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From Director George Alter

We are very proud to present the first-place winners of the 2013 ICPSR Research Paper Competitions in this special edition of the Bulletin. The submissions this year demonstrated a high degree of scholarship and creative ways of analyzing data.



Alexander Janke of the University of Michigan won first-place in the ICPSR Undergraduate Competition using the Community Tracking Study Physician Survey to estimate the effect of noneconomic damage caps on physicians' willingness to accept Medicaid, Medicare and private insurance patients and on hours worked.

Natasha Yurk of Indiana University - Bloomington won first-place in the ICPSR Master's Competition analyzing the Early Childhood Longitudinal Study-Kindergarten Cohort (ECLS-K) to determine whether reading test results and teacher assessments of language and literacy skills predict a range of parental investment in the later grades.

Sarah K. Allsberry of Washington University in St. Louis won first-place in the Resource Center for Minority Data (RCMD) Paper Competition using data from the 2009 Current Population Survey, Unbanked/Underbanked Supplement to explore differences and similarities in the history of bank account ownership among households that use Alternative Financial Services and others.

Congratulations to the winners, and thanks to all participants for their efforts!

About ICPSR

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An Empirical Look at Malpractice Reform and the Intensive Margin of Physician Supply

Alex Janke

January 31, 2013

Evaluations of state malpractice reform effects on physician supply have focused on the extensive margin of supply. They use data from the A.M.A. Physician Masterfile to estimate effects on the number of physicians practicing in a state/county. To a limited extent, recent papers have also addressed a possible impact of reform on the intensive margin of supply. Data from the Community Tracking Study (C.T.S.) Physician Survey is employed to estimate the effect of noneconomic damage caps implemented in Nevada in 2002 and Colorado, Florida, Ohio, Oklahoma, Texas and West Virginia in 2003 on physicians' willingness to accept Medicaid, Medicare and private insurance patients and on hours worked. The panel data model shows many statistically significant estimates. However, simple robustness tests suggest these estimates are misleading. The paper ends with a discussion of why the model may not be appropriate and how other strategies could yield more robust results.

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1 Introduction

In the wake of the Patient Protection and Affordable Care Act, substantial resources have been invested for research in health economics related to cost control. A long-standing and popular reform is to decrease the malpractice liability that physicians face. Individual states have been implementing various kinds of reform for several decades to enhance their recruitment and retention of physicians. Advocates claim that physicians will be induced to practice in states with the most friendly malpractice environment. Some claim that reform may also decrease the prevalence of ‘defensive medicine’ – a practice style in which physicians impose greater costs on the health care system to protect themselves from liability with little added benefit to patients. Malpractice reform that caps damages awarded is among the strongest types of reform. This paper specifically considers noneconomic damage caps (those awarded to compensate pain and suffering) implemented in various states in 2002 and 2003.

Recently, there has been some speculation in academic literature about a possible effect of malpractice reform on the number of hours that physicians work. Physicians pay a fixed amount for malpractice insurance irrespective of the number of patients they see. For this reason, one would expect changes in litigation risk to affect primarily the extensive margin of supply. However, Helland and Showalter (2009) provided evidence that damage caps induce physicians to work more. Magee (2010) references these results and argues that the noneconomic damage caps implemented in Texas in 2003 caused physicians to work more hours. This might make sense if reform increased the marginal value of seeing patients, as any individual lawsuit against a

physician surely yields negative utility. Hyman, Silver and Black (2012), however, argue that the effect is not detectable with available data on Medicare beneficiaries, and that the magnitude of the impact suggested by Magee (2010) is simply implausible. While most literature has not addressed this effect on the intensive margin of supply as applied to specific kinds of insurance, the data used in this paper make it possible to explore how effects might differ between Medicaid, Medicare and private insurance patients.

Physicians' willingness to accept new Medicaid patients has been an important topic in public health literature since Medicaid's inception in the amendments to the Social Security Act of 1965. While physicians typically are willing to accept private insurance and Medicare (which have more robust reimbursement rates), many physicians do not accept Medicaid. In the four rounds of the Community Tracking Study (C.T.S.) Physician Survey from 1996 through 2005, just 58.7% of physicians report accepting "all" or "most" new Medicaid patients, while 76.7% and 84.6% report accepting "all" or "most" new Medicare and private insurance patients, respectively. If patients with different insurance plans differ systematically in their (perceived) likelihood of bringing litigation against their physician we might expect malpractice reform to change the relative willingness of physicians to accept patients on a given insurance plan. This paper explores the effect of noneconomic damage caps on both willingness to accept patients on a given insurance plan and the number of hours physicians work in patient care and charity care.

2 Literature Review

Empirical studies on the factors that influence physicians' willingness to accept new Medicaid patients have in the past focused on variation in reimbursement rates, prevalence of capitated Medicaid payments and paperwork concerns. Berman et al. (2002) specifically consider private primary care pediatricians in a survey done between December 1999 to April 2000. Their univariate analysis suggests that low payments, capitation and paperwork concerns are all independently associated with lower Medicaid participation rates. Cunningham and Nichols (2005) make use of the third round of the Community Tracking Study Physician Survey (2000-2001) to examine the relative importance of Medicaid fee levels and other characteristics of physicians' practices. They use a linear probability model with cross-sectional data and find that a fee increase of 20% is typically associated with a 1.8% to 15.5% increase in the rate of Medicaid acceptance, depending on the metropolitan area considered. They note that the variation in willingness to accept Medicaid patients is better explained by patient population demographics and practice characteristics than by fee levels. Cunningham and O'Malley (2008) address the issue of reimbursement delays using a similar probability model and cross-sectional data from the fourth round of the Community Tracking Study Physician Survey (2004-2005). Their model suggests that specialists are sensitive to changes in reimbursement wait times, but generalists are not.

To date, no empirical investigation has focused on changes in malpractice liability as a factor that influences physicians' willingness to accept new Medicaid patients. Given the established importance of reimbursement rates, capitation, paperwork

concerns and practice characteristics, one might expect any effect of malpractice reform to be very small (and thus difficult to identify with available data). One mechanism by which malpractice reform could have an effect is by changing the relative desirability of patients. For example, if Medicaid patients are generally substantially less likely than private insurance or Medicare patients to sue, then Medicaid patients become relatively less desirable after reform. In any case, though, this study is exploratory with respect to these dependent variables. The sign of the effect of reform is not obvious.

Empirical research on the relationship between malpractice reform and physician supply has in the past focused on the extensive margin of physician supply. Physicians pay different rates for malpractice insurance depending on the malpractice environment in their practice location and on other factors. Klick and Stratmann (2007) carried out a broad, holistic evaluation of malpractice reform and physician location. They made use of data from the A.M.A. Physician Masterfile to estimate a triple differences-in-differences panel data model. They found that noneconomic damage caps were among the most influential types of reform, and that their effects are fairly modest in increasing physician supply. Their model suggests effects are largest for high risk specialty physicians practicing in rural communities.

Hyman, Silver and Black (2012) address the effects of noneconomic damage caps implemented in Texas in 2003. They are among the first to explicitly address a possible relationship between malpractice reform and movements in the intensive supply of physicians (number of hours worked). They discuss a speculation on the part of Stephen Magee at the University of Texas at McCombs School of Business that

damage caps are associated with large increases in physicians' hours worked. Hyman, Silver and Black (2012) are generally skeptical of such an effect, noting that news reports, blog postings and scholarly commentators are not abuzz with conversation about huge gains in physicians' work hours. This paper is an attempt to make an empirical contribution to this conversation by exploring specifically the effects on physicians' hours worked in patient care and in charity care, and on physicians' willingness to accept Medicaid, Medicare and private insurance patients.

3 Data and Identification Strategy

Survey results from the Community Tracking Study Physician Survey, a component of a large longitudinal investigation of health system change and its effects on people, were obtained for this study. Citations for each of the four rounds of the survey used are given in the references under Center for Studying Health System Change. The C.T.S. tracks cohorts in American communities in two-year intervals from 1996 through 2005, excluding the period from 2002 through 2003. The C.T.S. was funded by The Robert Wood Johnson Foundation, and the data used in this paper were obtained from the Inter-university Consortium for Political and Social Research at the University of Michigan.

Physicians working more than twenty hours per week from well-defined communities (mostly large metropolitan areas) within almost all states were surveyed. Foreign medical graduates only temporarily licensed in the United States, interns, residents and those physicians not working primarily in direct patient care were specifically

excluded from the survey. Survey response rates for each cohort ranged from 52.4% to 65.4%, and participating physicians were compensated \$25 for approximately 20 minutes of their time. Overall, approximately 40,000 individual survey responses are represented in the available data. The rounds of the C.T.S. Physician Survey used in this paper are summarized in Figure 1.

	Survey Timeframe	Number	Response Rate
Round I	August 1996 – August 1997	12,385	65.4%
Round II	August 1998 – November 1999	12,304	60.9%
Round III	August 2000 – November 2001	12,406	60.1%
Round IV	June 2004 – July 2005	6,628	52.4%

Figure 1

Dependent variables considered include survey responses related to willingness to accept Medicaid, Medicare and private insurance patients. Physicians were asked to rate how many new Medicaid, Medicare (including managed care) and private insurance patients their practices were willing to accept, choosing among "All," "Most," "Some," and "None." In this study, responses "All" and "Most" were coded to "1" and "Some" and "None" were coded to "0." Sensitivity tests were used to ensure that results are not dependent on which convention we use to discretize this variable. Physicians were also asked how many hours they spent in patient care in their previous full week of work, as well as how many hours they spent doing charity work in patient care. A large variety of other questions on physician and practice characteristics were fielded.

Independent variables used in this study include indicators for sex, whether or not a physician works mostly in primary care, whether or not a physician is compensated

mostly by salary and whether or not a physician is a foreign medical graduate. Also included is a variable for graduation year. Dependent and independent variables are summarized in Figure 2.

Dependent Variables	Mean	Stan. Dev.	Description
Medicaid	0.587375	0.492309	'1' if willing to accept, '0' otherwise
Medicare	0.767352	0.422522	'1' if willing to accept, '0' otherwise
Private Insurance	0.846657	0.360320	'1' if willing to accept, '0' otherwise
Hours in Patient Care	44.49267	15.05279	In previous full week, direct patient care
Hours in Charity Care	7.478339	17.62221	In previous full week, direct charity care
Independent Variables	Mean	Stan. Dev.	Description
Female	0.247606	0.431624	'1' if female, '0' if male
Grad Year	1979.312	11.00901	Normalized, mean = 0 in regressions
Foreign Medical Graduate	0.209539	0.406982	'1' if foreign, '0' otherwise
Primary Care Physician	0.580461	0.493468	'1' if self-reported PCP, '0' otherwise
Salaried	0.711311	0.453156	'1' if self-reported salaried, '0' otherwise

N = 43,722

Figure 2

2002 and 2003 were particularly good years for state-level malpractice reform, especially noneconomic damage caps. These are the only years among those for which C.T.S. Physician Survey data is available during which damage caps were implemented. The only type of malpractice reform implemented during this period was noneconomic damage caps. The states that implemented reform and were included in the treatment variable are Nevada (in 2002), Colorado, Florida, Ohio, Oklahoma, Texas and West Virginia (all in 2003). Missouri also implemented reform but was not included in the treatment variable used. This issue is addressed in the discussion section. Figure 3 summarizes reforms considered in the model.

This paper makes use of a simple panel data model to estimate the effects of reform on each of the dependent variables under consideration. Regressions of the

Malpractice Reform and Physician Supply

	Reform Measure	Cap	Reform Measure	Cap
Nevada	Noneconomic Damage Cap	\$350,000 , with exceptions*	All Damages Cap, Emergency Physicians	\$50,000
Colorado	Noneconomic Damage Cap	\$300,000		
Florida	Noneconomic Damage Cap	\$1M , and other restrictions	Noneconomic Damage Cap, Emergency Physicians	\$150,000 per claimant, max \$300,000
Ohio	Noneconomic Damage Cap	\$350,000 , with exceptions*		
Oklahoma	Noneconomic Damage Cap, Emergency and Obstetric Physicians	\$350,000		
Texas	Noneconomic Damage Cap	\$250,000		
West Virginia	Noneconomic Damage Cap	\$250,000 to \$500,000		

*depending on severity of injuries

**Caps given in bold are commensurable types of broad reform

Figure 3

following form were estimated:

$$Y_{t,s,n} = \alpha \cdot \text{Treatment} + \beta \cdot \mathbf{X} \cdot \text{Treatment} + \gamma \cdot \mathbf{X} + \tau_t + i_s + \epsilon_{t,s,n}$$

$Y_{t,s,n}$ is the value of the dependent variable under consideration at time t , in state s for survey n . Treatment is equal to "1" in states with reform after the date of reform and "0" otherwise.' $\mathbf{X}$ is a vector of the five covariates used. τ_t is for time fixed effects and i_s is for state fixed effects. To test the validity of this model, regressions were also carried out using placebo variables to replace the treatment variable. The placebo variables are equal to "1" in states with reform but turn on in the wrong years. Results from all these regressions are included in the final section of this paper.

4 Results

Graphs of the mean levels of dependent variables, comparing states with reform and those without reform, do not yield any obvious results about the magnitude or direction of any effects. For example, Figure 4 below depicts willingness to accept Medicaid and hours in patient care over time for all physicians, separated by those states with reform (treatment) and those states without (control). These graphs weight states by the number of surveys completed within their borders.

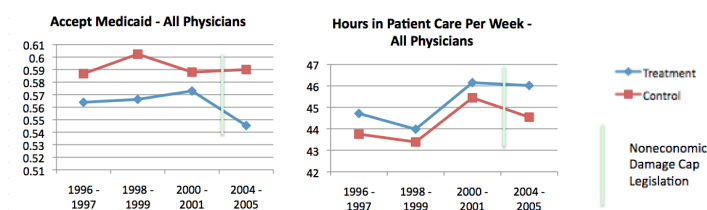


Figure 4

Klick and Stratmann (2007) and Hyman, Silver and Black (2012) both focus on physicians in high risk specialties, as specialists in those fields stand to gain the most from noneconomic damage caps. Figure 5 below depicts willingness to accept Medicaid and hours in patient care only for physicians in the five highest risk specialties (as identified in Klick and Stratmann 2007: neurological surgery, thoracic surgery, obstetrics and gynecology, general practice and emergency room). The graph for hours in patient care shows that the treatment and control states move in different directions during the reform period. As expected, physicians surveyed in treatment states report working more hours in this case.

Similar figures are shown here specifically for Texas and neighboring states with-

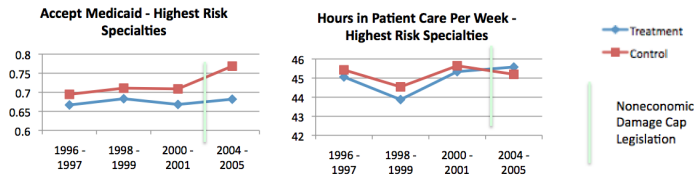


Figure 5

out reform (New Mexico, Kansas, Arkansas and Louisiana). Hyman, Silver and Black (2012) focus specifically on the effect of malpractice reform in Texas. They are generally skeptical of malpractice effects on physicians' hours worked. Figure 6 corroborates their view. If anything, physicians in bordering states report larger gains in work hours and willingness to accept Medicaid patients.

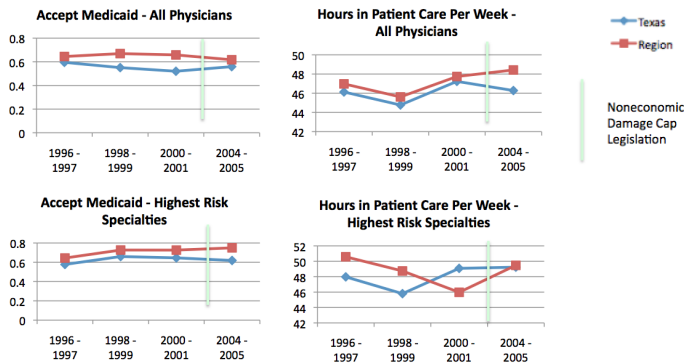


Figure 6

These graphs do not give a clear picture of the effects of reform. Figure 7 gives similar graphs for the remaining dependent variables among all physicians. Noneconomic damage cap legislation does not appear to be an important factor in explaining the variance in survey responses available.

The panel data models, though, are an attempt to obtain more robust numerical estimates of the effect of noneconomic damage caps. There are several confounding

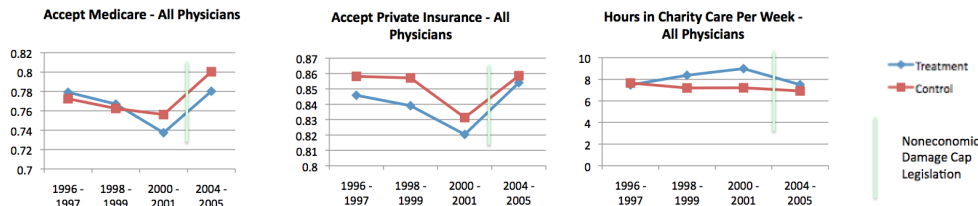


Figure 7

factors that make these graphical before-and-after characterizations inaccurate. For example, states with reform and states without reform may differ in the makeup of their physicians in ways that change the impact of reform (heterogeneous treatment effects). Panel data models that include treatment interaction terms with the independent variables available may address this problem. While the regression results include some statistically significant (and at least not implausible) point estimates, simple robustness tests suggest that these results are misleading. This will be discussed further in the next section. Figure 8 is given in the last section of this paper, showing results from the panel data model making use of all physicians in the surveys.

Results indicate that male, domestic physicians in specialty care are generally induced to spend 2.91 fewer hours (this point estimate is statistically significant at the 1% level) in charity care as a result of reform. The direction of this estimate seems unlikely, as malpractice reform would only increase the marginal return of serving the uninsured. However, if the insured are dramatically more likely to sue than those that receive charity care, then the sign on this point estimate might make sense. The mean value for number of hours worked in charity care over all samples, though, is 7.48 hours. A decrease of nearly 40% does not seem like a plausible-sized result of malpractice reform alone. Most other point estimates are positive. Thus,

for example, a female, domestic, salaried doctor in primary care has a predicted gain of 0.62 hours from reform.

The effects on number of hours per week in direct patient care are more complex. The interaction term for female physicians indicates a statistically significant gain, while the coefficients on the interaction for graduation year, primary care and foreign medical graduates are all statistically significant and negative. The net estimated effect on a male, domestic physician in specialty care is a gain of 1 hour. Meanwhile, the results indicate that female, domestic salaried doctors in primary care exhibit a gain of 1.54 hours.

