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## Trust on the Internet: A Virtual Reality?

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## Trust on the Internet: A Virtual Reality?

### Abstract

Social capital has recently gained popularity, but it is not a new topic. The relationship between civic engagement and trust has been well tested, and it has been used in the past to help diagnose the well being of a society. Unfortunately with evolving technology, some of this research may be now obsolete. The internet has changed the way that people communicate and learn. Since the internet has reached such high proliferation rates, especially among the younger generations, it is likely to have an effect on the relationship between civic engagement and trust. Using

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Adam Clark

**Abstract** *Social capital has recently gained popularity, but it is not a new topic. The relationship between civic engagement and trust has been well tested, and it has been used in the past to help diagnose the well being of a society. Unfortunately with evolving technology, some of this research may be now obsolete. The internet has changed the way that people communicate and learn. Since the internet has reached such high proliferation rates, especially among the younger generations, it is likely to have an effect on the relationship between civic engagement and trust. Using NES survey data from 1996 to 2004 primarily, I tested the effects of the internet on said relationship, and internet access had an effect on social trust.*

The relationship between civic engagement and social trust has been investigated for many years, but it has picked up more steam in the 1990s and into the new millennium. Many have theorized this relationship is important in diagnosing the state of American civic culture. Some have argued civic engagement leads people to be more trusting. Others argue that the more trusting people are those who become involved. Both sides to this argument have compelling points, and this debate is expected to continue. More than likely, there is a combination of both explanations involved. The use of civic engagement as a gauge of American civic culture needs to be updated to take into consideration the increase in internet use.

This research will be done under many of the same assumptions tested in other studies. I will be operating under the postulate that civic engagement and social trust have a positive impact on democratic health (Verba 1995; Putnam 2000; Skocpol 2003). This connection is what makes the study of engagement and trust politically relevant. There are some opposing viewpoints, though (Newton 2001; Arneil 2006). I will take these criticisms into account, but for the most part, I will assume a positive correlation between strong civic communities and a healthy democracy.

Technology is changing society in many ways. Robert Putnam argues that television is the culprit for the recent decline in social capital (Putnam 2000). Adequate examination has not been undertaken to study the true scope of the internet. This may be because of the newness of the technology or because the internet is more complex and rapidly evolving in comparison to television. Unlike television, which does not ask for feedback, the internet is an active form of participation that can be shaped to one's immediate wants and needs. Also, the internet can be used as a communication medium. The internet brings people together on a common ground, albeit virtually.

The question for this paper, then, is how the relationship between civic engagement and social trust changed recently with the younger cohorts and how the internet affects this correlation. I hypothesize that the 18-25 year old cohort has, at least to a certain extent, replaced traditional face to face civic engagement with internet involvement, and the increase in internet use and comfort will lead to an increase in social trust.

A survey of the needed scale and quality is not reasonable in the allotted time period. Therefore, survey data from other organizations will be used. The American National Election Studies data and the General Social Survey are two of the main data sets that will be used and analyzed.

The first step to validating this research question is examining the relationship between civic engagement and social trust. This can be done by analyzing responses to survey questions. Volunteering is a good representation of civic engagement because it fosters communication, cooperation and helps teach citizenship and leadership skills to members (Skocpol 2003). The social

trust question commonly posed asks whether people generally can be trusted or if one can't be too careful with others. This kind of trust represents the trust that members in a society have towards their fellow citizens. To find the evolution in the relationship, age will also be studied. If the data for the 18-25 year olds over a period of 1996-2004 is ample, it will allow me to get a proper sense of any change in the respective variables in the target age set. Unfortunately, young people have very low response rates on surveys.

The survey information on internet use is less specific to this subject. One way of studying the linking powers of the internet is to look at how people use it, but the data on this are minimal. Instead, it may be more telling to look at the total use of internet or the availability of the internet in households. This is not the most exhaustive way to measure the internet variable, but it is the best way with the data set available. To help supplement the internet access variable, other information on internet use will be provided.

