere variability. Individuals in different cultures think differently about the causes of inequality because causal theories are given to them as social representations—ideas about causation that are social in origin, concern social outcomes, and are shared by many individuals (Hewstone & Jaspars, 1984). Individuals draw upon social representations conveyed in the media, academic discourse, political campaigns, religious institutions, and so on, in inferring causes of stratification; in other words, they do not make up their own ideas about these causes. Moreover, these social representations are fundamental ones; they are part of a dominant cultural ideology advanced by the most powerful sectors of society in line with their own interests (Van Dijk, 1993).

Huber and Form (1973) described the dominant ideology in the United States as involving the following beliefs: An opportunity to get ahead is available to all; the position of individuals in the stratification system is determined by their personal efforts, traits, and abilities; therefore, inequality across individuals and groups is explained by individual or group differences in personal qualities and thus is fair rather than unjust. Causal attributions are central to this ideology and they function as psychological processes that justify its preservation, conceptualized as legitimizing myths (Sidanius, 1993; Sidanius & Pratto, 1993) or system-justifying processes (Jost & Banaji, 1994). System-justification, often operating unconsciously, is so successful that even members of subordinate groups at times adhere to the dominant ideology against their own group interests (Gurin, Jackson, & Hatchett, 1989; Jost & Banaji, 1994).

Given the varied and strong cognitive, cultural, and systemic forces that maintain individualistic interpretations of group inequalities in U.S. society, how is it possible for individuals to develop a more structural analysis of these intergroup relations? Experiences in many social institutions, such as education, families, and religion, are normally considered culture-reinforcing. Is it possible that these same institutions might at times also be culture-challenging?

Can Education Increase Understanding of Structural Causes?

A large body of research has shown that people who are college-educated are less authoritarian, and this is still true in the United States (Schuman, Bobo, & Krysan, 1992). Most research also indicates that higher education is associated with less prejudicial attitudes and greater racial tolerance (Miller, Miller, & Schneider, 1980; Schuman, Steeh, & Bobo, 1985; Wagner & Zick, 1995; for an exception see Jackman & Muha, 1984), although this effect holds only if education is progressive rather than authoritarian in approach (Duckitt, 1992, p. 255). The positive effect of education also pertains more to support for principles of racial equality than to who supports or opposes implementation of change toward greater equality (Bobo, Kluegel, & Smith, 1996). The relatively smaller body of research that has dealt with individualistic and structural thinking shows that college education is fairly consistently related to less individualistic thinking about the causes of both racial and economic disparities (Kluegel & Smith, 1986).

College education, however, has much less consistent effects on structural attributions. Kluegel and colleagues have argued that this distinction between individualistic and structural attributions is critical, especially given that there is only limited evidence that these attributions covary (with a decrease in individualistic attributions leading to an increase in structural attributions). Kluegel and Smith (1986) found that the more educated actually offer fewer structural attributions for both poverty and wealth than do less educated individuals. Moreover, Kluegel and Bobo (1993) reported that college education has little to no effect on what they called "hard" structural thinking about racial disparities—that is, attributing causes to contemporary conditions rather than only to the historical residue of slavery, and to social or economic institutions rather than only to socialized attitudes of individuals.

Clearly, there is a need for further research that focuses on education and causal thinking specifically. The few studies that deal explicitly with causal thinking have depended nearly entirely on years of schooling, with little or no analysis of the nature or content of education. Furthermore, nearly all of the scant available evidence is correlational and provides little help in understanding the processes by which changes in causal thinking might occur. An important exception regarding the nature or content of education is the work of Guimond and colleagues, who have shown that subject matter in higher education is associated with structural thinking (Guimond, Bégin, & Palmer, 1989). They found that social science students gave more structural explanations for unemployment, poverty, and economic disadvantage relative to students in natural sciences and business. These differences between students majoring in different fields appeared only after students had been in universities for a time. The impact of social science was interpreted as coming from its coverage of historical, political, and economic sources of economic inequality.

Another exception concerns the cognitive processes by which students may become less individualistic in their thinking (Holland, Holyoak, Nisbett, & Thagard, 1986; Ross & Nisbett, 1991). A series of studies has shown that some of the cognitive tendencies that underlie individualistic causal thinking can be reduced by training in statistics. Statistical training markedly increases understanding that a population distribution can be estimated more accurately, on average, from larger than from smaller samples, and that small samples (especially the individual case) are a poor basis for drawing causal conclusions. By logical extension, statistical education should help to decrease individualistic explanations of poverty, as too often people assume that a particularly striking individual case (e.g., “the welfare cheat”) is more widespread than is actually true and is indicative of personal flaws that cause poor people to be poor.

A Study in Understanding Structural Causation

The two studies reported here build on this previous research by examining a particular course and specifically assessing change in students’ causal thinking about group inequalities. The course studied, Introduction to Intergroup Relations and Conflict, included teaching first-year college students about structural sources of group inequality and intergroup conflict (Sfeir-Younis, 1993). Its content and materials should have led to a decrease in individualistic thinking and an increase in structural thinking, including what Kluegel and Bobo (1993) called hard structural thinking. Readings and lectures dealt not only with historical patterns of inequality and subordination/domination, but also with their contemporary patterns and contemporary sources that are much harder to perceive. The readings and lectures went beyond the influence of individual and interpersonal prejudice to show how structural arrangements in the political system, the economy, and social life produce or reinforce intergroup inequality.

