Published in final edited form as:

Soc Indic Res. 2019 April ; 142(3): 1015–1029. doi:10.1007/s11205-018-1956-6.

Revisiting Declines in Social Capital: Evidence from a New Measure

Inbar Weiss[1], **Pamela Paxton**[1], **Kristopher Velasco**[1], **Robert W. Ressler**[1]

[1]Department of Sociology, Population Research Center, The University of Texas at Austin, 305 E 23rd St, A 1700, CLA 3.306, Austin, TX 78712-1086, USA

Abstract

In the late twentieth century, researchers began calling attention to declining social capital in America and the potential consequences of this trend for a healthy society. While researchers empirically assessed the decline in social capital from the mid-1900s onward, this line of research diminished when the major source of data, the General Social Survey, stopped fielding critical questions in 2004. We do not know, therefore, whether social capital, especially associational social capital, has declined, stabilized, or even increased in a twentyfirst century America. In this paper, we develop a new measure of associational social capital using a confirmatory factor analysis of six indicators from the Civic Engagement Supplement to the Current Population Survey for 2008–2011 and 2013. Our findings support previous research suggesting that associational social capital does not seem to be declining over time. However, we do find evidence of a nonlinear decrease in associating during the Great Recession years. Across the entire time period, though, membership in groups has not declined and there has been little practical change in the amount of time that individuals spend with neighbors. Our analysis of the variance of social capital also shows no general change in the national dispersion of social capital from 2008 to 2013. The paper advances the measurement of social capital and updates our understanding of its possible decline.

Keywords

Social capital; Associations; Confirmatory factor analysis

In the late twentieth century, researchers began calling attention to declining social capital in America and the potential consequences of this trend for a healthy society (e.g., Putnam 1995; Skocpol 1999). This was but the latest iteration of a long history of fears of such declines such as “the confidence gap” (Lipset and Schneider 1983) and “the crisis of legitimacy” (Lehman 1987). In fact, concern with community decline in the U.S. goes back over a century to Simmel’s (1950 [1903]) writings about the metropolis and continues to this day (Levin 2016; Stein 1960; Wellman, Carrington, and Hall 1997; Wirth 1938).

Researchers are concerned about a decline in social capital because social capital is linked to a wide range of desirable social outcomes (e.g., Aldrich and Meyer 2015; Arezzo and

✉Inbar Weiss, inbar.weiss@utexas.edu.

Giudici 2017; Arezzo 2014; Coleman 1988; Fukuyama 1995; Guagnano, Santarelli and Santini 2016; Knack and Keefer 1997; Paxton 2002; Putnam 1993; Rocco and Suhrcke 2012).

As one recent assessment of social capital in the United States by the U.S. Joint Economic Committee (2017) states:

> At the heart of these warnings, to one degree or another, is the view that what happens in the middle layers of our society – what we do together in the space between the individual and the state – is vital to sustaining a free, prosperous, democratic, and pluralistic country. It is in that space where we are formed, where we learn to solve problems together, where we learn the 'art of association"—a space held together by extended networks of cooperation and social support, norms of reciprocity and mutual obligation, trust, and social cohesion.

Unfortunately, after uncovering evidence of declines in social capital throughout the twentieth century (Paxton 1999; Putnam 2000; Rotolo 1999), our ability to assess trends in social capital declined with the loss of important data sources. With continuing measurement of trust in national surveys, studies have been able to document declines in trust in recent time periods (Clark and Eisenstein 2013; Schwadel and Stout 2012; Twenge et al. 2014; Wilkes 2011). But due to lack of data, research has been unable to estimate trends in associational social capital in the United States past 2004. We cannot assume recent decline in associations from declines in trust because different dimensions of social capital may follow different trend patterns (Clark 2015; Paxton 1999; Sarracino and Mikucka 2017; Wuthnow 2004; see also Schwadel and Stout 2012). In sum, despite considerable academic, public, and policy interest in declines in social capital, we currently do not know whether associational social capital is increasing, stable, or declining.

To address this need, this study tests for a decline in the associational dimension of social capital from 2008 to 2013 using longitudinal data available in the Civic Engagement Supplement of the Current Population Survey (CPS). The CPS supplement is a highly underutilized data source despite having been developed as a response to academics and policy-makers calling for the national measurement of social capital (CNCS 2017; Prewitt et al. 2014). Using confirmatory factor analysis (CFA), we create a model of associational social capital that makes explicit links to theory and analyzes multiple indicators of social capital. With multiple indicators, we can more adequately gauge the concept of associational social capital and allow for measurement error. We also illustrate that the relationship between the measures of associational social capital and the theoretical concept remains stable over time. Finally, we estimate change in the level of social capital over the 2008–2013 period, considering both linear and nonlinear trends. We conclude that there was no overall national decline in associational social capital during this period, but the trend is nonlinear and some decline occurred between 2008 and 2009.

1 Literature Review

A recent National Research Council report (Prewitt et al. 2014) defines social capital as high levels of engagement in community organizations; connectedness with friends and

neighbors; and positive attitudes toward others (see also Bourdieu 1986; Coleman 1988; Putnam 1993, 2000). Generally, definitions of social capital highlight several dimensions to the concept, with "growing consensus that it is a multifaceted phenomenon" (van Oorschot and Arts 2005: 8). Engbers, Thompson, and Slaper (2017) in a review of the U.S.-based literature find five common dimensions: formal memberships, trust, altruism, informal interactions, and shared norms. Other definitions of social capital similarly highlight associational activity as one important dimension along with others. For example, Paxton's (1999) definition presents social capital as having two distinct dimensions. The first dimension, objective associations between individuals, refers to the network structure linking individuals in community—how individuals are tied to each other in social space. The second dimension highlights the subjective nature of social ties. Social capital requires that ties between individuals be reciprocal, trusting, and involving positive emotion.

Recent work has compared a unidimensional conceptualization of social capital (that includes measures of associations, trust, norms, etc. together) to a multidimensional one and clearly indicates that social capital is multidimensional. For example, Bjørnskov (2006: 36) shows that associational activity, measured by memberships, is a "distinct phenomenon" from two other dimensions, trust and social norms. Bjørnskov and Sønderskov (2013) replicate the analysis and show that social capital is comprised of multiple dimensions and that organizational activities link to a single factor that is separate from others (e.g., norms, confidence in institutions, trust) (see also Pichler and Wallace 2007; Portela et al. 2013).

