Voluntary Association Involvement and Trust: Addressing the Causal Relationship

by

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ABSTRACT

In recent years, research has come to focus on the empirical relationship between trust and voluntary association involvement within social capital literature. Scholars have explored the question of whether trust can be implicated as a cause, or as an effect of voluntary association involvement. In the same way, others have found evidence to support the claim that voluntary association involvement leads to increased levels of trust. The focus of this study is to examine the relationship and causal direction, if any, between trust and voluntary association involvement, using longitudinal data from the British Household Panel Survey (BHPS) 1990 through to 2004.

Findings indicate that a reciprocal relationship exists between trust and voluntary association involvement. Results show that voluntary association involvement leads to an increased sense of trustworthiness of others. At the same time, causal links from generalized trust to voluntary association involvement were found to be significant. In addition, findings also suggest that type of voluntary association is a significant factor in the relationship between trust and voluntary association involvement.

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CHAPTER 1: INTRODUCTION

In the last decade, there has been a substantial amount of interest in the subject of social capital within the social sciences. The discussion around the concept of social capital has raised important questions about the dynamics of social life, citizenship involvement and the various roles of trust and voluntary associations as lubricants of social action. From this, a substantial body of literature concerning the effects of social capital in national and international settings has emerged (see, for example, Putnam 1993; 2000; Dekker and Uslaner 2001; Lin et al. 2001; Maloney et al. 2001; Onyx and Bullen 2001; Krishna 2002; Veenstra and Tanner 2002; Fattore et al. 2003).

Common to the majority of these writings is the idea that there is a link between trust and voluntary association involvement. Much of the research on social capital has been dominated by the work of political scientist Robert Putnam, who defines social capital as the "features of social organization, such as trust, norms, and networks, that can improve the efficiency of society by facilitating co-ordinated actions" (Putnam 1993:167). Other definitions of social capital include "the ability of people to work together for common purposes in groups and organizations" (Coleman 1988:95) and "take(s) multiple forms, including norms, information, and obligations" (Claibourn and Martin 2000:267).

In the social capital literature, two different approaches are used to discuss trust and voluntary association involvement. In most cases, trust and associational memberships are used as predictors to measure the presence or absence of social capital, since they are seen to be at the 'heart' of the concept itself (Putnam 1993; 2000; Edwards et al. 2001; Field 2003). In this way, they analytically represent two methods for measuring the concept of social capital. The second

approach is to view trust and voluntary association involvement as separate, although almost certainly related, constructs (Stolle and Rochon 1998; Paxton 1999; Curtis et al. 2001). However, neither approach provides an empirically determined outline of a causal direction or whether the relationship is uni-directional as opposed to bi-directional.

Both within and outside the rubric of discussions dealing with social capital, some investigators have explored the question of whether trust can be implicated as a cause, or is rather best conceptualized as an effect of voluntary association involvement. Some of the literature suggests that the connection between trust and voluntary association involvement is strongest from joining to trusting (Putnam 1995: 666; Brehm and Rahn 1997:1017; Veenstra and Tanner 2002:552) while other literature argues that the relationship is greatest from trusting to joining (Stolle 1998a: 500; Tonkiss and Passey 1999:262; Uslaner 2002:77). Unfortunately, when this matter is investigated empirically, results are largely based on small, discrete and/or cross-sectional data sets. Little empirical research has been done to tease out the causal directions or even to examine the contingencies under which a correlational connection occurs between the two constructs. The focus of this research, therefore, is to explore the relationship and causal direction, if any, between trust and voluntary association involvement, using longitudinal data from the British Household Panel Survey (BHPS) 1990 through to 2004.

As will later be discussed, much of the social capital literature repeatedly focuses on voluntary association involvement and generalized trust as the underlying foundations of the concept of social capital. At the same time, methodologies used in the literature for identifying and characterizing social capital often rely, and to a considerable degree, on the use of cross-sectional survey data. While these studies may in fact be the best available at a particular time,

the methodology does not lend itself to validly establishing or even examining the causal connection between voluntary association involvement and generalized trust.

This study begins by providing a review of the literature that outlines some of the popular theorists behind the concept of social capital. Following this, some of the theory behind trust and voluntary associations, as they relate to social capital conceptualizations, will be addressed. Previous studies, which empirically examine the relationship between trust and associational membership, are then discussed, along with the research objectives for this study. Chapter three outlines the methodology and statistical techniques that are used to examine the relationship and causal direction between trust and voluntary association involvement. Results of the analyses and key findings are presented in chapter four. Chapter five involves a discussion of findings, limitations of the study, suggestions for future research and a study conclusion.