The pedagogy of the course—based on active learning exercises and intergroup contact situations—should also increase structural thinking. Active learning through role playing, simulation games, and other experiential exercises took place in both lecture and discussion sections (Sfeir-Younis, 1993). Many educators and social scientists (Fazio & Zanna, 1981; Kolb, 1984; Piaget, 1970; Vygotsky, 1978) have stressed the importance of active learning and direct experience in which students touch, observe, and act upon phenomena for producing new learning and changes in cognition. Furthermore, this form of learning has implications for the likelihood of using the learning in new settings and for connecting learning and action (Fazio & Zanna, 1981; Forman & Cazden, 1985).

The effect of the course was examined in two quasi experiments. For both studies, we hypothesized that the course would alter how students think about group-based inequalities. Study 1 examined the cumulative effect of the course on students’ causal thinking about inequality and specific intergroup conflict situations. A between-subjects design compared course participants with a matched

control group of students at the same university (who did not take the course and had no other exposure to the program). Study 2 used a within-subjects design that compared students' causal thinking at the beginning and end of the course. Study 2 also included additional measures of causal thinking and its outcomes, as well as a preliminary examination of the importance of specific dimensions of the course.

Study 1

In Study 1 we sought to test the following hypotheses:

Hypothesis 1a: Students in the course will show greater structural thinking about racial or ethnic inequality than students in the matched control group.

Hypothesis 1b: Students in the course will generalize their structural understanding of racial or ethnic inequality to other forms of inequality more than students in the matched control group.

Participants and Design

All students in the study ($n = 174$) were in their first year of college at a large midwestern university. Half of these students ($n = 87$) were enrolled in Introduction to Intergroup Relations and Conflict during the 1990–91 academic year. The remaining half ($n = 87$), not enrolled in the course, were selected to provide a matched control sample for the course participants. These control students were drawn from a larger, comprehensive study of the class that entered the university in 1990 (the Michigan Study; see Gurin, 1996). They were matched to the course participants on the demographic criteria of gender, race or ethnicity (white, African American, Asian American, or Latino), precollege residency (in state vs. out of state), and college residence hall. All of the course participants were also part of the Michigan Study sample. Of the 174 students, 69% were women and 31% were men; 72% were white, 12% were Asian American, 9% were African American, and 7% were Latino.

Questionnaires were distributed and collected from course participants during class time at the end of the term. Participation was voluntary. At the same time, students in the control sample were contacted individually by phone and asked to complete an identical questionnaire. Students in the control group received \$5 for completing the questionnaire.

Measures

Two types of measures were used to assess students' thinking about group inequalities. The first measured causal attributions for racial or ethnic inequality in U.S. society, and the second measured causal analysis of a specific, campus-based intergroup situation.

Causal attributions for racial or ethnic inequality. Students were presented with five statements, positively and negatively worded, that put forth structural attributions for racial or ethnic inequality, for example, "The system prevents people of color from getting their fair share of the good things in life, such as better jobs and more money." These items were originally developed in 1972 for the NES (Gurin et al., 1980). Students were asked to indicate their level of agreement with these items on a scale from 1 (strongly agree) to 5 (strongly disagree). Responses to negatively worded items were reversed, so that a higher score on these items indicates greater agreement with structural causes for racial or ethnic inequality. Factor analysis of these items confirmed a one-factor solution, and an overall mean response for structural attributions for racial or ethnic inequality was calculated (Cronbach's $\alpha = .67$).

Causal analysis of intergroup conflict. Students read a vignette about a type of inequality that was not central in the course content. This vignette focused on sexual orientation and dealt with the students' immediate university environment. This measure was adapted from Gutiérrez (1989) and was worded as follows:

Jeff and Janet put posters on the walls of their residence hall to announce a workshop on homophobia. Three students tore them down and replaced them with a new poster declaring the 20th century the century of "heterosexual pride." Jeff and Janet went to the residence hall director who said, "That's really unfortunate. Take down the new posters before other students see them."

After reading the vignette, students were asked to write about the causes of the conflict. A content analysis examined whether they mentioned causes involving aspects of an individual's personality or the larger social structure. Coding categories, determined after the first reading of responses, were as follows: (1) personal characteristics of Jeff and Janet (e.g., "Jeff and Janet are too sensitive"); (2) personal characteristics of the perpetrators (e.g., "the other students are complete jerks"); and (3) structural factors, such as the socialized intergroup beliefs of perpetrators that came from earlier socialization (e.g., "the other students were taught to think this way in high school"). The coding was completed by four undergraduate research assistants blind to whether questionnaires were from course participants or control students. They coded a preliminary set of five questionnaires individually, compared their coding, discussed any differences, and refined the schemata. After the preliminary questionnaires were coded, the research assistants worked in pairs, and each coded every second questionnaire that his or her partner completed. Very few discrepancies arose; these were discussed and resolved.

In addition to these open-ended items, students were asked to respond to a list of possible causes of the conflict: (1) "Jeff and Janet," (2) "other students," (3) "the larger university," and (4) "the larger society." These possible causes ranged from an individualistic analysis to increasingly situational and structural analyses of the conflict. Students evaluated the importance of each cause on a scale from 1 ("not

at all”) to 5 (“totally”). Pearson correlations between the individual cause of “Jeff and Janet” and the more situational and structural causes were as follows: $-.18$ ($p < .05$) with “other students,” $.08$ (not significant) with “the larger university,” and $-.21$ ($p < .01$) with “the larger society.”

