

Research Article

Youth Bulges in Communities

The Effects of Age Structure on Adolescent Civic Knowledge and Civic Participation

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ABSTRACT—Youth bulges, cohorts of 16- to 25-year-olds disproportionately large relative to the adult population, are linked with social upheaval in historical research. Limited civic knowledge and heightened civic participation in adolescence, resulting from socialization in communities with large populations of children, are hypothesized to be developmental precursors to the political activism characteristic of youth constituting bulges. In two studies with nationally representative samples, adolescents in communities with disproportionately large populations of children were found to have less civic knowledge than equivalent adolescents in communities without large populations of children. In both studies, civic participation was predicted by the interaction of a community's proportion of children and its poverty level. Similar patterns were identified in a third study using country-level data. Together, the findings demonstrate that the youthfulness of communities and countries influences civic development.

Youth bulge refers to a cohort of youth between the ages of 16 and 25 that is unusually large relative to the adult population in a society. Historical research has linked youth bulges to revolutions in 17th-century England, 18th-century France, and 20th-century Indonesia (Goldstone, 2002; Moller, 1968); to political activism in Western and Middle Eastern countries (Huntington, 1996); and to the prevalence of warfare throughout the world (Mesquida & Wiener, 1999; Urdal, 2002). The associations of youth bulges to activism, revolution, and warfare—the latter two particularly likely in societies experiencing simultaneous economic difficulties (Huntington, 1996)—leads national-security analysts (e.g., Helgerson, 2002) and the popular press (e.g., Zakaria, 2001) to classify countries with disproportionately large cohorts of youth as at risk for the emergence of political extremism.

Although youth bulges have captured the attention of historians, political scientists, demographers, and national-security analysts, they have escaped the scrutiny of psychologists. This is unfortunate for two reasons. First, a social-psychological analysis can contribute to the explanation of the origins of youth-bulge phenomena. Second, a

focus on the age structure of societies can broaden psychology's appreciation for community influences on development. In the three studies reported in this article, we tested a hypothesis concerning the relation of a community's age structure to adolescents' acquisition of fundamental civic qualities.

Our hypothesis is that the extraordinary willingness to participate in political transformation that is characteristic of youth in a youth bulge is a consequence, in part, of community influences on civic development. Countries with youth bulges have many communities in which children and adolescents make up a large fraction of the population. An adolescent living in a community in which a large fraction of the population is composed of children and adolescents, a *child-saturated community*, will interact more often with peers, and consequently will be more influenced by them, than will an adolescent in a community with relatively few children and many adults, or an *adult-saturated community*. Our hypothesis is that child saturation influences adolescents' acquisition of civic knowledge and civic participation. The effects of child saturation on adolescents' civic knowledge and civic participation lay the foundation for the participation in political transformation that is characteristic of young adults in youth bulges.

Civic knowledge is essential to effective citizenship. Citizens knowledgeable in civics are consistent in political ideology, understand public policy, judge politicians by their leadership rather than their personal character, trust institutions, and tolerate minority groups (Delli Carpini & Keeter, 1996; Galston, 2001). Conversely, citizens low in civic knowledge—and we hypothesize that low civic knowledge is characteristic of those in child-saturated communities—have weakly rooted political ideologies, have shallow understanding of public policy, distrust existing societal institutions, and are intolerant of minority groups (Delli Carpini & Keeter, 1996; Galston, 2001). Research demonstrates that revolutions result in part from the successful recruitment of large segments of the populace (effective leadership of the movement and other factors are necessary as well; see Goldstone, 2001, for a review). We suggest that the distrust of existing societal institutions and shallow political ideologies that are characteristic of individuals low in civic knowledge increase the likelihood that individuals can be recruited into revolutionary movements.

Adolescents who as young adults will constitute youth bulges are also hypothesized to be more active civically than other adolescents.

