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Region-Urbanicity Differences in Locus of Control: Social Disadvantage, Structure, or Cultural Exceptionalism?

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Region-Urbanicity Differences in Locus of Control: Social Disadvantage, Structure, or Cultural Exceptionalism?

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Abstract

People with internal rather than external locus of control experience better outcomes in multiple domains. Previous studies on spatial differences in control within America only focused on the South, relied on aggregate level data or historical evidence, or did not account for other confounding regional distinctions (such as variation in urbanicity). Using data from the National Education Longitudinal Study, we find differences in adolescents' loci of control depending on their region and urbanicity are largely attributable to differences in their social background, and only minimally to structural differences (i.e., differences in the qualities of adolescents' schools). Differences that persist net of differences across adolescents and their schools suggest the less internal control of rural Southern adolescents, and the more internal control of rural and urban Northeastern adolescents, may be due to cultural distinctions in those areas. Results indicate region is more closely associated than urbanicity with differences in locus of control, with Western and Northeastern cultures seemingly fostering more internal control than Midwestern and Southern cultures. These findings contribute to research on spatial variation in a variety of psychological traits.

Keywords

Regionalism; Locus of Control; Social Stratification; Adolescence; Rurality; Social Psychology; Cross-Cultural Comparison

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Adolescents with more internal control perform better in educational realms (Bursik and Martin 2006), engage in fewer problem behaviors (Clarke, MacPherson and Holmes 1982), and exhibit better mental and physical health (Martin et al. 2005). Despite evidence of cross-national differences in locus of control (Sastry and Ross 1998), only a handful of studies have explored regional variation in locus of control within the United States. These studies have largely focused on the purported fatalism of Southerners (Cobb and Stueck 2005). Rentfrow (2010) emphasizes the need for increased understanding of spatial differences in personality. This study uses individual and school level data from a large nationally representative survey, the National Education Longitudinal Study (NELS), to explore

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regional differences in adolescents' average loci of control across all of the United States, and to investigate whether these differences are at all attributable to cultural and structural factors.

The possibility that regional differences are actually attributable to systematic differences in urbanicity across regions is an important consideration (Hertzler 1940), with evidence that peoples' loci of control vary depending on whether they live in urban or rural areas (Malone 2002). Cohen and Nisbett (1998), one of the few studies to consider region and urbanicity by comparing rural Southerners to rural Midwesterners, found rural Southerners were no more likely than rural Midwesterners to feel externally controlled. We explicitly account for the possible contributions of both region and urbanicity by exploring adolescents' loci of control at the intersection of their region and urbanicity of residence (e.g., rural South, urban South, suburban South).

Despite well-established links between social disadvantage and more external control (Ross and Mirowsky 2013), researchers attribute regional differences in average locus of control to cultural exceptionality without having accounted for other regional distinctions. The composition of the population and social structure varies across both regions and urbanicities (Champion 2001). If region-urbanicity differences in adolescents' average loci of control are attributable to distinctive population compositions, accounting for differences in adolescents' characteristics should explain region-urbanicity differences in their mean loci of control. We use measures describing adolescents' schools to capture spatial differences in structure, that is, differences in policies and the social arrangement of people. In contrast to previous studies' general neglect of structural factors (Angel, Angel and Hill 2009), we investigate whether structural differences are implicated in region-urbanicity differences in adolescents' loci of control, net of differences in adolescents' own characteristics.

Cohen (2009) emphasizes the need for an increased focus on culture in social psychological research, but acknowledges the difficulties in defining and measuring culture. Cultural influences on locus of control have typically been examined by comparing individualistic and collectivist societies (Bond and Smith 1996). Values are the most common operationalization of culture (Taras, Rowney and Steel 2009), and Maznevski et al. (2002) cite individual level mastery as one of five key aspects of cultural differences. Previous studies on cultural differences in psychological traits largely relied on aggregate level data (Maznevski et al. 2002), but this study incorporates both individual and contextual level measures. If region-urbanicity differences in locus of control persist net of individual and school level controls, the influence of distinctive cultures becomes a possibility. Gore, Aseltine and Schilling (2007) emphasize the need for research on adolescents' mental health. Moreover, if the significance of place is declining, it should certainly be evident in the data used in this study, as most similar studies were conducted some time ago and focused on adult samples. In addition to contributing to the locus of control literature, this study will be informative for the broader social psychological, cross-cultural and regionalism literatures. Conway et al. (2001) argue that intranational explorations of cultural differences in social psychological traits can cross-validate findings at the international level and generate new findings. Increased understanding of more macro-level forces that shape adolescents' sense of control may also facilitate the scaling of programs focused on empowering youth.

In the review of the literature that follows, we discuss the meaning of internal control, potential distinctions in regional cultures, urbanicity, and the characteristics of adolescents and their schools that may be confounded in the seeming influence of region-urbanicities on adolescents' loci of control.

Locus of Control

Julian Rotter (1954) introduced the term “locus of control” to describe differences in the degree to which people perceive themselves as having control over their own lives. People with more external control, the low end of the scale, attribute life outcomes to forces external to themselves, such as fate, destiny, or powerful others, while people with more internal control, at the high end of the scale, take responsibility for their successes and failures (Ross and Mirowsky 2013). This concept has been measured in a variety of ways [see Ross and Sastry (1999) and Gould (1999)], but this study focuses on the degree to which adolescents feel *they* have control, rather than the degree to which they feel people *generally* have control over their own lives. The measure in this study blends primary control, the control one exerts over the external environment, with secondary control, the control one exerts internally to shape events. The measure also focuses on adolescents' sense of control over life in general rather than in one specific realm. The concept of internal control is closely aligned with other social psychological traits, such as efficacy, autonomy, agency, and instrumentalism, just as fatalism corresponds with more external control (Ross, Mirowsky and Cockerham 1983). Some researchers emphasize the distinctions between each of these terms (Bonetti et al. 2001), but there is generally agreement on the substantial overlap.

The concept of locus of control is rooted in social learning theory, or is perceived as a product of a person's environment and social interactions (Miller et al. 2002). While previous research has emphasized the contributions of sociodemographic characteristics (Sastry and Ross 1998), this study focuses on the possibility that spatial differences in culture shape adolescents' loci of control. Culture is a shared or dominant body of values, beliefs, and norms which guide the thinking and conduct of a group, and are passed on from one generation to the next (Hertzler 1940). Previous research on cultural variation in locus of control has typically compared individualized cultures to collective cultures (Sastry and Ross 1998), finding that people in the United States, like other individualistic Westernized cultures, exhibit more internal control on average than people from more collective societies (Cheng et al. 2013). Southern fatalism has largely been attributed to a unique Southern culture (Reed 1983), but few studies have explored other regions of the United States. This study focuses on the possibility that adolescents' loci of control may be informed by cultural distinctions across the United States.