Measures from the Michigan Study to test and control for self-selection. The college entrance questionnaire described above provided pretest measures to check for self-selection. Four items measuring causal attributions for racial or ethnic inequality (similar to those described above) were included. Students responded on a 4-point scale, from 1 (strongly agree) to 4 (strongly disagree), rather than the 5-point scale used in the questionnaire at the end of the course. An overall mean score was calculated (Cronbach’s $\alpha = .64$).

In addition, the college entrance questionnaire included a measure of political ideology (also from NES) in which students rated their political views on a scale from 1 (extremely conservative) to 7 (extremely liberal). This was included as a control variable, given that previous research has shown that political ideology is tied to individuals’ explanations for societal inequalities (Hewstone, 1989).

Demographic controls. Students were also asked to self-identify their race or ethnicity (coded as dummy variable; 0 = white person, 1 = person of color) and gender (0 = man, 1 = woman).

Analyses. Preliminary analyses were run to test for self-selection into the course. Given the careful way in which the sample matching was completed, it was predicted that few statistically significant ($p < .05$; two-tailed) differences would appear between the course participants and controls before the start of the course. Next, effects of the course were tested by comparing course participants’ and control students’ causal attributions and analysis after the course was finished. For measures based on closed-ended items, Student t tests were conducted. For open-ended items, χ^2 analyses were conducted. As a further test for the possibility of self-selection, ordinary least-squares regression analyses were conducted that predicted students’ causal attributions and analysis from course participation, controlling for the pretest and demographic control measures.

Results

Self-selection into the course. As expected from the matching procedure, there was little evidence of self-selection into the course for these first-year students. Before the course started, there was no difference ($p > .05$) between the control ($M = 2.78$, $SD = 0.46$) and participant samples ($M = 2.83$, $SD = 0.47$) with respect to their responses to the four items on structural causes for racial or ethnic inequality in the entrance questionnaire. The two groups of students also did not differ significantly in political ideology (control, $M = 4.39$, $SD = 2.02$; participant, $M = 3.96$, $SD = 1.96$) before the course began. These results offer support for our assumption that the causal thinking and political ideology of the course participants and matched controls did not differ in important ways, especially in regard to the

outcomes of interest for this study, when they entered the university and before the course started.¹

Causal attributions for racial or ethnic inequality. As predicted, after the course, student participants perceived more structural causes for racial or ethnic inequality in the United States than did the control students (Table I).

Causal analysis of intergroup conflict: Sexual orientation vignette. The course participants also demonstrated greater structural thinking and less individualistic thinking than the students in the control sample in response to the vignette about issues of sexual orientation (Table I). In response to the open-ended items, course participants were more likely than matched controls to offer a structural cause (the socialized intergroup beliefs of perpetrators) as important. Similarly, in response to the closed-ended items, the course participants were more likely than those in the control group to attribute the conflict to “other students” and “the larger university.” They did not differ, however, in the extent to which they thought the “larger society” was causally important, although the means are in the predicted direction (Table I).

Students in the course were also less likely than students in the control sample to specifically mention the personal characteristics of Jeff and Janet or the perpetrators as an important cause of the conflict (Table I, open-ended). On the closed-ended items, they did not differ in attributing cause to Jeff and Janet, although again the means are in the predicted direction.

Regression analyses. Controlling for the pretest and demographic measures, course participants were more likely than control students to offer structural causes for racial or ethnic inequality. They also offered more situational (i.e., other students) and structural (i.e., larger university) attributions for the intergroup conflict situation (Table II). Thus, while the cognitive and political predispositions students bring with them to college were related to their causal thinking after the course, participation in the course explained a significant portion of the variance in these outcomes (and did so specifically on the outcomes for which mean differences between course participants and control students were reported in Table I).

Study 2

In Study 2, we examined the effects of the course by more closely studying changes in causal thinking for the course participants from the beginning (pretest) to the end of the course (posttest). The hypotheses put forth in Study 1, arguing that the course would change students’ causal thinking about group inequalities toward a more structural analysis, were tested in a subsequent offering of the course with

¹Further analyses of various items on the college entrance questionnaire (including expectations of the university’s racial climate and race-related attitudes such as affirmative action in education) also revealed few differences between these groups.

Table I. Causal Attributions and Analysis in Study 1: Means and Percentages

Scale or item	Control	Participant
Causal attributions for racial or ethnic inequality		
Structural causes for racial or ethnic inequality (<i>M</i> ; scale, 1 to 5)	3.59 (0.67)	4.10*** (0.48)
Causal analysis of intergroup conflict situation		
Open-ended (percent responding)		
Personal characteristics of Jeff and Janet	74%	3%***
Personal characteristics of perpetrators	69%	17%***
Socialized intergroup beliefs of perpetrators	29%	84%***
Closed-ended (<i>M</i> ; scale, 1 to 5)		
Jeff and Janet	1.72 (1.12)	1.49 (0.77)
Other students	3.49 (1.10)	3.92** (0.85)
The larger university	2.65 (1.25)	3.13** (1.05)
The larger society	3.69 (1.20)	3.91 (1.03)

Note. χ^2 and Student *t* tests were conducted. Standard deviations are in parentheses.

p* < .01, *p* < .001.

a new cohort of students. Two additional measures of structural thinking were included. One amplified causal analyses of racial or ethnic conflict by dealing specifically with ethnic differences in language, and another tested changes in causal thinking about poverty to see whether the effect of the course was generalizable to other types of intergroup relations (beyond racial or ethnic inequality) that were not explicitly covered in the course.