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Analysts of youth bulges have focused on the destructive consequences for governments of civic activity when it assumes the form of protest and revolt (e.g., Goldstone, 2002). Destructive civic activity may be most likely when a youth bulge is accompanied by depressed economic conditions (Huntington, 1996; Urdal, 2002), because poor youth foresee a future without job prospects if the existing social structures prevail. In the studies that follow, we tested the possibility of an interaction between youth bulges and poverty in predicting civic activity.

Although theorists have focused on the relation of youth bulges to unrest, protest, and revolt, youth bulges can also foster system-sustaining civic activity. For example, the civil rights movement in the United States has been linked to a youth bulge (Huntington, 1996; Moller, 1968). Because the first two studies in this report focus on civic activity in the United States in the 1990s—an era largely unmarked by widespread protest—we focus only on one form of constructive civic participation, volunteer community service.

Communities affect civic knowledge and civic participation through *social influence*. Knowledge, attitudes, and behaviors are shaped in daily interactions with other people (Latané, Liu, Nowak, Benevento, & Zheng, 1995). Because adults have more experience in their societies than youth, they should have more civic knowledge than do children and adolescents. Research confirms this expectation. For example, in a survey of a representative national sample, the National Household Educational Survey of 1996 (NHES:96), adults were asked five questions about the federal government. The same five questions were posed to a national sample of adolescents in grades 9 through 12. Adults answered 55% of the questions correctly, whereas adolescents knew the answers only 40% of the time (calculated from Collins et al., 1997).¹ Compared with other communities, child-saturated communities have fewer inhabitants (i.e., adults) with high levels of civics expertise that can be transmitted through informal contact to children and adolescents. Consequently, we predicted that youth living in child-saturated communities would know less about the political system than youth living in adult-saturated communities.

If social influence operates as suggested, then any form of civic activity more common in adolescents than in adults should be acquired better by adolescents in child-saturated neighborhoods than by adolescents in adult-saturated neighborhoods. Voluntary community service is one such activity, as it is more common in American adolescents than among adults (Lopez, 2003). For example, in the NHES:96, 51% of children and adolescents in grades 6 through 12 answered affirmatively to a question asking if they volunteered in their schools or communities in the past year. Only 38% of the adults in the NHES:96 survey answered “yes” to a parallel question (calculated from Collins et al., 1997).² Child-saturated communities are consequently more likely to offer models of involvement in volunteer activities than are adult-saturated ones. Adolescents should be more likely to volunteer in communities in which many other people volunteer (child-saturated communities) than in communities in which volunteering is less common (adult-saturated communities). Conse-

quently, we predicted that adolescents in child-saturated communities would be more likely to volunteer than would adolescents in adult-saturated neighborhoods.

The child saturation of a community should influence only those qualities of civic development for which there are substantial differences in mean level between youth and adults. Such differences exist for knowledge and volunteering (as we have just documented), but not for other civic qualities such as tolerance for other individuals’ views (for the centrality of tolerance in democratic societies, see Sullivan & Transue, 1999). For example, in the NHES:96, the adult and youth samples were asked whether people opposed to religion ought to be allowed to speak in their communities, and whether books with unpopular messages should be kept in public libraries. Fifty percent of the youth advocated tolerance in response to both questions, as did 51% of the adults (calculated from Collins et al., 1997).³ Because adult and youth populations do not differ in tolerance, social-influence theory predicts that there should not be a relation between community child saturation and tolerance in youth. However, tolerance is clearly influenced by neighborhood factors and economic distress (Persell, Green, & Gurevich, 2001). Our theoretical explanation based on social influence would be strengthened if child saturation’s effects are (a) limited to civic qualities for which there are substantial mean differences between youth and adults and (b) distinguishable from the effects of other neighborhood qualities such as poverty.

In Study 1, we regressed adolescents’ civic knowledge, volunteering, and tolerance on their communities’ child-saturation levels. We also included community poverty as a predictor. Finally, the analyses controlled for individual-level and family-level factors associated with adolescents’ civic development.