Effects on acceptance of Medicaid, Medicare and private insurance patients are generally more ambiguous. For Medicaid, the model predicts that female physicians are more likely to accept Medicaid after reform, but the magnitude of this effect is substantially mitigated by other interaction terms for most physicians. Previous literature has suggested that the effects of malpractice reform are concentrated in those specialties that bear the highest litigation risk (or, similarly, highest malpractice premiums). Figure 9 in the last section of this paper depicts results from a similar set of regressions that only includes physicians in the five highest risk specialties. The primary care variable was dropped from those regressions.

The effect of reform on hours in charity care is not statistically significant for any point estimate in the model. Of particular note, though, is the regression results for hours in patient care. In that case, the coefficient on the interaction term for females is substantial and statistically significant (at the 1% level). Its magnitude is mitigated by other interactions with negative coefficients. Female, domestic, salaried

doctors in the highest risk specialties are predicted to spend an extra five hours in patient care as a result of reform. This would suggest a greater than 10% gain in hours with patients per week.

The effect on willingness to accept Medicaid for the physicians in highest risk specialties is negative and statistically significant. Physicians may be induced by noneconomic damage caps to see fewer Medicaid patients if those patients are generally relatively less likely to sue. Notably, this effect nearly disappears for salaried specialty care physicians. The model also predicts a modest increase in willingness to accept private insurance patients among female doctors in the highest risk specialties. These results leave space for speculation about the heterogeneous effects of malpractice reform, but they are very likely misleading. Robustness tests suggest that the model either dramatically underestimates standard errors or simply does not capture variation across states and time sufficiently well.

5 Discussion

To test the robustness of the panel data models used, regressions using a placebo treatment variable instead of the true treatment were performed. In these models the states that had reform during the survey periods were still used for the treatment group, but the placebo terms indicated reform happened in different years than true reform. If the model is appropriate these should have statistically significant point estimates with expected, low frequency. However, they do not. Regressions for one of the placebo variables tested are given in Figures 10 and 11 in the last section of

this paper.

The results suggest that the model used is likely underestimating the standard errors. About 27% of the placebo point estimates are statistically significant at the 10% level in the model including all physicians. About 36% of the placebo point estimates are statistically significant at the 10% level in the model including only those physicians in the highest risk specialties. In addition to underestimating the standard errors, it is also possible that the model is simply not a good fit for the data. This may be because other changes in health care varying across both states and time are relatively more important factors impacting survey outcomes. Other placebo regressions yielded similarly dismal results. Other limitations of this research are discussed here.

After the panel data models were estimated and the restricted data disposed of, comparable noneconomic damage reform was found to have taken place in Missouri in 2003. This was a major oversight. The treatment variable in the regressions was therefore not an accurate reflection of the noneconomic damage caps that were implemented during the range of years for which surveys are available. However, surveys of physicians from Missouri make up a very small percentage of all data points available. Therefore the impact of this mistake is likely modest. In any case, it do not by itself explain the results of the true treatment regressions or the placebo regressions.

Physicians are represented in multiple surveys. This could cause bias in the panel data model used. A model of malpractice reform using the survey data that employed individual fixed effects might have yielded more robust results.

While most reforms are comparable, they are not precisely alike. Noneconomic damage caps that limit the liability of all clinicians are the most common, but many states implement protections for specific types of physicians (most commonly, obstetricians and emergency physicians). Given the differences in legislation, the wealth of survey data at the community level and the demonstrated weaknesses of the large panel data model, empirical research that focuses more specifically on individual communities might yield better results.

The Community Tracking Study Physician Survey is meant to build a nationally representative sample from specific communities. The surveys from each individual state are not generally representative of each state as a whole. Results would not, even in their most ideal, give us an average treatment effect for any given state. Given the nature of the sample, it may have been more prudent to focus instead on particular communities, along state borders with and without reform.

Results from the panel data models are limited to those regressions that include all interaction terms with the independent variables available. These can be more difficult to interpret, especially where interaction terms move in different directions so that the estimated treatment effect for different kinds of doctors is not obvious.

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7 Regression Tables

All Physicians

Variables	Accept Medicaid	Accept Medicare	Accept Private	Hours Patient Care	Hours Charity Care
Treatment	-0.0288 (0.0240)	-0.0342 (0.0209)	-0.00714 (0.0174)	1.011 (0.746)	-2.911*** (0.929)
Treatment x Female	0.0574** (0.0244)	0.0279 (0.0212)	-0.00746 (0.0177)	1.954*** (0.757)	0.830 (0.943)
Treatment x Grad Yr	0.00149 (0.00108)	-0.00172* (0.000943)	-0.000777 (0.000786)	-0.0622* (0.0337)	0.0148 (0.0419)
Treatment x PCP	-0.0193 (0.0218)	0.0386** (0.0190)	0.0343** (0.0158)	-1.453** (0.678)	1.838** (0.845)
Treatment x Salaried	0.0194 (0.0232)	0.0162 (0.0202)	0.0119 (0.0168)	0.537 (0.720)	0.870 (0.896)
Treatment x Foreign	0.0439 (0.0273)	0.0593** (0.0237)	-0.0127 (0.0198)	-2.768*** (0.847)	1.653 (1.055)
Constant	0.660*** (0.00931)	0.932*** (0.00810)	0.924*** (0.00675)	48.83*** (0.289)	8.876*** (0.360)
Observations	43,722	43,722	43,722	43,722	43,722
R-squared	0.064	0.059	0.017	0.069	0.008
Number of States	49	49	49	49	49

Standard errors in parantheses

*** p<0.01, ** p<0.05, * p<0.1

Dependent variables for willingness to accept Medicaid, Medicare and private insurance were each discretized so that '1' means the physician's practice is accepting 'all' or 'most' new patients on a given plan and '0' means the physician's practice is accepting 'some' or no ('none') new patients on a given plan. Hours in patient care is number of hours in direct patient care in previous full week of work (similarly for charity care). State and time fixed effects are included. Standard errors are clustered by state. These regressions include all physicians. Some physicians are represented in multiple surveys, but individual fixed effects are not used. Each of the covariates used in interaction terms was also included on its own in the regressions. These regressions use a treatment indicator equal to '1' in treatment states after the 2002 and 2003 legislation and equal to '0' otherwise.

Figure 8

Highest Risk Specialties

Variables	Accept Medicaid	Accept Medicare	Accept Private	Hours Patient Care	Hours Charity Care
Treatment	-0.188*** (0.0500)	-0.0301 (0.0362)	-0.0311 (0.0308)	-2.342 (1.852)	0.298 (2.257)
Treatment x Female	0.0872 (0.0674)	-0.0423 (0.0488)	0.0721* (0.0415)	8.508*** (2.496)	-0.751 (3.042)
Treatment x Grad Yr	0.00464* (0.00268)	0.00326* (0.00194)	-0.00122 (0.00165)	0.102 (0.0993)	0.00542 (0.121)
Treatment x Salaried	0.145*** (0.0553)	0.0466 (0.0401)	-0.0256 (0.0341)	-1.081 (2.050)	-1.985 (2.499)
Treatment x Foreign	0.167** (0.0747)	0.106* (0.0541)	0.114** (0.0460)	0.510 (2.766)	0.670 (3.372)
Constant	0.826*** (0.0214)	0.926*** (0.0155)	0.942*** (0.0132)	48.63*** (0.793)	9.576*** (0.966)
Observations	6,563	6,563	6,563	6,563	6,563
R-squared	0.020	0.008	0.017	0.044	0.006
Number of States	48	48	48	48	48

Standard errors in parantheses

*** p<0.01, ** p<0.05, * p<0.1

Dependent variables for willingness to accept Medicaid, Medicare and private insurance were each discretized so that '1' means the physician's practice is accepting 'all' or 'most' new patients on a given plan and '0' means the physician's practice is accepting 'some' or no ('none') new patients on a given plan. Hours in patient care is number of hours in direct patient care in previous full week of work (similarly for charity care). State and time fixed effects are included. Standard errors are clustered by state. These regressions only include physicians in the five highest risk specialties, as identified in Klick and Stratmann 2007 (neurological surgery, thoracic surgery, obstetrics and gynecology, general practice and emergency room). Some physicians are represented in multiple surveys, but individual fixed effects are not used. Each of the covariates used in interaction terms was also included on its own in the regressions. These regressions use a treatment indicator equal to '1' in treatment states after the 2002 and 2003 legislation and equal to '0' otherwise.

Figure 9

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All Physicians

Variables	Accept Medicaid	Accept Medicare	Accept Private	Hours Patient Care	Hours Charity Care
Placebo	-0.0109 (0.0198)	-0.0433** (0.0175)	-0.0117 (0.0145)	-0.482 (0.615)	-0.360 (0.778)
Placebo x Female	-0.0249 (0.0185)	-0.00466 (0.0163)	0.0192 (0.0135)	0.250 (0.572)	1.631** (0.724)
Placebo x Grad Yr	0.00100 (0.000820)	0.00147** (0.000723)	1.66e-05 (0.000600)	0.0784*** (0.0254)	0.0294 (0.0322)
Placebo x PCP	0.0348** (0.0168)	0.00327 (0.0148)	-0.0158 (0.0123)	-0.198 (0.521)	0.0770 (0.659)
Placebo x Salaried	0.00138 (0.0181)	0.0186 (0.0160)	0.0327** (0.0133)	0.368 (0.562)	1.082 (0.711)
Placebo x Foreign	0.0391** (0.0199)	0.00121 (0.0175)	-0.0154 (0.0146)	1.226** (0.617)	-1.250 (0.781)
Constant	0.665*** (0.00970)	0.928*** (0.00855)	0.898*** (0.00710)	49.78*** (0.301)	8.236*** (0.381)
Observations	43,722	43,722	43,722	43,722	43,722
R-squared	0.063	0.060	0.017	0.070	0.008
Number of States	49	49	49	49	49

Standard errors in parantheses

*** p<0.01, ** p<0.05, * p<0.1

Dependent variables for willingness to accept Medicaid, Medicare and private insurance were each discretized so that '1' means the physician's practice is accepting 'all' or 'most' new patients on a given plan and '0' means the physician's practice is accepting 'some' or no ('none') new patients on a given plan. Hours in patient care is number of hours in direct patient care in previous full week of work (similarly for charity care). State and time fixed effects are included. Standard errors are clustered by state. These regressions include all physicians. Some physicians are represented in multiple surveys, but individual fixed effects are not used. Each of the covariates used in interaction terms was also included on its own in the regressions. These regressions use a placebo indicator equal to '1' in treatment states after 2000 and equal to '0' otherwise. Actual legislation for noneconomic damage caps took place in treatment states in 2002 or 2003.

Figure 10

Highest Risk Specialties

Variables	Accept Medicaid	Accept Medicare	Accept Private	Hours Patient Care	Hours Charity Care
Placebo	-0.0371 (0.0460)	-0.0218 (0.0329)	0.000484 (0.0285)	1.013 (1.682)	-1.452 (2.170)
Placebo x Female	-0.174*** (0.0655)	-0.113** (0.0468)	0.0204 (0.0406)	5.698** (2.396)	-2.464 (3.091)
Placebo x Grad Yr	0.00803*** (0.00301)	-0.00123 (0.00215)	0.00310* (0.00186)	-0.0559 (0.110)	0.0910 (0.142)
Placebo x Salaried	0.00261 (0.0498)	0.0451 (0.0356)	-0.0363 (0.0309)	-4.129** (1.824)	-0.409 (2.352)
Placebo x Foreign	0.147** (0.0694)	0.0721 (0.0496)	0.0818* (0.0430)	-5.049** (2.539)	-0.324 (3.275)
Constant	0.852*** (0.0236)	0.959*** (0.0169)	0.961*** (0.0146)	49.73*** (0.864)	9.171*** (1.114)
Observations	6,563	6,563	6,563	6,563	6,563
R-squared	0.048	0.059	0.069	0.065	0.005
Number of States	48	48	48	48	48

Standard errors in parantheses

*** p<0.01, ** p<0.05, * p<0.1

Dependent variables for willingness to accept Medicaid, Medicare and private insurance were each discretized so that '1' means the physician's practice is accepting 'all' or 'most' new patients on a given plan and '0' means the physician's practice is accepting 'some' or no ('none') new patients on a given plan. Hours in patient care is number of hours in direct patient care in previous full week of work (similarly for charity care). State and time fixed effects are included. Standard errors are clustered by state. These regressions only include physicians in the five highest risk specialties, as identified in Klick and Stratmann 2007 (neurological surgery, thoracic surgery, obstetrics and gynecology, general practice and emergency room). Some physicians are represented in multiple surveys, but individual fixed effects are not used. Each of the covariates used in interaction terms was also included on its own in the regressions. These regressions use a placebo indicator equal to '1' in treatment states after 2000 and equal to '0' otherwise. Actual legislation for noneconomic damage caps took place in treatment states in 2002 or 2003.

Figure 11

The Strategic Parent: How School Performance Affects Parental Investment

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Abstract

One of the most basic insights in the sociology of education is that parenting affects children's school performance, but we have yet to understand the reverse: whether and how children's achievement affects parental investment behaviors. I use data from the Early Childhood Longitudinal Study-Kindergarten Cohort (ECLS-K) to analyze whether reading test results and teacher assessments of language and literacy skills predict a range of parental investment in the later grades. Findings suggest that parents follow a "Compensation" model in which they increase investment when children are struggling in school, but these behaviors vary by type of investment and other child and family characteristics. These patterns persist even when controlling for social class background. I argue that this research represents an important step toward developing a more dynamic, theoretical parenting model, in which parents view feedback from teachers and schools as signals for investment decisions.

The Strategic Parent: How School Performance Affects Parental Investment

“Extreme” parental investment is a hot topic in the media and in academia (Nelson 2010). Americans are fascinated by the father who appeals his daughter’s rejection from a gifted and talented program; the mother who rallies for her son’s admission to a high-status preschool; the so-called “helicopter parents” who hover over their children at home, at school, and later at college. Although these radical approaches are uncommon in most parts of the country, many parents make significant time and economic investments in their children on a daily basis, including reading to their children, teaching their children basic academic skills, and enrolling their children in private schools (Lareau 2003). Some scholars have argued that parental investment—both of the “extreme” variety and the everyday variety—is merely determined by a family’s social class background (Nelson 2010; Lareau 2003). But do parents also respond to their children’s characteristics (especially early academic performance) when they choose investments?

In this study, I use data from the Early Childhood Longitudinal Study-Kindergarten Cohort (ECLS-K) to analyze whether and how parents tailor their investment behaviors to their children’s early school performance. I hypothesize that when parents gain an initial impression of how their children will fare academically, they customize an investment strategy which includes extracurricular activities, values, and institutional dispositions suited to their specific child. This idea that children’s academic performance affects parenting (as opposed to parenting affecting children’s academic performance) has not received sufficient attention in the literature.

Specifically, I address whether and how early school performance predicts *concerted cultivation* investment in the later grades. The term “concerted cultivation” is borrowed from Lareau’s (2003) ethnography *Unequal Childhoods*, in which she builds on work by Kohn (1969)

and others. Concerted cultivation is described as a set of parenting strategies common to the middle class, including active negotiation with children, instilling a sense of entitlement, intervening in school, and over-scheduling activities. Lareau (2003) finds that middle class parents behave differently than working-class and poor parents, who are more likely to give directives, preach deference, and value respect for authority—a group of behaviors termed “the accomplishment of natural growth.” While Lareau is careful to avoid judgments in favor of either strategy, there is an overwhelming sense that concerted cultivation is best suited for the school environment and that it prepares children to advocate for themselves in academic and other settings (Calarco 2011).

Literature Review

Despite extensive research into how parental investment affects school performance (see e.g. Lareau 2003; Lareau and Horvat 1999), findings as to how school performance affects parental investment have been inconclusive. Sociologists have posed three main mechanisms (or “models”) to explain parent behavior in this area. The first is “Parents as Reinforcements,” where parents are more likely to support children who perform better in school. As children in these families show more potential for success, their parents may reward them with many and diverse resources.¹ The second model is “Parents as Compensators,” where parents are most motivated when they see their children struggling in school. Researchers point to several national trends (such as increased competition for college admission (Karabel 2005) and widespread economic insecurity (Wolff 2010)) to support this model. Finally, the “Parent Characteristics” model implies that parents make investments without regard to their children’s school performance.

¹ Although all three of these models make implications about how parents treat multiple children *within* their own family, I restrict my analyses to between-family comparisons. I turn to within-family analyses in the discussion.

This model earns its name because investment is thought to depend more on parent characteristics such as SES than on child characteristics *per se*.

I review these three models and derive hypotheses based on each of them. My hypotheses are competing in the sense that they cannot always co-occur; for example, parents cannot reinforce their children's strong performance and show signs of compensation at the same time. I consider all three hypotheses because they may apply to different types of parental investment.

Parents as Reinforcements

Some scholars have argued that people approach parenting much like any other economic interaction: with an eye toward return on investment. In other words, parents are more inclined to invest in high-achieving children because they represent a "sure thing." These arguments come out of several, classic theoretical debates, including those surrounding human capital theory, rational choice theory, and status-attainment models (Steelman and Powell 1991).

Human capital theorists argue that the child is something to be invested in, so resources such as economic inputs, sacrifices, and time should be deployed in a way that maximizes the child's potential for future payoffs (Becker 1981, 1967, 1964). Although human capital theorists have not explicitly tested whether academic performance affects the degree to which parents invest in their children, achievement could be one of the so-called "genetic endowments" which signal promise to a parent (Steelman and Powell 1991). If children excel in their early years of schooling, parents may be more likely to invest in their educational development. Parents may also withhold investment until they receive some kind of external signal from a school or elsewhere that their efforts are not likely to be wasted. Rational choice theorists take a similar approach, arguing that parents invest their resources in a way that maximizes payoffs for the parent and the child (Bell 2009; Bosetti 2004; Hatcher 1998; Fuller, Elmore, and Orfield 1996).

Thus, parental investment under human capital and rational choice theories is likely to be similar because both theories view parents as strategic, doing everything they can to help their children fulfill their early promise.

The status-attainment model is somewhat different because it emphasizes the social-psychological factors behind parent decision-making (Sewell, Haller, and Ohlendorf 1970). Steelman and Powell (1991) argue that the status-attainment and human capital perspectives both emphasize child characteristics as determinants of parental investment; but whereas human capital theorists depict the parent as motivated by return on investment, the status-attainment model relies on factors such as parents' aspirations to motivate student success. Typically, parents have higher aspirations for higher-achieving children than they do for lower-achieving children, initiating something of a self-fulfilling prophecy based on initial impressions of academic performance.