Although Study 1 helped to clarify aspects of educational content that contribute to greater structural thinking or less individualistic thinking, it did not identify the educational processes that underlie these findings. The generalization of students' thinking about race-based inequality to thinking about inequality based on sexual orientation (in Study 1) is in line with Kolb's (1984) work on experiential learning. His theory posits that after concrete experiences and opportunities for subsequent reflection, students are able to develop more generalized and abstracted understandings of phenomena. The generalized comprehension can then be applied to other experiences or issues and tested for congruence. Additionally, through active engagement, students may have a sense of agency in intergroup situations such that they are able to critically appraise different targets of change. Thus, Study 2 also examined the relationship between student participation in specific dimensions of the course and causal analyses with respect to support for targets of change.

To examine what specific aspects of the course contributed to the change in causal thinking, we studied two dimensions of the course (described earlier): content and pedagogy. The course content covering contemporary social, economic, and political sources of inequality should be critical to a change in causal thinking, given the predominance of social representations and ideology in U.S. culture and society that are tied to individualistic explanations for group inequali-

Table II. Causal Attributions and Analysis in Study 1: Regression Analyses

Dependent variable and predictors	Coefficients		
	<i>B</i>	SE <i>B</i>	β
Structural causes for racial or ethnic inequality ($R^2 = .29$)			
Course participation	.46	.10	.36***
Structural causes for racial or ethnic inequality (pretest)			
Political ideology	-.08	.04	-.17*
Race or ethnicity	.06	.11	.04
Gender	-.12	.11	-.09
Causal analysis of intergroup conflict situation			
Jeff and Janet ($R^2 = .12$)			
Course participation	-.21	.17	-.11
Structural causes for racial or ethnic inequality (pretest)			
Political ideology	.13	.07	.17†
Race or ethnicity	-.23	.20	-.11
Gender	-.48	.19	-.23**
Other students ($R^2 = .09$)			
Course participation	.40	.18	.20*
Structural causes for racial or ethnic inequality (pretest)			
Political ideology	-.13	.08	-.17†
Race or ethnicity	.19	.21	.08
Gender	-.19	.20	-.09
The larger university ($R^2 = .11$)			
Course participation	.42	.21	.18*
Structural causes for racial or ethnic inequality (pretest)			
Political ideology	-.14	.09	-.15
Race or ethnicity	-.16	.24	-.06
Gender	.17	.23	.07
The larger society ($R^2 = .19$)			
Course participation	.12	.19	.05
Structural causes for racial or ethnic inequality (pretest)			
Political ideology	-.21	.08	-.25**
Race or ethnicity	-.36	.22	-.14
Gender	.34	.21	.14

Note. Course participation, race or ethnicity, and gender refer to dummy variables (0 = control, 1 = course participant; 0 = white student, 1 = student of color; 0 = man, 1 = woman). The response scale for political ideology was 1 (extremely conservative) to 7 (extremely liberal).

† $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$.

ties. A pedagogy based on active learning and role-taking should also be critical to daunt what may be largely unconscious cognitive processes of system-justification. From the ongoing instruction and reflection, it is possible that the students develop a way of thinking that they are able to apply to other inequalities. Moreover, this understanding can also be applied to thinking about who and what needs to change to intervene in the inequality. A clearer understanding of the structural causes of group inequalities should be accompanied by a greater willingness to target aspects of the problem outside of the particular individuals involved or even the immediate social situation. That is, structural causal thinking should help students to recognize that aspects of the larger social structure must change. All this points to aspects of course pedagogy, especially active learning, that help students to increase their structural understanding, generalize this to different situations, and apply their thinking to action strategies.

To summarize, Study 2 examined effects of the course by studying changes in causal thinking for the course participants from the beginning to the end of the course in a within-subjects design. The hypotheses were as follows:

Hypothesis 2a: Students in the course will show greater structural thinking about racial or ethnic inequality at the end of the course as compared to the beginning.

Hypothesis 2b: Students in the course will generalize their structural understanding of racial or ethnic inequality to other forms of inequality, showing greater structural thinking about these other types of inequalities at the end of the course as compared to the beginning.

Hypothesis 2c: Students in the course will more often suggest structural targets of change for intergroup conflicts at the end of the course as compared to the beginning. Furthermore, a change toward greater structural thinking will be related to stronger support of structural targets of change.

Hypothesis 2d: Students in the course who are most involved in its content and accompanying active learning will demonstrate the greatest change in causal thinking about group inequalities at the end of the course. And students who are more involved in active learning in particular will be more likely than students who were not to generalize and apply their understanding of structural thinking to a more specific intergroup conflict situation.

Participants and Design

The participants were 203 students enrolled in Introduction to Intergroup Relations and Conflict during the 1991–92 academic year. Of these students, 86% were in their first year of college; 69% were women and 31% were men; 77% were white, 10% were African American, 9% were Asian American, 3% were Latino, and 1% were Native American. The students completed a pretest questionnaire at the beginning of the course and a posttest questionnaire at the end.