## Literature Review

Participation is vital to any democracy. Two of the biggest threats to the American democracy are the decreasing amounts of political participation and civic engagement (Macedo 2005). Voting is one way in which citizens participate in society, but it is one of the least demanding. Even with the small time commitment that voting necessitates, the voter turnout rate in the 2004 presidential election was only 59%. Some scholars believe this is a consequence of some characteristics of the American electoral system, such as uncompetitive districts and frequent elections (Macedo 2005).

Robert Putnam analyzes the decline in the act of voting in America. He connects the decline with a decrease in social capital. He also recognizes there are other forms of participation in addition to voting (Putnam 2000). Another type of greater social participation has been coined "social capital." Social Capital is the trust and sense of community that grows with increased interaction (Putnam 2000).

There is much debate on the different meanings and values of social capital. Social capital is not something an individual can possess, it is the complex web of associations fostering the norms of trust and reciprocity (Putnam 2000). Problems with the measurement and theories of social capital stem from its ambiguous definition. Social capital is sometimes taken for granted as social networking without any political goals or values, but Putnam argues that the strength of a society's social capital has a positive relationship with its political participation (Putnam 2000).

The relationship between social trust and civic voluntarism is well documented. When people volunteer, they donate their time and energy to serve their community. Trust allows people to come together to accomplish joint goals. Looking at the definitions this way, it is intuitive to believe that a relationship exists. This relationship is often thought to be bidirectional, but there has been debate (Verba et al. 1995; Green and Brock 1998; Putnam 2000). In a study of the causality of this relationship using time series data, Claibourn and Martin (2000) find that the relationships showed less than impressive significance. They found trust did not show much effect on joining groups, and that the effects of joining groups on trust may be "relatively short lived and limited to particular cohorts" (Claibourn and Martin 2000). For the sake of this study, the relationship will be seen as bidirectional. This means that people who are joiners are more likely to be trusting, and people who are trusting are more likely to be joiners.

There has been backlash to this social capital theory. Kenneth Newton believes there is little evidence that membership in voluntary groups has an effect on trust and that social trust is not closely related to political trust (Newton 2001). As compared to social trust, political trust means the

trust between citizens and politicians. Newton's analysis lacks much analytical evidence to support his claims, however. One possible solution for this apparent lack of connection between voluntarism and trust is the changing ways in which Americans serve in voluntary organizations and overarching social change (Rich 1999).

Barbara Arneil argues that because communities are so diverse, a generalized social capital theory is impracticable. She claims there are many ways in which people create social capital, and not all of them are for the good of the society, as some are exclusionary (Arneil 2006). It is hard to condemn a whole theory based on a few examples. Although the bonding social capital employed by some groups is exclusionary to others, these connections still lead to more participation, good or bad. Her views may illuminate the negative aspects of social capital, but it seems to be these exceptions that prove the rule. There is some debate in this subject, but the majority of the literature supports the social capital theory to an extent. This relationship between social capital and trust has changed over time and generations, and it is also likely to evolve with the advance of technology.

This relationship between trust and engagement is bound to be affected by the proliferation of the internet. The internet has grown quickly in the last two decades. Up until the mid 1990s, the internet was outside the reach and understanding of average people. According to NES studies, 27% of respondents had internet access in 1996. That number ballooned to 63% of respondents in the 2000 survey (1996 and 2000 NES). Another report states that the number of Americans with internet access in their homes more than quadrupled in the time span of 1995 to 1998. This has led to a congruent theoretical increase in the hospitability of the internet (Kraut et al. 2002).

This increase in use is also fundamentally changing the way the political process works in America. Examples of this include Howard Dean using internet feedback from such sources as MoveOn.org and MeetUp.com (Crumlish 2004) as well as using questions for the second 2008 presidential debate from viewer emails. "Retail Politics," writes Crumlish, "began to be limited to the first few primary and caucus states" (Crumlish 2004). Internet news brings more exposure to political candidates. Social networks and blogs allow people to share their ideas and meet while websites like MeetUp.com allow people to get connected with others for face to face interaction.

One use of the internet most closely related with political participation is the flow of political information through internet news sources. Tolbert and McNeal observe that in the 1996 and 2000 presidential elections internet news was a strong predictor of increased political participation (Tolbert and McNeal 2003). What makes the internet appealing may also make it hard to study, however. Because there is self-selection of sites visited, internet users have almost infinite choices. It is important to understand that there are different uses for the internet, and the hours of use may not be as good of a measure as the patterns of use (Shah et al. 2001).