Regional Culture and Urbanicity

Portraying the nation boundary as artificial, regionalists emphasize spatial diversity within the United States (Schwartz 1999). Although the notion of distinctive regional cultures is prevalent in some academic niches (Van de Vliert 2007), others debate the extent to which such distinctions are still evident. Since the 1930s, critics have argued the United States has

been homogenized by advances in communication and transportation (Ogburn 1936). The United States' national language, national media, and federal control of local affairs suggest distinct regional cultures are unlikely (Plaut, Markus and Lachman 2002). Others counter these arguments by arguing escalating levels of mobility and communication actually accentuate regional differences for people (Reed 1983). Plaut et al. (2002) points out that regional speech, economic forces, local control of school curricular, political cultures, intraregional migration patterns, and persistent differences in climate and terrain threaten national uniformity. Regionalists do recognize diversity within regions, but focus on coherence at the aggregate level (Plaut et al. 2002).

Studies on a wide range of topics suggest a distinctive Southern culture persists (Lloyd 2012). Higher rates of violence (Felson and Pare 2010; Messner, Baller and Zevenbergen 2005), lower levels of trust (Simpson 2006), and persistent higher levels of intolerance (Ellison and Musick 1993; Tuch 1987) are cited as examples of Southern exceptionalism. Southern fatalism is thought to align with Southern collectivism (Vandello and Cohen 1999), and with the Southern value for tradition and a tendency toward accepting life as it is (Alvarez and Kolker 2001). This study is the first to our knowledge to contrast Southern adolescents to adolescents in all other regions of America, and to account for a multitude of other regional distinctions.

The West is second perhaps only to the South in its prominence in the American imagination, with the distinctiveness of both the South and West possibly supported by the relative consistency of personality traits within these two regions (Rentfrow 2010). Counter to the South, residents of the American West are portrayed as optimistic (Gillin 1955), more individualistic (Vandello and Cohen 1999), and supportive of the notion that individuals can rise on the basis of their own hard work (Knight 2010). With these qualities synonymous with a more internal locus of control, we hypothesize adolescents in the West may exhibit more internal control on average than adolescents in other regions.

The American Midwest is often depicted as “typical” America, a region whose residents embrace white Protestant values (e.g., capitalism, democracy) (Doyle 1991). The optimism and individualism of Midwestern culture (Plaut et al. 2002) might lead to more internal control among Midwestern adolescents. Alternatively, Midwesterners also ostensibly cultivate the importance of averageness and being content with one's position in life (Shortridge 1991), which suggests adolescents in the Midwest will feel more external control. For all that the Midwest is portrayed as typical America, the dearth of studies on the culture of the Northeast implies its normative status. For this reason, we hypothesize adolescents in the Northeast may embrace “American” values moreso than other regions, and exhibit more internal control on average.

Previous research on links between urbanicity and people's loci of control, and on differences in urbanicity across regions, demonstrates the importance of accounting for adolescents' urbanicity as well as their region of residence. Findings linking urbanicity to locus of control are mixed. Characterized as relying on old truths and being resistant to change (Harms 1940), some studies find more external control among residents of rural areas (Malone 2002). Others find that rural living increases individualism and self-

sufficiency, resulting in more internal control (Witt 1989). The locus of control of suburbanites has largely been neglected in previous research, but Carter and Corra (2012) recently found suburbanites are more similar to rural than urban residents, at least in the degree to which they tolerate racial differences. Some evidence suggests differences across urbanicities are becoming less distinct in America (Lichter and Brown 2011). Nonetheless, with regional differences inextricably linked with differences in urbanicity, we explicitly account for differences in urbanicity by characterizing adolescents depending on the region and urbanicity of their residence as a first step in our analyses.

Spatial Differences in Adolescents and Their Schools

Region-urbanicity differences in the degree to which adolescents feel control over their own lives may actually reflect systematic differences in the qualities of adolescents across region-urbanicities. Economic disadvantage, racial minority status, and lower levels of education are all linked to more external control (Mirowsky and Ross 1983). Some studies link religiosity, particularly within more fundamentalist denominations, to more external control, with the individual attributing causality to God rather than to the self (Carone and Barone 2001). Other studies find no association between religious participation and personal mastery (Ellison 1993), or even find religiosity is associated with internal control (Carter, McCullough and Carver 2012; McCullough and Willoughby 2009). The prevalence of fundamentalist religiosity varies by both region and urbanicity (The Pew Forum on Religion & Public Life 2008). This study controls for these factors to explore whether region-urbanicity differences in adolescents' loci of control are attributable to cultural or structural factors.

Schools and the composition of their student bodies reflect differences in structure, or region- and urbanicity-specific policies and social arrangement of people. Some types of schools, such as private schools, may foster student empowerment. The finding that the disorder common in disadvantaged neighborhoods increases perceptions of powerlessness (Ross, Mirowsky and Pribesh 2001) suggests adolescents' control may be externalized by attending a school with higher proportions of economically disadvantaged or racial minority youth (Farkas, Lleras and Maczuga 2002). If the relationship between adolescents' region-urbanicities and mean loci of control vary after accounting for differences in the characteristics of their schools, structural factors may contribute to region-urbanicity differences in locus of control as well as to more general differences in locus of control.

Purpose of Study

This study uses individual and school level data from the large nationally representative NELS to explore spatial differences in American adolescents' average loci of control, and to investigate whether these differences are at all attributable to region-urbanicity distinctions in cultural and structural factors. Although mixed findings on the relationship between urbanicity and locus of control present no clear hypotheses, we first characterize adolescents depending on their region and urbanicity of residence. The wealth of previous findings related to individual level predictors of internal control accentuate the importance of controlling for differences in adolescents' characteristics, characteristics likely to vary

systematically across region-urbanicities. Although limited in scope, previous literature suggests structural factors, school characteristics in this case, may differentiate adolescents' loci of control, net of adolescents' own characteristics. Finally, if adolescents' region-urbanicity retains a significant relationship with their loci of control, net of controls for their characteristics and the characteristics of their schools, the possibility arises that region-urbanicity differences in adolescents' loci of control are attributable to distinctive spatial cultures. Previous literature suggests distinctive regional cultures will result in more external control among adolescents in the South and potentially the Midwest, net of all controls, and more internal control among adolescents in the West and potentially the Northeast.

Data and Methods

This study uses measures describing adolescents and their schools from NELS. The National Center for Education Statistics (NCES) first surveyed students for NELS in 1988 as 8th graders. NCES also surveyed a parent and the adolescent's school administrator, and linked administrative data describing schools. The more recent large national survey of American youth, the Educational Longitudinal Study of 2002, did not include a measure of locus of control. We use NELS, rather than a multi-cohort dataset such as Add Health (The National Longitudinal Study of Adolescent Health), in order to maintain sufficient numbers of youth of the same age within each of the twelve region-urbanicities. After excluding youth who did not have a value for our dependent variable (about n=200), our analytic sample consists of approximately 24,200 8th graders in 1,000 schools (NCES guidelines require unweighted frequencies be rounded to the nearest 10).