Measures

The following measures were included in both the pretest and posttest questionnaires unless otherwise noted.

Causal attributions for racial or ethnic inequality. Students were presented with five statements that put forth structural attributions for racial or ethnic inequality (similar to items used in Study 1, with three items being exactly the same). The response scale ranged from 1 (strongly agree) to 4 (strongly disagree). Factor analysis of these items confirmed a one-factor solution, and a summary mean response for structural attributions for racial or ethnic inequality was calculated (for the pretest, Cronbach's $\alpha = .75$; for the posttest, $\alpha = .77$).

Causal attributions for poverty. Students were asked to rate the importance of five individual causes for poverty (e.g., "lack of effort by the poor themselves") and six structural causes (e.g., "low wages in some businesses and industries") using Feagin's (1972) measure of causal attributions of poverty. The response scale ranged from 1 (not at all important) to 3 (very important). An overall mean response was created for individual causes of poverty (for the pretest, $\alpha = .66$; for the posttest, $\alpha = .70$) and structural causes of poverty (for the pretest, $\alpha = .68$; for the posttest, $\alpha = .73$). The Pearson correlation between students' ratings for individual and structural causes for poverty was $-.15$ at pretest and $-.18$ at posttest ($p < .05$ for both). The correlation between individual causes for poverty and structural causes for racial or ethnic inequality was $-.15$ at pretest ($p < .05$) and $-.31$ at posttest ($p < .001$). The two measures of structural causes, for poverty and for racial or ethnic inequality, were strongly correlated ($.54$ at pretest, $.52$ at posttest; $p < .001$).

Causal analysis of intergroup conflict. A vignette with a format similar to that used in Study 1 was included to see how students applied a causal analysis to specific intergroup situations in their own college environment. In this study, the conflict was centered on language differences as another aspect of racial or ethnic inequality (Gutiérrez, 1989). Students were presented with the following intergroup vignette:

Oscar Rubalcava has invited some of his Latino friends from back home to visit him at his residence hall. They are all students at the University of Michigan who live off campus or in different residence halls. As they begin reminiscing, they start to speak in Spanish. They are having a particularly good time when someone from Oscar's hall sticks his head in Oscar's room and says, "Hey, what's the matter with you, when you are in America, speak English!"

Students were asked to respond to the importance of different causes of the problem as in Study 1. The Pearson correlation between the individual cause of "Oscar's personality" and the more situational cause of "other student" was $-.23$ at pretest and $-.27$ at posttest ($p < .001$). Correlations between "Oscar's personality" and the structural causes of "the larger university" and "the larger society," at pretest and

posttest, were not statistically significant ($p > .05$). A mean score for structural causes for the intergroup conflict situation, which included two items, "the larger university" and "the larger society," was also created ($r = .55$ at pretest, $.56$ at posttest; $p < .001$). The correlation between these combined 2-item pretest and posttest measures of structural causes was $.34$ ($p < .001$).

Targets of change. Students were asked what needed to be changed to deal with this intergroup conflict. Possible responses identified individual targets of change (i.e., Oscar or the other student) and structural targets of change (i.e., the university or larger society), or asserted that nothing could be done (see Table IV for item wording). The response scale for each of these targets was from 1 (strongly disagree) to 7 (strongly agree). In addition, a mean score was calculated for structural targets, combining "the larger university" and "the larger society" ($r = .66$ at pretest, $.77$ at posttest; $p < .001$).

Course dimensions. In the posttest questionnaire, students were asked how important different course dimensions were and how involved they were in them. Importance was rated on a scale from 1 (not at all important) to 4 (very important), and involvement was rated from 1 (not at all involved) to 4 (very involved). The content dimension of the course includes students' mean response to the importance of, and their involvement in, lectures and readings (Cronbach's $\alpha = .68$, four items). The active learning dimension of the course includes students' mean response to the importance of, and their involvement in, experiential exercises and journal assignments (Cronbach's $\alpha = .66$, four items). These two measures were significantly but not highly correlated ($r = .34$; $p < .001$).

Control variables. Political ideology, race or ethnicity, and gender were measured as in Study 1.

Analyses. Paired t tests were run to compare course participants' causal attributions for group inequalities, causal analysis of the intergroup conflict situation, and support for targets of change before and after the course. Further regression analyses examined to what extent support for structural targets of change was related to an increase in structural thinking about the causes of the conflict. Finally, partial correlations (controlling for pretest measures) were computed as a preliminary test of the relationship between student participation in different dimensions of the course and causal analyses, and between student participation and targets of change.

Results

Causal attributions for group inequalities. Overall, the course participants' causal thinking about racial or ethnic inequality was more structural after the course than before (Table III). A similar pattern was demonstrated in regard to students' thinking about poverty. There was a significant increase in their mean score for structural causes for poverty at the end of the course compared to the beginning. In addition, the mean score for individual causes shows that students supported

Table III. Causal Attributions and Analysis in Study 2: Means

Scale or item	Pretest	Posttest
Causal attributions for group inequalities		
Structural causes for racial or ethnic inequality (scale, 1 to 4)	2.85 (0.53)	3.02*** (0.50)
Individual causes for poverty (scale, 1 to 3)	1.93 (0.44)	1.73*** (0.44)
Structural causes for poverty (scale, 1 to 3)	2.39 (0.39)	2.51*** (0.38)
Causal analysis of intergroup conflict situation (scale, 1 to 5)		
Oscar’s personality	1.30 (0.61)	1.31 (0.64)
Other student	4.20 (0.83)	4.24 (0.85)
The larger university	2.32 (1.10)	3.08*** (1.12)
The larger society	3.12 (1.26)	3.74*** (1.00)

Note. Paired *t* tests were conducted. Standard deviations are in parentheses.