Besides voting, the internet has effects on other kinds of civic participation. Some research argues that growth in international voluntarism has been encouraged by the internet (Rich 1999). Electronic media has had a negative history with social capital. In *Bowling Alone*, television watching acts as anti-social capital (Putnam 2000). He connects the fall in social capital with the rise in television viewership. Some more recent scholarship has questioned Putnam's accusation. An individual-level analysis of social capital by Dhavan Shah states that television is not "the monolithic danger that some research on social capital might lead us to believe" (Shah 1998). He finds the effects of television are dependent on type of programming and audience members' use of it. Unlike television, the internet can be a more active form of entertainment than television. From email to more complex social networks, the internet has fosters communication at minimum, if not connection.

A more optimistic view of electronic media is given in a study of electronic community networks. In Grand Rapids, Minnesota, which had an electronic network connecting all computer

owning citizens, citizens were able to construct a general social network electronically because they already had strong social structures. Sullivan concludes that public engagement is significantly linked to different patterns of technology and support for community electronic network projects (Sullivan, 2002). This shows how technology is used to enhance social capital, but it does not show if technology is able to create social capital.

The internet is also used to increase knowledge and trust between people. Crumlish (2004) writes, "Social network tools, from email on up, can supplement a traditional support group or can be used to create the virtual equivalent, with minimal or no physical face-to-face contact" (128). Users can find help on the internet to deal with addiction, disease or personal loss, although there are risks involved. The anonymity the internet provides can be seen as an upside to people who may be shy talking to people they know, but it also can be seen a downside to those who are afraid of being taken advantage of by seemingly compassionate strangers (Cromlish 2004).

Putnam (2000) concludes that internet use has little to no effect on rates of social engagement, but he also admits that the effects of the internet are yet to come. This seems to be a shortcoming with some of the other works and a disadvantage of doing academic research on such a new and ever-changing topic. The research that has taken place in the late 90s and the early 2000s is growing obsolete by the year. As younger generations become more and more comfortable with evolving technology, it is important to find how the relationship between trust and voluntarism will change with different outlets.

The importance of participation in American democracy is not diminishing, but according to some research the rates of participation and trust are. As Americans find more to do outside of the public sphere, they are increasingly turning to internet use. The internet has shown some signs of fostering a sort of community, albeit sometimes tenuous, but it is not replacing personal relationships. The internet gives people a chance to communicate with and even meet people, but the internet and technology cannot make human contact obsolete.

## Method

As this is a study on the effects of the internet on social groups and social trust, the internet needs to be represented as an independent variable. The internet variable poses a measurement issue, particularly when working with surveys already conducted. In a 2003 study on the effects of the internet on political participation, Tolbert and McNeal use internet access and access to political information online (Tolbert and McNeal 2003). Although the simplicity of internet access seems appealing, there are some potential problems, especially for the 18-25 year old cohort. The internet has reached such high levels of proliferation that in 2008 not having internet access is almost an anomaly. The internet can now be accessed more easily in homes, and it can also be used for free at many libraries and schools. Fortunately, I will be studying a time with slightly less access. I will be using data from 2000-2004 when the access rate was about 60 to 70 % because this is the most recent data available. It is not the ideal measurement, so I will try to also provide some information about how people use the internet. I am conceding that an internet connection cannot completely replace face-to-face interaction, at least at current technological levels. There are some relationships, such as family units, that are very unlikely to be replaced by internet communication. I agree more with the connecting and information abilities of the internet (Sullivan et al. 2002) than a completely digitalized community.

I will use the question from the National Election Study (NES) that asks whether an individual has access to the internet or not. The information from 1996-2004 will be used. The General Social Survey (GSS) has more specific questions about the internet, which will be used to

augment the NES data. Also, a study done by the PEW internet study about use and access from 2005 will be cited.

Since I will be testing the effects of the internet on the relationship between engagement and trust, social trust will act as my dependent variable. Another aspect of the study is age. Where possible, I will control for the age of 18-25 year olds, but due to some small sample size problems, not all models will be controlled for said age group.