Among the dimensions of social capital, associational ties are foundational (Coleman 1988; Engbers et al. 2017) and seen as a critical dimension of social capital. Certainly, the voluntary associations and informal social ties that indicate objective connections between individuals are considered an essential component of social capital. Almost every measure of social capital attempts to assess how individuals are informally connected to others through friendship choices and other types of network ties, or formally connected to others through group memberships or community institutions (e.g., Lin 2002; Paxton 1999; Pichler and Wallace 2007; Putnam 2000). As explained by Bjørnskov (2006: 23), "Associational activity and socialization are thus at the heart of Putnam's concept." Local, voluntary organizations, or associations, contribute to a vibrant American civil society by serving as spaces in which individuals connect and form bonds with one another and by providing resources and services to their members (Paxton 2007; Reich 2011; Rönnerstrand 2014; Wolpert 1999). Informal connections between individuals, such as neighbors, promote outgroup trust and reduce negative views of dissimilar others (Pettigrew and Tropp 2006). At its core, social capital is something that is only enjoyed jointly with others and our social well-being and happiness depends fundamentally on interpersonal ties (Becchetti et al. 2008).

When present, social capital is hypothesized to facilitate the production of both individual and collective goods. For example, social capital in the form of network ties and trust among neighbors can be seen either as a benefit for individuals, who can freely walk the streets, or as a benefit to the community as a whole in the form of reduced crime rates and increased resilience to disasters and climate change (Adger 2003; Aldrich and Meyer 2015). Moreover, high levels of social capital are viewed as essential for a functioning society and to enhance

democracy (Fukuyama, 1995; Knack and Keefer 1997; Paxton 2002; Putnam 1993, 2000; Whiteley 2000).

Given the myriad of benefits attributed to social capital, researchers have been particularly interested in the question of how to properly detect and measure the concept. Indeed, the measurement of social capital has caught the attention of both governments and international organizations like the U.S. Joint Economic Committee (JEC) (2017), the U.S. Corporation for National and Community Service (CNCS) (2017), and the Organisation for Economic Cooperation and Development (OECD) (Scrivens and Smith 2013). The Commission on the Measurement of Economic Performance and Social Progress, initiated by the French government in 2008, called for better measures of social connections and social capital (Stiglitz et al. 2009). In 2013, the OECD Statistics Directorate initiated a new project to review measures of social capital and "identify priority areas for statistical development," (Scrivens and Smith 2013).

Measures of social capital in the United States traditionally relied on association memberships counts compiled by the National Opinion Research Center's *General Social Survey* (GSS), which surveyed a nationally representative sample on topics of trust, civic engagement, and participation in membership associations (Alesina and La Ferrara 2000; Brehm and Rahn 1997; Costa and Kahn 2003; Ladd 1996; Paxton 1999; Putnam 1995; Rotolo 1999). Most research supported the notion of an overall decline in social capital, although when the dimensions of social capital were considered separately, only some showed declines. For example, Paxton (1999) found that while there was a decline in trust between individuals, trust in institutions and membership associations was essentially unchanged over the period 1975–1994.[1]

Paradoxically, just as scholarly attention turned to declining social capital in the United States, in 2004 the *General Social Survey* dropped the voluntary association questions. After 1994, the battery of questions was asked only one more time, in 2004, for a subset of respondents. Thus, most analyses of social capital decline end in the late 1990s. For example, Costa and Kahn's (2003) analysis considered 1952–1998, while Paxton's (1999) assessment of social capital, as already stated, stopped in 1994. Analyses of declines in trust continued (e.g., Twenge et al. 2014), but were necessarily decoupled from associational social capital. One exception that we are aware of is work by Rupasingha et al. (2006) who developed a county-level measure of social capital without reference to the GSS. In short, the state of associational social capital since the early 2000s is unknown, outside of some localized inquiries (Painter and Paxton 2014; Shaker 2014). This is particularly disheartening considering recent major events (e.g. the great recession) that likely influenced levels of social capital.

Surprisingly, there is another source of data on associational memberships in the United States and it continues through the 2010s. But apart from a study of two cities (Shaker 2014), it has never been used to research social capital or its decline. Beginning in

[1]Measures in Europe tend to use the World Values Survey and the European Values Survey (e.g., Sarracino and Mikucka 2017; Bjørnskov and Sønderskov 2013).

2008, the Corporation for National and Community Service (CNCS) fielded the Civic Engagement Supplement to the Current Population Survey (CPS). It was fielded in 2008, 2009, 2010, 2011, and 2013. This supplement provides information on level of participation in organized groups (church, school, sports, service, other), and extent of connections with other community members. By utilizing this new data source from the U.S. federal statistical system, we can develop a new measure of associational social capital and look at declines from 2008 to 2013.

Our proposed measure also avoids a recognized limitation of traditional assessments of declining social capital—an over-reliance on a single indicator. Much of the early debates about declines hinged on the choice of a single indicator. Depending on which indicator was used, researchers could draw different conclusions about the presence of social capital and how it was operating in a community. Indeed, Rupasingha et al. (2006) contend that "these [traditional] measures have been used with varying degrees of success, but we contend that a single measure that captures completely a concept with complex and multiple dimensions, such as social capital, may not exist," (88). Recognizing the limitations of single indicators, researchers have followed Paxton (1999) and Rupasingha et al. (2006) in developing multiple indicator assessments of social capital, which allow for a more comprehensive, accurate, and reliable measure of social capital. Work in Europe in particular has used exploratory techniques like principal components analysis to investigate possible indicators of social capital (Bjørnskov 2006; Bjørnskov and Sønderskov 2013; Hauser et al. 2007; Kaasa 2009; Puntscher et al. 2015).

2 Model

We model associational capital with multiple indicators over time. We use data from the U.S. Current Population Survey (CPS), a monthly survey of households conducted by Bureau of Labor Statistics (BLS) that covers the entire United States. Alongside demographic, labor and program participation information, the CPS contains as well supplemental data on varied topics. Supplement questions are asked either annually or biennially, depending on the needs of the supplement survey's sponsor. The Civic Engagement supplement, used in this study, was sponsored by CNCS and conducted in November of 2008-2011 and 2013. The supplement provides information on communication between people, interaction with public institutions and private enterprises, relationship among family and community members, and participation in different groups. The civic engagement supplements, together with other CPS surveys, are publicly available on IPUMS (Flood et al. 2017). Our model of social capital, consisting of six indicators, is available for 5 years: 2008, 2009, 2010, 2011, and 2013, where each year samples a different set of individuals.