****p* < .001.

individual causes for poverty less at the end of the course (posttest) than they did at the beginning (Table III).

Causal analysis of intergroup conflict: Language-based vignette. In analyzing the language-based vignette, the greatest change in causal thinking from the beginning to the end of the course was an increase in structural thinking. The students made more structural attributions toward the larger university and society in general at the end of the course (Table III). No significant differences were found in their individual attributions to “Oscar’s personality” or to “the other student.”²

Targets of change. In addition to offering more structural attributions at the end of the course, the students showed a significant increase in agreeing that social structures would have to change to deal with the conflict in the language-based vignette. They more often supported educational campaigns and more often said that the general climate at the university and certain aspects of society would have to change (Table IV). They also endorsed Oscar talking to a university authority—an individual action, but one that involves an institutional target. In addition, they were less likely to believe that “Oscar should be less sensitive.” No change was found for the remaining actions.

Further regression analysis supports our hypothesis that a change in causal thinking, toward a more structural analysis of the intergroup conflict situation, is tied to students’ increased emphasis on structural targets at the end of the course. Students’ structural analysis of the intergroup conflict situation at the end of the course is strongly related to their support for changing structural targets, controlling for pretest measures (Table V).

²Additional analyses (paired *t* tests), computed separately for samples based on gender (women vs. men), race or ethnicity (students of color vs. white students), and political ideology (liberals vs. conservatives) confirmed that these same general patterns of change in causal thinking (attributions for group inequalities and analysis of the intergroup conflict situation) occurred across groups of students, with only a small number of exceptions.

Table IV. Targets of Change in Response to Intergroup Conflict Situation in Study 2: Means

Item (scale, 1 to 7)	Pretest	Posttest
All things considered, there is really nothing than can be done to deal with this problem.	2.71 (1.59)	2.65 (1.43)
Oscar should try to be less sensitive.	2.92 (1.69)	2.64* (1.59)
Oscar should talk to the other person about it.	5.80 (1.13)	5.79 (1.21)
The other student should be more tolerant of people who speak more than one language.	6.58 (0.80)	6.59 (0.82)
Oscar should talk to some university authority about it.	4.24 (1.55)	4.59** (1.64)
Oscar should make others aware of it by distributing flyers, writing a letter in the [school newspaper], or organizing a workshop on the issue.	3.74 (1.67)	4.16*** (1.56)
The general "climate" at the university would have to change.	4.21 (1.62)	5.05*** (1.53)
Certain aspects of the wider society would have to change.	4.99 (1.53)	5.52*** (1.34)

Note. Paired *t* tests were conducted. Standard deviations are in parentheses.

p* < .05, *p* < .01, ****p* < .001.

Course dimensions related to change in causal attributions and analysis. As predicted, individual student participation in the content and active learning dimensions of the course was positively related to thinking about structural causes for racial or ethnic inequality and poverty, controlling for pretest measures of the same scale (although it was not related to individual causes for poverty; see Table VI). Content was also related to an attribution to "the larger university" in response to the more immediate intergroup conflict situation, whereas participation in active learning was related to this attribution as well as other situational ("the other student") and structural causes ("the larger society"; see Table VI).

Further results suggest that active learning is particularly important to student support for targets of change (Table VII). Active learning was positively correlated with several different targets of change, from the other individual in the situation to university authorities and wider society. In addition, active learning was nega-

Table V. Structural Targets of Change Predicted from Structural Causes of Intergroup Conflict Situation in Study 2: Regression Analysis

Dependent variable and predictors	Coefficients		
	<i>B</i>	SE <i>B</i>	β
Structural targets of change ($R^2 = .26$)			
Structural causes for intergroup conflict situation (posttest)	.76	.10	.52***
Structural causes for intergroup conflict situation (pretest)	-.05	.09	-.04

Note. "Structural targets of change" refers to the need for the larger university and larger society to change, as rated in the posttest questionnaire.

****p* < .001.

Table VI. Course Dimensions Related to Causal Attributions and Analysis in Study 2: Partial Correlations

Scale or item	Dimension	
	Content	Active learning
Causal attributions for group inequalities		
Structural causes for racial or ethnic inequality	.21**	.25***
Individual causes for poverty	.07	.02
Structural causes for poverty	.29***	.23***
Causal analysis of intergroup conflict situation		
Oscar's personality	.05	-.14†
Other student	-.07	.15*
The larger university	.15*	.18**
The larger society	.11	.29***

Note. Partial correlations are shown controlling for pretest measures of the same individual item or scale.

† $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$.

tively correlated with targeting the individual (Oscar) himself. In contrast, content was mostly irrelevant for support for targets of change.