STUDY 1

Method

Participants

The sample was drawn from the National Household Educational Survey of 1999 (NHES:99). Households representative of the United States were telephoned, and in households with children, one child or adolescent served as the participant (for design details, see Nolin et al., 2000). Children and adolescents in grades 6 through 12 answered questions concerning community service. We included only those participants age 16 and younger to focus on children and adolescents prior to the youth-bulge age range (16–25), as well as to maintain roughly equivalent age ranges across all three studies in this article. Children and adolescents not living with one or more biological or adoptive parents were excluded from the sample, in order to permit the assessment of parental educational attainment on civic development. These two restrictions resulted in a final sample of 5,616. A subsample of 2,555, consisting of participants in grades 9 through 12, was asked questions tapping civic knowledge and tolerance.

Survey Questions

Two parallel sets of five questions were used to assess civic knowledge (e.g., “Which of the two major political parties is most conservative at

¹The civic-knowledge scores were calculated from the average number of correct responses for the variables CAVP, CALAW, CAHOUSE, CAVETO, and CACONSrv for the adult sample in the NHES, with sampling weights used to estimate scores for the adult population of the United States.

²The variables are SACTY for the youth sample and CASERVC for the adult sample. National estimates were obtained using the sampling weights.

³The variables for the youth sample are CYBOOK and CYAGNST; the variables for the adult sample are CABOOK and CAAGNST. National estimates were obtained using the sampling weights.

TABLE 1
Regression of Adolescent Civic Qualities Measured in 1999 on Individual, Family, and Neighborhood Predictors

Predictor	Civic knowledge			Volunteering			Tolerance		
	<i>B</i>	<i>SE</i>	β	<i>B</i>	<i>SE</i>	Exp(<i>B</i>)	<i>B</i>	<i>SE</i>	Exp(<i>B</i>)
(Constant)	0.16	0.05		-1.88	0.13		-0.04	0.12	
Individual									
Black	-0.27	0.07	-0.10*	-0.31	0.13	0.73	-0.27	0.17	0.76
Hispanic	-0.28	0.08	-0.10*	-0.27	0.14	0.76*	0.05	0.18	1.05
Other non-White	-0.03	0.10	-0.01	-0.10	0.18	0.91*	-0.22	0.25	0.80
Age	0.12	0.03	0.10*	0.04	0.02	1.04	0.42	0.07	1.53*
Gender (males = 0, females = 1)	-0.37	0.04	-0.19*	0.22	0.08	1.24	0.05	0.11	1.05
School grades	0.25	0.03	0.25*	0.23	0.05	1.26*	0.02	0.06	1.02
Extracurricular club or team (yes = 1, 0 = no)	—	—	—	0.78	0.10	2.19*	—	—	—
School club or team (yes = 1, 0 = no)	—	—	—	0.50	0.09	1.65*	—	—	—
Family									
Parental educational attainment	0.06	0.01	0.18*	0.04	0.02	1.04*	0.05	0.02	1.05*
Income	0.02	0.01	0.05	0.00	0.02	1.00*	0.03	0.02	1.03
Two-parent vs. one-parent home	0.01	0.07	0.00	0.37	0.13	1.45	0.01	0.16	1.01
Father-only home vs. mother-only home	0.06	0.12	0.02	0.57	0.24	1.77*	0.02	0.29	1.03
One parent speaks a non-English language	0.00	0.20	0.00	-0.59	0.36	0.55*	0.24	0.49	1.28
Two parents speak a non-English language	-0.03	0.11	-0.01	-0.34	0.24	0.71	-0.43	0.28	0.65
Neighborhood									
Percentage families in poverty	-0.44	0.30	-0.04	0.19	0.54	1.21	-1.66	0.74	0.19*
Child saturation	-0.01	0.00	-0.05*	0.02	0.01	1.02*	0.01	0.01	1.01
Interaction of percentage in poverty and child saturation	-0.01	0.04	0.00	-0.17	0.08	0.84*	-0.01	0.11	0.99

* $p < .05$.

the national level?”). A given participant responded to one of the two sets of questions. The number of correct answers was standardized and indexed civic knowledge.