Dependent Variable

Adolescent's Locus of Control as an 8th Grader—NCES constructed a scale measure of locus of control by combining six items from the 8th grade student survey to which youth could respond from 1=‘Strongly Agree’ to 4=‘Strongly Disagree’: “I don't have enough control over the direction my life is taking,” “In my life, good luck is more important than hard work for success,” “Every time I try to get ahead, something or somebody stops me,” “My plans hardly ever work out, so planning only makes me unhappy,” “When I make plans, I am almost certain I can make them work,” and “Chance and luck are very important for what happens in my life” [alpha=0.71 (Ingels et al. 1992)]. After standardizing NELS' composite locus of control variable to facilitate interpretation of results (standardizing sets national average at zero), the values range from -4.86 to 2.44. Higher numbers on this scale indicate more internal control, while lower numbers indicate more external control. We do not estimate a lagged model (predicting 10th grade locus of control with 8th grade locus of control) because our focus is on long-term development of locus of control rather than changes in locus of control. Although all of our predictor variables are from the 8th grade wave of data collection, most describe qualities that likely characterized adolescents' lives even before the 8th grade. We chose to use the 8th grade measure of locus of control rather than the 10th grade measure because it may be more closely associated with background characteristics and less reflective of the influence of peers (Dornbusch 1989).

Independent Variables

We chose variables theoretically and empirically predicted to covary with locus of control, and achieved parsimonious models by only using controls with impacts in the direction of the association between the main independent variable and the dependent variable [see Frank (2000)]. For instance, we do not control for adolescents' sex, age, or family structure because exploratory analyses showed these measures were not implicated in the relationship between adolescents' region-urbanicity and their locus of control. In other words, results relevant to region and urbanicity are not altered by including these measures as controls. Measures describing adolescents' schools were highly correlated with measures describing the residents in the zip code of their schools – we use the former because of their relatively larger impacts. We address missing values in all independent variables with multiple imputation by the MICE system of chained equations, that is, Stata's 'ice' command (White, Royston and Wood 2011). Sensitivity analyses showed rates of missingness varied depending on the survey question, with lowest rates of missingness evident for adolescents' reports of their race (0.3%) and highest rates evident for adolescents' reports of their religious denomination (36.9%). Our confidence in the values obtained from multiple imputation are increased by the fact that descriptive statistics describing the sample before and after multiple imputation were very similar. More details available by request from authors.

Adolescent's Region-Urbanicity—NCES uses census categories to describe the region (Midwest, West, South, Northeast) and urbanicity (suburban, urban, rural) of each adolescent's area of residence. Because previous literature has critiqued census operationalization of the South (Vandello and Cohen 1999), we use a base year measure of state of residence to reclassify adolescents in West Virginia, Delaware, Maryland, and the District of Columbia as Northeastern. We follow the lead of researchers who consider the South to include the former Confederate states, and states in which the majority of adults identify as Southern (Cooper and Knotts 2010). Results were very similar from models that used original Census classifications, and from models that re-classified adolescents in Texas and Oklahoma as Western rather than Southern. There is some evidence that the loci of control of suburban adolescents in Texas and Oklahoma are higher on average than those of suburban adolescents in the rest of the South (details available by request from authors).

Adolescent's Social Background and 8th Grade Religious Involvement—NELS does not offer regional level measures. Adolescents' characteristics are related to the composition of their region-urbanicity's population, allowing us to evaluate whether region-urbanicity differences in adolescents' mean loci of control are actually attributable to systematic differences across region-urbanicities in adolescents' race, social background, and religious affiliation and participation. We use the composite measures of adolescents' reports of their race from the third wave of data collection (when most adolescents were in the twelfth grade), because NCES corrected missing values in this measure. NCES permitted students to choose one of five race/ethnicities: 'Asian, Pacific Islander,' 'Hispanic,' 'Black, Not Hispanic,' 'White, Not Hispanic,' or 'American Indian, Alaskan.' We control for differences in adolescents' social backgrounds with their parent's report of both parents' highest education level and the annual family income. We also use adolescents' reports on

their parents' occupations, native language, and the cognitive and material resources in their home. The following paragraph describes these measures in more detail.

We constructed dichotomous measures indicating whether adolescents' fathers and mothers were not in professional occupations [1=not professional (‘Clerical,’ ‘Craftsperson,’ ‘Don't Know,’ ‘Farm Manager,’ ‘Farmer,’ ‘Homemaker,’ ‘Laborer,’ ‘Military,’ ‘Never Worked,’ ‘Operative,’ ‘Protective Service,’ ‘Service,’ ‘Youth’); 0=professional (‘Mgr/Administrator,’ ‘Sales,’ ‘School Teacher,’ ‘Professional 1,’ ‘Professional 2,’ ‘Proprietor/Owner,’ and ‘Technical’)]. Some large national datasets provide a measure indicating the status or prestige of the respondent's occupation, a measure correlated with socioeconomic status. NELS does not offer such a measure, and NCES does not provide additional occupational information or income data specific to each parent. Parents in the occupational categories we classified as professional were more likely to have completed at least some college, and to have an average income above $35,000/year, than parents in the occupational categories we classified as not professional. Adolescents without two parents or with unemployed parent(s) are grouped with adolescents whose parents do not have professional occupations, because these adolescents cannot benefit from their parent(s)' professional occupations. Moreover, the educational attainment levels and incomes of these adolescents' parents were consistent with that categorization. We conducted additional sensitivity analyses to explore whether parents who do not work impact their adolescents' loci of control differently than parents who work in non-professional occupations. Never working was too rare among both fathers and mothers, and homemaking too rare among fathers, to consider separately. Adolescents' loci of control were not independently affected by a homemaking mother, net of other controls; moreover, considering homemaking mothers as a distinct category did not alter region and urbanicity coefficients nor improve the fit of the model.

We constructed two measures summing adolescents' household cognitive resources (specific place for study, daily newspaper, magazine, encyclopedia, atlas, dictionary, typewriter, computer, more than 50 books, and a calculator) and material resources (electric dishwasher, clothes dryer, washing machine, microwave oven, video cassette recorder, and their own room). We include measures describing whether the adolescent has a conservative Protestant background (Baptist or Pentecostal), attended a religious education class at least once a week, and participated in a religious youth group during the 8th grade.

School Level Measures—We focus on the structural aspects of region-urbanicities most salient to 8th graders, the characteristics of their schools: type (public, private), size of student body, 8th graders' average daily attendance, student to teacher ratio, proportion of student body who are racial minorities, and proportion eligible for the free lunch program.