For measuring civic engagement, I have chosen to use voluntarism as opposed to group membership. Past research has pointed to the positive effects of volunteering on trust (Putnam 2000; Verba et al. 1995). I will use the question that asks if a person volunteered in the last 12 months. This question is found in similar formats of the NES and GSS. This will be a binary variable because the data do not show how much individuals volunteered.

I will not be using group membership to study engagement because there is a decline in formal memberships in the country but an increase in voluntarism, especially in youth (Putnam 2000). For this reason, I think voluntarism will be a more accurate variable. Also, because many of the 18-25 year olds may be in high school or college, group membership would not be as accurate of a measure as it is for adults (Claibourn and Martin 2000). For students, joining a group or attending meetings may not necessitate the same amount of effort as adults because a school or campus compacts all activities into a much smaller space.

The variable of social trust is more straightforward. The question asked in many surveys is whether one can generally trust others or if one cannot be too careful with others. I will use the NES data for this question, and this will also be a binary variable.

In most cases in this study, the cohort of 18-25 year olds will be analyzed because it is predicted that the biggest cultural changes in technology will be with the youngest generation. I will be using the aggregate as my unit of analysis to look at the rate of internet use growth to empirically show the proliferation of the internet. Then, I will use survey data from the 18-25 year old age group to analyze the changing relationship between voluntarism and social trust. This will be an individual analysis of the effects of internet on the variables of trust, voluntarism and voting.

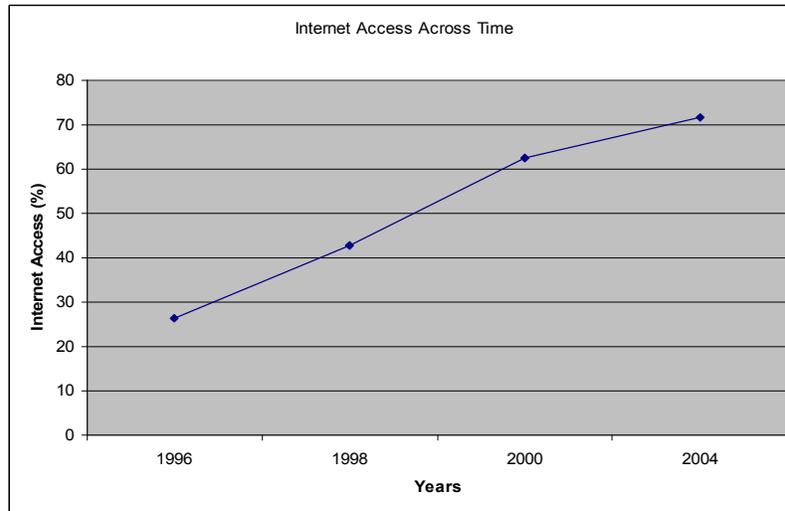
### Internet

The internet is a very complex thing to study. To test the internet's increasing influence, I will first illustrate that internet access is spreading. To do this I used a large dataset, the 1948-2004 Cumulative NES study. By running simple crosstabs of internet access across time, the increase was evident. Also, I need to validate my choice to focus on the 18-25 age group. By controlling for age, I was able to show that internet access has been higher that age group.

The internet question first appeared on the American Nation Elections Studies survey in 1996. Therefore, I will be analyzing the years from 1996-2004 (see figure 1). In 1996, only 26.5% of respondents reported having access to the internet. Over the next four years, this rose to 42.7% in 1998 and 62.6% in 2000. In the most recent survey, in 2004, 71.7% of respondents had access to the internet (1948-2004 Cumulative NES study).<sup>19</sup> For the 18-25 year old age group, these percentages were higher every year.