CHAPTER 2: REVIEW OF THE LITERATURE

Conceptions of Social Capital

The idea of social capital is not a new one. Social ties, group interactions, and voluntary activity have been long argued to have positive effects for both individuals and the larger community within traditional sociological literature. Theory dating back to Emile Durkheim's writings (for example, writings dealing with anomie and how it can be prevented/solved by involvement in groups and communities) shows that the concept of social capital is not new to the sociological inquiry (Portes 1998; Field 2003; Quibria 2003).

Over the years, there have been many different approaches to the concept of social capital. Social capital has been described as "the social structures and networks necessary for sustaining collective action, the supposed normative contents of these structures (such as trustworthiness and reciprocal relations)." It has also frequently been described as "the outcome of collective action achieved through such structures" (Prakash and Selle 2004:18). Parallel descriptions include "the stock of formal or informal social networks that individuals use to produce or allocate goods and services" (Rose 2001:57) and "the set of norms, networks, and organizations through which people gain access to power and resources" (Grootaert 2001:10).

In general, the central idea of social capital is that networks, relationships and social interactions have value and can bring significant benefits to an individual and a community in a manner similar to the significance of economic capital (Field 2003:12). The networks, relationships and/or social interactions are a form of capital, different from human or physical capital[1], that help shape individual and collective behaviour. As a type of resource, these networks or interactions form a culture of norms and expectations that have the potential to

[1] The training (human) and tools (physical) that develop individual productivity and/or advancement.

foster both economic and social development (Quibria 2003:1). Despite differences in the various definitions, social capital is most often considered to be made up of connections and social interactions, together with the shared set of values that are associated with these relations.

Popularizing the Concept

Interest in American participation in civic and political life was brought to the forefront of scholarly interest in Alexis de Tocqueville's *Democracy in America*. Tocqueville believed that active participation (through voluntary association involvement) was the hallmark of American society. For Tocqueville, varieties of associations were formed to promote social order, uphold norms, morals and traditions as well as advance business and industry (Tocqueville 1961:216 - 217). Overall, Tocqueville argued that the collective act of association brought individuals together for a common purpose, created a greater sense of community and improved societal conditions for many Americans. Tocqueville saw this idea of community co-operation and social networks as a method by which a nation can create civil society independent of any legal authority or the state. From this, a number of scholars have proceeded to further examine and explore the importance of social ties, networks and associations – most notably under the umbrella of 'social capital.'

Most recently, the term "social capital" was given renewed popularity by sociologist James S. Coleman and political scientist Robert Putnam.[2] According to Putnam, the term "social capital" has been defined and re-defined at least six separate times over the course of the twentieth century (Putnam 2000:19). Perhaps the most influential rejuvenation of the concept of

[2] Arguably, Pierre Bourdieu could also be classified as one of the leading figures to influence the development of the social capital concept. For Bourdieu, the concept of social capital focused on the positive benefits (in the form of resources and networks) that result from participation in groups (Edwards et al. 2001:8-9). However, in his work, Bourdieu failed to fully develop the conceptualization (in comparison to the extent and depth that he developed other concepts such as 'cultural capital' a form of capital where some forms of cultural taste secure greater status than others) (Field 2003:14). As such, much of Bourdieu's work is overlooked in the recent popularization of the concept. For some, Bourdieu's conception of social capital was one of the most theoretically defined works of his time period (Portes 1998:3).

social capital was undertaken by Coleman who rekindled the term by publishing a series of research on education and social capital that was both controversial and captivating (Field 2003: 20). Putnam was soon to follow and became the face of the social capital debate when he published his renowned study claiming that America's levels of civic engagement are currently suffering from a long period of decline. Although Coleman and Putnam have been highly scrutinized since the release of their work, the two authors have brought much attention to the topic of social capital and can be accredited for its current popularity among the social sciences.

Coleman's Social Capital

Coleman defined social capital as "the ability of people to work together for common purposes in groups and organizations" (Coleman 1988:95). For Coleman, social capital represented a concept that explained how people were able to cooperate. Arguably, Coleman's most influential piece of work was focused on education and social capital – examining the educational attainment levels among six ethnic groups. Later known as the "Coleman Report," the findings from this study claimed that family and community connections had a greater influence on educational attainment than the educational institution itself (Field 2003:22). Based on the findings, Coleman argued that social capital itself (as represented by family and community connections) was a resource accessible to individuals of all social classes.