Analytic Plan

We account for NELS' complex sampling design by using an individual level weight produced by NCES in all analyses, and by estimating robust standard errors in regression analyses to account for the clustering of students within schools. We use correlations to show how adolescents' characteristics and the characteristics of their schools vary across region-urbanicities. Nested linear regression models predicting adolescents' 8th grade locus

of control show how these region-urbanicity differences operate in tandem. In addition to considering the main effects of region and urbanicity, the first model includes interactions between region and urbanicity measures to determine, for instance, if the relationship between rurality and locus of control is different depending on whether the adolescent lives in the South or the Midwest. We include measures describing adolescents' social background in the second model, and adolescents' religious characteristics in the third model. The change in the region-urbanicity coefficients between models three and four (which includes measures of the characteristics of adolescents' schools) will demonstrate whether region-urbanicity differences in structure influence adolescents' loci of control.

If adolescents' average loci of control are attributable to distinctive regional cultures, region-urbanicity indicators should retain significant relationships with adolescents' loci of control net of all controls (the fourth model). To facilitate the interpretation of the interactions, we next use a bar chart to visually contrast predicted means estimated from the first and final models. Adolescents living in the Northeast and/or suburban areas are the reference groups in the main set of models. For readers interested in bases of comparison besides the suburban Northeast, we estimated the model with all controls twelve separate times, alternating the reference group in each model. To facilitate region-urbanicity-specific comparisons, these models use region-urbanicity specific indicators [seeUCLA Statistical Consulting Group (2013) for this alternative to main effects and interactions; predicted means from models using region-urbanicity indicators were also nearly identical to predicted means from models with main effects and interactions].

Results

In addition to providing descriptive statistics, Table 1 shows how the qualities of adolescents and their schools correlate with adolescents' loci of control, and vary across region-urbanicities. Adolescents in all urbanicities of the South, the urban and rural West, and the urban Midwest exhibit more external control on average, or exhibit mean loci of control lower than the national average (i.e., lower than 0); we bold the text in these columns. The adolescents in these region-urbanicities may feel less internal control because they are more likely to be racial minorities, non-native English speakers, and to have lower SES families. They may also feel less internal control because they are more likely to have conservative Protestant backgrounds (which is negatively correlated with locus of control), and are less likely to participate in a religious youth group or attend religious education on a weekly basis (which are both positively correlated with locus of control). Adolescents in these region-urbanicities may feel less internal control because they live in a region-urbanicity in which they are more likely to attend public schools, as well as schools with higher proportions of minorities, higher proportions of poor students, poorer attendance records, larger student bodies, and larger student to teacher ratios. In other words, the qualities of adolescents and their schools, which are correlated with differences in adolescents' loci of control, vary systematically across region-urbanicities. Multivariate analyses will enable us to determine if variation in adolescents' sense of control is partially or entirely attributable to region-urbanicity variation in adolescents' own characteristics, or whether there is evidence that structural or cultural factors contribute.

Model 1 in Table 2 shows how adolescents' region and urbanicity of residence are related to their loci of control without controls for other factors. The main effects for region represent the total estimated effects for adolescents living in suburban areas (the reference category for urbanicity), just as the main effects for urbanicity represent the total estimated effects for adolescents living in the Northeast (the reference category for region). Coefficients for each region-urbanicity interaction must be considered in conjunction with respective main effects (the interactions become statistically significant in the second model). In one example, the mean loci of control of adolescents in the suburban South are significantly lower on average (-0.14 standard deviations (SDs)) than those of adolescents in the suburban Northeast. The differences are even more marked for adolescents in the rural South [(-0.14) + (0.00) + (-0.11) = -0.25 SDs], and urban South [(-0.14) + (-0.09) + (0.04) = -0.19 SDs]. Because predicted means facilitate the simultaneous interpretation of main effects and interactions, we reserve most discussion of results related to specific region-urbanicities until Figure 1.

Measures describing adolescents' social backgrounds are introduced in Model 2 (Table 2). The reductions in the negative effects of each main effect from Model 1 to 2 suggest these adolescents' lower mean loci of control are partially attributable to their relative disadvantage. To focus on a specific example, whereas the mean loci of control of adolescents in the rural South were 0.25 SDs lower on average than those of adolescents in the suburban Northeast in the first model (Model 1), that same difference is -0.07 SDs [(-0.01) + (0.09) + (-0.15)] once we account for differences in adolescents' social backgrounds. We add measures describing adolescents' religious involvement in Model 3 (Table 2). Counter to the marked changes in the region and urbanicity main effects and interactions from Model 1 to Model 2, the region and urbanicity coefficients are largely consistent between Models 2 and 3. This suggests differences in religion, net of social background, do not contribute much to explaining differences in adolescents' average loci of control across region-urbanicities. NELS' measures of religious affiliation and participation may not be comprehensive or nuanced enough. Alternatively, these results may support previous findings that some aspects of religiosity predict external control, while others are associated with internal control (Ellison and Burdette 2012; Schieman 2008).

We account for differences in structural factors, or the characteristics of adolescents' schools in Model 4 (Table 2). Although the changes in the region-urbanicity coefficients between Models 3 and 4 suggest structural factors contribute more than religious factors, differences in structural factors do not appear to be major contributors to region-urbanicity differences in adolescents' average loci of control. The fact that adolescents' region and urbanicity of residence remain significantly associated with their mean loci of control, net of all of these measures describing adolescents and their schools, presents the possibility that spatially distinct cultures contribute to region-urbanicity differences in adolescents' loci of control. This possibility is also supported by these models' low R-squared values, which indicate much of the variation in adolescents' mean loci of control remains unexplained by the measures available in this study. With culture notoriously difficult to measure (Cohen 2009), some of the remaining variance in adolescents' loci of control may be attributable to unmeasured cultural factors.

Figure 1 visually portraits region-urbanicity differences in adolescents' mean loci of control with predicted means estimated from the regression models without and with controls in Table 2. The change in each pair of bars intimates the degree to which the measures available in this study explained differences in adolescents' mean loci of control across region-urbanicities. The darker bars, estimated from the model with all controls, demonstrate that adolescents in the South and Midwest exhibit the lowest mean loci of control on average. Net of differences in the characteristics of adolescents and their schools, rural Southern adolescents exhibit more external control on average than adolescents in all other region-urbanicities, and adolescents in the rural and urban Northeast the most internal control. (Table 3 shows the statistical significance of the differences in adolescents' mean loci of control between each pair of region-urbanicities). Adolescents in the suburban West also exhibit more internal control than would be expected given their material circumstances. Because these differences persist after having accounted for region-urbanicity differences in the qualities of adolescents and their schools, these findings may suggest the more external control of rural Southern adolescents, and the more internal control of urban and rural Northeast adolescents, are attributable to cultural distinctions of each region-urbanicity.