Human capital theory, rational choice theory, and the status-attainment model all suggest that early academic performance begets parental investment in the later grades. Thus, a reasonable hypothesis is:

*Hypothesis 1: Early academic performance will be **positively** related to parental investment in the later grades.*

Parents as Compensators

Others have argued that parents are more likely to act out of fear or concern for their children's future. Here, I do not imply that that reinforcing parents do not act out of fear (because they very well may do so), but that "compensating" parents see their children's deficient performance and take it upon themselves to make up for it. Parents can compensate for their children's performance in a number of ways, including enrolling them in more activities, buying

more than books or supplies, coaching them to do better in school, doing their homework for them, or directly intervening in school processes, among other things.

Sociologists have posed several reasons for rising parental concern and, thus, the increased likelihood that they will act as compensators for their children's poor performance. Nelson (2010) argues that many modern parents are most worried about college acceptance and rising income inequality, especially those parents who belong to what she terms the "professional middle class." Although these parents were not always the wealthiest in Nelson's sample (occupations ranged from attorneys to professors to stay-at-home parents), they were generally highly educated, steeped in cultural capital, and concerned about status. Much like the middle-class parents Lareau (2003) studied, Nelson's professional middle class parents enroll their children in activities and buy them the latest gadgets to make sure they will not fall behind their classmates. But unlike Lareau, who merely attributes parents' actions to social class, Nelson thinks of parents as struggling to equip their children for an increasingly uncertain world. Activities help children develop a range of skills which may impress a college admissions officer or employer someday. Friends may become valuable sources of social capital. Regardless of the exact approach used, Nelson's (2010) findings suggest that parental investment may have an underlying, compensatory purpose, aimed at preventing children's failures later in life.

There is evidence that the parents in Nelson's (2010) study have valid concerns; a broader literature echoes stiffer competition for college admission and rising income inequality, which parents may try to combat early on. First, some argue that college admission has become more competitive because more students are applying than ever before—a phenomenon which Rosenbaum, Miller, and Krei (1996) call the "college for all" norm. Although "college for all" represents a distinct improvement over past practices in the United States, where only the most

gifted students took college prep coursework (Rosenbaum et al. 1996) and low-SES and minority students were disproportionately assigned to lower tracks (Oakes 1985; Cicourel and Kitsuse 1963), there are also disadvantages for students and parents. Many students today are planning to attend college regardless of the practicality of their aspirations (Goyette 2008; Reynolds et al. 2006), so they are bound to be disappointed when they do not achieve their goals. Also, middle-class parents are finding that they cannot secure advantages for their children by sending them to just *any* college or university (Labaree 2010). Selective colleges are the only remaining “reproduction insurance companies” which will keep children within the middle class (Stevens 2007:255). In order to ward off failure, some parents may take extreme measures to meet Ivy League standards, hiring private admissions consultants for college or even kindergarten (Nelson 2010; Karabel 2005). To these parents, a child’s falling behind in school may not just be a nuisance, but a warning that the child may never be able to compete within the larger age cohort.

Another reason for parental anxiety is what some have termed the “hollowing out of the middle class.” Workers today are less able to provide for a family on middle class wages, and parents are unsure that their children will be upwardly mobile. Specifically, Wolff (2010) reveals that real median family income doubled between 1947 and 1973, but only rose seven percent from 1973 to 2001. These data indicate that workers in today’s economy are not having the same economic experiences that their predecessors did, and that it is difficult for them to be optimistic about their children’s life chances (McCall and Percheski 2010). Parents today may go to great lengths to see their children succeed early and often, if it means that their children’s economic futures may be more certain.

In sum, sociologists have pointed to two main reasons that modern parents are more anxious than ever before, and thus more likely to try to compensate for their children’s poor

academic performance. Competition has become keener as more students prepare for education beyond high school. At the same time, the promise of a middle-class lifestyle for high school and college graduates has largely faded. If parents see their children falter at any point, they may be more likely to take an active role in the schooling process. A hypothesis is thus:

*Hypothesis 2: Early academic performance will be **negatively** related to parental investment in the later grades.*

Parent Characteristics

In contrast to other models, the “Parent Characteristics” model suggests that parents do not consult their children’s academic achievement when they decide how to make investments. They may ultimately hope that their children perform well in school, but they do not use resources to strategically improve their children’s performance. Rather, the investment they make in their children is more dependent on their own characteristics. Although scholars have suggested several characteristics which may dictate investment, such as parents’ education, marital status, and aspirations for their children (Steelman and Powell 1991), most have pointed to SES as the largest factor controlling investment. In general, high-SES parents are able to pass information and opportunities to their children that low-SES parents cannot necessarily access. This process is similar to Bourdieu’s (1990, 1986) theories of capital: that affluent families have strategic advantages in society because they can transmit exclusive knowledge, possessions, and social resources across generations.

Other advantages available to children in privileged families are less abstract. Well-educated parents can provide more and better homework help, especially in the later grades when assignments are more advanced (Lareau 2003). They can also use their knowledge and experience to navigate complicated college admissions procedures (Karabel 2005) and apply for college financial aid (Perna 2006). Although most of these benefits are more specific to well-

educated parents than affluent parents *per se*, there is a strong link between education and lifetime earnings (see e.g. Perna 2003; Leslie and Brinkman 1988). Therefore, many advantages that educated parents can bestow on their children are ultimately distributed along class lines.

There is also evidence that social class affects the expectations that parents hold for their children. This is not to say that low-SES parents expect less than high-SES parents do—this notion has been refuted both anecdotally and empirically (Tyson 2011)—but high-SES parents and parents with high educational attainment are able to present a broad range of opportunities to their children. This argument evokes Bourdieu’s (1990) notion of the *habitus*, or “a set of relatively permanent and largely unconscious ideas about one’s chances for success and how society works that are common to members of a social class or status group” (Swartz 1997:197). Children raised in high-SES families generally exhibit a more elite-orientated habitus than their low-SES peers because their parents’ successes represent a responsive and supportive world. These children may be more likely to pursue educational credentials because they see fewer barriers to success (Goyette 2008; Mullen, Goyette, and Soares 2003).

Overall, previous work reveals that some parents may not consult their children’s academic performance when they decide whether to invest in their children’s education, turning instead to the investment levels dictated by their own characteristics. SES is the most common determinant of parent investment behavior. A possible finding is thus:

*Hypothesis 3: Early academic performance will not affect parental investment in the later grades, represented by **insignificant** regression coefficients on the academic variables of interest.*

Data, Measures, and Methods

I use data from the Early Childhood Longitudinal Study—Kindergarten Cohort class of 1998-99 (ECLS-K), sponsored by the U.S. Department of Education’s National Center for

Education Statistics (NCES) (United States Department of Education). Starting in the fall of 1998, the NCES selected a nationally representative sample of kindergarteners and followed them through their eighth grade year, with additional waves collected in grades one, three, and five. This data set is well suited for my research because it includes rich academic, parenting, and school context variables on a longitudinal scale.

Independent Variables

I measure early academic performance with student scores from an NCES reading test and teacher assessments of language and literacy skills. I use data from the first grade wave because kindergarten has an ambiguous instructional purpose (Bodovski and Farkas 2008), so first grade may be more relevant to parental investment strategies. I include both reading scores and teacher assessments as independent variables because parents could respond to these signals differently; for example, they may disregard poor test scores as irrelevant but reward a child for impressing a teacher.² Summary statistics for these measures are shown in Table 1.

(Table 1 about here)

I also conducted a multi-wave analysis to understand how the relationship between academic performance and parental investment changes as students age. The ECLS-K's wave structure allowed me to analyze changes between grades one and three, three and five, and five and eight. Thus, independent variables include test scores and teacher assessments from grades one, three, and five. Summary statistics for multi-wave measures are shown in Table 2.

(Table 2 about here)

² There is a rich literature on racial and other biases in standardized testing (see Jencks 1998), but sociologists have noted that teacher assessments may also lack objectivity. Teachers may make harsher assessments of low-SES and minority students generally (Harris 2011; Downey and Pribesh 2004; Ferguson 2003; Rist 1970) and of their language and literacy skills in particular (Ready and Wright 2011). I use both test scores and teacher assessments to try to account for biases in both measures, but because test and teacher biases may affect similar students in similar ways, minority and low-SES student performance may be underestimated here.

Control Variables

I include several known influences on parental investment in my analyses. I control for important demographic characteristics including gender (female=1), race (non-white=1), family SES (a combination of parent education, income, and occupational prestige), sibship size, and family structure (coded as two binary variables, where one represents single-parent families, one represents alternative family structures such as grandparent-headed families, and the omitted category is two-parent families). I also control for student age (measured in categories to conceal student identity) because parents may invest differently in children who are older or younger relative to other children in the same grade. Summary statistics for the controls are shown in Tables 1 (analyses with first- and third-grade variables only) and 2 (multi-wave analysis).

Dependent Variables

Dependent variables include measures of parental investment commonly labeled as “concerted cultivation” techniques. Previous scholars have operationalized concerted cultivation as a summed set of ECLS-K variables representing different aspects of Lareau’s (2003) concept (see e.g. Cheadle and Amato 2011; Bodovski 2010; Bodovski and Farkas 2008). I kept the following:

- *Parental perceptions of responsibilities toward their children* (ordinal variables based on frequency): Telling stories; singing songs; doing art; playing games; teaching about nature; building blocks; doing sports; practicing reading, writing, or working with numbers; reading to the child; helping with homework³

³ I excluded measures of (1) whether the parents listen to the child even when they are busy and (2) whether the parents actively foster their child’s opinion. These are important factors that Lareau (2003) discusses at length in *Unequal Childhoods*, but NCES stopped asking parents about these practices after their children were in first grade. I conducted additional analyses with these variables included for the first grade and the results were not significantly different from those presented here.

- *Children's leisure time* (binary variables based on yes/no in the past year): Music, arts/crafts, dance lessons, clubs, organized performing arts, athletic activities, visiting the library⁴
- *Parents' relationships with social institutions* (binary variables based on yes/no in the past year): Attending at a parent-teacher conference, attending an open house or "back to school night," participating in PTA, attending a school event, volunteering at school, participating in fundraising
- *Number of books in the home* (continuous variable top-coded to 200 to minimize skew)

Table 1 includes summary statistics for each student's overall and categorical concerted cultivation scores in grades one and three. My multi-wave analysis only includes measures for parents' relationships with social institutions because these are the only concerted cultivation variables available through grade eight. Table 2 includes summary statistics for these dependent variables.

Methods

I conducted three analyses to understand how the relationship between academic performance and parental investment operates as a whole, by category of investment, and over time. First, I summed all the concerted cultivation variables by grade and by category (leisure time in grade one, leisure time in grade three, number of books in grade one, number of books in grade three, etc.). Then, I produced z-scores for each of the categories, summed these categorical z-scores, and z-scored that sum to produce a total concerted cultivation z-score for each child in

⁴ I excluded measures of whether parents took their children to a museum, zoo, or "concert/live show" because these only appeared in the first grade parent interview in the context of summer vacations. I argue that questions about summer enrichment are qualitatively different from typical family educational trips, especially within the education literature (Entwisle and Alexander 1992). There are also numerous missing values on these variables (about 8,000 observations out of my surviving sample size of about 10,000), so I excluded these variables to maintain a large sample.

grades one and three. Because I am most interested in how parental investment changes in response to children's early academic performance, I use the following model:

$$\text{Grade 3 Concerted Cultivation} = f(\text{Grade 1 Concerted Cultivation, Grade 1 Test Score, Grade 1 Teacher Assessment, Gender, Race, Age, Family SES, Sibship Size, Family Structure})$$

This model is algebraically equivalent to modeling the change in investment conditional on the initial level of investment in grade one (Finkel 1995). I use OLS regressions adjusted for clusters to account for similarities among children attending the same school.

Second, I sought to understand how parents use different kinds of investment to respond to their children's achievement. I used a similar model as above, with separate regressions for each of the four categories of parental investment. For example, the following model addresses changes in the number of books in the home:

$$\text{Grade 3 Books} = f(\text{Grade 1 Books, Grade 1 Test Score, Grade 1 Teacher Assessment, Gender, Race, Age, Family SES, Sibship Size, Family Structure})$$

I repeated this model for parental perceptions of responsibilities, leisure time, and parents' relationships with social institutions, in addition to the number of books in the home. Results account for school clusters. I used OLS regressions for continuous outcomes (parental perceptions of responsibilities and number of books in the home) and Poisson regressions for count outcomes (leisure time and parents' relationships with social institutions).⁵

I restricted my third analysis to parents' relationships with social institutions due to data constraints, as discussed above. I ran separate regressions for each "step" between waves to see whether and how parents use social methods to respond to their child's academic performance. The following model addresses changes in parents' relationships with social institutions between first and third grade:

⁵ I do not use negative binomial regressions because there is no evidence of overdispersion in my count models.

$$\text{Grade 3 Parent Social} = f(\text{Grade 1 Parent Social, Grade 1 Test Score, Grade 1 Teacher Assessment, Gender, Race, Age, Family SES, Sibship Size, Family Structure})$$

I also present results for changes between third and fifth grade and between fifth and eighth grade. I use Poisson regressions adjusted for school clusters.

Results

Results from the first analysis (overall effects of academic achievement in grade one on parental investment in grade three) appear in Table 3. Model one shows that students' reading test scores have a significant, negative effect on grade three parental investment, with a standardized regression coefficient of -0.02 ($t=-2.28$, $p<.05$ for a two-tailed test). Model two boasts a similar coefficient of -0.02 for the grade one teacher assessment, indicating a significant, negative relationship ($t=-2.11$, $p<.05$ for a two-tailed test). These coefficients translate to modest increases in overall parental investment for students with lower reading scores and teacher assessments.

(Table 3 about here)

Although these effects are relatively small (they are dwarfed by the effects of the previous wave's concerted cultivation score and SES, with approximate coefficients of 0.60 and 0.12 in both models, respectively), they are notable for two main reasons. First, these effects remain despite extensive control variables which account for most of the relationship between early academic performance and parental investment. The fact that statistical significance persists may be evidence that achievement does indeed factor into investment decisions. Second, these relationships provide support for an overall "Parents as Compensators" model in which parents make additional investments in children who are performing relatively poorly. Table 3 does not describe the specific resources parents may use in their compensation—results by investment categories appear in Table 4—but the overall effect is that parents are either (1)

choosing compensatory behaviors *more often* than reinforcing behaviors or (2) engaging in compensatory behaviors *with more magnitude* than they engage in reinforcing behaviors. Table 4 gives us some more explanatory leverage over this process.

Table 4 shows results from the second analysis—effects of academic achievement in grade one on categories of parental investment in grade three. Models one and two address parental perceptions of responsibilities; models three and four address leisure time; models five and six address parents’ relationships with social institutions; and models seven and eight address the number of books in the home. The most striking results in Table 4 are the significant, negative coefficients on the academic variables in models one and two, and how they exhibit the only negative relationships across investment categories. These results confirm scenario (2) above: that the overall negative relationship between academic achievement and parental investment is due to the size of the negative relationship in one set of models. In other words, the “Parents as Compensators” model predominates in Table 3 due to one particularly strong relationship, parents may choose the “Parents as Reinforcements” model more frequently across the investment categories that I describe. The positive coefficients in models three through eight show that parents are more likely to enroll their children in leisure activities, foster social relationships within the school, and purchase books for the home library when children are already performing well.

(Table 4 about here)

Although these coefficients are not comparable across all models (because models three through six present results from unstandardized Poisson regressions), we see that the “Parental Perceptions of Responsibilities” coefficients in models one and two are much larger than those in models seven and eight, where the outcome variable is the number of books in the home. But the

practical effects across all four of these models are small. Model one shows that a standard deviation increase in reading score is associated with a 0.12-standard deviation decrease in perceived responsibilities, where one standard deviation is equal to 5.22.⁶ Similarly, model seven shows that a standard deviation increase in reading score is associated with about two more books in the home (0.03 standard deviations, where one standard deviation is equal to about 65 books). The general caveat regarding controls remains, however: these results are notable given the exhaustiveness of the control variables in these models.

Models three through six present Poisson regression results for the effects of academic achievement in grade one on leisure activities and parents' relationships with social institutions in grade three. Models three and four show that there is a significant, positive relationship between grade one academics and grade three leisure activities. Parents of high achievers generally enroll their children in more leisure activities as they progress through school. However, the factor change is negligible, barely above 1.00 for the reading score variable ($t=2.48$, $p<.05$ for a two-tailed test) and 1.02 for the teacher assessment variable ($t=3.90$, $p<.001$ for a two-tailed test). Likewise, there is a significant, positive relationship between academic performance and parents' social scores, with small factor changes—slightly above 1.00 for both the reading score ($t=3.21$, $p<.05$ for a two-tailed test) and teacher assessment ($t=2.92$, $p<.01$ for a two-tailed test). Despite these small effects, the results indicate that parents take a more active role in their children's schooling when their children are already performing well. I return to this pattern in the discussion because of its obvious implications for inequality and achievement gaps.

⁶ Recall that I constructed this outcome variable by summing ten ordinal variables, so the unit of measure is “steps” of relative frequency of performing one activity. Thus, a standard deviation of 5.22 represents approximately five times that a parent increased his or her frequency of doing an activity with a child, such as playing sports with a child “once or twice per week” instead of “not at all.”

Table 5 includes results from the third analysis, concerning effects of academic achievement on parents' relationships with social institutions over time. Overall, these results show that academic achievement affects parent social behavior between grades one and three and between grades three and five, but not between grades five and eight. Models one and two include coefficients for the effects of test scores and teacher assessments between first and third grade. These models are similar to those in Table 4, but with slightly fewer missing cases due to different outcome variables. Thus, the coefficients are similar and significant. Models three and four address the third to fifth grade range. Both test scores and teacher assessments are significant at the .001 level, with factor changes of about 1.01 for the test score variable ($t=5.47$, $p<.001$ for a two-tailed test) and 1.02 for the teacher assessment variable ($t=5.61$, $p<.001$ for a two-tailed test). These coefficients are obviously modest in size, but they echo the "Parents as Reinforcements" findings in Table 4. If children are already higher-achieving in grades one and three, their parents are more likely to make time investments in the school environment in grades three and five.

(Table 5 about here)

It is also notable that the effects of reading scores and teacher assessments are not significant between grades five and eight. This pattern is likely due to overall decreases in parent school involvement during this period; note in Table 4 that the mean for parents' social scores decreases from 4.31 (out of a possible six points) when children are in third grade, to 4.28 when children are in fifth grade, to 2.63 when children are in eighth grade. This decrease is not due to drastic changes in any one variable, but to general withdrawal of time investment.⁷ Parents of eighth graders appear to attend fewer parent-teacher conferences, open houses, and other events

⁷ Confirmed with tabulations of parent-teacher conference attendance, attendance at open house/"back to school night," PTA participation, attendance at school events, school volunteer activity, and school fundraising activity compared across grade levels, not shown.

generally, which is rather intuitive. Eighth graders are much more academically and socially independent than third graders, for example, and parents may experience much less stigma for not volunteering for the middle school PTA versus the elementary school PTA.