Coleman's later work focused on the argument that social capital is best described by the value of its activities. Here, Coleman claimed that multiple forms of social capital, and the relations, reciprocity and formations of trust that constitute social capital can exist through many distinct processes. Obligations, expectations, information, norms, associational memberships and intentional organizations are all examples of processes where the formation or accumulation of social capital can occur (Coleman 1990:305-312). Coleman provided various examples of,

what in his view, constitutes social capital to support his argument ranging from the use of social resources for social activism or community safety to the informal relations of trust and reciprocity in the markets of Cairo (Coleman 1990:303). Coleman used these examples to illustrate the claim that social organization and relations constitute social capital and that this in return extends beyond the individual, advancing the achievement of objectives that could not be otherwise attained.

Overall, Coleman's approach is limited to certain types of social capital. Informal ties and networks are largely overlooked in his work; with the result that he paints an unfinished picture of the functions of social capital (Field 2003). Subsequently, this left room for many other theorists to follow and further develop the concept of social capital.

Putnam's Social Capital

Putnam largely builds upon the work of Coleman and the conceptualization of the term social capital he developed in the late 1980's (as discussed above). For Putnam, social capital refers to "features of social organization, such as trust, norms, and networks, that can improve the efficiency of society by facilitating co-ordinated actions" (Putnam 1993:167). Putnam's conceptualization of social capital focuses on the concepts of (i) social networks and (ii) social norms of reciprocity and trust. These form the core elements of the social capital idea and are used almost interchangeably as indicators of Putnam's social capital (2001: 41).

The principal argument that Putnam makes is that the more individuals connect, the more individuals trust and vice versa. For example, participation in voluntary associations expands social networks to include a range of individuals from various backgrounds. As participation continues, individuals begin to engage with their expanded network and connections are made and norms of reciprocity are established. This exposure to a range of social networks with

established give and take relationships can increase the levels of generalized trust for the individuals involved (Putnam 1995: 666). Overall, Putnam believes that voluntary association involvement and trust are strongly correlated.[3] In his view, when they are in a positive upward trend, increased levels of voluntary association involvement and high levels of trust benefit and increase the productivity of both the individuals involved as well as the community at large.

More recently, in his book *Bowling Alone: The Collapse and Revival of American Community*, Putnam focuses on the civic and social life of America at the conclusion of the twentieth century, examining a broad range of topics all related to social capital. Putnam first documents the trends of social capital and civic engagement using large data sets and descriptive statistics. He then offers his analysis on what he sees as the declining levels of social capital and some putative causes, such as generational differences, increased television viewing, and female participation in the labour market.

Bowling Alone also emphasizes Putnam's idea that individuals who participate in voluntary associations are also individuals who exhibit higher levels of trust. As such, Putnam labels trust as the "touchstone" of social capital while associational memberships are "regarded as a useful barometer" of civic participation (Putnam 2000:116 & 49). Central to Putnam's argument is the claim that both trust and associational membership levels are currently declining in American society. Arguably, Putnam infers that the decline in levels of both establishes the relationship between trust and voluntary association involvement and in this way represents what is the heart of the social capital concept itself. Putnam reports a series of public opinion survey responses in which "77 percent said the nation was worse off because of "less involvement in community activities" and "50 percent of us who thought we were becoming less trustworthy" as

[3] Putnam notes that establishing a causal direction between trusting and joining is a complicated process. However, Putnam does report evidence from the 1997 Brehm and Rahn study, highlighting results from the study that claim causation from joining to trusting.

an example of how the American community is echoing similar concerns to his own (Putnam 2000: 25). He then follows by presenting a range of analyses involving other surveys demonstrating what he sees as declines in associational memberships and perceptions of trust from the 1950s through to the 1990s (Putnam 2000:54-63 & 139-140).

Putnam's work has proven to be an influential introduction to the concept of social capital. However, his method of research and study has both strengths and weaknesses. Arguably, the strengths of his research lies in the theory and empirical exploration of the effects of social capital and what factors play a role in its perceived decline. Putnam's main weakness is the circularity in his definition of the social capital concept (Portes and Landolt 2000:535; Kay and Bernard 2007:42). For Putnam, the existence of high levels of social capital is marked by the presence of dense networks of voluntary associations and social trust. But at the same time: "A successful group succeeded because it has social capital, but the evidence that the group has social capital is in its success" (Sobel 2002:146). Thus, it is difficult to establish the empirical causes of social capital in Putnam's argument when he connects the presence of social capital with outcomes obtained from social capital.

An example of the problem of circularity arises in any one of Putnam's frequent discussions of how communities with high levels of social capital have dense associational networks and high levels of trust (2000:288, 292 & 319). Here, Putnam seemingly equates the two concepts as corresponding indicators of social capital – that is, two different ways of measuring what is essentially one construct. Putnam also claims that America is currently in a period of secular decline which has resulted in low social capital, declines in associational involvement and low levels of social trust (Putnam 2000:54-63 & 139-140). However, Putnam

provides no empirical evidence supporting the argument that simply because trust and associational memberships are declining, conceptually they are in fact connected in any manner.