Table 3 compares each pair of region-urbanicities, by showing coefficients for each region-urbanicity from twelve different models with a different region-urbanicity as the reference group in each. Rural Southern adolescents exhibit significantly more external control than otherwise similar adolescents in the Northeast and West, but not adolescents in any urbanicity of the Midwest. Adolescents in the urban and rural Northeast have significantly higher loci of control than otherwise similar adolescents in the South and Midwest, but not adolescents in any urbanicity of the West. Finally, adolescents in the suburban West exhibit significantly more internal control than adolescents in the South and Midwest.

Conclusion

The purpose of this study was to identify spatial differences in American adolescents' mean loci of control, and determine whether structural factors, i.e., school characteristics, or distinctive cultures contribute to region-urbanicity variation in adolescents' mean loci of control. This study contributes to the literature on locus of control by incorporating measures of structure, considering regions other than the South and Midwest, and using multivariate rather than descriptive analyses. This study's findings are also policy relevant, and informative for literatures focused on regional and cultural variation in other social psychological traits.

We accomplished the goals of this study using measures describing adolescents and their schools from a large national dataset. Consistent with previous literature on the social predictors of locus of control (Ross and Mirowsky 2013), we found differences across region-urbanicities in adolescents' mean loci of control were largely attributable to differences in adolescents' social backgrounds. Region-urbanicity differences in adolescents' mean loci of control were attributable to differences in structural factors (schools) to a small degree, and to differences in religious affiliation and participation to an even lesser degree. Finally, differences that persisted net of differences in adolescents and their schools suggest

the less internal control of rural Southern adolescents and the more internal control of urban and rural Northeast may be shaped by these region-urbanicities' distinctive cultures. More generally, the cultures of the West and particularly the Northeast seem to foster more internal control than do the cultures of the Midwest and particularly the South. Given culture is embedded in social structure and peoples' sociodemographic qualities (Sewell 1992), the results we present may actually be conservative estimates. In other words, adolescents' race and religion likely both shape and are a product of their culture, and so by including controls for race and religion, we likely controlled for some part of adolescents' culture as well. Our results also suggest region is more closely associated with differences in loci of control than urbanicity, just as Abrahamson and Carter (1986) found region was a better predictor than urbanicity of the degree to which people are tolerant.

Although previous research has largely attributed Southern fatalism to a distinctive culture (Reed 1983), most studies have not accounted for other factors that may externalize Southerners' sense of control. Southerners have also rarely been contrasted to people in the American West and Northeast. In estimates from models without controls, the South was the only region in which adolescents in all urbanicities had less internal control on average than the average American adolescent. Using only descriptive statistics, Plaut et al. (2002) also found the lowest levels of autonomy and highest levels of constraint in their study's region encompassing Kentucky, Tennessee, Mississippi, and Alabama. After accounting for differences in the characteristics of adolescents and their schools, we found rural Southern adolescents still exhibited the most external control on average. In contrast, the more external loci of control of adolescents in the urban and suburban South were largely explained by the social disadvantage in these areas, or were no more external than those of adolescents in the Midwest. Some scholars question the extent to which a distinctive South persists amidst the Americanization and globalization of the region (Cobb and Stueck 2005). The findings of this study suggest if cultural exceptionalism does persist in the South, it is in the rural South. These findings also demonstrate the importance of differentiating within regions depending on urbanicity, particularly with the precipitous increases in urban settlement density over the past century in the South (U.S. Census Bureau 1994).

In contrast to the South, adolescents in all urbanicities of the Northeast, but particularly the suburban and rural Northeast, had the most internal loci of control when not accounting for other factors. Plaut et al. (2002) similarly found that New Englanders feel less constrained and more autonomous, but did not progress beyond descriptive statistics. While the more internal loci of control of adolescents in the suburban Northeast is entirely attributable to their relative social advantage, this study found adolescents in the rural and particularly the urban Northeast have more internal loci of control than would be expected, given their material circumstances. This suggests that, in contrast to the South, the Northeast may have a distinctive regional culture that fosters a more internal control in its adolescent residents. Because of the tendency of previous research to position the Northeast as the normative region, or the base of comparison, this finding contributes to the literatures focused on spatial variation in both culture and social psychology.

The average loci of control of rural and urban Western adolescents were almost as external as those of Southern adolescents when not accounting for other factors. [This may diverge

from previous findings that Mountain (Montana, Idaho, Wyoming, Nevada, Utah, Colorado, Arizona, and New Mexico) residents exhibit the highest levels of autonomy and environmental mastery, because Plaut et al. (2002) were unable to include Washington, Oregon, or California in their study (adolescents in coastal and mountain states were classified as Western in our study).] Unlike rural Southern adolescents, we found that adolescents' more external control in the rural and urban West were largely attributable to their material disadvantages. In fact, after accounting for all region-urbanicity differences in the characteristics of adolescents and their schools, it became clear that adolescents in all urbanicities of the West feel more internal control on average, at least given their material circumstances. This suggests there may be a unique American Western culture that fosters a sense of empowerment, which aligns with previous research describing Westerners as individualistic and optimistic (Knight 2010). While similar cultural mechanisms in the Northeast appear to be complemented by general advantage among the populace, Western adolescents' instrumentalism seems to be tempered by their relative disadvantage.

While the average loci of control of Southern and Midwestern adolescents were significantly different from those of Northeastern and Western adolescents, the differences between Southern and Midwestern adolescents were not statistically significant (net of all controls). Although Cohen and Nisbett (1998) only examined rural residents, they also found Southerners were no more fatalistic than Midwesterners. These more tempered differences may align with Plaut et al.'s (2002) descriptive findings that residents of the West North Central (North Dakota, South Dakota, Nebraska, Kansas, Minnesota, Iowa, and Montana) express less autonomy and more constraint than other regions, but relatively more environmental mastery. In this study, only urban Midwestern adolescents exhibited a more external control than the national average when not accounting for other factors, but this was accounted for by their relative social disadvantage. In general, our findings on Midwestern adolescents align well with previous research's mixed findings that Midwesterners emphasize both the importance of being positive, and of being content with one's position in life (Plaut et al. 2002).

In basic, it seems Southern and Northeastern adolescents represent the extremes of external and internal control, while Western and Midwestern adolescents fall closer to the national average. In terms of loci of control, Western adolescents appear to be more like Northeastern adolescents, and Midwestern adolescents more like Southern adolescents. With internal control a central value of American culture (Rappaport 1987), several policy implications arise from this study. Previous studies show targeted programming or counseling can alter youths' social psyches (Steese et al. 2006). Educators, social workers, and psychologists should incorporate an understanding of distinctive regional cultures as they interact with youth, and particularly as they scale programming and curriculum for diverse regions. Targets for reform are also altered by the understanding that certain attitudes are regionally sourced rather than family- or social-class-specific (Kurtz 1997). With the possibility trajectories of youth are influenced by different factors depending on their region and urbanicity, public policy in the South and Midwest might target youth empowerment, while policy in the Northeast and West might emphasize other beneficial traits less prevalent in these areas.