Figure 1 presents our model of social capital. We model associational social capital as a confirmatory factor analysis (Bollen 1989; Brown 2014) with a single dimension (Bjørnskov and Sønderskov 2013) with six observed indicators.

Path diagrams like Fig. 1 represent relations between observed (measured) and unobserved (latent) variables. Latent variables are enclosed in ovals, while observed variables are

represented with boxes. Straight arrows indicate the direction of influence between two variables, while curved two-headed arrows indicate a covariance between two variables that is unexplained in the model. Measurement error is indicated by δ's. Allowing measurement error acknowledges that the variables are not perfect measures of their underlying latent concepts. The latent variable is scaled to civic associations. Table 1 describes the means and standard deviations of the observed variables by year.

It is appropriate to model associational social capital with a single factor as theory and research have firmly established that associational ties are a distinct dimension of social capital (Bjørnskov 2006; Bjørnskov and Sønderskov 2013; Paxton 1999).[2] Further, each of the six indicators is measured directly and is not a proxy (Engbers et al. 2017). Four variables measure individual connections to different types of organizations—formal associational ties (Pichler and Wallace 2007; Seminar 2001). This is similar to the work of Carpiano (2007, 2008) in his construction of social capital in Los Angeles. The CPS Civic Engagement supplement asks, "Next, I will give you a list of types of groups or organizations in which people sometimes participate. Have you participated in any of these groups during the last 12 months?" Four organization types follow: (1) "Civic Organizations", such as the American Legion or Lions Club; (2) "Sport Organizations," such as a local soccer team or tennis club; (3) "Local Organizations", such as PTA or neighborhood watch groups, and; (4) "Religious Organizations", which does not include attending religious services.

Broadly, participation in the four types organizations show a nonlinear decline, with drops from 2008 to 2009, slight recoveries between then and 2011, and then an additional decline by 2013 (see Table 1 for specific mean participation rates each year). In each year of data, the participation in religious organization was the highest among the four types of organizations—around 20% of respondents participated in this type of organizations—and the lowest participation rate was in civic organization with less than 10% of participation.

Participation in religious organizations plays a unique role in the United States. Religious institutions have contributed to a vibrant American civil society by serving as spaces in which individuals connect and form associations with one another and by providing resources and services to their members (Putnam and Campbell 2010). In fact, the faith communities that make up religious institutions are, according to Putnam "arguably the single most important repository of social capital in America" (Putnam 2000: 66). Smidt (2003) points to various reasons why religious association is so strongly linked to the formation of social capital. In addition to being the most common association in U.S. life, religious association provides benefits to members, such as important social services and resources. Religious affiliation may also shape individual beliefs regarding citizen responsibilities to society as well as influence pro-social behaviors, such as volunteering, charitable giving, and otherwise helping those in need. Furthermore, religious institutions serve as safe, trusted hubs where individuals can organize, worship, and socialize.

[2]Unfortunately, questions on generalized trust were not available in the Current Population Survey. Single years have questions on trust in neighbors and confidence in a few institutions (corporations, the media, and public schools) but these are not available in 2008, 2009 and 2010. So we are unable to include an additional factor to measure trust or analyze recent trends in trust.

The final two indicators of associational social capital measure connection between neighbors in the community, or informal connections and socialization (Pichler and Wallace 2007). The first variable, “Communication with Neighbors,” measures whether a respondent says they speak with their neighbors at least once a month. The next variable, “Favors with Neighbors,” measures whether a resident exchanges favors with their neighbors at least once a month. Not surprisingly, the percentage of individuals exchanging favors with their neighbors is lower than those who had some sort of communication with neighbors. Figure 1 includes correlated errors between these two variables. As suggested by Pichler and Wallace’s (2007) distinction between formal and informal associational ties, the measurement error for the two “informal” indicators may correlate in addition to the indicators relationship with the latent variable.

Our Confirmatory Factor Analysis was estimated in MPLUS. To take advantage of cases with incomplete data, we used maximum-likelihood estimation of the model with missing values. As our variables are categorical we estimate with robust weighted least squares.

3 Results

Our analysis follows three steps. (1) We estimate our model of social capital and establish that it fits the data well in every year. (2) We assess whether the relationship between latent social capital and the observed measures remains stable over the 6-year period. We must establish that the model’s parameters have remained stable over time—that they are invariant—to pool the years together. One cannot pool data sets without first establishing that the parameters across the groups are the same. (3) Once we have established that our model fits well and that its parameters are stable over time, we can assess trends in social capital over time (considering both linear and nonlinear trends).

3.1 The Fit of the Model in Each of the Six Years

We begin by assessing the fit of the model to the data in each year. To begin, the component fit of the model in each year is excellent. The factor loadings (the paths from the latent variables to each indicators) for all variables in all years are significant at $p < 0.001$. Participation in civic, religious and sport organization are all similarly responsive to changes in the latent variable and similar effects are also found among the neighborly interaction variables. The variance of the latent variable is positive and significant in all years, indicating that the latent variable does exist. R-squares range from very good (< 0.50) to acceptable (< 0.20). The correlation between the measurement errors for the two neighbor indicators estimates as positive and significant.

Global Goodness of Fit statistics for each year appear in Table 2. We provide fit statistics from various families (Tanaka 1993), which together give a comprehensive view of how closely the model represents the data in each year. We see that the model fits well in each year. The only indication of a poor fit is the significant Chi square test statistic in all years. However, the Chi square test is sensitive to sample size. Because the Chi square test is a measure of “perfect” fit, any slight deviation from a perfect fit could induce a significant test, especially if the model has a great deal of power (e.g., the sample size is large). Other fit statistics are less sensitive to sample sizes, and these, the root mean square error of

approximation (RMSEA) (Steiger 1980) and comparative fit index (CFI) (Bentler 1990), indicate an excellent fit in each year. For the RMSEA, values closer to 0 indicate better fit, with values below 0.10 indicating acceptable fit, and values below 0.05 indicating excellent fit. The RMSEAs in Table 2 are all lower than 0.022. For the CFI, values closer to 1.0 indicate better fit, with values above 0.90 indicating acceptable fit, and values above 0.95 indicating excellent fit. The CFIs are all above 0.996. In short, the models for 2008–2013 all have excellent fit.[3]

3.2 The Stability of the Parameter Values over the Time Period

The next step is to test whether the parameters of the model (the factor loadings, variance of the latent variables, and the variances and covariances of the measurement errors) remain the same over time. We wish to illustrate that each year (group) has the same parameter values to pool the samples together to assess trends over time and across communities.