These results could signal a case of the “Parent Characteristics” model, where parents make investments based on their own circumstances (such as SES) instead of factors such as the child’s academic achievement. SES is highly significant here ($t=8.71$, $p<.001$ for a two-tailed test), and there could be other, determinative parent characteristics which are not included in these models. In sum, although we cannot explain exactly why parents reduce their involvement during this period, we at least can rule out children’s school performance as the primary motivating factor.

Discussion and Conclusion

Despite extensive research into how parenting affects children’s academic performance, this study represents one of the first attempts to quantify the effects of children’s achievement on parental investment. Several important findings emerge from this research. First, I find that the basic relationship between early academic performance and parental investment follows a “Parents as Compensators” model, where parents invest more resources in their children when they are struggling in school. One limitation on this finding is that it may be due to the way I and previous scholars have constructed the parental investment variables; that is, the coefficient on the “Parental Perceptions of Responsibilities” category is the largest in these data, but it is also the only negative coefficient across investment categories. Because I have merely created a summative scale, the “Parental Perceptions of Responsibilities” variables may be influencing the overall findings in a way that is not wholly accurate. Future research could take a multivariate

approach to these relationships to ensure that one large coefficient is not merely dominating the others.

A second, major finding is that the relationship between academic performance and parental investment varies by type of investment. When it comes to the “Parental Perceptions of Responsibilities” investments, parents may adopt more of these behaviors when their children are struggling in school. This pattern makes logical sense. If a child receives a poor assessment from a teacher or does not meet expectations on a standardized test, the “Parental Perceptions of Responsibilities” variables represent some of the quickest and most direct interventions available to parents—reading to the child, helping the child with homework, and practicing reading, writing, or working with numbers may be some of the easiest ways to improve a child’s performance. All other types of investment follow the “Parents as Reinforcements” model, in which parents make more investments when their children are already performing relatively well. Parents of high-performing first graders get their children involved in more extra-curricular activities, are more active in the school environment, and purchase more books for the home library when their children are in grade three. Additional work could investigate the differences between these variables, and thus the reasons that parents use them differently in their investment strategies. There are obvious, qualitative differences between them, including cost, ease of implementation, and degree of social contact required, but it is unclear how parents pick and choose investments for their own use.

A final, major finding is that the relationship between academic performance and parental investment may change as children age. Between first and third grade and also between third and fifth grade, parents of higher-achieving children are more active in the school environment. They may attend more parent-teacher conferences, more open houses, more PTA meetings, and

other events than parents of lower-achieving children do. But this relationship does not hold between fifth and eighth grade. During this period, academic performance is not a significant predictor of parent school involvement—evidence of a “Parent Characteristics” model in which parents do not base investment on child characteristics such as academic performance, but on their own characteristics such as SES. It appears that parents generally decrease their school involvement as their children age (so it is unknown whether these non-significant coefficients are of any consequence), but the unyielding significance of SES is consistent with prior research in this area. Many high-SES parents feel more comfortable and entitled in educational settings relative to low-SES parents, so they are more likely to visit with teachers and make their presence known in the school (Lareau and Horvat 1999). My findings suggest that this pattern may vary with children’s ages, and that children’s academic performance may play a role, at least through elementary school. Future research could address (1) which parents are most involved at each grade level and (2) what about a child’s academic performance makes parents more or less likely to engage.

Three overall caveats remain. First, a limitation on these findings is that all the changes in parental investment between grades are small, as confirmed by the summary statistics in Tables 1 and 2 and all the regression coefficients. Further work could uncover whether parents solidify their parenting strategies *before* the times I analyzed here (that is, before children have completed the third grade) or if major parenting changes involve behaviors that are not included under the umbrella of “concerted cultivation.” But even though my observed changes are small, this study has shed some light on when parents devise parenting strategies, how they respond to academic performance of varying quality, and what specific behavioral changes they decide to make. The fact that I have controlled for parental investment from the previous wave also makes

these results somewhat remarkable, especially because levels of parental investment are uniformly high in each wave. Increases in parental investment, however small they are, show that parents are going above and beyond to either reinforce or compensate for their children's performance. They are willing to buy that extra book or spend that extra hour helping with homework when they are already pressed for time and money.

A second caveat is that this study addresses between-family differences in parental investment, but not changes within the same family. When one considers the "Parents as Reinforcements" or "Parents as Compensators" models, an obvious follow-up question concerns where the parents' investments are coming from or going to. When parents reinforce academic performance, do they divert resources from their less successful children to their more successful children? When parents compensate for poor performance, do they invest in their lower performers at the higher performers' expense? Additional research is needed to address whether and how parents consider each child's academic performance when they decide how to distribute time, economic, social, and other resources among family members.

Finally, there could be an alternative way of interpreting the coefficients in the "Parents as Compensators" model. That is, I assume for theoretical reasons that negative coefficients on the outcome variables emerge because *weaker* academic performance gives rise to *more* parental investment. But an alternative possibility is that *stronger* academic performance leads to *less* parental investment. There is limited support for this relationship (a pattern I would call "Parents as Retreaters") in the literature. In her study of elementary and secondary schools, Tyson (2011) remarks about one accomplished student that "...as with many of the other high-achieving study participants, parents' opinions and expectations no longer seemed to play a primary role in shaping academic behavior" (111). In other words, the best students may ultimately be those who

are self-motivated and less reliant on their parents. Popular accounts corroborate the idea that competitive students derive much of their competitiveness from within (see e.g. Levine 2006; Robbins 2006; Pope 2003; Rosenfeld and Wise 2001). Although their parents may have planted the metaphorical achievement seed at first, students may eventually maintain a cutthroat attitude on their own, as Calarco (2011) observed among elementary students jostling for help from their classroom teachers.

This “Parents as Retreaters” model is a promising path for study because we have yet to understand (1) whether parents retreat, (2) which parents retreat, and (3) when parents decide to retreat. Do certain parents take a hands-off approach early on? Do they wait for an academic milestone, such as the child being accepted to a competitive magnet school? Or do they merely re-distribute their attention to their other, needier children? These questions are outside the scope of this paper, but future research could investigate the ways that parents of highly successful students fade into the background. We have yet to define this kind of parental balancing act, but we should undoubtedly do so as childhood, schools, and parenting become more complex.

Table 1: Descriptive Statistics for Analyses 1 and 2 (Academic Variables from Grade One, Concerted Cultivation Variables from Grade Three, N=10,162)

Variable	Description	Mean	Standard Deviation	Min.	Max.
<u>Explanatory Variables</u>					
Reading Score	<i>Child's score on a first-grade reading test</i>	80.61	23.40	25.11	184.05
Teacher's Assessment	<i>Teacher's assessment of language and literacy skills (Likert scale)</i>	3.24	1.03	1	5
<u>Control Variables</u>					
Previous Wave CC Score	<i>Total concerted cultivation score in previous wave (grade one)</i>	0.27	2.56	-8.87	7.86
If Female	<i>Gender (female=1)</i>	0.49	-	0	1
If Non-White	<i>Race (nonwhite=1)</i>	0.36	-	0	1
Age	<i>Age^a</i>	2.99	1.42	1	5
SES	<i>Continuous socioeconomic status variable</i>	0.09	0.80	-2.96	2.88
Sibship Size	<i>Sibship size</i>	1.50	1.11	0	11
If single parent family	<i>Family structure (single-parent family=1, two-parent family is omitted category)</i>	0.18	-	0	1
If other family structure	<i>Family structure (other family structure=1, two-parent family is omitted category)</i>	0.02	-	0	1
<u>Outcome Variables</u>					
<i>Overall Concerted Cultivation Score</i>					
Current Wave CC Score	<i>Sum of z-scores from individual categories (below)</i>	0.09	2.49	-8.63	7.68
<i>Individual Concerted Cultivation Categories</i>					
Responsibilities	<i>Parental perceptions of responsibilities toward their children</i>	29.92	5.22	11	46
Leisure	<i>Children's leisure time</i>	2.04	1.36	0	7
Parent Social	<i>Parents' relationships with social institutions</i>	4.33	1.42	0	6
Number of Books	<i>Number of books in the home</i>	98.03	65.01	0	200

^aI constructed this variable to mimic the categorical age variables in the third and fifth grade waves. The categories are based on rough quintiles where 1=less than 83 months, 2=83 to less than 86 months, 3=86 to less than 88 months, 4=88 to less than 91 months, and 5=91 months or more

Table 2: Descriptive Statistics for Analysis 3 (Academic Variables from Time One, Parent Social Variables from Time Two)

		<u>Gr. 1 Academics/Gr. 3 CC</u>		<u>Gr. 3 Academics/Gr. 5 CC</u>		<u>Gr. 5 Academics/Gr. 8 CC</u>	
Variable	Description	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation
<u>Explanatory Variables</u>							
Reading Score	Child’s score on a reading test	80.54	23.35	130.88	26.98	153.86	25.62
Teacher’s Assessment	Teacher’s assessment of language and literacy skills (Likert scale)	3.24	1.03	3.19	0.96	3.29	0.95
<u>Control Variables</u>							
Previous Wave CC Score	Total parent social score at time one	4.17	1.49	4.39	1.37	4.28	1.41
If Female	Gender (female=1)	0.50	-	0.50	-	0.50	-
If Non-White	Race (nonwhite=1)	0.36	-	0.34	-	0.34	-
Age	Child’s age	2.99 ^a	1.42 ^a	3.51 ^b	1.39 ^b	2.95 ^c	0.79 ^c
SES	Continuous SES measure	0.09	0.80	0.08	0.79	0.08	0.81
Sibship Size	Sibship size	1.50	1.11	1.53	1.10	1.55	1.12
If single parent family	Family structure (single-parent family=1, two parent omitted)	0.18	-	0.17	-	0.19	-
If other family structure	Family structure (other family structure=1, two parent omitted)	0.02	-	0.02	-	0.02	-
<u>Outcome Variable</u>							
Current Wave CC Score	Total parent social score at time two	4.31	1.43	4.28	1.41	2.63	1.68
N=		10,408		7,700		7,320	

^aSee Table 1 footnote

^bMeasured in categories where 1=less than 105 months, 2=105 to less than 108 months, 3=108 to less than 111 months, 4=111 to less than 114 months, 5=114 to less than 117 months, 6=117 months or more

^cMeasured in categories where 1=110 to less than 126 months, 2=126 to less than 132 months, 3=132 to less than 138 months, 4=138 to less than 144 months, 5=144 to 166 months

Table 3: OLS Regressions for Effects of Gr. 1 Academic Achievement on Gr. 3 Concerted Cultivation Scores (N=10,162)^a

	Model 1: Test Score Only	Model 2: Teacher Only
Reading Score	-0.019* (-2.28)	
Teacher's Assessment		-0.017* (-2.11)
Previous Wave CC Score	0.602*** (62.77)	0.602*** (62.71)
If Female Student ^b	0.037*** (5.15)	0.038*** (5.25)
If Non-White Student ^c	-0.030*** (-3.42)	-0.030*** (-3.36)
Age Category	-0.009 (-1.16)	-0.010 (-1.23)
SES	0.118*** (12.21)	0.116*** (12.24)
Sibship Size	-0.009 (-1.12)	-0.009 (-1.10)
If Single Parent ^d	-0.014 (-1.65)	-0.014 (-1.66)
If Other Household ^d	-0.019* (-2.40)	-0.019* (-2.39)
adj. R ²	0.467	0.467

Standardized beta coefficients; *t* statistics in parentheses

Source: Early Childhood Longitudinal Study-Kindergarten Class of 1998-99 (ECLS-K)

^aAll variables converted to z-scores to make regression coefficients compatible

^bReference category is male student

^cReference category is Caucasian

^dReference category is two-parent household

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$ (two-tailed tests)

Table 4: Regressions for Effects of Gr. 1 Academic Achievement on Gr. 3 Concerted Cultivation Categories (N=10,162)

	<u>Responsibilities^a</u>		<u>Leisure^b</u>		<u>Social^b</u>		<u>Books in the Home^a</u>	
	Model 1: Test Only	Model 2: Teacher Only	Model 3: Test Only	Model 4: Teacher Only	Model 5: Test Only	Model 6: Teacher Only	Model 7: Test Only	Model 8: Teacher Only
Reading Score	-0.117*** (-11.93)		0.001* ^c (2.48)		<0.001** ^c (3.21)		0.033*** (3.71)	
Teacher's Assessment		-0.105*** (-10.67)		0.023*** (3.90)		0.008** (2.92)		0.018* (2.22)
Previous Wave CC Cat.	0.484*** (48.14)	0.485*** (48.10)	0.172*** (38.39)	0.172*** (38.67)	0.114*** (42.99)	0.114*** (42.92)	0.572*** (61.62)	0.573*** (62.24)
If Female Student ^d	0.015 (1.85)	0.019* (2.29)	0.079*** (6.59)	0.075*** (6.28)	0.008 (1.47)	0.007 (1.33)	0.029*** (4.03)	0.030*** (4.04)
If Non-White Student ^e	0.013 (1.17)	0.017 (1.56)	-0.023 (-1.54)	-0.23 (-1.58)	-0.033*** (-4.75)	-0.033*** (-4.83)	-0.080*** (-9.73)	-0.081*** (-9.82)
Age Category	-0.006 (-0.62)	-0.009 (-0.94)	-0.003 (-0.85)	-0.004 (-0.93)	0.002 (0.81)	0.002 (0.89)	-0.016* (-2.01)	-0.014 (-1.82)
SES	0.009 (0.84)	-0.006 (-0.56)	0.144*** (17.31)	0.144*** (17.58)	0.058*** (13.44)	0.059*** (13.98)	0.072*** (7.59)	0.078*** (8.42)
Sibship Size	-0.009 (-0.97)	-0.008 (-0.79)	-0.017** (-2.63)	-0.016* (-2.57)	-0.005 (-1.77)	-0.005 (-1.80)	<0.001 (-0.02)	-0.001 (-0.16)
If Single Parent ^f	0.022* (2.15)	0.021* (2.08)	-0.051** (-2.76)	-0.050** (-2.67)	-0.033*** (-3.71)	-0.033*** (-3.69)	-0.018* (-2.31)	-0.018* (-2.35)
If Other Household ^f	-0.019 (-1.86)	-0.018 (-1.81)	-0.072 (-1.29)	-0.071 (-1.27)	-0.031 (-1.06)	-0.031 (-1.07)	-0.016* (-2.41)	-0.017* (-2.46)
Constant			0.272*** (9.66)	0.249*** (8.80)	0.948*** (52.30)	0.953*** (53.83)		
adj. R^2	0.251	0.249					0.431	0.430

t statistics in parentheses; Source: Early Childhood Longitudinal Study-Kindergarten Class of 1998-99 (ECLS-K)

^aLinear regression with standardized beta coefficients

^bPoisson regression with unstandardized coefficients

^cReading scores have been rescaled to 10-point units

^dReference category is male student; ^eReference category is Caucasian; ^fReference category is two-parent household

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$ (two-tailed tests)

Table 5: Poisson Regressions for Effects of Academic Achievement on Parents' Social Scores

	<u>Grade 1 to 3</u>		<u>Grade 3 to 5</u>		<u>Grade 5 to 8</u>	
	Model 1: Test Only	Model 2: Teacher Only	Model 3: Test Only	Model 4: Teacher Only	Model 5: Test Only	Model 6: Teacher Only
Reading Score	0.004 ^{***a} (3.31)		0.008 ^{***a} (5.47)		-0.002 ^a (-0.67)	
Teacher's Assessment		0.009 ^{**} (3.10)		0.020 ^{***} (5.61)		0.002 (0.28)
Previous Wave CC Cat.	0.115 ^{***} (44.10)	0.114 ^{***} (43.99)	0.124 ^{***} (39.29)	0.124 ^{***} (39.49)	0.159 ^{***} (23.13)	0.159 ^{***} (23.13)
If Female Student ^b	0.008 (1.40)	0.007 (1.24)	0.020 ^{**} (3.15)	0.019 ^{**} (3.15)	0.008 (0.59)	0.008 (0.59)
If Non-White Student ^c	-0.035 ^{***} (-5.13)	-0.036 ^{***} (-5.21)	-0.012 (-1.40)	-0.016 (-1.93)	0.027 (1.51)	0.027 (1.51)
Age Category	0.002 (0.80)	0.002 (0.87)	-0.004 (-1.83)	-0.003 (-1.52)	0.011 (1.20)	0.011 (1.20)
SES	0.057 ^{***} (13.49)	0.059 ^{***} (14.04)	0.064 ^{***} (12.45)	0.067 ^{***} (13.10)	0.095 ^{***} (8.71)	0.095 ^{***} (8.71)
Sibship Size	-0.004 (-1.38)	-0.004 (-1.41)	-0.004 (-1.01)	-0.004 (-1.19)	-0.006 (-0.87)	-0.006 (-0.87)
If Single Parent ^d	-0.036 ^{***} (-3.99)	-0.036 ^{***} (-3.96)	-0.025 ^{**} (-2.64)	-0.025 ^{**} (-2.64)	-0.023 (-1.12)	-0.023 (-1.12)
If Other Household ^d	-0.027 (-0.94)	-0.028 (-0.95)	-0.079 [*] (-2.19)	-0.080 [*] (-2.23)	-0.004 (-0.06)	-0.004 (-0.06)
Constant	0.942 ^{***} (52.26)	0.946 ^{***} (54.03)	0.804 ^{***} (30.84)	0.839 ^{***} (37.42)	0.208 ^{***} (4.08)	0.208 ^{***} (4.08)
N	10,408	10,408	7,700	7,700	7,320	7,320

t statistics in parentheses; Source: Early Childhood Longitudinal Study-Kindergarten Class of 1998-99 (ECLS-K)

^aReading scores have been rescaled to 10-point units

^bReference category is male student

^cReference category is Caucasian

^dReference category is two-parent household

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$ (two-tailed tests)

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The unbanked in the U.S.: Similarities and differences between Previously banked and Never
banked households

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Abstract

Past studies have been done on the “unbanked,” those without bank accounts with traditional financial institutions. These studies treat the unbanked as a homogeneous group; however, recent studies are beginning to indicate a need to understand variation within this group. This study begins to fill this gap by comparing those with and without a history of bank account ownership to find differences in demographic characteristics and use of Alternative Financial Services (AFS). Using data from the 2009 Current Population Survey, Unbanked/Underbanked Supplement, a model was created binary logistic regression. The author found that there are significant differences in the history of bank account ownership in several areas, including among Hispanics compared to non-Hispanic households, single parent households, households in the South, and households that patronize (AFS). The findings have implications for practice in financial education and services as well as future research.