Certain limitations of this study merit mention. For many of the adolescents, the measures used in the study are likely to aptly characterize longer periods of their life than the point at which they were surveyed (e.g., region, race, socioeconomic status, religion). Nonetheless, this study's cross-sectional nature prevents any causal interpretations of findings, as temporal order is not established. Future research should ascertain whether these findings apply with a more contemporary cohort of adolescents once such data is available. Although NELS is nationally representative, we cannot be sure that the subsamples of adolescents are representative of their region-urbanicity. NCES' two-stage, stratified sample design began by selecting schools among all schools in the nation with an 8^{th} grade; urbanicity was a consideration in sampling, and while region was not, schools were sampled from all 50 states (Curtin et al. 2002). Finally, unmeasured factors besides culture may contribute to the differences in locus of control that persist net of the controls available in this study's dataset. In particular, our measures of structure focused on the characteristics and composition of students' schools, and may not capture all structural distinctions that characterize region-urbanicities.

In other limitations of this study, we did not investigate variation within regions, excepting by urbanicity. Some pockets of regions may be quite distinct from the region as a whole, with rural Appalachians for instance, depicted as individualistic (Lewis and Billings 1997). Similarly, previous studies have found differences in adults' attitudes depending on whether the adult is a Southern native, an in-migrant to the South, or an out-migrant from the South (Ellison 1991). This study's findings may be more applicable to adolescents who spend their lives in close proximity to their birthplace. Socially disadvantaged persons' lesser access to spatial mobility may even contribute to their more external control. Eichenlaub et al. (2010) found the occupational outcomes of persons who migrated away from the South were the same or worse than those of Southerners who were not mobile or only migrated within the region, despite the formers' positive selection on educational attainment and urban status. This evidence that Southerners who stay in the South appear to be less penalized for their more external control may align with ideas that more internal control is most useful in cultures that explicitly value this trait (Cheng et al. 2013). Future research might explore variation within regions in locus of control, and investigate whether external control is differentially implicated in youths' outcomes depending on the region and urbanicity of their residence.

Despite these limitations, this study is one of the first to use nationally representative data to understand spatial differences in locus of control, and the first to our knowledge to account for a multitude of region-urbanicity distinctions. In addition to affirming the important contributions of individual level characteristics to adolescents' sense of control over their lives, this study contributes to the locus of control literature by demonstrating the potential contributions of structure and local culture. Future research might build on these findings by investigating the more specific aspects of American culture and structure that shape adolescents' loci of control.

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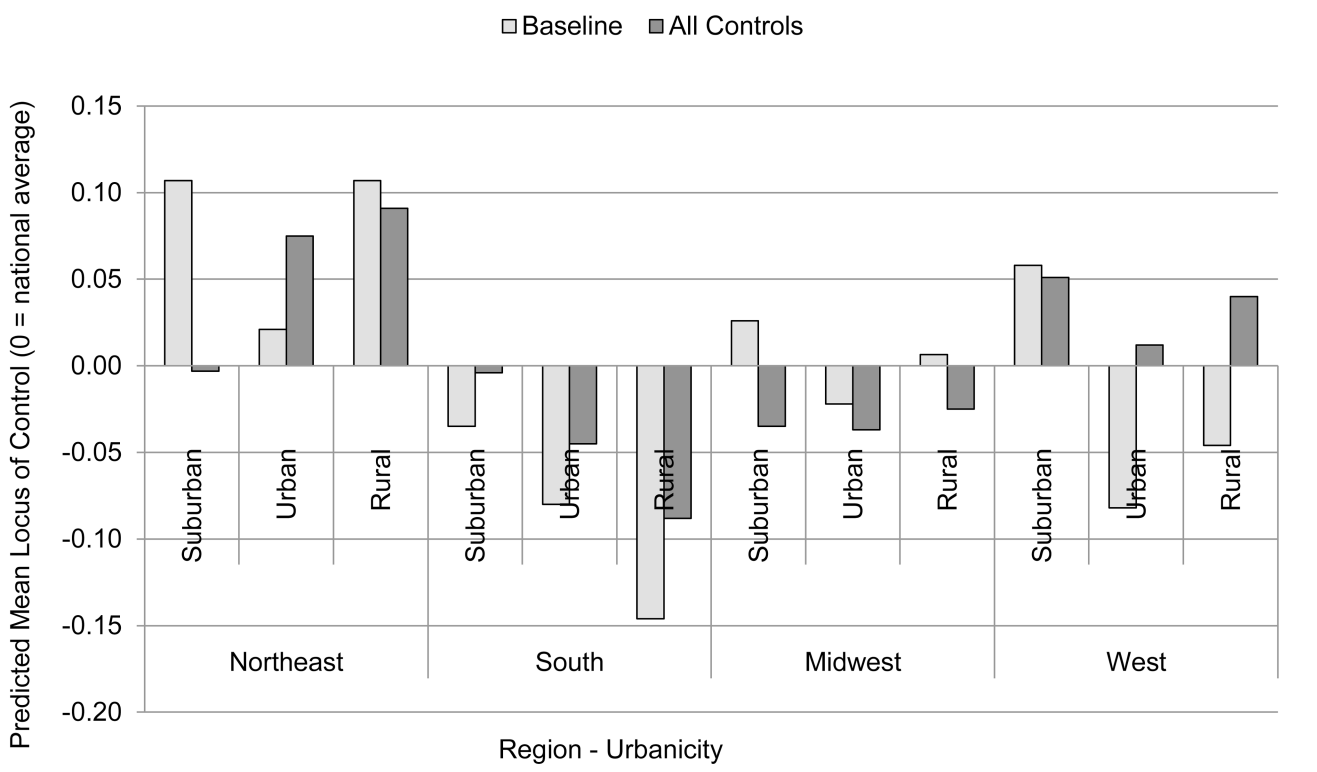

Figure 1. Adolescents' Predicted Mean Loci of Control by Region-Urbanicity

Note: Predicted probabilities estimated from Models 1 (baseline) and 4 (all controls) in Table 2. Statistical significance of differences between each region-urbanicity in Table 3.