We test the hypothesis that the parameters are the same in every year through a hierarchy of invariance, where parameters are constrained in an ordered sequence and compared to an unrestricted model (Bollen 1989; Brown 2014). If the different years have similar parameter values, then there should be no significant difference in fit between an unrestricted model and a model where the parameters are restricted to be the same across time. The restricted models are nested within the unrestricted models, so a Chi square difference test provides a test of significance. Other fit statistics can also be checked for a serious decline in fit across the models. For the model of social capital, the parameters of interest are contained in the factor loadings, the variance of the latent variable, and the variances and covariances of the measurement errors. Therefore, we form the following hierarchy of models: the model with the factor loadings restricted across time, the model with both the factor loadings and the variance of the latent variable restricted, and the model with all parameters restricted. Note that the test for the variance of the latent variable is a test for a change in the variance (or dispersion) of social capital over time. Table 3 indicates little decline in fit when moving from the less restricted to the more restricted forms of the model. To address the dichotomous nature of our observed variables we use the WLSMV estimator in MPlus. The standard Chi square difference test is therefore inappropriate because the Chi square difference is not distributed as a Chi square (Satora and Bentler 2001). The corrected Chi square difference test is presented in Table 3 and shows significance. But with over 200,000 cases, there is incredible power in the model to detect even minor variation in the coefficients. The other fit statistics, in contrast, show no decline in fit.

Contained within the hierarchy of invariance tables is the test for a change in dispersion. When we constrained the variance of the latent variable the RMSEA only increased from 0.017 to 0.022, and the CFI only decreased from 0.997 to 0.995. The fact that the variance of the latent variable has not changed over time indicates that there has been no change in the dispersion (variance) of social capital over time. Thus, although the mean level of social capital may show a decline over time, or we may see differences in levels of social capital

[3]We use modification indices to assess if the fit of our model would improve by correlating the errors between any pair of measured variables. Results demonstrate that including any additional correlations beyond those already present does not substantially improve model fit.

across communities, there is no evidence that social capital is becoming more unequal in its distribution across the nation as a whole.

3.3 Assessing Change in Social Capital Over Time

Having established that the model fits well in each year and that the estimated parameters remain generally stable over the time period, we turn to further analysis. To begin, we consider whether the overall level of social capital is declining. Because the CPS samples a different set of individuals every year we do not employ a traditional longitudinal design. Instead, we treat each year as a different "group" and consider change over time through a multiple group design. As outlined in Muthén (1989), differences in levels between groups can be estimated by pooling all of the groups and including exogenous dummy variables to distinguish between them. So, we pool all of the years and include a trend variable [YEAR TREND], which tracks the year of the observations beginning at 1 in 2008 and ending at 6 in 2013. The resulting parameter estimate (0.005) is positive but near zero indicating no substantive trend over time.

One way to interpret the 0.005 effect size is to translate the coefficients into the change in the predicted probabilities of the observed variables (like in a probit analysis). These probabilities indicate very little change over the 6 year period. For example, the change in the scaling indicator, membership in a civic organization, over the 6-year period, when transformed into percentages, is less than 1% (from 8.8 to 9.2%). Other indicators show similar change over time and none grow more than 1%. The probability of belonging to a local organization grows from 0.174 to 0.1843 over the time period while the probability of doing a favor for a neighbor increases from 0.582 to 0.59. Of course, over a longer period of time, say 20 years, the percentage increases would be greater—about 3% for most of the indicators—but that is extrapolating beyond the range of the data.

Note that measuring time as a single trend variable assumes that time has a linear effect on the latent variable. To relax that assumption, we instead include a series of dummy variables to represent individual years. The dummy variables are coded to represent their year in the trend rather than the typical 0/1 coding (e.g., 0/0, 0/1, 0/2 rather than 0/0, 0/1, 0/1). A significant Chi square difference between the restricted and unrestricted models means that a nonlinear trend is present. (A restricted version of the model where all the estimated coefficients for the dummy variables are restricted to be the same, will produce the same results as the model with a single trend variable. When the constraints on the estimation of the coefficients are relaxed, however, the model allows nonlinear effects.) The results show evidence of a nonlinear trend. The Chi square difference test between the model with constrained dummy variable coefficients and free coefficients (574 with 3 df, $p < 0.001$) indicates a significant improvement in fit when the dummy variables are allowed to estimate a nonlinear trend.

The coefficients for the dummy variables indicate that associations declined in 2009 and 2010, rebounded some in 2011 and then stayed largely the same through 2013. The trend is quite interesting, in fact, since declines corresponds to the years of the great recession and its aftermath. Translating the coefficients into predicted probabilities indicates that between 2008 and 2009, the probability of an association membership declined 1% for

civic organizations, 2% for local organizations, 2% for religious organizations and sports associations, 1% for talking to neighbors and 3% for doing favors for neighbors. The probability of belonging is relatively stable between 2009 and 2010 (e.g., 7.6% chance of belonging in 2009 to a civic organization and a 7.8% chance in 2010; or a 18% chance of belonging to a religious organization in 2009 vs. 18.5% chance in 2010). 2011 shows complete rebounding to 2008 levels, and sometimes above. Figure 2 shows these nonlinear trends over time.

4 Discussion and Conclusion

This work represents both a contribution to the literature and an innovation in the measurement of social capital. Not only do we update a long tradition assessing whether levels of social capital are declining in the United States, we also construct a theoretically grounded model for its measurement that does not rely on the now-defunct questions in the *General Social Survey*. Engbers et al. (2017) conclude at the end of their review of the social capital literature that it is "surprising that there have not been more evolutions in measurement." We measure associational social capital with a confirmatory factor analysis of six indicators. The model also accounts for measurement error and theoretically-reasonable correlations between those errors. We test the model's fit to ensure that it accurately reflects the data, and also confirm that the model parameters are stable across years, indicating our ability to pool the data and analyze trends. We then performed a trend analysis for the years 2008–2013. When imposing a linear trend, we confirm previous research that finds that associational social capital is not declining. However, by allowing a non-linear trend, social capital in the more recent era did appear to decline during the Great Recession, but has largely recovered and remained stable since then. These results mark a contribution to our understanding of associational social capital and further our understanding of the measurement of social capital.