Discussion

Education and Changes in Causal Thinking

In the two studies, we found support for the main hypotheses that (1) a course on intergroup relations and conflict would shift students' patterns of causal thinking, in particular toward greater recognition of the structural sources of racial or ethnic inequality, and (2) this change in causal thinking would generalize beyond an analysis of racial and ethnic inequality to students' causal analysis of other types of group inequalities that were not covered as extensively in the course. At the end of the course, students in Study 1 offered a more structural analysis of racial or ethnic inequality than did the matched control sample. They were also more likely than control students to offer a social and structural analysis of an intergroup conflict situation involving issues of sexual orientation. Similarly, in Study 2, there was a significant change from the beginning to the end of the course in individual students' structural attributions for racial or ethnic inequality and also for poverty. In this study, course participants also became more structural in their causal analysis of an intergroup conflict situation, involving issues of ethnic group differences in language, over the time span of the course. The before-after scores in this study make clear that the impact of the course was to enhance what was already fairly structural thinking among the students when they entered the course. The results should not be construed as demonstrating a shift from extremely

Table VII. Course Dimensions Related to Targets of Change in Response to Intergroup Conflict Situation in Study 2: Partial Correlations

Item	Dimension	
	Content	Active learning
All things considered, there is really nothing that can be done to deal with this problem.	-.10	-.05
Oscar should try to be less sensitive.	-.12†	-.28***
Oscar should talk to the other person about it.	.05	.18*
The other student should be more tolerant of people who speak more than one language.	.09	.13†
Oscar should talk to some university authority about it.	.10	.20**
Oscar should make others aware of it by distributing flyers, writing a letter in the [school newspaper], or organizing a workshop on the issue.	.02	.07
The general "climate" at the university would have to change.	.05	.12†
Certain aspects of the wider society would have to change.	.08	.21**

Note. Partial correlations are shown controlling for pretest measures of the same individual item or scale.

† $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$.

individualistic to structural thinking, but rather as increasing a structural mode of thinking.

The overall consistency in the results across studies, with different designs and cohorts of students, attests to the efficacy of the course in changing causal thinking. The generalization results further suggest that students were not merely adhering to a course ideology (specific to the topics covered) but were using a method of analysis they learned in the course to think critically about other types of group inequalities and new intergroup situations.

An alternative explanation that might be offered for these results is self-selection; that is, students who are interested in taking a course on intergroup relations and conflict may already be more sensitive to social and structural influences on intergroup behavior (before taking the course) than their peers at the same university who chose not to take such a course. Although this is a plausible explanation, and the nature of studying students' causal analyses about real social groups and intergroup conflict in a quasi experiment limits the causal inferences that can be drawn, it is generally inconsistent with the results from the two studies. More specifically, in Study 1 we found no significant difference in causal attributions for racial or ethnic inequality between the course participant sample and the matched control sample at the beginning of the course. In the same study, these initial causal attributions (together with political ideology) were controlled in regression analy-

ses, and participation in the course remained a significant predictor of causal thinking about group inequalities.³ Moreover, Study 2 directly examined and demonstrated the change in students' causal thinking from the start to the end of the course. Considered together, these results raise considerable doubt regarding the argument that self-selection is responsible for the findings.

These results are also consistent with previous research in some important ways. In addition to Guimond et al. (1989), Guimond and Palmer (1990) found that social science students became more structural in their causal analyses of class inequality as they progressed through their education. In the studies reported here, we found evidence that a change in causal thinking, toward more structural analyses of inequality and intergroup situations, may occur in an even shorter period of time—in response to an intense semester-long course on intergroup relations as opposed to several years of a social science curriculum. In this way, the results are also in keeping with studies on the effect of multicultural courses on racial and gender role attitudes and other kinds of social cognition such as critical thinking, perspective-taking, and reflective judgment (e.g., Banks, 1995; King & Shuford, 1996; Stephan & Stephan, 1984).

However, other researchers have questioned the efficacy of education in increasing awareness of the structural causes of inequality. Kluegel and Bobo (1993) concluded, for example, that education (measured in number of years) does not increase structural thinking for white Americans. Their results indicate that although highly educated people are less prejudiced on traditional measures of racial prejudice and offer fewer individualistic interpretations for racial inequality than those who are less educated, they are not more likely to offer structural arguments. Even among those with the most years of schooling, structural arguments are quite rare. Perhaps, then, it is more appropriate to ask when, rather than if, education increases structural thinking.

In addition to understanding the effect (or lack thereof) of education in regard to years of schooling (as it is most frequently measured in national surveys), researchers need to look within the university experience to delineate what educational experiences shape and change students' patterns of causal thinking. Education can be characterized as producing conflicting and somewhat oppositional outcomes—socializing students to maintain and justify the status quo, but also providing opportunities for developing the knowledge and skills important for social change (e.g., Shor, 1992). Not every course on intergroup relations will achieve the same results for structural thinking; certain key conditions must be present.

³The fact that these were first-year students may play a role in this, in that course selection may be somewhat less deliberate (and based on a general openness and willingness to learn about different topics) than it is later in college, when students are more seriously committed to a specific field of study.

Course Content, Active Learning, and Structural Thinking

In the course under study, students were exposed to and encouraged to use structural thinking through both the content and pedagogy of the course. Study 2 yielded supportive results for our hypothesis that involvement in content and active learning would be related to structural thinking about racial or ethnic inequality and its generalization to issues of class inequality (although neither was related to individual attributions for poverty). Both were also related to causal analyses of an intergroup conflict situation.