Table 1

Part 1 of 2: Means, Proportions, and Correlations

			Northeast			West			South			Midwest		
			Sbrbn	Urban	Rural	Sbrbn	Urban	Rural	Sbrbn	Urban	Rural	Sbrbn	Urban	Rural
Average 8th grade locus of control			**0.12**	**0.03**	**0.12**	**0.07**	**-0.07**	**-0.04**	**-0.03**	**-0.07**	**-0.14**	**0.03**	**-0.01**	**0.02**
	Means and proportions	Locus of control	Correlations											
Social Background														
Race:														
White, not Hispanic	0.71	0.12	0.08	-0.07	0.10	-0.09	**-0.16**	**-0.03**	***0.02***	**-0.13**	**0.05**	0.07	**-0.03**	0.16
Black, not Hispanic	0.13	-0.05	-0.01	0.07	-0.05	-0.09	**-0.02**	**-0.07**	***0.02***	**0.10**	**0.09**	-0.08	**-0.10**	0.12
Hispanic	0.10	-0.09	-0.08	0.03	-0.07	0.12	**0.12**	**0.09**	***0.00***	**0.10**	**-0.08**	-0.08	**-0.08**	-0.03
Other race	0.05	-0.04	-0.02	0.01	-0.03	0.12	**0.15**	**0.02**	***-0.04***	**-0.01**	**-0.07**	-0.03	**-0.06**	-0.03
Highest parental education level:														
HS degree or less	0.33	-0.15	-0.07	0.01	0.02	-0.04	**0.03**	**0.00**	**0.01**	**-0.02**	**0.08**	-0.03	***0.03***	0.00
Some college	0.41	0.00	-0.04	-0.03	0.00	0.02	**-0.02**	**0.04**	**0.01**	**-0.02**	**0.01**	0.01	***0.00***	0.02
Bachelor's degree or higher	0.27	0.17	0.12	0.02	-0.02	0.02	**-0.02**	**-0.05**	**-0.03**	**0.05**	**-0.10**	0.01	***-0.05***	0.01
Family income	9.53	0.20	0.15	-0.01	*0.00*	0.03	**-0.05**	**-0.05**	**-0.01**	**0.01**	**-0.12**	0.07	**-0.04**	-0.04
Student is native	0.91	0.09	0.02	-0.05	0.06	-0.13	**-0.14**	**-0.03**	***0.02***	**-0.05**	**0.09**	0.07	**0.09**	0.03
English speaker Cognitive household resources	7.32	0.22	0.12	*0.01*	0.02	0.00	**-0.04**	**-0.04**	**-0.04**	**-0.02**	**-0.09**	0.04	***0.01***	0.00
Material household resources	4.88	0.15	0.06	-0.07	0.01	0.02	**-0.06**	**-0.02**	***0.00***	**-0.01**	**-0.06**	0.08	**0.01**	-0.01
Father not in a professional occupation	0.67	-0.16	-0.12	-0.01	0.01	-0.03	**0.03**	**0.05**	**0.01**	***-0.04***	**0.10**	-0.03	***0.06***	0.00
Mother not in a professional occupation	0.78	-0.10	-0.07	-0.01	0.01	0.00	***0.02***	**0.04**	***0.00***	***-0.01***	**0.04**	-0.01	***0.03***	-0.01

Part 2 of 2: Means, Proportions, and Correlations

			Northeast			West			South			Midwest		
			Sbrbn	Urban	Rural	Sbrbn	Urban	Rural	Sbrbn	Urban	Rural	Sbrbn	Urban	Rural
	Means and proportions	Locus of control	Correlations											

Part 2 of 2: Means, Proportions, and Correlations

			Northeast			West			South			Midwest		
			Sbrbn	Urban	Rural	Sbrbn	Urban	Rural	Sbrbn	Urban	Rural	Sbrbn	Urban	Rural
8th Grade Religious Involvement														
Conservative Protestant background	0.25	-0.07	-0.08	-0.03	-0.02	-0.07	**-0.03**	**-0.03**	**0.10**	**0.02**	**0.21**	-0.04	**-0.03**	-0.02
Participated in religious youth group	0.36	0.09	-0.01	-0.06	-0.02	-0.02	**-0.03**	**0.00**	**0.01**	*0.02*	**0.05**	*0.00*	**0.05**	-0.02
Attended religious education class weekly	0.18	0.08	0.13	0.06	-0.01	-0.02	**-0.01**	**-0.06**	**-0.04**	**0.00**	**-0.12**	0.01	**-0.03**	0.08
8th Grade School Characteristics														
School type:														
Public	0.88	-0.12	-0.16	-0.14	0.04	0.06	**0.02**	**0.09**	**0.06**	**-0.08**	**0.13**	*0.03*	**-0.13**	0.11
Catholic	0.08	0.06	0.12	0.12	-0.01	-0.06	**-0.03**	**-0.07**	**-0.03**	**0.00**	**-0.12**	*0.00*	**-0.07**	0.14
Private, religious	0.01	0.09	0.11	0.11	-0.02	-0.05	**0.01**	**-0.05**	**-0.04**	**0.12**	**-0.09**	*-0.06*	**-0.08**	0.03
Private, non-religious	0.03	0.06	0.03	-0.01	-0.04	0.03	**-0.01**	**-0.03**	**-0.03**	**0.03**	**0.00**	*-0.01*	**0.04**	-0.04
Percent students racial minorities	26.6	-0.12	-0.10	0.13	-0.15	0.07	**0.20**	**0.03**	**-0.01**	**0.19**	**-0.01**	-0.20	**-0.22**	0.10
Percent students eligible for free lunch program	24.5	-0.13	-0.17	0.09	*-0.02*	-0.04	**0.09**	**0.08**	**-0.01**	**0.02**	**0.13**	-0.15	**-0.02**	0.09
8th graders' average daily attendance	93.8	0.08	0.05	-0.13	-0.06	-0.01	**-0.07**	*-0.02*	**0.05**	**0.02**	**0.03**	0.03	**0.06**	-0.02
Size of student body	215.6	-0.08	-0.12	*-0.05*	-0.07	0.19	**0.15**	**-0.03**	**0.09**	**0.14**	**-0.05**	-0.03	**-0.16**	-0.09
Student:teacher ratio	17.8	-0.03	-0.12	-0.05	-0.14	0.27	**0.15**	**0.00**	**0.00**	**-0.01**	**-0.06**	0.01	**-0.08**	0.01
Adolescents (n)	24,600		2,940	1,490	1,150	2,670	1,360	1,020	2,200	3,000	2,620	2,440	1,770	1,950
	122995		#####	#####	#####	#####	**6810.00**	#####	######	**15025.00**	#####	#####	**8830.00**	#####
	24599		#N/A	#N/A	#N/A	#N/A	**#N/A**	**#N/A**	**#N/A**	**#N/A**	**#N/A**	**#N/A**	#N/A	**#N/A**

Note: Sbrbn=Suburban. HS=high school. Columns for region-urbanicities in which adolescents have mean loci of control lower than the national average are bolded. Excepting italicized entries, all differences were statistically significant (at least $p < 0.05$).