Keywords: Low-income, banks, alternative financial services, unbanked

Specific Aims

Having a bank account is recognized as a fundamental method for building wealth and pulling oneself out of poverty. There are many benefits to bank account ownership (Barr, 2004; Seidman, Hababou, & Kramer, 2005) such as helping people protect assets and build wealth (Hawke, 2000; Aarland, & Nordvik, 2009). For this reason, the focus of many financial education programs is to help people open and use a checking or savings account, to become “banked” (Barr, 2004). However, despite such benefits and efforts, an estimated 7% to 10% of American are unbanked (Federal Deposit Insurance Corporation (FDIC), 2009; Karger, 2004).

When consumers don’t have access to traditional financial institutions, i.e. are “unbanked,” they use unconventional means to manage their finances (Caskey, Duran & Solo, 2006), which frequently include the use of alternative financial services (AFS), for example, payday lenders and check cashing outlets (Hogarth, Anguelov, & Lee, 2005; Hogarth & O’Donnell, 2000). There is some danger in using these alternatives (Hayes, 2009; Rhine et al., 2003), however; some research has likened them to predatory lending (Engel & McCoy, 2001; Staz, 2010). The past decade has seen dramatic growth in AFS (Burkey & Simkins, 2004) and literature abounds over the causes and fuel of this growth (Barr, 2004; Rivlin, 2010, Stegman, 2001).

Past studies on the unbanked consider them a homogenous category (Martin & Tong, 2010; Satz, 2010; Washington, 2005). Recently, however, the FDIC found that “the 9 million households are *approximately split* [emphasis added] between households that have never had a bank account (46.9 percent) and households that were previously banked (49.0 percent)” (p. 11, 2009). This result affirms an observation initially made by Berry (2004) that the unbanked as a whole is heterogeneous and therefore different approaches to helping them are necessary.

The present study sought to contribute to financial education practice and scholarship by seeking patterns among subgroups of the unbanked in order to identify potentially innovative approaches for intervention. Using data from the Current Population Survey, Unbanked/Underbanked Supplement, this study compared the demographic characteristics of two groups within the unbanked category: the “previously banked,” referring to those who do not currently have bank accounts, but once did, and the “never banked,” referring to those who have never had bank accounts. The study also explored the way that payday lenders, check cashing outlets, tax refund anticipation lenders, and pawnshops are utilized by these two groups. This study is innovative in that it is one of the first to, not just document characteristics of the unbanked, but to try to uncover patterns and differences within the larger group.

Aim 1. To explore demographic variation within the unbanked by comparing two particular groups: The Previously banked and the Never banked.

Aim 2. To explore AFS use between two groups of the unbanked: The Previously banked and the Never banked.

Literature Review

The benefits of having and using a bank account have been generously researched (Aarland, & Nordvik, 2009; Barr, 2004; Hogarth et al, 2005; Lim, Livermore & Davis, 2010; Seidman, Hababou, & Kramer, 2005). Having a savings account is an important predictor of whether someone saves, households that save have more disposable income, and people who save are more likely to have access to credit and protection during a financial crisis (Barr, 2004; Seidman, Hababou, & Kramer, 2005). It is also easier for someone to establish credit and qualify for a loan when they have a bank account, and bank accounts have also been shown to be positively related to asset development (Aarland, & Nordvik, 2009; Barr, 2004; Hogarth et al,

2005). Finally, having a bank account automatically sets “into motion close to 20 consumer protection laws and regulations to help ensure that individuals are safeguarded from unfair, discriminatory, or predatory lending practices” (Greene, W.H, Rhine, S.L.W, & Toussaint-Comeau, M., 2003, p.3).

A December 2009 survey by the FDIC found that approximately nine million, or 7.7%, American households don’t have bank accounts. The FDIC also uncovered that those households “are approximately split between households that have never had a bank account (46.9 percent) and household that were previously banked (49.0 percent)” (FDIC, 2009, p.11). This almost 50/50 split is striking, particularly given the benefits associated with banking and the importance of financial management.

When people don’t use bank accounts, they utilize other methods of meeting their financial needs, such as going to friends or family members, or patronizing AFS. Examples of AFS include payday lenders, pawn shops, check cashing outlets or tax refund anticipation lenders (RALs) (Hogarth & O’Donnell, 2000). A payday loan is one alternative in which a prospective borrower presents proof of income and a bank account, as well as a post-dated check in the amount of the loan and a fee, usually between \$15-\$30 per \$100 borrowed, which the lender agrees to hold until the borrower’s next payday (Stegman, 2007). A check-cashing outlet cashes checks, in addition to other services like bill pay services and money orders (Karger, 2004). A pawnshop gives a loan based on items the borrower brings in for collateral. The borrower may pay 20% of the loan amount, which, for an \$80 loan for 30 days, translates into an APR of 240% (Avery, 2011). Finally, an RAL is a loan given in anticipation of the borrower’s tax refund.

Use of such methods costs the consumer a great deal of money relative to what they might pay at a traditional bank, leaving less disposable income to apply to such things as a savings fund, needed medical care or even, occasionally, timely payment of rent and utilities (Buckland, Hamilton, & Reimer, 2006; Caskey, 2002; Karger, 2004; Melzer, 2011; Morse 2011). In fact, one author classifies payday lending as predatory lending (Staz, 2010).

There is a paucity of literature concerning the variations within the unbanked population. A 2008 study about the effectiveness of a financial education program observed that "...little is known about which sub-groups of the unbanked population benefit most from these educational programs" (Haynes-Bordas Kiss, & Yilmazer, p.365). This study also found that the unbanked who had accounts in the past and those that had not were significantly different, particularly in the areas of race and income (Haynes-Bordas, et al., 2008).

On the other hand, there are multiple studies comparing the unbanked as a whole with bank accounts. They that being unbanked is associated with a wide range of social and economic factors including income, race and ethnicity, education, household and family arrangements, homeownership rates and region of the country in which someone lives.

Previous work has found that the unbanked are more likely to be lower income (Seidman et al., 2005). Almost 20% of households earning less than \$30,000 a year are unbanked (FDIC 2009). Geographic areas with higher concentrations of low-income households are associated with a lower number of banks (Burkey & Simkins, 2004). Hogarth & O'Donnell (2000) reported higher income is associated with having a bank account. Hogarth et al. (2005) found that differences in the lowest income levels are substantial in predicting who has a bank account. Past studies have found that income is associated with the use of AFS (Lawrence & Elliehausen, 2008; Morse, 2011; Stegman, 2007). Over half of all people who take out RALs are recipients of

the earned income tax credit (EITC), a credit available to people who earn up to a certain annual amount. (Theodos, Brash, Compton, Pindus & Steuerle, 2010) Additionally, the highest use of RALs is among people with a median income of \$19,768 a year. (Theodos et al., 2010).

Minority households are also disproportionately unbanked. (Hogarth et al., 2005) The estimated rates vary from between 21.7% to 52.4% of black households, and 19.3% to 35.3% of Hispanics are unbanked (Berry, 2004; FDIC, 2009). This may be, in part, due to environmental influences. One analysis found that banks “progressively abandon” (p. 309) poor and minority neighborhoods while, at the same time, payday lenders are targeting such neighborhoods (Graves, 2003). Results from a Greene et al. (2003) study suggest that Hispanics more frequently utilize check cashers.

Other works have found that people with less education are more likely to be unbanked (Seidman, et al., 2005). The FDIC (2009) survey found that households without high school diplomas are more likely to be unbanked. Hogarth & O’Donnell (2000) reported a relationship between education and account ownership, though they did not indicate its direction. Yet at the same time, Lawrence & Elliehausen, (2008) reported that people with a high school diploma and some college had the highest percentages of payday loan and pawnshop use.

Different kinds of family and household arrangements may impact a household’s financial service patterns as well. Being unmarried is associated with higher rates of being unbanked (Greene, et al., 2003; Hogarth, et al., 2005). Unbanked households are more likely to have children (Hogarth et al., 2005). Additionally, single parents with four or more dependents have higher rates of filing for an RAL (Theodos, et al., 2010).

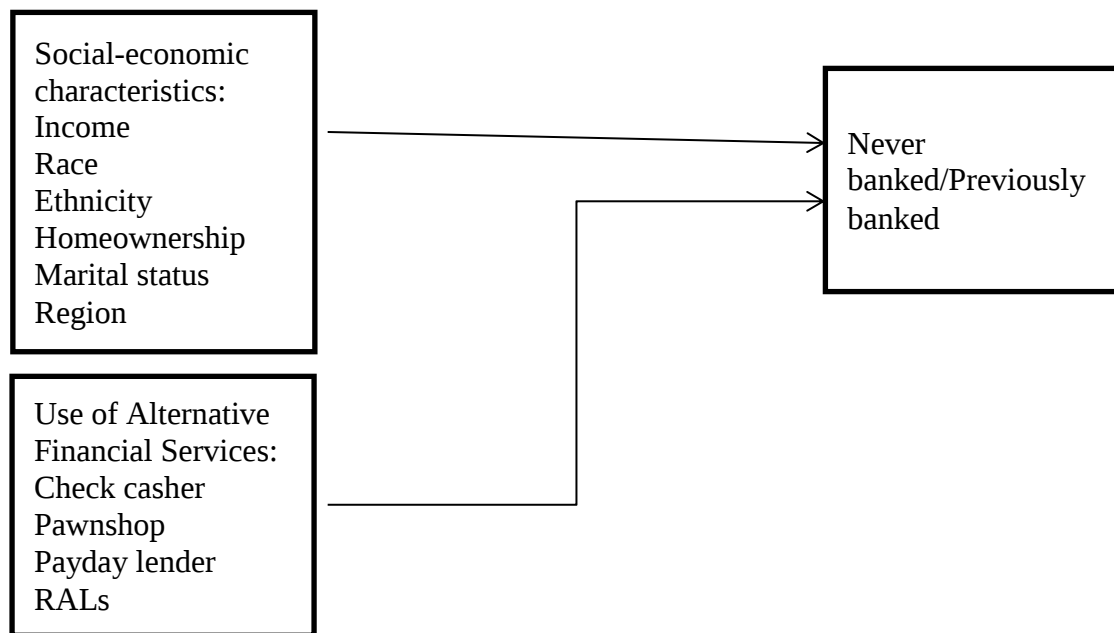
Home ownership has also been found to be significantly associated with having a bank account (Hogarth et al., 2005). Barr (2004) reported that renters are more likely to be unbanked.

Finally, other work has found interesting differences in banking patterns depending upon the region of the country (Hogarth et al., 2005). A map in the FDIC (2009) report shows dramatic differences in banking in each state. The Southern region, in particular, reported a 9.5% unbanked population, compared to 6.9%, 6.8% and 6.2% in the Northeast, West, and Midwest regions, respectively (FDIC, 2009). Barr's (2004) analysis discussed regional variations in the amount that consumers pay to use AFS. Additionally, research has uncovered that communities in the South of the U.S. have high rates of use of RALs (Theolkin et al., 2009).

Behavioral economic theory is a framework used by Bertrand, Mullainathan & Shafir (2006) to explain the banking behavior of the poor. Behavioral economics combines psychology and economics to explain how illogical human behavior occurs despite logical economic guidance. The framework used by Bertrand et al. (2006) pointed to two principles of this theory that may explain banking patterns. First, people have limited cognitive capabilities. Second, even when people know what is best, they sometimes fail to choose it. (Mullainathan & Thaler, 2000). Even though there are so many benefits to having a bank account, and drawbacks to not having one, people still make choices that may not benefit them. They posit that people who are in any way disadvantaged, such as the majority of people who are unbanked, are, rather than calculating products of the "culture of poverty" or victims of psychological and attitudinal short-comings, are subject to the same weaknesses in judgment that all humans face. The unbanked, however, have less of a safety net and feel the consequences of a poor choice more profoundly than one would the security than the banked.

Figure 1 is the conceptual model for this study.

Fig. 1 – Factors predicting Never banked/Previously banked households.



Because this study is exploratory, there is no hypothesis.

Methodology

This study utilized secondary data from the Current Population Survey (CPS); Unbanked/Underbanked Supplement, gathered in January 2009, which reported on approximately 47,000 households in 50 states and District of Columbia. The survey was a collaborative effort between the CPS, a monthly poll conducted by the Census Bureau, and the FDIC. The CPS collects monthly labor force data about the population living in the United States, and the FDIC supplement collected additional data on their financial behaviors.

The sample was selected through two stages of stratified sampling based on 2000 census information. The first stage of sampling created 2,025 geographic primary sampling units (PSUs) that stratified within each state. A total of 824 PSUs were selected for sampling and weights were assigned to compensate for the bias for households that were not interviewed. The second

stage of the sampling selected housing units from within the sample PSUs. The survey was given to someone who was knowledgeable about or involved with the financial decisions of the household. It was administered through either a phone or personal interview from January 18th through January 24th, 2009 and includes approximately 59,000 households in all 50 states and the District of Columbia. There were no callbacks.

To gather the sample this study, the first question was used to screen the sample: “Do you or does anyone in your household currently have a checking or savings account?” Only the households that responded “no” were selected for the data sample, which left 8150 cases. A second variable was used to cull the sample still further. The question asked: “Have you or anyone in your household ever had a bank account?” There were six possible responses to this question, including yes, no, don’t know, not in universe, refused and no response. For the purposes of this analysis, only cases that answered yes or no were retained, which left 7740 observations.

Given that the initial sample was relatively large, all of the cases with missing data were removed from the data set, and a fairly large sample remained, N=4155. There did not appear to be a pattern to the missing variables, and all of the variables retained a large enough number to remain in the analysis. The unit of measurement is the household.

Measures

Dependent variable

History of bank account ownership was a binary variable. The two responses were dummy coded with Never banked households as 1; Previously banked was the reference group.

Independent variables

The original household **income** variable referred to the combined income of “all family members during the previous 12 months, including money from jobs, net income from business, farm or rent, pensions, dividends, interest, social security payments and any other money income received by family members who are 15 years of age or older,” and created 16 categories of income.

The author recoded this into five categories of income (“0-9,999,” “10,000-19,999,” “20,000-29,999,” “30,000-49,999,” and “50,000+”) to ensure that each category had at least 10% of the cases. The five categories were then dummy coded and the last category (“\$50,000+”) was the reference group. The relationship between income and history of bank account ownership is expected to be positive, in that an increase in income will correspond with an increase in having been the Previously banked.

This study recoded **Race** into three categories, “White,” “Black,” and “Other,” and then dummy coded them for analysis in which “White” was the reference group.

The next variable, **Ethnicity**, referred whether or not a household was of Hispanic or Latino origin. Three categories were created, “Not Hispanic,” “Mexican,” and “Other Hispanic,” and, later, dummy variables were created for analysis. “Not Hispanic” was the reference group. The other categories outside of “Mexican” were merged into “Other Hispanic” because their numbers were small.

For the current study, the 17 categories of **Education** variable were recoded into four meaningful categories: “Less than 1st-8th,” “9-12-no diploma,” “High school diploma/GED” and “Any college.” Four dummy coded variables were created for analysis, and “Any College” was the reference group.

The variable ***Household type*** refers to the legal composition of the members of the household. The responses were recoded into five variables: “Husband & Wife (both civilian and military)”, “Single man with kids,” “Single woman with kids,” “Single man” and “Single woman.” These categories were all dummy coded for analysis; “Single woman” was the reference group. For this study, the non-interview households were deleted as were categories that could not be clearly integrated, such as “primary unmarried family householder in military,” “primary individual in military,” and the two categories relating to households containing roommates.

Two categories were created for the variable, ***Homeownership status***: “Owned/being bought by HH member,” and “Rented.” They were both dummy coded for the final analysis in which rented is the reference group. Excluded responses included those who indicated “staying without payment” because it was very small, 2.8%, and it was not clear how it should be merged with other data.

Finally, no cases for the variable ***Region*** were excluded. The four original categories, “Northeast,” “Midwest,” “South,” and “West” were maintained and dummy variables were created of each, with “West” as the reference group

For this study, ***alternative financial services*** include use of a check casher, receipt of an RAL, or use of a pawn shop or payday lender. Use of a check casher was measured by the answer to the question: “Have you or anyone in your household ever gone to a place other than a bank, a savings and loan or a credit union to cash a check you received from someone else?” Use of an RAL was measured by the answer to the question: “In the past five years, have you or anyone in your household taken out a tax refund anticipation loan?” Use of a pawn shop was measured by the answer to the question: “Have you or anyone in your household ever sold items

at a pawn shop?” Finally, use of a payday lender was measured by the answer to the question:

“Have you or anyone in your household ever used payday loan or payday advance services?”

The original “Yes” and “No” responses were maintained for each question and dummy coded for the final analysis. Cases that responded “I haven’t but I’m unsure about other in the household” were deleted from the data set. “No” was the reference group.

Reliability and validity of instrument

The survey was administered as an attachment of the CPS, a monthly survey that has been conducted by the Bureau of Census since 1940. The CPS is the primary source of information of labor force statistics. This is the first time the FDIC-sponsored Unbanked/Underbanked Supplement was part of it. The survey was administered with the assistance of a computer, and the interviewed records were edited for consistency.

Data analysis strategies / Research design

To address the study aims, descriptive statistics were run for both the dependent and independent variables. Next, bivariate statistics were analyzed using a correlation analysis with each of the predictor variables and the outcome variable. The results were analyzed using a Pearson chi square test. Finally, the study ran a binary logistic regression and used the odds ratio β_i to assess factors predicting Never banked/Previously banked status of a household (See Figure 1). SPSS was utilized in each of these analyses.

Ethics

Most ethical quandaries in research arise in relation to participants in the study. Since this research is using secondary data, there will not be ethical dilemmas that will arise pertaining to participants.

Results

The demographic characteristics of the households in the sample are presented in Table 1. Over 50% earned less than \$20,000 a year (n=3257), over 64% were White (n=2677), and 66% were not Hispanic (n=2778). Almost 50% of the sample had education that was less than a high school diploma (n=1929) and 17% of the sample had any college (n=733). “Married couples” were the largest category of household type (n=1457), followed by “single mothers” (n=1234). Almost 75% of the sample rented their homes (n=2995), and 43% of the sample lived in the Southern part of the country (n=1790).