Participants were asked if they had done voluntary community service or volunteer work at school or in the community in the previous year. Those who responded affirmatively to this question, and who also reported that the community service was neither required by school nor contributed to a grade, were judged to be involved in voluntary community service.

Finally, participants were asked whether in their communities a person ought to be permitted to make a speech opposing religion and whether books with unpopular messages should be banned from public libraries. Those who advocated tolerance in both instances were judged to be tolerant.

Neighborhood Factors

The child saturation of each participant's community was estimated from the 1990 U.S. Census (Geolytics, 1999). Community was determined by the zip (postal) code corresponding to the participant's home address. Epidemiological research has demonstrated that zip code areas correspond to communities of interacting individuals, as reflected by patterns of transmission of communicable diseases (e.g., Acevedo-Garcia, 2001) and the prevalence of particular kinds of behavior (e.g., Gruenewald, Johnson, & Treno, 2001). The average population of zip code areas in 1990 was 8,478 ($SD = 12,330$). We divided the number of children (birth to age 16) by the number of adults (age 21 and older) in each zip code area to create a *child-saturation quotient* ($M = .25$, $SD = .05$). In addition, the proportion of

households below the poverty line was calculated for each zip code ($M = .12$, $SD = .09$).

Individual and Family Factors

Participants' race-ethnicity, age, gender, membership in school-based and extracurricular teams or clubs, and school grades (reported by the parents on a 5-point scale, from “mostly F's” to “mostly A's”) were available in the survey, as was information on parents' educational attainment (mean number of years of education completed by parents in the household), household income (as reported on an 11-point scale), parental presence in the home, and whether one or both parents spoke English at home. These characteristics are associated with volunteering and civic knowledge (Niemi, Hepburn, & Chapman, 2000).

Results and Discussion

Scores for predictors were centered to reduce collinearity and to ease interpretation of interaction terms. All analyses were conducted using the weights included in the data set.⁴

Civic Knowledge

The results in Table 1 indicate that age, gender, educational achievement, and race-ethnicity were predictive of individual differ-

⁴The standard errors reported in both Table 1 and Table 2 were corrected for biases introduced by sampling (the corrected standard errors are 1.4 times larger than those obtained under standard assumptions; see Nolin et al., 2000).

ences in civic knowledge (the same pattern is observed with adult samples; e.g., Delli Carpini & Keeter, 1996). Parental educational attainment was also a predictor of civic knowledge.

The findings relevant to the hypotheses are in the bottom three rows of Table 1. As predicted, child saturation was negatively associated with civic knowledge. From the regression equation, it was estimated that adolescents in a community with a child-saturation quotient of .2 could be expected to be about .2 *SD* higher in civic knowledge than equivalent adolescents in a community with an extreme child-saturation quotient of .4 (+3 *SDs*).

Volunteering

Table 1 also presents the results of the logistic regression of volunteer community service on neighborhood factors and individual- and family-level variables. Because research has demonstrated that teams and clubs facilitate entry into community service (Hart, Atkins, & Ford, 1998), membership in school-based teams and clubs and membership in extracurricular teams and clubs were entered as predictors to ensure correct specification of the model. Table 1 indicates that educational achievement, club membership, and parental educational attainment showed the associations with community service found in previous studies (e.g., Hart et al.).

The hypothesis-relevant results are in the bottom rows of the table. The main effect for neighborhood child saturation was positive and significant, but qualified by an interaction with poverty. This interaction is illustrated in the top panel of Figure 1. In low-poverty neighborhoods (in which the poverty rate was 1 *SD* below the mean, or approximately 3%), the rate of participation in community service was nearly twice as high in neighborhoods with a child-saturation quotient of .4 as in neighborhoods with a child-saturation quotient of .2. In moderate-poverty neighborhoods (1 *SD* above the average, or a poverty rate of approximately 21%), child saturation had little effect on participation in community service. Extremely poor neighborhoods (+3 *SD*, 40% poverty) with a child-saturation quotient of .4 had extremely low rates of participation in community service.