Despite ample recent evidence showing a decline in trust over time in the United States, even in recent periods, (Clark and Eisenstein 2013; Schwadel and Stout 2012; Twenge et al. 2014; Wilkes 2011), less is known about how individuals are connected within social space through objective ties. Our findings support previous research suggesting that associations do not seem to be declining over time (Paxton 1999; Rotolo 1999). But it significantly updates the time period considered and is able to investigate declines during recent events such as the Great Recession. Indeed, we do find evidence of a decrease in associating during the Great Recession years. Across the entire time period, however, membership in groups has not declined, and there has been little practical change in the amount of time that individuals spend with neighbors. Our analysis of the variance of social capital also shows no general change in the national dispersion of social capital from 2008 to 2013, which again updates prior research (Paxton 1999). Of course, within or across communities changes may be taking place.

Aside from analysis of the overall trend, another notable outcome form the paper is the constant relationship between the indicators of social capital and the theoretical concept of associational social capital. This means that, at least over this six year period and for this particular survey, respondents' understanding or interpretation of the questions has

not changed. This information should make researchers using single indicators to assess social capital feel safer that any trends they find reflect real change and not a change in interpretation. And it opens up a wider and more recent range of years to investigate, even if multiple indicators are not available.[4]

Previously, research on how individuals in the United States engage with their communities relied on the GSS (Alesina and La Ferrara 2000; Brehm and Rahn 1997; Costa and Kahn 2003; Ladd 1996; Paxton 1999; Putnam 1995; Rotolo 1999). By utilizing a new source of data, we are able to extend the analysis of associational social capital beyond when the GSS ended this line of questions in 2004. The Civic Engagement and Volunteer Supplements, part of the CPS, represent an extremely reliable source of data produced by the federal statistical system. Still, with declining response rates (Tourangeau and Plewes 2013) and unstable funding to continue these supplemental surveys (Prewitt et al. 2014:87), researchers need to consider alternative and novel sources of data to continue to track social capital in all its dimensions. For example, in 2016 the Internal Revenue Service (IRS) publically released the tax filings of over 1.3 million nonprofit organizations. One of the data points on these tax forms are the reported number of volunteers for the organization. This provides a new and potentially quite informative data source for social capital research. Although subject to bias, the self-reporting biases may be similar to previously-relied-upon surveys. Or the simple count of nonprofits within a community could be another indicator of these objective ties individuals have with their communities. Alternatively, to measure subjective, social expressions, Twitter and other social media platforms have the ability to produce new insights to individuals' affective experiences (Eichstaedt et al. 2015).

Theorizing and researching how individuals engage with their communities has been a topic of research for social scientists for over a century (Simmel 1950 [1903]; De Tocqueville [1835, 1840] 1990). The rightful centering of this question is largely due to the significance positive community ties have on a variety of outcomes such as safety (Aldrich and Meyer 2015) and the foundations of democratic institutions (Fukuyama, 1995; Knack and Keefer 1997; Paxton 2002; Putnam 1993, 2000). Therefore, understanding how community engagement, through social capital, has changed in the U.S. since the significant historical events of the twentyfirst century is of particular importance. And, in order to understand this change, there needs to be careful consideration of measurement that is tied back into the theoretical definition of social capital. Through a theoretical, expansive, and current measurement of social capital we can provide new insights on social capital so that its benefits to individuals and society persist into the future.

Acknowledgements

The authors acknowledge the support of grants from the Corporation for National and Community Service (CNCS) (201502185 PI: Paxton) and the National Institute of Child Health and Human Development (R24 HD42849, PI:

[4]The study of trends in social capital is not solely confined to the American context (e.g., Sarracino and Mikucka 2017).We argue, however, that sustained interest in declines in social capital in the United States is a good justification for choosing it as a focal country in the exploration of our new measure. Future research in other countries should similarly take up the call to investigate trends in associational social capital along with other dimensions of social capital. An international and comparative approach would contribute significantly to general theories on how macro-level institutional contexts can help or hinder the growth of associational social capital while controlling for cultural differences.

Mark Hayward; T32 HD007081-35, PI: R. Kelly Raley) to the Population Research Center at the University of Texas at Austin.

References

Adger WN (2003). Social capital, collective action, and adaptation to climate change. Economic Geography, 79(4), 387–404.

Aldrich DP, & Meyer MA (2015). Social capital and community resilience. American Behavioral Scientist, 59(2), 254–269.

Alesina A, & La Ferrara E (2000). Participation in heterogeneous communities. The Quarterly Journal of Economics, 115(3), 847–904.

Arezzo MF (2014). Social capital and undeclared work: An empirical analysis in Italy from 1998 to 2008. Social Indicators Research, 118(2), 695–709.

Arezzo MF, & Giudici C (2017). The effect of social capital on health among European older adults: An instrumental variable approach. Social Indicators Research, 134(1), 153–166.

Becchetti L, Pelloni A, & Rossetti F (2008). Relational goods, sociability and happiness. Kyklos, 61(3), 343–363.

Bentler PM (1990). Comparative fit indexes in structural models. Psychological Bulletin, 107(2), 238–246. [PubMed: 2320703]

Bjørnskov C (2006). The multiple facets of social capital. European Journal of Political Economy, 22(1), 22–40.

Bjørnskov C, & Sønderskov KM (2013). Is social capital a good concept? Social Indicators Research, 114(3), 1225–1242.

Bollen KA (1989). Structural equations with latent variables. New York: Wiley.

Bourdieu P (1986). Forms of capital. In Richardson JG (Ed.), Handbook of theory and research for the sociology of education (pp. 241–258). New York: Greenwood Press.

Brehm J, & Rahn W (1997). Individual-level evidence for the causes and consequences of social capital. American Journal of Political Science, 41(3), 999–1023.

Brown TA (2014). Confirmatory factor analysis for applied research. New York: Guilford Publications.