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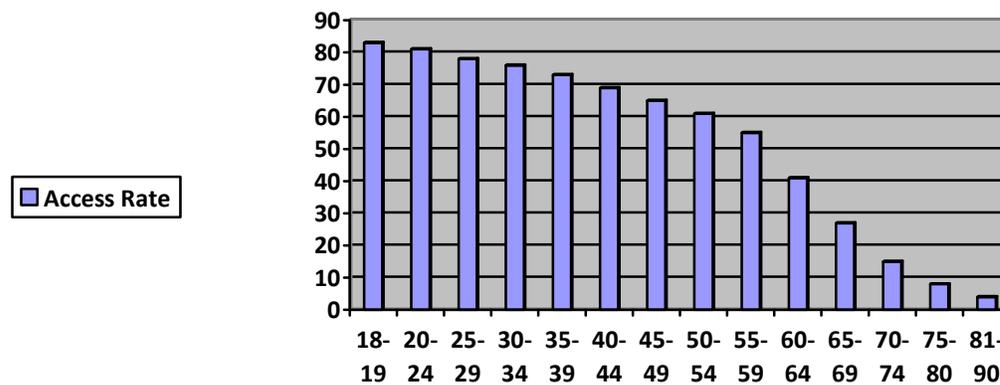
<sup>19</sup> The internet access question was absent from the 2002 study, and no survey was run in 2006.



**Figure 1:** Internet Access over time. (Source 1948-2004 Cumulative NES study).

In the 2006 Voice of the People Study, the Gallup International Organization found only 46.6% of respondents in the world had used the internet in the last month. This is not surprising due to the “digital divide”, which is the uneven technological access between demographics of people, be it between urban and rural citizens or the global North over the South (Shapiro 1999; Rao et al. 1999). Some of the demographic measures that account for this divide include household income, education, and region. These variables all relate to the respondent’s country of origin. However, age is somewhat different because there are young people everywhere. When age is taken into account, it is found that 57.3% of respondents worldwide under the age of 30 used the internet in the last month. In the U.S. and abroad, young people have more access and use the internet at higher rates.

One of the biggest increases in internet access in the U.S. since 1992 has been in public schools. In 1992, only three percent of public schools had internet access. By 2002, 92% of schools had internet access (NCES website). One reason I picked this age group is I felt that they had more experience and therefore more comfort using the internet. Being exposed to the internet starting at a young age will lead to more skillful use later in life. This can be seen in the “digital divide” between young and old people (See figure 2). As illustrated, 18-24 year olds all had access ratings of at least 80%, and respondents over 65 had access rates lower than 30%.



**Figure 2:** Internet Access by Age. (Source 2005 PEW internet study).

Not only are young people more likely to be internet users, but they are also more likely to be better at using the internet. The GSS asked a question about web ability, and 40% of 18-25 year olds said they were excellent at using the web. This is the highest rate of excellence for any age group and much higher than the average of 27.8%. Also, users of the internet have shown higher rates of trust than non-users. In 2000, 56.9% of respondents with internet access were trusting, while only 43.1% without the internet were trusting. This statistic may seem to reflect the effects of age cohort, but the difference is greater in the 18-25 year old age group, albeit at a lower level. In this age group, 37.4% of respondents with internet access were trusting, while only 20.2% without the internet were trusting. Internet access also showed to make trust steadier across time. Of users who had internet access in 2000, 82.9% reported being trusting in 2000 and 2004. Of users who did not have access in 2000, 67.9% reported being trusting at both times.

Along with access, the uses of the internet are ever evolving. According to a 2005 study by the Pew Internet and American Life Project, almost 90% of Americans who use the internet use the email function in a typical day. This activity is far above the second most popular activity, using search engines, which only about 50% of users do daily. The internet, according to this study, is allowing users to create a new civic society, and 84% of internet users belong to groups with online dimensions. In fact, 29% of users belong to an online community group or association (PEW Internet Study 2005). The internet is a tool for communication as well as seeking information. These are two important aspects of building trust (Putnam 2000, Verba 1995).

However, the internet is not all-inclusive or always used for connecting. Internet access is positively related to income and education, and it is negatively related to age (PEW Internet Study 2005). This means poorer, less educated people, and older people have less access to the internet.

### Engagement

The classic covariant of social trust has been civic engagement. This is measured in many ways, such as group membership or volunteering. For this study, I will be using a volunteering measure. Specifically, the NES asks if the respondent has done volunteer work in the last 12 months. The age group in question has had below average volunteer experience (see figure 3), although in the target years no substantial change in volunteer rates can be discerned. At least in this eight year span being studied, the rates are quite steady. For another test of voluntarism, the General Social Survey (GSS) data were used. This survey asks respondents how many times in the last

month they volunteered for a charitable organization. The 18-25 year old group had lower rates in every category except for “no volunteer work.” (GSS 1976-2006).