Tolerance

Finally, the results in Table 1 suggest that neighborhood poverty level, but not neighborhood child saturation, was negatively associated with tolerance.

Discussion

Study 1 demonstrates that adolescents' civic knowledge and participation in community service are associated with the extent of child saturation in an adolescent's community, a pattern consistent with the social-influence hypothesis. The results also suggest that poverty and child saturation interact, with extremes of poverty and child saturation perhaps exhausting a community's capacity to direct adolescents' civic tendencies into community service. Finally, as predicted, community poverty, but not child saturation, was related to tolerance.

STUDY 2

The first goal for Study 2 was to replicate Study 1's novel findings concerning child saturation. The second goal for Study 2 was to determine whether the effects reported in Study 1 concerning the associations of community-level factors with adolescents' civic

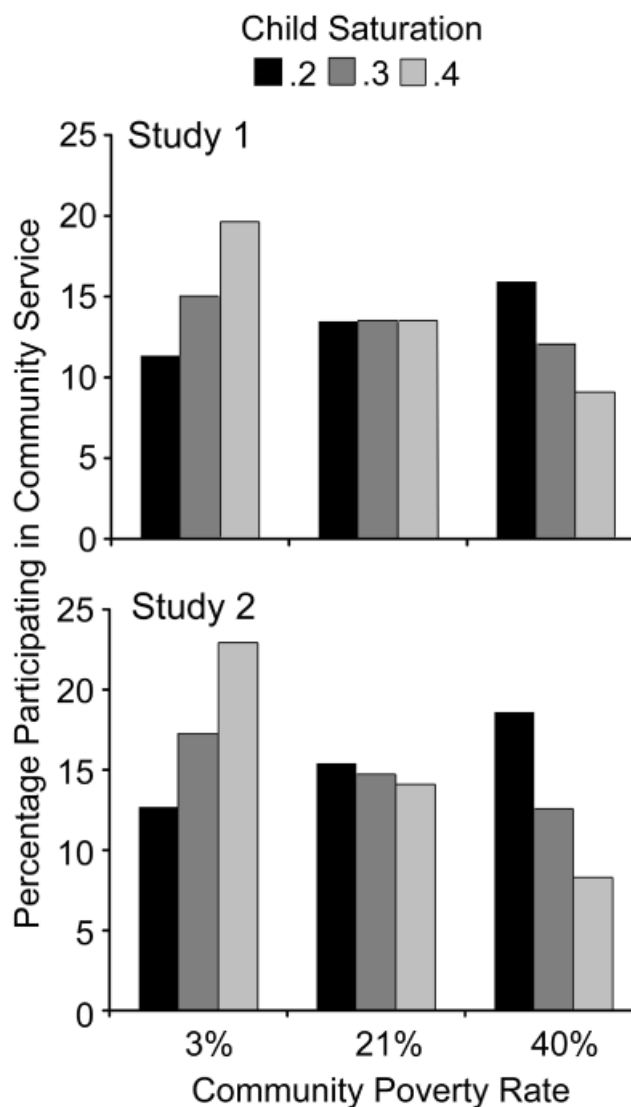


Fig. 1. Volunteering rates estimated from the logistic regression results for Study 1 (1999 data; top panel) and Study 2 (1996 data; bottom panel) for neighborhoods of varying levels of poverty and child saturation. To estimate the means, all predictors in the equation, except for poverty rate and percentage of children, were set to 0 (the mean for the continuous variables). Sample weights were used, so that the graphs depict estimated means for the national population (see the text).