The AFS most frequently used by the sample was a check casher, (n=1781) and the AFS least frequently used was a payday lender (n=328). 42% of the sample had ever gone to a check casher (n=1781), 8.7% had gotten an RAL in the previous five years (n=363), 17% had ever gone to a pawn shop (n=716), and 7.9% had ever gone to a payday lender (n=328).

Table 1

Characteristics of Unbanked Sample (n=4155)

	Frequency	Percent
Dependent variable		
Have you or anyone in your household ever had a checking or savings account?		
Yes	2151	51.8%
No	2004	48.2%
Independent variables		
Income		
\$0-\$9,999	1156	27.8%
\$10,000-\$19,999	1246	30.0%
\$20,000-\$29,999	855	20.6%
\$30,000-\$49,999	631	15.2%
\$50,000 +	267	6.4%

Race			
	White	2677	64.4%
	Black	1142	27.5%
	Other	336	8.1%
Ethnicity			
	Not Hispanic	2778	66.9%
	Mexican	977	23.5%
	Other Hispanic	400	9.6%
Education			
	0-8 th	712	17.1%
	9 th -12 th , no diploma	1217	29.3%
	High school diploma/GED	1493	35.9%
	Any college	733	17.6%
Household Type			
	Husband and wife	1457	35.1%
	Single man with kids	434	10.4%
	Single woman with kids	1234	29.7%
	Single man	630	15.2%
	Single woman	400	9.6%
Homeownership			
	Owned or being bought	1160	27.9%
	Rented	2995	72.1%
Region of the U.S.			
	Northeast	611	14.7%
	Midwest	765	18.4%
	South	1790	43.1%
	West	989	23.8%
Check casher			
	Yes	1781	42.9
	No	2374	57.1
RAL			
	Yes	363	8.7
	No	3792	91.3
Pawn shop			
	Yes	716	17.2

No	3439	82.8
Payday lending		
Yes	328	7.9
No	3827	92.1

Predicting never banked/previously banked status

The author ran a multivariate model using a binary logistic regression with forced entry between characteristic variables and AFS use, and bank account ownership history. This model allows predicting Never banked cases (=1) compared to Previously banked cases (=0) and distinguishing the relationship between each type of variable and the history of bank account ownership. Overall model was significant $\chi^2(23)=835.36$, $p<.001$. The Cox and Snell and Nagelkerke R^2 indicate that the model as a whole explained 18% and 24%, respectively, of the variance in history of bank account ownership ($p<..001$).

Table 2

Model 1: Logistic regression of characteristics predicting the Never Banked in the United States, 2009 (N=4155)

Predictor	B	S.E.	Wald	OR	CI	
					Upper	Lower
Income (\$50,000+ =0)						
\$0-\$9,999	.54	.16	11.83*	1.72	1.26	2.34
\$10,000-\$19,999	.15	.15	.96	1.16	.86	1.58
\$20,000-\$29,999	.58	.16	13.27**	1.78	1.31	2.43
\$30,000-\$49,999	.37	.17	4.94*	1.45	1.04	2.00
Race (White = 0)						

Black	.38	.08	18.35**	1.46	1.23	1.74
Other	.96	.13	50.72**	2.60	2.00	3.38
Ethnicity (Not Hispanic = 0)						
Mexican	1.3	.10	165.76**	3.75	3.01	4.59
Other Hispanic	.99	.13	62.13**	2.71	2.12	3.48
Education (Any college = 0)						
0-8th grade	1.06	.13	69.93**	2.89	2.26	3.71
9th-12th – no diploma	.62	.10	33.22**	1.85	1.50	2.28
High school diploma/GED	.42	.10	16.39**	1.52	1.24	1.85
Household type (Single woman = 0)						
Married couple	.29	.13	4.61*	1.33	1.03	1.73
Single man with kids	.71	.16	19.93**	2.04	1.49	2.80
Single woman with kids	.39	.13	8.80*	1.47	1.14	1.90
Single man	.54	.14	14.08**	1.72	1.29	2.27
Homeownership status (Rent = 0)						
Homeowner	-.37	.08	20.43*	.69	.59	.81
Region (West = 0)						
Northeast	.21	.12	3.14	1.24	.98	1.57
Midwest	-.11	.11	.85	.90	.72	1.13
South	.48	.10	25.10**	1.62	1.34	1.95
Check Casher (No = 0)						
Yes	-.13	.07	3.41	.88	.76	1.01
RAL (No=0)						

Yes	-.52	.14	14.25**	.59	.45	.78
Pawn shop (No=0)						
Yes	-.78	.10	58.37**	.46	.37	.56
Payday lender (No=0)						
Yes	-.99	.17	35.19**	.37	.27	.52

Note. OR=Odds Ratio; S.E.=Standard Error; CI = Confidence Interval

*p<.05, **<.001 Omnibus $\chi^2(23)=835.358$, p<.001; Cox and Snell $R^2(19)=.18$; Nagelkerke $R^2(19)=.24$; Hosmer and Lemeshow = 12.83(8), p=.12.

Generally, it seems that increasing income reduces the likelihood of being Never banked. However, there was some variation between the variables that makes it difficult to interpret.

Both the race and ethnicity variables had pronounced results. “Black” and “Other” were 1.46 (95% CI = 1.23-1.74, p. <.001) and 2.60 (95% CI = 2.00-3.38, p. <.001) times, respectively, more likely to be Never banked than “White” households, controlling for other variables. “Mexican” households were 3.75 (95% CI = 3.01-4.59, p. <.001) times more likely than “Not Hispanic” households to be Never banked, and Other Hispanic households were 2.71 (95% CI = 2.12-3.48, p. <.001) times more likely than Not Hispanic households to be Never banked, controlling for other variables.

Increasing education is associated with a lower likelihood of being Never banked, with households with the lowest education level (“up to 8th grade”) over twice as likely to be Never banked (OR = 2.89, 95% CI = 2.26-3.71, p. <.001) as those with “any college.” The next education level, “9th-12th grade, no diploma” was 85% (OR = 1.85, 95% CI = 1.50-2.28, p. <.001) more likely to be Never banked, and those with a “high school diploma or GED” were 52% (OR = 1.52, 95% CI = 1.24-1.85, p. <.001) times as likely to be Never banked, controlling for all other variables.

“Single men with children” were over twice as likely (OR = 2.04, 95% CI = 1.49-2.80, $p < .001$) to be Never banked as “single women without children,” controlling for other factors.

“Single women with children” were 47% (OR = 1.47, CI = 1.14 – 1.90, $p < .05$) times as likely to be Never banked as “single women,” controlling for other variables. “Married couples” and “single men without children” were 33% (OR = 1.33, CI = 1.03 – 1.73, $p < .05$) and 72% (OR = 1.72, CI = 1.29 – 2.27, $p < .001$) times as likely, respectively, to be Never banked as “single women,” controlling for other variables.

“Homeowners” had 31% (OR = .69, CI = .59 – .81, $p < .05$) lower odds of being Never banked than “renters,” controlling for other variables, and this is consistent with other literature that ties homeownership with bank accounts. Households in the “South” have the greatest odds of being Never banked (OR = 1.62, CI = 1.34 – 1.95, $p < .001$) than households in the “West,” controlling for other variables.

Finally, households that had visited an “RAL” were 41% (OR = .59, CI = .45 – .78, $p < .001$) less likely to be Never banked. Households that had visited a “pawn shop” were 54% (OR = .46, CI = .37 – .56, $p < .001$) less likely to be Never banked. Households that had visited a “payday lender” were 63% (OR = .37, CI = .27 – .52, $p < .001$) less likely to be Never banked.

The Hosmer and Lemeshow goodness-of-fit test, $\chi^2(8)=12.83$, $p=.12$, is not significant, indicating the model fits the data. Overall, the model correctly classified 68.7% of the cases. It correctly classified 70.7% of the Previously banked and 66.6% of the Never banked cases. The independent variables in the equation had a tolerance ranging between .83 and .94, indicating multicollinearity was not an issue for those predictors. Additionally, bivariate correlation of the independent variables reported that the highest correlation coefficient ($r=.41$) was between categories of the income variable, “\$0-\$9,999” and “\$10,000 - \$19,999.”

Discussion and future research

This study is one of the first to identify similarities and differences among certain “subgroups” of the unbanked. The results are thought-provoking and provide solid groundwork on which to build more effective innovations and more insightful research.

The results around income affirmed much of what is already known about the unbanked as a whole. The sample was largely low-income, which is consistent with the finding that low-income households are more likely to be unbanked. Generally, it appears that people with incomes lower than \$50,000 are more likely to be Never banked.

The results around Race and Ethnicity were particularly powerful. While it was previously known that racial and ethnic minorities are more frequently unbanked, the findings of this study highlight the magnitude of the difference in banking patterns. Black households are 46% more likely to be Never banked than white households, and Other households are more than twice as likely to be Never banked (2.60). The results on Ethnicity were even starker. Mexican household were over three times as likely (3.75) to be Never banked as Not Hispanic households, and Other Hispanic households were over two times as likely (2.71) to be Never banked. While this is consistent with other research that both racial minority and Hispanic households are relatively disadvantaged in bank account ownership this study indicates that, not only are racial minorities and Hispanics more frequently unbanked, they’re also more likely to be Never banked. This is a substantial portion of the population that is completely disconnected with the traditional financial services system. Further research is needed about this disconnection to determine and eradicate its roots. This finding also provides motivation to make available more tailored financial education programs and financial products.

The education finding also uncovers an interesting trend. Households with less than an 8th grade education are over twice as likely to be Never banked as those with any high school education. This is a large jump, and it demonstrates implications for financial education efforts and practice. Financial education could be strengthened for this age group. Additionally, financial institutions could create a product designed for this group and begin to bring them into banking, such as living skills classes.

The finding about household type is also meaningful. Past studies have found that single women with children are more vulnerable to being unbanked overall (Hogarth & O'Donnell, 2000). In this study, however, single men with children (2.04) have greater odds of being Never banked than single women with children (1.47). This suggests that the possibility that single women with children are more often Previously banked which then suggests that single mothers are at risk of becoming disconnected from traditional financial institutions. This has powerful implications for practice efforts, particularly for banks and credit unions and the products they make available to this group. Future research is needed to determine the cause of this disconnection as well as methods of intervention. One possible intervention in this case would be policies that foster asset accumulation (Hogarth, 2005), like Individual Development Accounts.

The homeownership status finding supports past research that homeowners and homeownership is associated with higher rates of bank account ownership (Hogarth et al., 2005).

The next intriguing finding relates to regional differences. Households in the South are 62% times more likely to be Never banked households in the West, controlling for other variables. One study posited that it may be a function of the state policies (Hogarth, 2005). These findings have implications for intervention efforts, particularly in the South, where households

have the greatest odds of being Never banked. One study about financial education reported that the Never banked gained more from financial education training than the Previously banked, who came into a program with “pre-training knowledge” (Midwest. Zhan, Anderson, & Scott, 2006). To accommodate this, different curricula may be useful for different levels of prior experience. To this end, regional differences in banking patterns may be another area that would benefit from future research.

A remarkable finding is that the Never banked are less likely to use three of four of the AFS in this analysis. It is not clear why this is so. One possible theory for this difference is that the Never banked are not as accustomed to financial products such as check cashing or small loan services as the Previously banked who, even when they leave traditional banks, still seek equivalent services. Given that this applies to only one group, research testing theories behind this pattern could be useful.

A final interesting point pertains to one type of AFS, a payday loan. According to the Community Financial Services Association (CFSA) of America, the national organization for payday lenders, only individuals with bank accounts can take out payday loan, therefore, it is to be expected that the Never banked have lower rates of using them. However, despite this lower rate, this analysis reveals that 16% of the Never banked have taken out payday loans, though they have never had accounts. These findings casts doubt on the CFSA claim, and indicates that this issue merits further scrutiny.

Limitations

Although instructive, these findings should be viewed in the context of study limitations. Cross-sectional data documents only associations rather than predict causality. More rigorous methods need be employed determine causality. Another limitation is that this research utilizes

secondary data. Therefore, it is possible that the study utilized a predictor differently than the survey designer intended. A large limitation of this study is that it's not sensitive to variation in race or ethnicity. The sample was heavily gathered among White and not Hispanic people, which was a function of the research design. Future studies about the unbanked, specifically in other racial groups would require something more specific, like the snowball sampling method or a more qualitative method. Finally, there are other predictors that may be important that have not been included, such as age, gender and whether there are children present.

Conclusion

The findings in this study represent a strong first step in efforts to develop a multifaceted approach to reaching the unbanked. They are useful in informing innovative practice methods, they suggest possible policy interventions that will prove fruitful, and they open the door to research that with advance understanding. Healthy use of a bank account is one of the simplest ways of empowering people to build wealth and reduce poverty. By researching and creating program offerings that match actual needs, the U.S. can enjoy a financial services model that works for everyone.

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Appendix

Bivariate analysis

For the next step, the study ran a correlation analysis on each of the predictor variables and the outcome variable and the results were analyzed using the Pearson Chi squared test. The results of this analysis are in Table 2 in the appendix. Each correlation was significant. The correlation between bank account history and pawn shop and payday lending were both substantial, with a chi square value of 152.74 and 143.93, respectively. Use of a check casher was approximately split between the Previously banked and the Never banked (56.8% and 43.2%, respectively). However, the 74.1% of the Previously banked got an RAL compared to 25.9% of the Never banked, 72.8% of the Previously banked visited a pawn shop compared with 27.2% of the Never banked, and 83.5% of the Previously banked got a payday loan compared with 16.5% of the Never banked.

None of the expected values are less than 1, and the observations are unique in that each case contributes to only one square in the data. The expected frequencies are all greater than 5, and they are particularly high in the first two categories income. The Levene's test for income, race, and household type were insignificant, indicating homogeneity of variance. The Levene's test results for ethnicity, education, homeownership, region, check casher, RAL, pawn shop, and payday lender were significant, which means variance is not equal across these groups.

Table 2. Correlation analysis between independent variables and bank account ownership history (Expected values in parentheses).

		Previously banked		Never banked			
		n	%	n	%		
Income						$\chi^2(4)$	p
	0-\$9,999	572 (598.4)	49.5%	584 (557.6)	50.5%	32.63	<.05
	\$10,000-\$19,999	692 (645)	55.5%	554 (601)	44.5%		
	\$20,000-\$29,999	393 (442.6)	46.0%	462 (412)	54.0%		
	\$30,000-\$49,999	328 (326.7)	52.0%	303 (304.3)	48.0%		
	\$50,000+	166 (138.2)	62.2%	101 (128.8)	37.8%		
Race						$\chi^2(2)$	p
	White	1374 (1385.9)	51.3%	1303 (1291.1)	48.7%	11.54	<.05
	Black	627 (591.2)	54.9%	515 (550.8)	45.1%		
	Other	150 (173.9)	44.6%	186 (162.1)	55.4%		
Ethnicity						$\chi^2(2)$	p
	Not Hispanic	1721 (1438.1)	62.0%	1057 (1339.9)	38.0%	352.67	<.05
	Mexican	287 (505.8)	29.4%	690 (471.2)	70.6%		
	Other Spanish	143 (207.1)	35.8%	257 (192.9)	64.3%		
Education						$\chi^2(3)$	p
	Less than 1st - 8th	210 (398.6)	29.5%	502 (343.4)	70.5%	246.80	<.05
	9th-12th, no diploma	584 (630)	48.0%	633 (587)	52.0%		
	High School diploma/GED	857 (772.9)	57.4%	636 (720.1)	42.6%		
	Any College	500 (379.5)	68.2%	233 (353.5)	31.8%		
Household type						$\chi^2(4)$	p
	Husband & wife	746 (754.3)	51.2%	711 (702.7)	48.8%	29.77	<.05
	Single man with kids	193 (224.7)	44.5%	241 (209.3)	55.5%		

	Single woman with kids	638 (638.8)	51.7%	596 (595.2)	48.3%		
	Single man	322 (326.1)	51.1%	308 (303.9)	48.9%		
	Single woman	252 (207.1)	63.0%	148 (192.9)	37.0%		
Homeownership					$\chi^2(1)$	p	
	Owned/Being bought	655 (600.5)	56.5%	505 (559.5)	43.5%	14.22	<.05
	Rented	1496 (1550.5)	49.9%	1499 (1444.5)	50.1%		
Region					$\chi^2(3)$	p	
	Northeast	315 (316.3)	51.6%	296 (294.7)	48.4%	56.64	<.05
	Midwest	489 (393)	63.5%	279 (369)	36.5%		
	South	848 (926.7)	47.7%	942 (863.3)	52.6%		
	West	502 (512)	50.8%	487 (477)	49.2%		
Use Check Casher					$\chi^2(1)$	p	
	Yes	1012 (922)	56.8%	769 (859)	43.2%	31.88	<.05
	No	1139 (1229)	48.0%	1235 (1145)	52.0%		
Use RAL					$\chi^2(1)$	p	
	Yes	269 (187.9)	74.1%	94 (175.1)	25.9%	79.47	<.05
	No	1882 (1963.1)	49.6%	1910 (1828.9)	50.4%		
Use Pawn Shop					$\chi^2(1)$	p	
	Yes	521 (370.7)	72.8%	195 (345)	27.2%	152.74	<.05
	No	1630 (1780.3)	47.4%	1809 (1658.7)	52.6%		
Use payday lender					$\chi^2(1)$	p	
	Yes	274 (169.8)	83.5%	54 (158.2)	16.5%	143.93	<.05
	No	1877 (1981.2)	49.0%	1950 (1845.8)	51.0%		

The unbanked in the U.S.: Similarities and differences between Previously banked and Never
banked households

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The Unbanked in the U.S.: Similarities and Differences between Previously Banked and Never Banked Households

Abstract

Past studies have been done on the “unbanked,” those without bank accounts with traditional financial institutions. These studies treat the unbanked as a homogeneous group; however, recent studies are beginning to indicate a need to understand variation within this group. This study begins to fill this gap by comparing those with and without a history of bank account ownership to find differences in demographic characteristics and use of Alternative Financial Services (AFS). Using data from the 2009 Current Population Survey, Unbanked/Underbanked Supplement, a model was created using binary logistic regression. The author found that there are significant differences in the history of bank account ownership in several areas, including among Hispanics compared to non-Hispanic households, single parent households, households in the South, and households that patronize (AFS). The findings have implications for practice in financial education and services as well as future research.