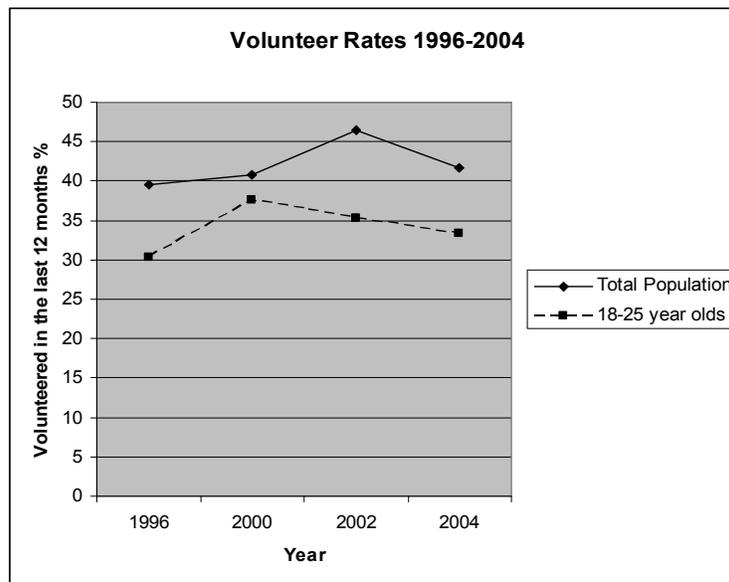


Figure 3: Volunteer rates 1996-2004. Source- NES.

### Social Trust

Social trust is a good indicator of how healthy the society is, and it has shown to have a positive relationship with age. This means that as people age, they also become more trusting. The question used by the NES that asked about social trust was asked in the 1960s and 1970s but was left off the ballot for 16 years. When the question again appeared, the results were significantly different for the 18 to 25 age group (see figure 3). There was a steep increase in distrust when the question returned to the questionnaire in 1992. For the last 12 years, this age group has been the least trusting group in every survey. In 2004, 70.2% of 18 to 25 year olds said that you can't be too careful in dealing with people.

Trust proved to stay somewhat steady in the panel study from 2000 to 2004. Using the panel study data, I found that 78.8% of those who said people were trustworthy in 2000 also said people were trustworthy in 2004.

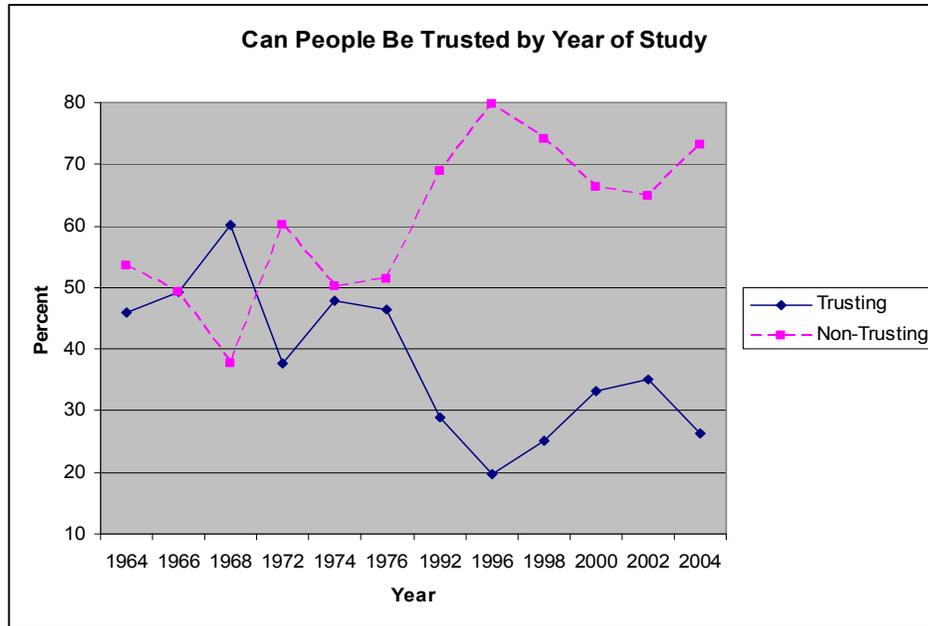


Figure 4: Social Trust by Year of Study (18-25 year olds).