knowledge and participation are attributable to unmeasured parental civic qualities. Parents do influence the political development of their children (Jennings & Niemi, 1981), and perhaps it is parents, not communities, that are responsible for the findings reported in Study 1. For example, parents in child-saturated neighborhoods might know less about their governments than do parents in adult-saturated neighborhoods, and consequently might transmit less information to their children. Similarly, volunteering among adolescents is influenced by parental modeling (McLellan & Youniss, 2003), and perhaps parents in affluent, child-saturated neighborhoods volunteer more often than do parents in affluent, adult-saturated neighborhoods. In Study 2, we controlled for (a) parental civic knowledge in the

prediction of adolescents' civic knowledge and (b) familial volunteering in the prediction of adolescents' volunteer community service.

as "0." Parental tolerance was measured with the same questions posed to participants.

Method

Participants

Participants were drawn from the sample of the NHES:96. This sample is independent of the NHES:99, although it was selected in a similar fashion (for details, see Collins et al., 1997). We used the same inclusion criteria concerning age and family status as in Study 1, obtaining a sample of 5,776 for the community-service questions and 2,506 for the civic-knowledge and tolerance questions.

Survey Questions

Two sets of five questions were used to assess civic knowledge. In each household, one set was randomly assigned to the participant, and the participant's parent received the other set. The number of correct responses for each set was standardized for participants and used as the summary measure of civic knowledge. A summary index for parental civic knowledge was constructed similarly.

Participants' voluntary community service and tolerance was measured in the same fashion as in Study 1. Parents were asked if any adult in the household was involved in voluntary community service, with affirmative responses coded as "1" and negative responses coded

Neighborhood-, Family-, and Individual-Level Predictors

Neighborhood childhood-saturation quotients and poverty rates were calculated as in Study 1. The family- and individual-level predictors used in Study 1 were used in this study as well.

Results and Discussion

Scores for predictors were centered, and the analyses were conducted using weights to correct for biases introduced by the sampling design. Table 2 presents the results from the regression of civic knowledge, volunteering, and tolerance on the predictors used in Study 1. Generally, the results in Table 2 replicate the findings of Study 1.

Civic Knowledge

Age, gender, school grades, parental educational attainment, and, most important, child saturation had the same associations with adolescents' civic knowledge as observed in Study 1.

The association of child saturation with individual differences in civic knowledge in adolescence is not explained by the mediating influence of parental civic knowledge. When parental civic knowledge was controlled, the magnitude of the relation between child saturation and civic knowledge was approximately the same as it was in Study 1, in which there was no control for parental civic knowledge.

TABLE 2
Regression of Adolescent Civic Qualities Measured in 1996 on Individual, Family, and Neighborhood Predictors

Predictor	Civic knowledge			Volunteering			Tolerance		
	B	SE	β	B	SE	Exp(B)	B	SE	Exp(B)
(Constant)	0.145	0.059		-1.74	0.14		-0.24	0.20	
Individual									
Black	-0.152	0.080	-0.05	-0.42	0.15	0.66*	-0.21	0.20	0.81
Hispanic	-0.103	0.090	-0.03	-0.15	0.16	0.86	0.01	0.22	1.01
Other non-White	0.003	0.109	0.00	0.13	0.19	1.14	-0.16	0.27	0.86
Age	0.131	0.030	0.11*	0.00	0.03	1.00	0.14	0.07	1.15
Gender (males = 0, females = 1)	-0.348	0.048	-0.18*	0.12	0.08	1.13	-0.10	0.12	0.91
School grades	0.264	0.028	0.25*	0.18	0.05	1.20*	0.00	0.07	1.00
Extracurricular club or team (yes = 1, 0 = no)	—	—	—	0.80	0.10	2.22*	—	—	—
School club or team (yes = 1, 0 = no)	—	—	—	0.36	0.10	1.43*	—	—	—
Family									
Parent civic knowledge	0.194	0.030	0.20*	—	—	—	—	—	—
Family volunteering	—	—	—	0.27	0.09	1.31*	—	—	—
Parental tolerance	—	—	—	—	—	—	0.47	0.12	1.60*
Parental educational attainment	0.061	0.011	0.17*	0.05	0.02	1.05*	0.08	0.03	1.08*
Income	-0.005	0.011	-0.02	-0.04	0.02	0.96	0.00	0.03	1.00
Two-parent vs. one-parent home	0.080	0.080	0.04	0.16	0.14	1.17	-0.23	0.20	0.79
Father-only home vs. mother-only home	-0.004	0.145	0.00	-0.20	0.25	0.82	-0.33	0.36	0.72
One parent speaks a non-English language	0.155	0.204	0.02	-0.51	0.39	0.60	-0.42	0.57	0.66
Two parents speak a non-English language	-0.152	0.117	-0.04	-0.80	0.24	0.45*	-0.29	0.29	0.75
Neighborhood									
Percentage families in poverty	-0.214	0.332	-0.02	0.12	0.56	1.12	-2.25	0.82	0.11*
Child saturation	-0.014	0.005	-0.07*	0.02	0.01	1.02	0.00	0.01	1.00
Interaction of percentage in poverty and child saturation	0.015	0.043	0.01	-0.22	0.08	0.80*	0.05	0.11	1.05