Carpiano RM (2007). Neighborhood social capital and adult health: an empirical test of a Bourdieu-based model. Health Place, 13(3), 639–655. [PubMed: 17084655]

Carpiano RM (2008). Actual or potential neighborhood resources and access to them: Testing Hypotheses of social capital for the health of female caregivers. Social Science and Medicine, 67(4), 568–582. [PubMed: 18547699]

Clark AK (2015). Rethinking the decline in social capital. American Politics Research, 43(4), 569–601.

Clark AK, & Eisenstein MA (2013). Interpersonal trust: An age–period–cohort analysis revisited. Social Science Research, 42(2), 361–375. [PubMed: 23347482]

Coleman JS (1988). Social capital in the creation of human capital. American Journal of Sociology, 94, S95–S120.

Corporation for National and Community Service (CNCS). (2017). Volunteering and civic life in America. Retrieved July 1, 2018, from https://cncs.data.socrata.com/Volunteering-and-Civic-Engagement/Volunteering-and-Civic-Life-in-America/spx3-tt2b.

Costa DL, & Kahn ME (2003). Civic engagement and community heterogeneity: An economist's perspective. Perspectives on Politics, 1(1), 103–111.

De Tocqueville A. (1835). Democracy in America. London: Saunders and Otley.

Eichstaedt JC, Schwartz HA, Kern ML, Park G, Labarthe DR, Merchant RM, et al. (2015). Psychological language on Twitter predicts county-level heart disease mortality. Psychological Science, 26(2), 159–169. [PubMed: 25605707]

Engbers TA, Thompson MF, & Slaper TF (2017). Theory and measurement in social capital research. Social Indicators Research, 132, 537–558.

Flood S, King M, Ruggles S, & Warren RJ (2017). Integrated public use microdata series, Current Population Survey: Verzion 5.0 [dataset]. Minneapolis: University of Minnesota. 10.18128/D030.V5.0.

Fukuyama F. (1995). Trust: The social virtues and the creation of prosperity. New York: Free Press Paperbacks.

Guagnano G, Santarelli E, & Santini I (2016). Can social capital affect subjective poverty in Europe? An empirical analysis based on a generalized ordered logit model. Social Indicators Research, 128(2), 881–907.

Hauser C, Tappeiner G, & Walde J (2007). The learning region: The impact of social capital and weak ties on innovation. Regional Studies, 41(1), 75–88.

Joint Economic Committee. (2017). What we do together: The State of Associational Life in America. Retrieved July 1, 2018, from https://www.lee.senate.gov/public/_cache/files/b5f224ce-98f7-40f6-a814-8602696714d8/what-we-do-together.pdf.

Kaasa A. (2009). Effects of different dimensions of social capital on innovative activity: Evidence from Europe at the regional level. Technovation, 29(3), 218–233.

Knack S, & Keefer P (1997). Does social capital have an economic payoff? A cross-country investigation. The Quarterly Journal of eEonomics, 112(4), 1251–1288.

Ladd EC (1996). The data just don't show erosion of America's social capital. Public Perspective, 7(4), 5–22.

Lehman EW (1987). The crisis of political legitimacy: What is it; Who's got it; Who needs it. Research in Political Sociology, 3(1), 203–221.

Levin Yuval. (2016). The fractured republic: Renewing America's social contract in the age of individualism. New York: Basic Books.

Lin N. (2002). Social capital: A theory of social structure and action. Cambridge: Cambridge University Press.

Lipset SM, & Schneider W (1983). The confidence gap. Commentary, 76(4), 18.

Muthén BO (1989). Latent variable modeling in heterogeneous populations. Psychometrika, 54(4), 557–585.

Painter MA, & Paxton P (2014). Checkbooks in the Heartland: Change over time in voluntary association membership. Sociological Forum, 29(2), 408–428.

Paxton P. (1999). Is social capital declining in the United States? A multiple indicator assessment. American Journal of Sociology, 105(1), 88–127.

Paxton P. (2002). Social capital and democracy: An interdependent relationship. American Sociological Review, 67(2), 254–277.

Paxton P. (2007). Association memberships and generalized trust: A multilevel model across 31 countries. Social Forces, 86(1), 47–76.

Pettigrew TF, & Tropp LR (2006). A meta-analytic test of intergroup contact theory. Journal of Personality and Social Psychology, 90(5), 751–783. [PubMed: 16737372]

Pichler F, & Wallace C (2007). Patterns of formal and informal social capital in Europe. European Sociological Review, 23(4), 423–435.

Portela M, Niera I, & del Mar Salinas-Jiménez M (2013). Social capital and subjective wellbeing in Europe: A new approach on social capital. Social Indicators Research, 114(2), 493–511.

Prewitt K, Mackie CD, & Habermann H (Eds.). (2014). Civic engagement and social cohesion: Measuring dimensions of social capital to inform policy. Washington, DC: The National Academies Press.

Puntscher S, Hauser C, Walde J, & Tappeiner G (2015). The impact of social capital on subjective well-being: A regional perspective. Journal of Happiness Studies, 16(5), 1231–1246.

Putnam RD (1993). Making democracy work: Civic traditions in modern Italy. Princeton, NJ: Princeton University Press.

Putnam RD (1995). Bowling alone: America's declining social capital. Journal of Democracy, 6(1), 65–78.

Putnam RD (2000). Bowling alone: The collapse and revival of American community. New York: Simon and Schuster.

Putnam RD, & Campbell DE (2010). American grace: How religion unites and divides us. New York: Simon and Schuster.

Reich R. (2011). Toward a political theory of philanthropy. Giving well: The ethic of philanthropy (pp. 177–195). Oxford: Oxford University Press.

Rocco L, & Suhrcke M (2012). Is social capital good for health? A European perspective (p. 16). Copenhagen: WHO Regional Office for Europe.

Rönnerstrand B. (2014). Social capital and immunization against the 2009 A(H1N1) pandemic in the American States. Public Health, 128(8), 709–715. [PubMed: 25132391]

Rotolo T. (1999). Trends in voluntary association participation. Nonprofit and Voluntary Sector Quarterly, 28(2), 199–212.

Rupasingha A, Goetz SJ, & Freshwater D (2006). The production of social capital in US counties. Journal of Socio-Economics, 35(1), 83–101.