Table 2

Part 1 of 2: Coefficients from Regression Models Predicting Adolescents' Loci of Control

	Model 1		Model 2		Model 3		Model 4	
	B	**(SE)**	**B**	**(SE)**	**B**	**(SE)**	**B**	**(SE)**
REGION AND URBANICITY								
Region:								
Northeast (ref)	-		-		-		-	
Midwest	-0.08 *	(0.04)	-0.03	(0.03)	-0.03	(0.03)	-0.03	(0.03)
South	-0.14 ***	(0.04)	-0.01	(0.03)	0.00	(0.03)	0.00	(0.03)
West	-0.05	(0.04)	0.04	(0.04)	0.04	(0.04)	0.05	(0.04)
Urbanicity:								
Suburban (ref)	-		-		-		-	
Urban	-0.09 +	(0.05)	0.07	(0.04)	0.07 +	(0.04)	0.08 +	(0.04)
Rural	0.00	(0.06)	0.09 +	(0.05)	0.10 +	(0.05)	0.10 *	(0.05)
Interactions:								
Midwest x Urban	0.04	(0.07)	-0.05	(0.06)	-0.05	(0.06)	-0.08	(0.05)
Midwest x Rural	-0.02	(0.07)	-0.06	(0.06)	-0.07	(0.06)	-0.09	(0.06)
South x Urban	0.04	(0.07)	-0.11 +	(0.05)	-0.11 *	(0.05)	-0.12 *	(0.05)
South x Rural	-0.11	(0.07)	-0.15 *	(0.06)	-0.16 **	(0.06)	-0.18 **	(0.06)
West x Urban	-0.05	(0.08)	-0.11 +	(0.06)	-0.12 +	(0.06)	-0.12 +	(0.06)
West x Rural	-0.10	(0.09)	-0.08	(0.09)	-0.09	(0.09)	-0.11	(0.08)
SOCIAL BACKGROUND								
Race:								
White, not Hispanic (ref)			-		-		-	
Black, not Hispanic			0.00	(0.03)	0.01	(0.03)	0.04	(0.03)
Hispanic			-0.10 **	(0.03)	-0.10 **	(0.03)	-0.09 **	(0.03)
Other race			-0.18 ***	(0.04)	-0.17 ***	(0.04)	-0.16 ***	(0.04)
Highest parental education level:								
High school degree or less			-0.06 **	(0.02)	-0.05 *	(0.02)	-0.05 *	(0.02)

	Model 1		Model 2		Model 3		Model 4	
	B	(SE)	B	(SE)	B	(SE)	B	(SE)
Some college (ref)			-		-		-	
Bachelor's degree or higher			0.09 *	(0.03)	0.07 *	(0.03)	0.07 +	(0.03)
Family income			0.03 ***	(0.00)	0.03 ***	(0.00)	0.03 ***	(0.00)

Part 2 of 2: Coefficients from Regression Models Predicting Adolescents' Loci of Control

	Model 1, cont.		Model 2, cont.		Model 3, cont.		Model 4, cont.	
	B	(SE)	B	(SE)	B	(SE)	B	(SE)
Student native English speaker			0.02	(0.04)	0.02	(0.04)	0.02	(0.03)
Cognitive household resources			0.07***	(0.00)	0.06***	(0.00)	0.06***	(0.00)
Material household resources			0.00	(0.01)	0.00	(0.01)	0.00	(0.01)
Father not in a professional occupation			-0.10***	(0.02)	-0.09***	(0.02)	-0.09***	(0.02)
Mother not in a professional occupation			-0.04 *	(0.02)	-0.04 *	(0.02)	-0.04 *	(0.02)
8th Grade Religious Involvement								
Conservative Protestant background					-0.02	(0.02)	-0.03	(0.02)
Participated in religious youth group					0.10***	(0.01)	0.11***	(0.02)
Attended religious education weekly					0.05 *	(0.02)	-0.02	(0.03)
8TH GRADE SCHOOL CHARACTERISTICS								
School type:								
Public (ref)							-	
Catholic							0.11 **	(0.04)
Private, religious							0.05	(0.04)
Private, non-religious							0.17***	(0.05)
Size of student body							0.00	(0.00)
Percent students racial minority							0.00	(0.00)
Percent students eligible for free lunch program							0.00 +	(0.00)
8th graders' average daily attendance							0.01 **	(0.00)
Student:teacher ratio							0.00	(0.00)

Part 2 of 2: Coefficients from Regression Models Predicting Adolescents' Loci of Control

	Model 1, cont.		Model 2, cont.		Model 3, cont.		Model 4, cont.	
	B	(SE)	B	(SE)	B	(SE)	B	(SE)
Constant	0.11***	(0.03)	-0.70***	(0.07)	-0.71***	(0.07)	-1.38***	(0.26)
R-squared	0.01		0.07		0.07		0.07	

Note: HS=high school. Approximately 24,410 students in 1,052 schools used to estimate each model.

† p < 0.10

* p < 0.05

** p < 0.01

*** p < 0.001.

Table 3

Region-Urbanicity Coefficients from Multiple Estimations of a Model with All Controls and Varying Region-Urbanicity Refere Groups

			Coefficients											
			Northeast			South			Midwest			West		
			Sbrbn	Urban	Rural	Sbrbn	Urban	Rural	Sbrbn	Urban	Rural	Sbrbn	Urban	Rural
Reference Group	Nrthest	Sbrbn	-	0.09 *	0.09 *	0.00	-0.04	-0.08 *	-0.04	-0.03	-0.03	0.05	0.01	0.03
		Urban	-0.09 *	-	0.01	-0.08	-0.12 **	-0.17 ***	-0.12 **	-0.12 **	-0.11 *	-0.04	-0.07	-0.05
		Rural	-0.09 *	-0.01	-	-0.09	-0.13 **	-0.18 ***	-0.13 **	-0.13 *	-0.12 *	-0.04	-0.08	-0.06
	South	Sbrbn	-0.00	0.08	0.09	-	-0.04	-0.09 *	-0.04	-0.04	-0.03	0.05	0.01	0.03
		Urban	0.04	0.12 **	0.13 **	0.04	-	-0.05	0.00	0.01	0.01	0.09 *	0.05	0.07
		Rural	0.08 *	0.17 ***	0.18 ***	0.09 *	0.05	-	0.05	0.05	0.06	0.13 ***	0.10 *	0.12
	Midwest	Sbrbn	0.04	0.12 **	0.13 **	0.04	-0.00	-0.05	-	0.01	0.01	0.09 *	0.05	0.07
		Urban	0.03	0.12 **	0.13 *	0.04	-0.01	-0.05	-0.01	-	0.01	0.08 *	0.04	0.07
		Rural	0.03	0.11 *	0.12 *	0.03	-0.01	-0.06	-0.01	-0.01	-	0.08	0.04	0.06
	West	Sbrbn	-0.05	0.04	0.04	-0.05	-0.09 *	-0.13 ***	-0.09 *	-0.08 *	-0.08	-	-0.04	-0.02
		Urban	-0.01	0.07	0.08	-0.01	-0.05	-0.10 *	-0.05	-0.04	-0.04	0.04	-	0.02
		Rural	-0.03	0.05	0.06	-0.03	-0.07	-0.12	-0.07	-0.07	-0.06	0.02	-0.02	-

Note: Sbrbn=Suburban. Nrthest=Northeast.

+ p < 0.10

* p < 0.05

** p < 0.01

*** p < 0.001