*p < .05.

Volunteering

The mediating effect of familial volunteering on the relation of adolescents' volunteering to neighborhood poverty and child saturation was examined with logistic regression. Controlling for familial community service did not eliminate the association of adolescents' voluntary community service with neighborhood poverty and child saturation. As in Study 1, there was an interaction between child saturation and poverty rate in predicting volunteering. This interaction is illustrated in the bottom panel of Figure 1 and resembles the interaction in Study 1.

Tolerance

Neighborhood poverty, but not neighborhood child saturation, was negatively associated with tolerance in adolescence.

Discussion

The results of Studies 1 and 2, based on two independent, nationally representative samples of Americans, converge on three conclusions. First, child saturation is inversely associated with civic knowledge. Adolescents and children living in child-saturated communities know less about their government than do those living in adult-saturated communities. Second, child saturation is positively associated with volunteering, although this effect is qualified by poverty. In low-poverty neighborhoods, children and adolescents are particularly likely to volunteer to benefit their communities if their neighborhoods are also child saturated. However, deeply impoverished child-saturated communities have very low rates of volunteering. Third, a community's child saturation affects different facets of adolescents' civic development than neighborhood poverty does, and the pattern of differences is consistent with the social-influence theoretical framework.

STUDY 3

The goal of Study 3 was to extend the analysis of child saturation to country-level data. Political science and historical research on youth bulges focuses on differences between countries or generations within the same country, not on the individual- and community-level data used in Studies 1 and 2. Consequently, connecting our findings to other theoretical traditions focusing on youth bulges required an analysis of child saturation and country-level data. In Study 3, we examined the relation of country-level demographic information to national averages for adolescents' civic knowledge and volunteering.

Method

The units of analysis were country-level indices of civic knowledge and volunteering from the IEA Civic Education Study (Torney-Purta, Lehmann, Oswald, & Schulz, 2001). The IEA Civic Education Study developed measures of civic knowledge and engagement that could be used across democratic countries. In 1999, representative samples of 14-year-olds in 28 countries (Australia, Belgium, Bulgaria, Chile, Colombia, Cyprus, Czech Republic, Denmark, England, Estonia, Finland, Germany, Greece, Hong Kong, Hungary, Italy, Latvia, Lithuania, Norway, Poland, Portugal, Romania, Russian Federation, Slovak Republic, Slovenia, Sweden, Switzerland, and the United States) responded to the measures. The summary report for the study (Torney-Purta et al., 2001) provided an average for civic knowledge (overall $M = 100$, $SD = 6.3$) for each country's sample of 14-year-olds, and also gave the percentage who volunteered for an activity to help