Sarracino F, & Mikucka M (2017). Social capital in Europe from 1990 to 2012: Trends and convergence. Social Indicators Research, 131(1), 407–432.

Satora A, & Bentler PM (2001). A scaled difference Chi square test statistic for moment structure analysis. Psychometrika, 66, 507–514.

Schwadel P, & Stout M (2012). Age, period and cohort effects on social capital. Social Forces, 91(1), 233–252.

Scrivens K, & Smith C (2013). Four interpretations of social capital: An agenda for measurement. OECD Statistical Working Papers 2013(06). Paris: OECD Publishing.

Seminar S. (2001). Social capital community benchmark survey: Executive summary. Cambridge, MA: John F. Kennedy School of Government, Harvard University.

Stiglitz J, Sen A, & Fitoussi JP (2009). The measurement of economic performance and social progress revisited: reflections and overview. Commission on the Measurement of Economic Performance and Social Progress, Paris.

Shaker L. (2014). Dead newspapers and citizens' civic engagement. Political Communication, 31(1), 131–148.

Simmel G. (1903). The metropolis and mental life. In The sociology of Georg Simmel (trans: Wolff KH) (pp. 409–424). New York: Free Press.

Skocpol T. (1999). Advocates without members: The recent transformation of American civic life. Civic Engagement in American Democracy, 461, 498–504.

Smidt CE (Ed.). (2003). Religion as social capital: Producing the common good. Waco, TX: Baylor University Press.

Steiger JH (1980). Statistically based tests for the number of common factors. Paper presented at the annual meeting of the Psychometric Society, Iowa City, IA, May 1980.

Stein M. (1960). The eclipse of community. An interpretation of American studies. Princeton, NJ: Princeton University Press.

Tanaka JS (1993). Multifaceted conceptions of fit in structural equation models. In Bollen KA & Long JS (Eds.), Testing structural equation models (pp. 136–162). Newbury Park, CA: Sage.

Tourangeau R, & Plewes TJ (2013). Nonresponse in social science surveys: A research agenda. Washington, DC: The National Academies Press. 10.17226/18293.

Twenge JM, Campbell WK, & Carter NT (2014). Declines in trust in others and confidence in institutions among American adults and late adolescents, 1972–2012. Psychological Science, 25(10), 1914–1923. [PubMed: 25205784]

Van Oorschot W, & Arts W (2005). The social capital of European welfare states: The crowding out hypothesis revisited. Journal of European Social Policy, 15(1), 5–26.

Wellman B, Carrington PJ, & Hall A (1997). Networks as personal communities. Contemporary Studies in Sociology, 15, 130–184.

Whiteley PF (2000). Economic growth and social capital. Political Studies, 48(3), 443–466.

Wilkes R. (2011). Re-thinking the decline in trust: A comparison of black and white Americans. Social Science Research, 40(6), 1596–1610.

Wirth L. (1938). Urbanism as a way of life. American Journal of Sociology, 44(1), 1–24.

Wolpert J. (1999). Communities, networks, and the future of philanthropy. In Clotfelter CT & Ehrlich T (Eds.), Philanthropy and the nonprofit sector in a changing America (pp. 229–247). Bloomington, IN: Indiana University Press.

Wuthnow R. (2004). Saving America? Faith-based services and the future of civil society. Princeton: Princeton University Press.