Following Kolb (1984), in Study 2 we further examined students' ability to apply a structural causal analysis to targets of change. At the end of the course, students endorsed structural change at the university and in society more strongly than at the beginning.⁴ Additional analyses indicated that active learning in particular was important for reducing subscription to individual-level targets and increasing support for situational targets and structural-level change. Thus, although both content and pedagogy were important for generalization, active learning alone was important for application. However, because our surveys measured attitudes toward action rather than actual behavior, future research should address and test the link we have found between structural thinking and approval of structural action.

Implications for Multicultural Education

The findings regarding content and pedagogy also provide support for theories of multicultural education. The literature in this area commonly emphasizes content revision and pedagogical changes. With respect to content, it stresses the need to present multiple perspectives. With respect to pedagogy, it stresses the importance of student engagement in active learning (Banks, 1995; Schoem, Frankel, Zúñiga, & Lewis, 1993). Two implications from this study are relevant here. First, it is not enough merely to present multiple perspectives. Instead, the content must help students to grasp a structural analysis of intergroup conflicts. Second, multicultural education needs to go beyond lecture presentation. For students to integrate and fully appreciate the new content, they must think, reflect, and act on the content.

Learning is a process, rather than the simple replacement of old ideas with new ideas. Active learning facilitates this process "by bringing out the learner's beliefs and theories, examining and testing them, and then reintegrating the new, more refined ideas into the person's belief systems" (Kolb, 1984, p. 28). In requiring

⁴Although students became more structural in their causal analyses and supportive of structural targets of change (e.g., "larger university and society would have to change"), they also strengthened their belief that the individuals in the situation have a responsibility for solving intergroup problems (e.g., the person "should talk to a university authority"). Thus, in increasing their awareness of structural causes through participation in the course, students do not appear to have lost a sense of personal efficacy and responsibility.

students to actively process and explicitly apply the knowledge they gain about structural relations between racial and ethnic groups in the United States to varied events and situations occurring in their immediate social worlds, we believe the course examined here taught students to “think twice” about the implicit (i.e., automatic, unconscious) and typically unfavorable inferences they make regarding racial, ethnic, and other subordinate groups. In this way, students learn to consider and use explanations for group inequalities and intergroup conflicts that run counter to the dominant ideology in the United States. As Jost and Banaji (1994) have argued, by “focusing attention explicitly on issues pertaining to the system of social arrangements, it may be possible to avoid the consequences of system-justification” (p. 16).

Implications for Social and Political Psychology

Social psychologists have focused considerable attention and empirical efforts on documenting the efficient but insidious cognitive processes underlying racial prejudice and discrimination. Increasingly, at least at a theoretical level, social psychologists in the United States are also taking into account the embeddedness of these cognitive processes in larger social systems. Neither of these approaches precludes investigating the alternative, more immediate social conditions that can serve to disrupt these cognitive processes and lead to counternormative patterns of social cognition and intergroup behavior (e.g., Banaji & Greenwald, 1994; Fiske, 1989). Yet far more attention has been devoted to how these processes are maintained than to how lasting cognitive change might occur. Even within sociology, where interest in causal thinking about inequality has a longer history, arguments have been made “for the urgent need to learn more about the factors that inhibit structural explanation of the black-white socioeconomic gap and, perhaps more important, about factors *that may encourage it*” (Kluegel & Bobo, 1993, p. 147, emphasis added). Although some of the results presented here require qualification, they are promising in showing that socially and culturally reinforced belief systems—such as individualistic thinking about inequality—can be challenged through educational experiences where students examine the roots of their thinking, consider alternative possibilities, and transform their own thinking through generalization and application.

A better understanding of the possibility of change in people’s causal thinking about group inequalities should inform other areas of interest to political psychologists. An awareness of structural causes is critical for garnering support for public policies, such as affirmative action, designed to improve the position of blacks and other minorities (Bobo et al., 1996; Kluegel, 1990; Kluegel & Smith, 1986; Sniderman & Hagen, 1985). Although different forms of prejudice and racism have been extensively studied as predictors of policy support, less research has been conducted on the significance of causal analyses for this and other political outcomes. This is despite evidence that “structuralism is a dimension of whites’

racial beliefs distinct from both traditional prejudice and individualism,” and it “is a long leap indeed from simply not feeling hostility towards blacks to seeing black-white economic differences as the product of structural factors” (Kluegel & Bobo, 1993, pp. 131, 143).

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APPENDIX**Items Included in Scales Measuring Structural Causes
for Racial or Ethnic Inequality***Study 1*

1. The system prevents people of color from getting their fair share of the good things in life, such as better jobs and more money.*
2. A person's racial background in this society does not interfere with everything he or she wants to achieve.
3. Many whites show a real lack of understanding of the problems that people of color face.*
4. Most people of color are no longer discriminated against in the United States.
5. The person's skill and effort are important but many people still face serious discrimination in our society.*

Study 2

1. The system prevents people of color from getting their fair share of the good things in life, such as better jobs and more money.*
2. A person's racial background in this society does not interfere with everything he or she wants to achieve.
3. Many whites show a real lack of understanding of the problems that people of color face.*
4. Most big corporations in the United States are really interested in treating employees of color and white employees equally.
5. In the generation since the civil rights movement, our society has done enough to promote the welfare of people of color.

Note. Study 1 used a 5-point response scale (1 = strongly agree, 5 = strongly disagree); Study 2 used a 4-point scale. Items marked with an asterisk were reversed so that higher values for the overall scale indicated greater agreement with structural causes for racial or ethnic inequality.