TABLE 3

Prediction of Country-Level Civic Knowledge and Volunteering From the Percentage of the Population 0 Through 15 Years of Age and Per Capita Gross Domestic Product (GDP)

Predictor	<i>B</i>	<i>SE</i>	β
Civic knowledge			
Intercept	107.07	6.23	
Percentage population 0–15	–0.585	0.280	–0.36*
Per capita GDP	0.0002	0.0001	0.32 [†]
Volunteering			
Intercept	–25.447	10.283	
Percentage population 0–15	1.693	0.46	0.56*
Per capita GDP	0.001	0.0001	0.50*

[†] $p < .10$. * $p < .05$.

the community ($M = 18.1$, $SD = 11.8$). We used United Nations data (Fukuda-Parr, 2002) to determine the percentage of the population under the age of 15 for each country ($M = 18.8$, $SD = 3.9$), and the Central Intelligence Agency's (n.d.) *World Factbook 2002* yielded each country's per capita gross domestic product (GDP; in U.S. dollars, $M = 17,960$, $SD = 9,034$).

Results and Discussion

Table 3 presents the results of regressing countries' averages for civic knowledge and volunteering rate on the percentage of the population younger than 15 and GDP (the interaction of the percentage of a country's population under 15 and GDP was not significant in either equation). The fraction of the population under age 15 was negatively associated with civic knowledge and positively associated with volunteering rates. For example, a country with 40% children could be predicted to be 1.8 SD lower in civic knowledge and have a volunteering rate approximately 3 SD higher than an equally affluent country with 20% children. Although there were no countries in the sample in which 40% of the population consisted of children, there are more than 40 countries worldwide with fractions this large or larger (Fukuda-Parr, 2002; Yemen is the highest, with 50.1%). Future research is needed to determine whether these countries are characterized by the deficits of civic knowledge and high levels of volunteering predicted by the regression equation. Poor countries may lack the institutions to channel the tidal wave of youth activism in child-saturated societies into constructive activities like volunteering, and consequently the amplifying effects of child saturation on youth participation may be expressed in other, potentially destructive, forms of political activity.

GENERAL DISCUSSION

Child saturation, measured at the levels of community and country, is consistently predictive of civic knowledge and volunteering in adolescence. In Studies 1 and 2, community child saturation predicted individual levels of civic knowledge and voluntary community service. The associations of child saturation with civic knowledge and voluntary community service were statistically significant and practically important in two separate samples, even when the analyses controlled

for a variety of individual- and family-level factors. Moreover, the relation of child saturation to civic knowledge and volunteering was found using aggregated data from 28 countries on five continents. Together, the findings suggest that the age structure of communities and of countries influences the civic development of youth.

The claim that social influence provides the theoretical explanation for this pattern of findings is strengthened by the analyses in Studies 1 and 2 that demonstrate that other factors cannot account for the pattern. We showed that the effects of community child saturation are independent of individual and parental influences, and that the relation of child saturation to civic development differs theoretically and empirically from the pattern of the relation between neighborhood poverty and civic development. Moreover, social influence explains the positive contribution of child saturation (an increase in volunteering) on civic development, a finding not easily deduced from other theories. For example, theoretical accounts of youth bulges that focus on the poor economic prospects of members of youth bulges (e.g., Huntington, 1996) and the predilection of young men in youth bulges to violence (e.g., Mesquida & Wiener, 1999) cannot readily accommodate our findings concerning the benefits of child saturation for volunteering.

It remains for future research to demonstrate that the relative frequency of contacts with adults versus contacts with children mediates the relation of child saturation to civic knowledge and volunteering. At another level, the synthesis of the findings reported in this article with phenomena studied by historians and political scientists would benefit from research demonstrating that members of youth bulges in revolutions were both deficient in civic knowledge and civically active as adolescents, the combination posited in this article. Nonetheless, the three studies presented here suggest that the child saturation of a community—characteristic of neighborhoods previously not explicitly investigated by psychologists—influences the socialization of youth residing in that community.

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