## Results

Past studies have tried to explain which way the causal arrow between voluntarism and social trust points, (Claibourn and Martin, 2000) I will be working under the assumption that a relationship exists. So whether trusting people are more likely to volunteer or people who volunteer become more trusting, a significant relationship exists (see table 1). This evidence supports the relationship between engagement and trust, but there may be an even better predictor.

If the internet is playing a larger role in people's lives, it makes sense it should have an impact of a societal predictor like social trust. The question is which direction the effect will be. Figure 6 shows the cross tabulation of internet access and social trust. In both tables 1 and 2, the causality cannot be determined between the variables, but trust will be set on the vertical axis. In comparing the two tables, it is evident a larger percentage of people are trusting and using the internet than trusting and volunteering, but this reflects the fact that more people in general are using the internet than volunteering. For trusting people, the internet access rate was slightly above the average, but for non-trusters, this access rate was almost 20 percentage points below average.

	Volunteered	Did not Volunteer
People can be trusted	64.5%	34.3%
Can't be too careful with people	43.5%	56.2%

**Table 1:** Civic Engagement vs. Social Trust.

	Internet	No Internet
People can be trusted	73.7%	26.3%
Can't be too careful	52.4%	46.7%

**Table 2:** Internet by Social Trust.

People who are trusting have much higher rates of internet use. In the model, 73.7% of trusting people have internet access, and only 52.4% of untrusting people have internet access.

The evidence shows that there is a large increase in the internet access of 18-25 year olds, and a large decrease in the level of social trust. This leads us to the main question: Have young adults been able to use the internet to foster a sense of trust and build social capital? To try to answer this question, a combination of approaches is used. First a correlation and second a binary logistic regression. The data for the correlations are from the 2000-2004 NES panel study. For the regression model, the 2004 NES data were used.

### Correlation Test

The first way of testing how the internet has changed the relationship between civic engagement and social trust is a correlation. In this model, two correlations are run: one for respondents with internet access and one for respondents without internet access. Voluntarism and social trust are correlated. If the internet has indeed changed the classic thinking of social capital theory, it would be expected that the people without internet access would have a higher correlation than those with internet access.

For people without internet access, voluntarism and trust resulted in a Pearson correlation of .101. This relationship is only significant at the .1 level. On the other hand, for people with internet access, the relationship resulted in a Pearson correlation of -.006. Here the relationship is very insignificant ( $p < 0.9$ ).

So, to some extent, the relationship between engagement and trust holds up for those without internet access, but as seen in the slightly negative correlation and low significance, the model fails to explain trust for those with internet access. In the presence of internet, voluntarism loses its explanatory power.

### Binary Logistic Regression<sup>20</sup>

In a similar fashion as the correlation tests, two regression models will be run. The first will not contain the internet access variable, and the second model will contain the internet access variable. The 2004 NES data will be used in both of these models because the 2000-2004 panel study has too few 18-25 year olds. In both of these models, only responses from that age group will be analyzed. Tables 3 and 4 summarize the results.

#### *Demographics*

There are certain socioeconomic and demographic features that may make a person more or less trusting. Gender, education, income, age, social class, and household income will be included.

#### *Other variables*

Some variables from past studies that have proven helpful in predicting trust have been used (Shah 1998). These variables include satisfaction with life and trust in government. Both have shown in the past to be significant in a positive way when describing trust.

Table 3	
No Internet, 18-25 year olds	
<i>Dependent Variable</i> = Interpersonal Trust	
<i>Independent Variables</i>	B (logistic regression)
Volunteered	.299**
Worked with others in Community	-.102
Gender (0 male, 1 female)	.662
Education	.339
Trust in government	.721*
Satisfaction	.087
Income	.027
Social Class	.296*
Constant	-.301
Nagelkerke Pseudo R <sup>2</sup> = .190 N =108	* = p<.10, ** = p<.05, *** = p<.01

**Table 3:** Regression model for respondents without internet access.

<sup>20</sup> The regression was originally run differently. It was run for the all respondents as compared to just 18-25 year olds. Also, unlike the original model, the effect of the internet will be seen by having one with internet as a variable and the other without it. Expectedly, these changes have changed the results.