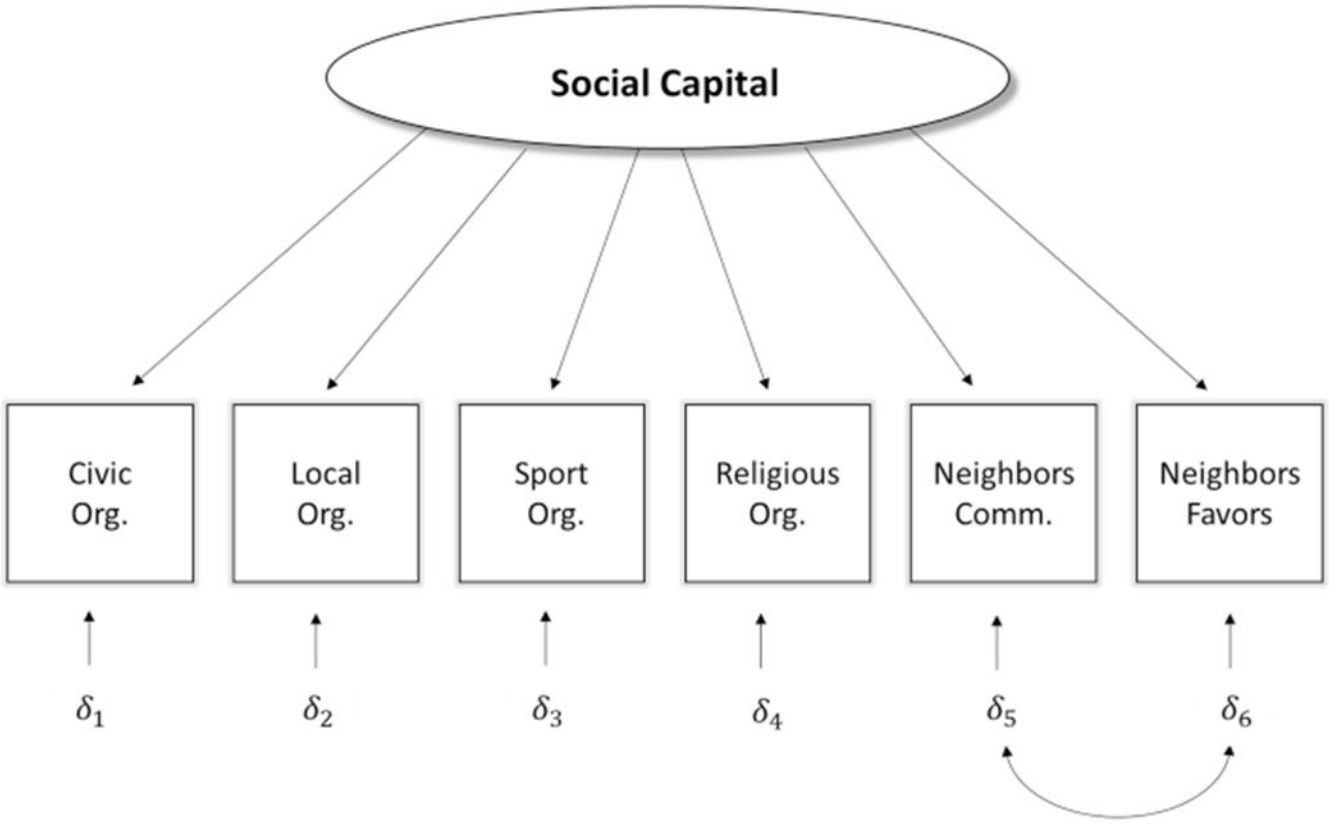

Fig. 1.
Model of social capital

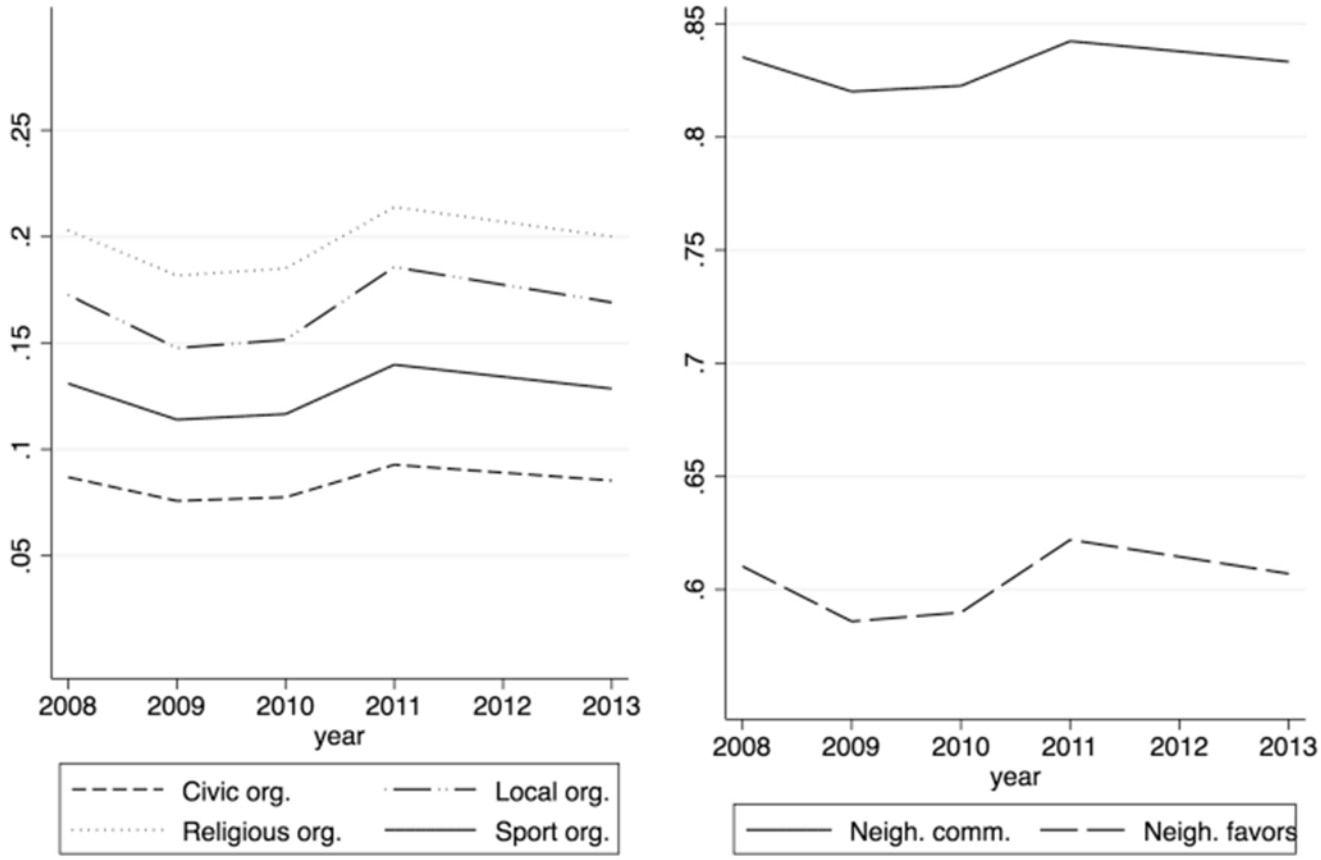

Fig. 2.
Non-linear trends in indicators, 2008–2013

Table 1

Mean and standard deviations for observed variables by year

	2008	2009	2010	2011	2013
Civic organizations	0.09	0.08	0.08	0.09	0.08
	(0.28)	(0.27)	(0.28)	(0.29)	(0.27)
Sport organizations	0.13	0.10	0.11	0.12	0.11
	(0.34)	(0.31)	(0.31)	(0.32)	(0.31)
Local organizations	0.17	0.16	0.15	0.16	0.15
	(0.38)	(0.36)	(0.36)	(0.37)	(0.35)
Religious organizations	0.20	0.19	0.20	0.21	0.20
	(0.40)	(0.39)	(0.40)	(0.41)	(0.40)
Communication w/neighbors	0.84	0.82	0.82	0.88	0.87
	(0.37)	(0.38)	(0.39)	(0.33)	(0.34)
Favors for neighbors	0.61	0.58	0.58	0.67	0.65
	(0.49)	(0.49)	(0.49)	(0.47)	(0.48)
N	68,283	20,911	74,974	78,882	36,779

Table 2

Model fit statistics by year

	χ^2	*df*	*p* value	RMSEA	CFI
2008	239.27	8	0.00	0.021	0.997
2009	67.942	8	0.00	0.019	0.998
2010	275.538	8	0.00	0.021	0.997
2011	268.593	8	0.00	0.02	0.997
2013	150.714	8	0.00	0.022	0.996

Table 3

Hierarchy of Invariance

	χ^2	*df*	*p* value	χ^2 diff	*df*-diff	*p* value	RMSEA	CFI
Factor loadings constrained	999.45	56	0.00				0.017	0.997
Factor loadings, variance of latent variable constrained	1737.28	60	0.00	451.96	4	0.00	0.022	0.995
Factor loadings, variance of latent var, var/cov of errors constrained	2535.71	78	0.00	848.49	18	0.00	0.024	0.992