Keywords: Low-income, banks, alternative financial services, unbanked

The Unbanked in the U.S.: Similarities and Differences between Previously Banked and Never Banked Households

Specific Aims

Having a bank account is recognized as a fundamental method for building wealth and pulling oneself out of poverty. There are many benefits to bank account ownership (Barr, 2004; Seidman, Hababou, & Kramer, 2005) such as helping people protect assets and build wealth (Hawke, 2000; Aarland, & Nordvik, 2009). For this reason, the focus of many financial education programs is to help people open and use a checking or savings account, to become “banked” (Barr, 2004). However, despite such benefits and efforts, an estimated 7% to 10% of American is unbanked (Federal Deposit Insurance Corporation (FDIC), 2009; Karger, 2004).

When consumers don’t have access to traditional financial institutions, i.e. are “unbanked,” they use unconventional means to manage their finances (Caskey, Duran & Solo, 2006). This frequently includes the use of alternative financial services (AFS). For example, there are payday lenders and check cashing outlets (Hogarth, Anguelov, & Lee, 2005; Hogarth & O’Donnell, 2000). There is some danger in using these alternatives (Hayes, 2009; Rhine et al., 2003) as some research has likened them to predatory lending (Engel & McCoy, 2001; Staz, 2010). The past decade has seen dramatic growth in AFS (Burkey & Simkins, 2004) and literature abounds over the causes and fuel of this growth (Barr, 2004; Rivlin, 2010, Stegman, 2001).

Past studies on the unbanked consider them a homogenous category (Martin & Tong, 2010; Satz, 2010; Washington, 2005). Recently, however, the FDIC found that “the 9 million households are *approximately split* [emphasis added] between households that have never had a bank account (46.9 percent) and households that were previously banked (49.0 percent)” (p.

11, 2009). This result affirms an observation initially made by Berry (2004) that the unbanked as a whole is heterogeneous and therefore different approaches to helping them are necessary.

The present study sought to contribute to financial education practice and scholarship by seeking patterns among subgroups of the unbanked in order to identify potentially innovative approaches for intervention. Using data from the Current Population Survey, Unbanked/Underbanked Supplement, this study compared the demographic characteristics of two groups within the unbanked category: the “previously banked,” referring to those who do not currently have bank accounts, but once did, and the “never banked,” referring to those who have never had bank accounts. This study provides analysis of the patterns and differences of demographic groups within the larger unbanked group.

Aim 1. To predict demographic variables between two groups of the unbanked: The previously banked and the never banked.

Aim 2. To predict AFS use between two groups of the unbanked: The previously banked and the never banked.

Literature Review

The benefits of having and using a bank account have been generously researched (Aarland, & Nordvik, 2009; Barr, 2004; Hogarth et al, 2005; Lim, Livermore & Davis, 2010; Seidman, Hababou, & Kramer, 2005). Having a savings account is an important predictor of whether someone saves, households that save have more disposable income; and people who save are more likely to have access to credit and protection during a financial crisis (Barr, 2004; Seidman, Hababou, & Kramer, 2005). It is also easier for someone to establish credit and qualify for a loan when they have a bank account; and bank accounts have also been shown to be positively related to asset development (Aarland, & Nordvik, 2009; Barr, 2004;

Hogarth et al, 2005). Finally, having a bank account automatically sets “into motion close to 20 consumer protection laws and regulations to help ensure that individuals are safeguarded from unfair, discriminatory, or predatory lending practices” (Greene, W.H, Rhine, S.L.W, & Toussaint- Comeau, M., 2003, p. 3).

A December 2009 survey by the FDIC found that approximately nine million, or 7.7%, American households don’t have bank accounts. The FDIC also uncovered that those households “are approximately split between households that have never had a bank account (46.9 percent) and household that were previously banked (49.0 percent)” (FDIC, 2009, p.11). This almost 50/50 split is striking, particularly given the benefits associated with banking and the importance of financial management.

When people don’t use bank accounts, they utilize other methods of meeting their financial needs, such as going to friends or family members, or patronizing AFS. Examples of AFS include payday lenders, pawn shops, check cashing outlets or tax refund anticipation lenders (RALs) (Hogarth & O’Donnell, 2000). A payday loan is one alternative in which a prospective borrower presents proof of income and a bank account, as well as a post-dated check in the amount of the loan and a fee, usually between \$15-\$30 per \$100 borrowed, which the lender agrees to hold until the borrower’s next payday (Stegman, 2007). A check-cashing outlet cashes checks, in addition to other services like bill pay services and money orders (Karger, 2004). A pawnshop gives a loan based on items the borrower brings in for collateral. The borrower may pay 20% of the loan amount, which, for an \$80 loan for 30 days, translates into an APR of 240% (Avery, 2011). Finally, an RAL is a loan given in anticipation of the borrower’s tax refund.

Use of such methods costs the consumer a great deal of money relative to what they might pay at a traditional bank, leaving less disposable income to apply to such things as a savings fund, needed medical care or even, occasionally, timely payment of rent and utilities (Buckland, Hamilton, & Reimer, 2006; Caskey, 2002; Karger, 2004; Melzer, 2011; Morse 2011). In fact, one author classifies payday lending as predatory lending (Staz, 2010).

There is a paucity of literature concerning the variations within the unbanked population. A 2008 study about the effectiveness of a financial education program observed that "...little is known about which sub-groups of the unbanked population benefit most from these educational programs" (Haynes-Bordas Kiss, & Yilmazer, p.365). The same study also found that the unbanked who had accounts in the past and those that had not were significantly different, particularly in the areas of race and income (Haynes-Bordas, et al., 2008).

On the other hand, there are multiple studies comparing the unbanked as a whole to those with bank accounts. They find that being unbanked is associated with a wide range of social and economic factors including income, race and ethnicity, education, household and family arrangements, homeownership rates and region of the country in which someone lives.

Previous work has found that the unbanked are more likely to be lower income (Seidman et al., 2005). Almost 20% of households earning less than \$30,000 a year are unbanked (FDIC 2009). Geographic areas with higher concentrations of low-income households are associated with a lower number of banks (Burkey & Simkins, 2004). Hogarth & O'Donnell (2000) reported higher income is associated with having a bank account. Hogarth et al. (2005) found that differences in the lowest income levels are substantial in predicting who has a bank account. Past studies have found that income is associated with the use of AFS (Lawrence & Elliehausen, 2008; Morse, 2011; Stegman, 2007). Over half of all people who

take out RALs are recipients of the earned income tax credit (EITC), a credit available to people who earn up to a certain annual amount (Theodos, Brash, Compton, Pindus & Steuerle, 2010). Additionally, the highest use of RALs is among people with a median income of \$19,768 a year (Theodos et al., 2010).

Minority households are also disproportionately unbanked (Hogarth et al., 2005). The estimated rates vary from between 21.7% to 52.4% of black households, and 19.3% to 35.3% of Hispanics are unbanked (Berry, 2004; FDIC, 2009). This may be, in part, due to environmental influences. One analysis found that banks “progressively abandon” (p. 309) poor and minority neighborhoods; while, at the same time, payday lenders are targeting such neighborhoods (Graves, 2003). Results from a Greene et al. (2003) study suggest that Hispanics more frequently utilize check cashers.

Other works have found that people with less education are more likely to be unbanked (Seidman, et al., 2005). The FDIC (2009) survey found that households without high school diplomas are more likely to be unbanked. Hogarth & O’Donnell (2000) reported a relationship between education and account ownership, though they did not indicate its direction. Yet at the same time, Lawrence & Elliehausen, (2008) reported that people with a high school diploma and some college had the highest percentages of payday loan and pawnshop use.

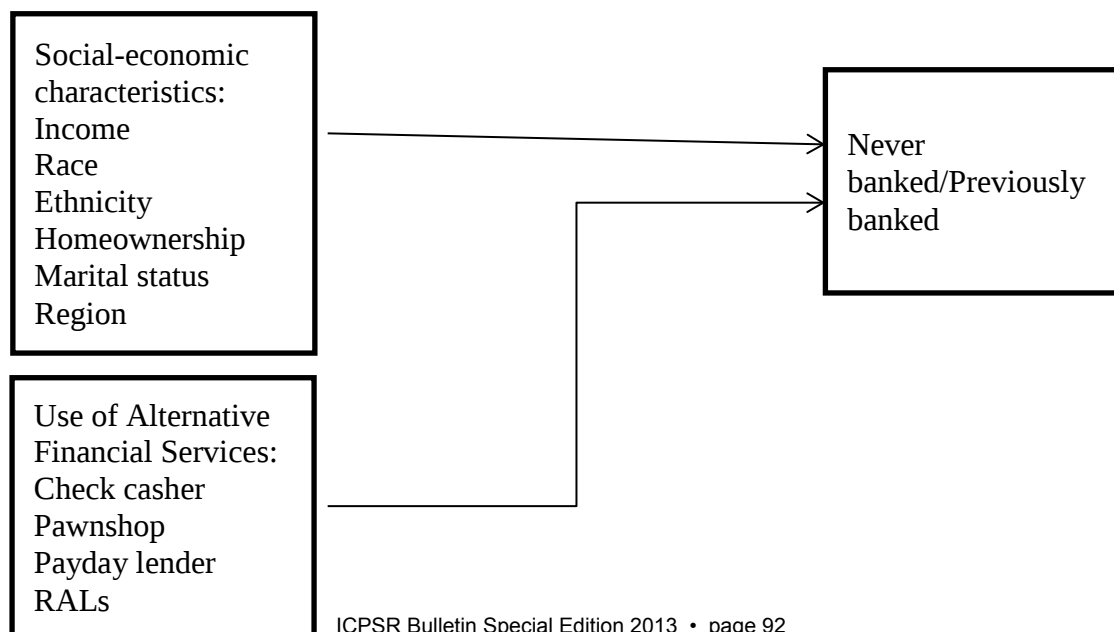
Different kinds of family and household arrangements may impact a household’s financial service patterns as well. Being unmarried is associated with higher rates of being unbanked (Greene, et al., 2003; Hogarth, et al., 2005). Unbanked households are more likely to have children (Hogarth et al., 2005). Additionally, single parents with four or more dependents have higher rates of filing for an RAL (Theodos, et al., 2010).

Home ownership has also been found to be significantly associated with having a bank account (Hogarth et al., 2005). Barr (2004) reported that renters are more likely to be unbanked. Finally, other work has found differences in banking patterns depending upon the region of the country (Hogarth et al., 2005). A map in the FDIC (2009) report shows dramatic differences in banking in each state. The Southern region, in particular, reported a 9.5% unbanked population, compared to 6.9%, 6.8% and 6.2% in the Northeast, West, and Midwest regions, respectively (FDIC, 2009). Barr's (2004) analysis discussed regional variations in the amount that consumers pay to use AFS. Additionally, research has uncovered that communities in the South of the U.S. have high rates of use of RALs (Theolkin et al., 2009).

The theoretical framework guiding this research is behavioral economic theory as used by Bertrand, Mullainathan & Shafir (2006). Behavioral economics combines psychology and economics to explain how illogical human behavior occurs despite logical economic guidance. Two principles of this theory as used by Bertrand et al. (2006) help explain banking patterns. First, people have limited cognitive capabilities. Second, even when people know what is best, they sometimes fail to choose it (Mullainathan & Thaler, 2000).

Figure 1 is the conceptual model for this study.

Fig. 1 – Factors predicting Never banked/Previously banked households.



Based on the literature, it is expected that there is a relationship between the independent variables and the dependent variable, though, without controlling for other variables, it is unclear the extent to which the variables are related.

Methodology

This study utilized secondary data from the Current Population Survey (CPS); Unbanked/Underbanked Supplement, gathered in January 2009, which reported on approximately 47,000 households in 50 states and District of Columbia. The survey was a collaborative effort between the CPS, a monthly poll conducted by the Census Bureau, and the FDIC. The CPS collects monthly labor force data about the population living in the United States, and the FDIC supplement collected additional data on their financial behaviors.

The sample was selected through two stages of stratified sampling based on 2000 census information. The first stage of sampling created 2,025 geographic primary sampling units (PSUs) that stratified within each state. A total of 824 PSUs were selected for sampling and weights were assigned to compensate for the bias for households that were not interviewed. The second stage of the sampling selected housing units from within the sample PSUs. The survey was given to someone who was knowledgeable about or involved with the financial decisions of the household. It was administered through either a phone or personal interview from January 18th through January 24th, 2009 and includes approximately 59,000 households in all 50 states and the District of Columbia. There were no callbacks.

To gather the sample this study, a first question was used to screen the sample: “Do you or does anyone in your household currently have a checking or savings account?” Only the households that responded “no” were selected for the data sample, which left 8,150 cases. A

second question was used to cull the sample still further: “Have you or anyone in your household ever had a bank account?” There were six possible responses to this question, including yes, no, don’t know, not in universe, refused and no response. For the purposes of this analysis, only cases that answered yes or no were retained, which left 7,740 observations.

Given that the initial sample was relatively large, all of the cases with missing data were removed from the data set, and a fairly large sample remained, $n=4155$. The data appear to be representative of the two subgroups “Previously banked” and “Never banked” of the Unbanked (see Table 1). There did not appear to be a pattern to the missing variables, and, as all of the variables retained a large enough number to remain in the analysis independently, there was no effort to impute the missing data. The unit of measurement is the household.

Measures

Dependent variable

History of bank account ownership was a binary variable. The two responses were dummy coded with never banked households as 1; previously banked was the reference group.

Independent variables

The original household *income* variable referred to the combined income of “all family members during the previous 12 months, including money from jobs, net income from business, farm or rent, pensions, dividends, interest, social security payments and any other money income received by family members who are 15 years of age or older,” and created 16 categories of income.

The author recoded this into five categories of income (“0-9,999,” “10,000-19,999,” “20,000-29,999,” “30,000-49,999,” and “50,000+”) to ensure that each category had at least 10% of the cases. The five categories were then dummy coded and the last category

("\$50,000+") was the reference group. The relationship between income and history of bank account ownership is expected to be positive, in that an increase in income will correspond with an increase in having been the previously banked.

In the original data set, the variable **Race** was included 16 categories: "White," "Black," "American Indian/Alaskan Native," "Asian," "Hawaiian/Pacific Islander," and an additional 11 combinations of these five categories. This study recoded the data into three categories: "White," "Black," and "Other" and then dummy coded them for analysis in which "White" was the reference group.

The next variable, **Ethnicity**, referred whether or not a household was of Hispanic or Latino origin. Three categories were created, "Not Hispanic," "Mexican," and "Other Hispanic," and, later, dummy variables were created for analysis. "Not Hispanic" was the reference group. The other categories outside of "Mexican" were merged into "Other Hispanic" because their numbers were small.

The 17 categories of the **Education** variable were recoded into four meaningful categories: "Less than 1st-8th," "9-12-no diploma," "High school diploma/GED" and "Any college." Four dummy coded variables were created for analysis, and "Any College" was the reference group.

The variable **Household type** refers to the legal composition of the members of the household. The responses were recoded into five variables: "Husband & Wife (both civilian and military)," "Single man with kids," "Single woman with kids," "Single man" and "Single woman." These categories were all dummy coded for analysis; "Single woman" was the reference group. For this study, the non-interview households were deleted as well as categories that could not be clearly integrated, such as "primary unmarried family householder in

military,” “primary individual in military,” and two categories relating to households containing roommates.

Two categories were created for the variable, ***Homeownership status***: “Owned/being bought by HH member,” and “Rented.” They were both dummy coded for the final analysis in which rented is the reference group. Excluded responses included those who indicated “staying without payment” because it was very small, 2.8%, and it was not clear how it should be merged with other data.

Finally, no cases for the variable ***Region*** were excluded. The four original categories, “Northeast,” “Midwest,” “South,” and “West” were maintained and dummy variables were created of each, with “West” as the reference group

For this study, ***alternative financial services*** include use of a check casher, receipt of an RAL, or use of a pawn shop or payday lender. Use of a check casher was measured by the answer to the question: “Have you or anyone in your household ever gone to a place other than a bank, a savings and loan or a credit union to cash a check you received from someone else?” Use of an RAL was measured by the answer to the question: “In the past five years, have you or anyone in your household taken out a tax refund anticipation loan?” Use of a pawn shop was measured by the answer to the question: “Have you or anyone in your household ever sold items at a pawn shop?” Finally, use of a payday lender was measured by the answer to the question: “Have you or anyone in your household ever used payday loan or payday advance services?” The original “Yes” and “No” responses were maintained for each question and dummy coded for the final analysis. Cases that responded “I haven’t but I’m unsure about other in the household” were deleted from the data set. “No” was the reference group.

Reliability and validity of instrument

The survey was administered as an attachment of the CPS, a monthly survey that has been conducted by the Bureau of Census since 1940. The CPS is the primary source of information of labor force statistics. This is the first time the FDIC-sponsored Unbanked/Underbanked Supplement was part of it. The survey was administered with the assistance of a computer, and the interviewed records were edited for consistency.

Data analysis strategies / Research design

To address the study aims, descriptive statistics were run for both the dependent and independent variables (See Table 1). Bivariate statistics were also analyzed using a correlation analysis with each of the predictor variables and the outcome variable (See Table 3). The results were analyzed using a Pearson chi square test. Finally, the study ran a binary logistic regression and used the odds ratio β_1 to assess factors predicting Never banked or Previously banked status of a household (See Table 2). SPSS was utilized in each of these analyses.

Ethics

Most ethical quandaries in research arise in relation to participants in the study. Since this research is using secondary data, there will not be ethical dilemmas that will arise pertaining to participants.

Results

The demographic characteristics of the households in the sample are presented in Table 1. Over 50% earned less than \$20,000 a year (n=3257), over 64% were White (n=2677), and 66% were not Hispanic (n=2778). Almost 50% of the sample had education that was less than a high school diploma (n=1929) and 17% of the sample had any college (n=733). “Married couples” were the largest category of household type (n=1457), followed by “single mothers”

(n=1234). Almost 75% of the sample rented their homes (n=2995), and 43% of the sample lived in the Southern part of the country (n=1790).

The AFS most frequently used by the sample was a check casher, (n=1781) and the AFS least frequently used was a payday lender (n=328). 42% of the sample had ever gone to a check casher (n=1781), 8.7% had gotten an RAL in the previous five years (n=363), 17% had ever gone to a pawn shop (n=716), and 7.9% had ever gone to a payday lender (n=328).