Table 4	
Yes Internet, 18-25 year olds	
<i>Dependent Variable</i> = Interpersonal Trust	
<i>Independent Variables</i>	B (logistic regression)
Internet	.500**
Volunteered	.268*
Worked with others in Community	-.124
Gender (0 male, 1 female)	.656
Education	.290
Trust in government	.950**
Satisfaction	-.035
Income	.028
Social Class	.157
Constant	-2.193
Nagelkerke Pseudo R <sup>2</sup> = .233 N =108	* = p<.10, ** = p<.05, *** = p<.01

**Table 4:** Regression model for respondents with internet access.

## Analysis

The results from this regression model are only moderately convincing (only a small amount of the variance is being explained), but it does point to some interesting observations. For the model, the more trusting response is coded as a one and the less trusting response is coded as a two. The education scale, age scale and income scale were all reversed to have higher education, age and income at the lower numbers. The reason for this is that most of the yes or no answers were coded as ones being yes and the twos being no.

It is important to iterate what this model does and does not do. This model uses the age control and tests the effects of internet access against no internet access. There can be no true measure of a non-internet model because even those who do not have internet access are affected by living in an internet driven culture. The model with the internet explained about four percent more of the variance than did the model without internet. In both models, volunteering and trust in government are significant in the expected direction. Only when internet was not present was social class was significant. When internet access was added, it was significant and strong.

## Conclusion

In multiple tests, internet proved to be significant. In the correlations that controlled for internet, the relationship between voluntarism and trust held for non-users, but it showed almost no correlation or significance for internet users. When the internet is taken into account, the classic explanation failed.

The regression model reflects internet access is highly correlated with social trust. This relationship is positive which means those with access to the internet are more likely to be trusting of others.<sup>21</sup> The fact that this is a strong relationship gives the argument more support. Two possible reasons that the increase in internet use is congruent with an increase in social trust are increased communication and ease of knowledge gathering. These two activities were shown to be the two most common in the 2005 PEW study.

Voluntarism, which has been the classic partner of social trust, also played a role in these models. This relationship becomes less significant when the internet is added, but it is still a relevant variable.

Another facet of the question was age. I hypothesized younger people, 18-25 year olds, would be more likely to use the internet to foster social trust. This age group not only shows higher rates of internet use and skill, but the internet also played a large effect in explaining social trust.

From past research, the variables of trust in government and contentment with life were tested. Both had shown to be significant in past studies (Shah 1998), but this regression showed only trust in government to be significant. The variables of trust in government and social trust may seem similar, but the Pearson correlation is only .085.

When the regression was run with all age groups education had the largest effect on social trust, and this finding was surprising. This relationship was positively significant and showed a very large Wald score. People who are more educated are also more trusting. In the regression models that controlled for the age group, education was not significant. This came as an even bigger surprise because the most significant variable in one model became insignificant quickly. The only explanation here is an effect of the age control; the younger cohorts now have more access to education than did the older cohorts. More research is needed on the relationship between age, education and civic engagement.

According to these results, the internet does act as a force of fostering trust, and the role the internet plays comes at the expense of voluntarism. Among young people, internet access was better at predicting social trust than was voluntarism. Young people are more likely to use the internet for communication and knowledge gaining. They also have historically lower levels of social trust to build on, which means trust has room to increase. Further research on the internet will need to be carried out as the internet evolves.

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<sup>21</sup> In some of these findings causality can not be assumed. Just like in the debate about the causal arrow between voluntarism and trust mentioned earlier, some of all of these relationships are unidirectional.

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### *Data Sources*

#### NES Data

2000 NES

2002 NES

Cumulative 1948-2004 NES

Panel Study 2000-2004 NES

#### GSS Data

1976-2006 Cumulative data

#### PEW Internet Study

Presentation. "Data for the Congressional Internet Caucus." Lee Rainie. February 9, 2005.