Table 1
Characteristics of Unbanked Sample (n=4155)

	Frequency	Percent
Dependent variable		
Have you or anyone in your household ever had a checking or savings account?		
Yes	2151	51.8%
No	2004	48.2%
Independent variables		
Income		
\$0-\$9,999	1156	27.8%
\$10,000-\$19,999	1246	30.0%
\$20,000-\$29,999	855	20.6%
\$30,000-\$49,999	631	15.2%
\$50,000 +	267	6.4%
Race		
White	2677	64.4%
Black	1142	27.5%
Other	336	8.1%
Ethnicity		
Not Hispanic	2778	66.9%
Mexican	977	23.5%
Other Hispanic	400	9.6%
Education		
0-8 th	712	17.1%
9 th -12 th , no diploma	1217	29.3%
High school diploma/GED	1493	35.9%

	Any college	733	17.6%
Household Type			
	Husband and wife	1457	35.1%
	Single man with kids	434	10.4%
	Single woman with kids	1234	29.7%
	Single man	630	15.2%
	Single woman	400	9.6%
Homeownership			
	Owned or being bought	1160	27.9%
	Rented	2995	72.1%
Region of the U.S.			
	Northeast	611	14.7%
	Midwest	765	18.4%
	South	1790	43.1%
	West	989	23.8%
Check casher			
	Yes	1781	42.9
	No	2374	57.1
RAL			
	Yes	363	8.7
	No	3792	91.3
Pawn shop			
	Yes	716	17.2
	No	3439	82.8
Payday lending			
	Yes	328	7.9
	No	3827	92.1

Predicting never banked/previously banked status

The author ran a multivariate model using a binary logistic regression with forced entry between characteristic variables and AFS use, and bank account ownership history. This model allows predicting Never banked cases (=1) compared to previously banked cases (=0) and distinguishing the relationship between each type of variable and the history of bank account ownership. Overall model was significant $\chi^2 (23) = 835.36, p < .001$. The Cox

and Snell and Nagelkerke R^2 indicate that the model as a whole explained 18% and 24%, respectively, of the variance in history of bank account ownership ($p < .001$).

Table 2

Model 1: Logistic regression of characteristics predicting the Never Banked in the United States, 2009 (N=4155)

Predictor	OR	CI		
		Upper	Lower	
Income (Reference group: \$50,000+)				
\$0-\$9,999	1.72*	1.26	2.34	
\$10,000-\$19,999	1.16	.86	1.58	
\$20,000-\$29,999	1.78**	1.31	2.43	
\$30,000-\$49,999	1.45*	1.04	2.00	
Race (Reference group: White)				
Black	1.46**	1.23	1.74	
Other	2.60**	2.00	3.38	
Ethnicity (Reference group: Not Hispanic)				
Mexican	3.75**	3.01	4.59	
Other Hispanic	2.71**	2.12	3.48	
Education (Reference group: Any college)				
0-8 th grade	2.89**	2.26	3.71	
9th-12th – no diploma	1.85**	1.50	2.28	
High school diploma/GED	1.52**	1.24	1.85	
Household type (Reference group: Single woman)				
Married couple	1.33*	1.03	1.73	
Single man with kids	2.04**	1.49	2.80	
Single woman with kids	1.47*	1.14	1.90	
Single man	1.72**	1.29	2.27	
Homeownership status (Reference group: Renter)				
Homeowner	.69*	.59	.81	
Region (Reference group: West)				
Northeast	1.24	.98	1.57	
Midwest	.90	.72	1.13	
South	1.62**	1.34	1.95	
Check Casher (Reference group: Have not used)				
Yes	.88	.76	1.01	

RAL (Reference group: Have not used)				
	Yes	.59**	.45	.78
Pawn shop (Reference group: Have not used)				
	Yes	.46**	.37	.56
Payday lender (Reference group: Have not used)				
	Yes	.37**	.27	.52

Note. OR=Odds Ratio; S.E.=Standard Error; CI = Confidence Interval

*p<.05, **<.001 Omnibus $\chi^2(23)=835.358$, p<.001; Cox and Snell $R^2(19)=.18$; Nagelkerke $R^2(19)=.24$; Hosmer and Lemeshow = 12.83(8), p=.12.

Households between \$0 and \$9,999 annual income were 1.72 (95% CI = 1.26-2.34, p. < .05) times more likely to be Never banked. Households with between \$10,000 and \$19,999 annual income were 1.16 (95% CI = .86-1.58 p. > .05) times more likely to be Never banked. Households between \$20,000-\$29,999 annual income were 1.78 (95% CI = 1.31-2.43, p. < .001) times more likely to be Never banked. Finally, household between \$30,000 to \$49,999 annual income were 1.45 (CI = 1.04-2.00, p. < .05) times more likely to be Never banked.

Black” and “Other” were 1.46 (95% CI = 1.23-1.74, p. <.001) and 2.60 (95% CI = 2.00-3.38, p. < .001) times, respectively, more likely to be never banked than “White” households, controlling for other variables. “Mexican” households were 3.75 (95% CI = 3.01-4.59, p. < .001) times more likely than “Not Hispanic” households to be Never banked, and Other Hispanic households were 2.71 (95% CI = 2.12-3.48, p. < .001) times more likely than Not Hispanic households to be Never banked, controlling for other variables.

Increasing education is associated with a lower likelihood of being never banked, with households with the lowest education level (“up to 8th grade”) over twice as likely to be never banked (OR = 2.89, 95% CI = 2.26-3.71, p. < .001) as those with “any college.” The next education level, “9th-12th grade, no diploma” was 85% (OR = 1.85, 95% CI = 1.50-2.28, p. < .001) more likely to be Never banked, and those with a “high school diploma or GED”

were 52% (OR = 1.52, 95% CI = 1.24-1.85, $p < .001$) times as likely to be Never banked, controlling for all other variables.

“Single men with children” were over twice as likely (OR = 2.04, 95% CI = 1.49-2.80, $p < .001$) to be never banked as “single women without children,” controlling for other factors.

“Single women with children” were 47% (OR = 1.47, CI = 1.14 – 1.90, $p < .05$) times as likely to be never banked as “single women,” controlling for other variables. “Married couples” and “single men without children” were 33% (OR = 1.33, CI = 1.03 – 1.73, $p < .05$) and 72% (OR = 1.72, CI = 1.29 – 2.27, $p < .001$) times as likely, respectively, to be never banked as “single women,” controlling for other variables.

“Homeowners” had 31% (OR = .69, CI = .59 – .81, $p < .05$) lower odds of being never banked than “renters,” controlling for other variables, and this is consistent with other literature that ties homeownership with bank accounts. Households in the “South” have the greatest odds of being never banked (OR = 1.62, CI = 1.34 – 1.95, $p < .001$) than households in the “West,” controlling for other variables.

Finally, households that had visited an “RAL” were 41% (OR = .59, CI = .45 – .78, $p < .001$) less likely to be never banked. Households that had visited a “pawn shop” were 54% (OR = .46, CI = .37 – .56, $p < .001$) less likely to be never banked. Households that had visited a “payday lender” were 63% (OR = .37, CI = .27 – .52, $p < .001$) less likely to be Never banked.

The Hosmer and Lemeshow goodness-of-fit test, $\chi^2(8)=12.83$, $p=.12$, is not significant, indicating the model fits the data. Overall, the model correctly classified 68.7% of the cases. It correctly classified 70.7% of the previously banked and 66.6% of the never banked cases. The independent variables in the equation had a tolerance ranging between .83 and .94, indicating multicollinearity was not an issue for those predictors. Additionally,

bivariate correlation of the independent variables reported that the highest correlation coefficient ($r=.41$) was between categories of the income variable, “\$0-\$9,999” and “\$10,000 - \$19,999.”

Discussion and future research

This study is one of the first to identify similarities and differences among certain “subgroups” of the unbanked. The results provide groundwork on which to build more effective innovations and more insightful research.

The results around income affirmed much of what is already known about the unbanked as a whole. The sample was largely low-income, which is consistent with the finding that low-income households are more likely to be unbanked. Generally, it appears that people with incomes lower than \$50,000 are more likely to be never banked.

The results around race and ethnicity were particularly powerful. While it was previously known that racial and ethnic minorities are more frequently unbanked, the findings of this study highlight the magnitude of the difference in banking patterns. Black households are 46% more likely to be never banked than white households, and Other households are more than twice as likely to be never banked (2.60). The results on ethnicity were even starker. Mexican households were over three times as likely (3.75) to be never banked as Not Hispanic households, and Other Hispanic households were over two times as likely (2.71) to be never banked. While this is consistent with other research that both racial minority and Hispanic households are relatively disadvantaged in bank account ownership this study indicates that, not only are racial minorities and Hispanics more frequently unbanked, they’re also more likely to be never banked. This is a substantial portion of the population that is completely disconnected with the traditional financial services system. Further research is needed about this disconnection to determine and eradicate

its roots. This finding also provides motivation to make available more tailored financial education programs and financial products.

The education finding also uncovers an interesting trend. Households with less than an 8th grade education are over twice as likely to be Never banked as those with any high school education. This is a large jump, and it demonstrates implications for financial education efforts and practice. Financial education could be strengthened for this education group. Additionally, financial institutions could create a product designed for this group and begin to bring them into banking, such as living skills classes.

The finding about household type is also meaningful. Past studies have found that single women with children are more vulnerable to being unbanked overall (Hogarth & O'Donnell, 2000). In this study, however, single men with children (2.04) have greater odds of being never banked than single women with children (1.47). This suggests that the possibility that single women with children are more often previously banked which then suggests that single mothers are at risk of becoming disconnected from traditional financial institutions. This has powerful implications for practice efforts, particularly for banks and credit unions and the products they make available to this group.

Future research is needed to determine the cause of this disconnection as well as methods of intervention. One possible intervention in this case would be policies that foster asset accumulation (Hogarth, 2005), like Individual Development Accounts. Finally, the homeownership status finding supports past research that homeowners and homeownership is associated with higher rates of bank account ownership (Hogarth et al., 2005).

The next intriguing finding relates to regional differences. Households in the South are

62% times more likely to be never banked households in the West, controlling for other variables. One study posited that it may be a function of the state policies (Hogarth, 2005). These findings have implications for intervention efforts, particularly in the South, where households have the greatest odds of being never banked. One study about financial education reported that the never banked gained more from financial education training than the Previously banked, who came into a program with “pre-training knowledge” (Midwest. Zhan, Anderson, & Scott, 2006). To accommodate this, different curricula may be useful for different levels of prior experience. To this end, regional differences in banking patterns may be another area that would benefit from future research.

A remarkable finding is that the never banked are less likely to use three of four of the AFS in this analysis. It is not clear why this is so. One possible theory for this difference is that the never banked are not as accustomed to financial products such as check cashing or small loan services as the previously banked who, even when they leave traditional banks, still seek equivalent services. Given that this applies to only one group, research testing theories behind this pattern could be useful.

A final interesting point pertains to one type of AFS, a payday loan. According to the Community Financial Services Association (CFSA) of America, the national organization for payday lenders, only individuals with bank accounts can take out payday loan, therefore, it is to be expected that the Never banked have lower rates of using them. However, despite this lower rate, this analysis reveals that 16% of the Never banked have taken out payday loans, though they have never had accounts. These findings casts doubt on the CFSA claim, and indicates that this issue merits further scrutiny.

Limitations

Although instructive, these findings should be viewed in the context of study limitations. One such limitation is that over 3,000 cases were omitted from the final sample because they did not have complete answers, and the study did not try to impute for missing data. This increases the risk of underrepresentation against certain groups. Another limitation is that this research utilizes secondary data. Therefore, it is possible that the study utilized a predictor differently than the survey designer intended. A large limitation of this study is that it's not sensitive to variation in race or ethnicity. Future studies about the unbanked, specifically when analyzing behavior in minority racial and ethnic groups, would require a sampling method like the snowball sampling another that oversamples minority groups. Finally, there are other predictors that may be important that have not been included, such as age or gender of the consumer.

Conclusion

The findings in this study represent a strong first step in efforts to develop a multifaceted approach to reaching the unbanked. They are useful in informing innovative practice methods, they suggest possible policy interventions that will prove fruitful, and they open the door to research that with advance understanding. Healthy use of a bank account is one of the simplest ways of empowering people to build wealth and reduce poverty. By researching and creating program offerings that match actual needs, the U.S. can enjoy a financial services model that works for everyone.

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Appendix

Bivariate analysis

The study ran a correlation analysis on each of the predictor variables and the outcome variable and the results were analyzed using the Pearson Chi squared test. Each correlation was significant. The correlation between bank account history and pawn shop and payday lending were both substantial, with a chi square value of 152.74 and 143.93, respectively. Use of a check casher was approximately split between the previously banked and the never banked (56.8% and 43.2%, respectively). However, the 74.1% of the previously banked got an RAL compared to 25.9% of the never banked, 72.8% of the previously banked visited a pawn shop compared with 27.2% of the never banked, and 83.5% of the previously banked got a payday loan compared with 16.5% of the never banked.

None of the expected values are less than 1, and the observations are unique in that each case contributes to only one square in the data. The expected frequencies are all greater than 5, and they are particularly high in the first two categories income. The Levene's test for income, race, and household type were insignificant, indicating homogeneity of variance. The Levene's test results for ethnicity, education, homeownership, region, check casher, RAL, pawn shop, and payday lender were significant, which means variance is not equal across these groups.

Table 2. Correlation analysis between independent variables and bank account ownership history (Expected values in parentheses).

		Previously banked		Never banked			
		n	%	n	%		
Income						$\chi^2(4)$	p
	0-\$9,999	572 (598.4)	49.5%	584 (557.6)	50.5%	32.63	<.05

	\$10,000-\$19,999	692 (645)	55.5%	554 (601)	44.5%		
	\$20,000-\$29,999	393 (442.6)	46.0%	462 (412)	54.0%		
	\$30,000-\$49,999	328 (326.7)	52.0%	303 (304.3)	48.0%		
	\$50,000+	166 (138.2)	62.2%	101 (128.8)	37.8%		
Race						$\chi^2(2)$	p
	White	1374 (1385.9)	51.3%	1303 (1291.1)	48.7%	11.54	<.05
	Black	627 (591.2)	54.9%	515 (550.8)	45.1%		
	Other	150 (173.9)	44.6%	186 (162.1)	55.4%		
Ethnicity						$\chi^2(2)$	p
	Not Hispanic	1721 (1438.1)	62.0%	1057 (1339.9)	38.0%	352.67	<.05
	Mexican	287 (505.8)	29.4%	690 (471.2)	70.6%		
	Other Spanish	143 (207.1)	35.8%	257 (192.9)	64.3%		
Education						$\chi^2(3)$	p
	Less than 1st - 8th	210 (398.6)	29.5%	502 (343.4)	70.5%	246.80	<.05
	9th-12th, no diploma	584 (630)	48.0%	633 (587)	52.0%		
	High School diploma/GED	857 (772.9)	57.4%	636 (720.1)	42.6%		
	Any College	500 (379.5)	68.2%	233 (353.5)	31.8%		
Household type						$\chi^2(4)$	p
	Husband & wife	746 (754.3)	51.2%	711 (702.7)	48.8%	29.77	<.05
	Single man with kids	193 (224.7)	44.5%	241 (209.3)	55.5%		
	Single woman with kids	638 (638.8)	51.7%	596 (595.2)	48.3%		
	Single man	322 (326.1)	51.1%	308 (303.9)	48.9%		
	Single woman	252 (207.1)	63.0%	148 (192.9)	37.0%		
Homeownership						$\chi^2(1)$	p
	Owned/Being bought	655 (600.5)	56.5%	505 (559.5)	43.5%	14.22	<.05

	Rented	1496 (1550.5)	49.9%	1499 (1444.5)	50.1%		
Region						$\chi^2(3)$	p
	Northeast	315 (316.3)	51.6%	296 (294.7)	48.4%	56.64	<.05
	Midwest	489 (393)	63.5%	279 (369)	36.5%		
	South	848 (926.7)	47.7%	942 (863.3)	52.6%		
	West	502 (512)	50.8%	487 (477)	49.2%		
Use Check Casher						$\chi^2(1)$	p
	Yes	1012 (922)	56.8%	769 (859)	43.2%	31.88	<.05
	No	1139 (1229)	48.0%	1235 (1145)	52.0%		
Use RAL						$\chi^2(1)$	p
	Yes	269 (187.9)	74.1%	94 (175.1)	25.9%	79.47	<.05
	No	1882 (1963.1)	49.6%	1910 (1828.9)	50.4%		
Use Pawn Shop						$\chi^2(1)$	p
	Yes	521 (370.7)	72.8%	195 (345)	27.2%	152.74	<.05
	No	1630 (1780.3)	47.4%	1809 (1658.7)	52.6%		
Use payday lender						$\chi^2(1)$	p
	Yes	274 (169.8)	83.5%	54 (158.2)	16.5%	143.93	<.05
	No	1877 (1981.2)	49.0%	1950 (1845.8)	51.0%		

This Year's Winners

Undergraduate

First Place

"An Empirical Look at Malpractice Reform and the Intensive Margin of Physician Supply"

Alexander Janke, University of Michigan

Second Place

Accepting the Foreign: Perceived Threat, Foreigner Exclusionism, and Social Distance from Immigrants in the United States and Spain"

Ryanne Kikue Fujita-Conrads, Reed College

Master's

First Place

"The Strategic Parent: How School Performance Affects Parental Investment"

Natasha Yurk, Indiana University - Bloomington

Second Place

An Exceptional Dream: Aspiration as a Determinant of Self-Reported Happiness in the US"

Christine Y. Zhang, Columbia University

Resource Center for Minority Data Paper Competition

First Place

"The Unbanked in the U.S.: Similarities and Differences between Previously Banked and Never Banked Households"

Sarah K. Allsberry, Washington University in St. Louis

Second Place

"Perceived Sources of Racial Inequalities and Class Standing: Impact on Justice Values of American Whites"

Lauren Marks, Santa Clara University

Next Year's Competition: Now Accepting Applications

ICPSR invites submissions for our 2014 Research Paper Competitions from undergraduates and master's students and recent graduates at member institutions. We are holding three contests this year:

- The RCMD Research Paper Competition, for analyses on issues relating to minorities in the United States, including immigrants, using data from the Resource Center for Minority Data.
- The ICPSR Research Paper Competition, for analyses on any topic using data from ICPSR General Archive or Thematic Collections.
- The IFSS Research Paper Competition, for analyses on any topic using data from the Integrated Fertility Survey Series.

All competitions are open to undergraduate and master's students.

The competition has the following requirements:

- *Originality.* Each paper must be an original analysis and must be the author's own work. Papers previously published are not eligible.
- *Data.* The data must analyze data held in the ICPSR Archive or one of the Thematic Collections.
- *Authors.* All undergraduates and master's students at ICPSR member institutions are eligible. The competition is open to both U.S. and non-U.S. students. Students who graduated before April 1, 2013 are not eligible.
- *Coauthors.* Papers written by more than one student are permitted. Papers coauthored with faculty are not eligible are not eligible.
- *One submission.* Students may submit only one paper, whether as sole author or one of the coauthors.

For complete details, see www.icpsr.umich.edu/icpsrweb/content/ICPSR/prize. The deadline for submissions is January 31, 2014.