It is disconcertingly unclear in Putnam's writing whether or not associational membership and trust are simply just alternative (yet equally reliable and valid) measures of the social capital concept or if they are individually separate constructs. From time to time Putnam will speak of voluntary association involvement and trust as indicators of social capital (see for example Putnam 2000:116 & 49). In chapter 16 of his book, Putnam presents what he labels a 'social capital index.' This index consists of fourteen indicators, each a measure of community networks, social interactions or social trust, used to target community-based social capital across the fifty states of America. From this, Putnam implies that, analytically, trust and associational membership are equal measures of the same thing. In the same way, Putnam has also directly stated that, although it is not part of the definition of social capital, trust can be used as a substitute measure for the presence or absence of social capital (Putnam 2001:45). Not only does this statement contradict with his earlier definitions of social capital (see above), Putnam here claims that trust is a just another alternative measure of social capital.

However, elsewhere Putnam argues that, albeit with no further explanation, these indicators are also individually distinct components of the concept of social capital, that is, separate constructs under the overall aegis of a conceptual framework labeled 'social capital' (Putnam 2000: 291). For example, Putnam argues that voluntary association involvement is an important trend to examine when studying social capital and provides tables and graphs that track trends in associational membership in America as well as the effects of various different variables on voluntary association involvement levels as they relate to social capital (see Putnam 2000:117-120 &130-131 &203-231).

If trust and voluntary association involvement are separate constructs that are related to the social capital concept, empirical research should then focus on the question of causal order. Within Putnam's approach to social capital, it is unclear what, if any, direction the relationship is between the two constructs. What the author does mention is that the direction of causality between trust and associational membership are "as tangled as well-tossed spaghetti" (Putnam 2000:137). Putnam admits that it may simply be the case that people who join voluntary associations are also trustworthy with higher levels of education, personal well being and so on (Putnam 2000: 334). If there is any relationship between trust and voluntary involvement, Putnam fails to establish any empirical causal link between the two constructs.

The Critiques of Social Capital

While social capital theorists have different orientations to the question of causal order, some authors suggest that the relationship is reciprocal but feel that the strongest connection is from voluntary association involvement to trust – that is participation in voluntary associations leads to increased levels of generalized trust (Misztal 1996; Sobel 2002). Yet, not all agree with this claim. Some authors would argue that there is no directly evident, if any, causal relationship between trust and voluntary association involvement. For some critics, it is argued that the relationship between trust and voluntary association involvement is not necessarily the central manner by which generalized trust (and related levels of social capital) is produced (Uslaner 2002; Fattore et al. 2003)[4].

From Uslaner's (2002) perspective, Putnam offers a narrow and/or limited explanation for the development of generalized trust. Arguably, other factors play a role in shaping an individual's willingness to trust the generalized other. Uslaner questions Putnam's claim

[4] This will be explored in detail below.

regarding the relationship between trust and voluntary association involvement. Specifically, Uslaner finds fault in the idea that trust is linked to the breadth of an individual's social network. The author argues that, although voluntary involvement may be correlated with trust, there are many other mechanisms that may be equally, or even more important in determining the formation, maintenance and development of generalized trust. These may include aspects such as parental nurturing, measures of optimism, expectations for the future as well as race, education and age (Uslaner 2002:98). For Uslaner, the amount of time people spend in voluntary associations seems somewhat insufficient for the creation of increased generalized trust to occur. For example, parental nurturing may have a stronger relationship to the production of trust than associational membership. This is based on the argument that principles and values of generalized trust are taught in the early stages of childhood where they learn their moral beliefs and as a result their foundations for trusting. By the time individuals join voluntary organizations their fundamental values are already set; by this time they have already learned generalized trust or distrust (Uslaner 2002:4). Arguably, there may be a high cross-sectional correlation between trust and voluntary association involvement, reflecting the effects of confounding variables influencing both. If Uslaner is correct though, a causal path would not be found from associational membership to trust in a research design appropriated to the task. Uslaner himself does not provide any analysis to test this.

Others have criticized the 'virtuosity' of social capital and have suggested that it can also create mechanisms for negative outcomes. For example, dense social networks are often at the heart of the claimed relationship between voluntary association involvement and the generation of generalized trust. However, some of the literature suggests that dense social networks often

promote localism and not broader community involvement.[5] These dense networks commonly involve particularized groups of like-interested individuals. Localism itself can sometimes be non-receptive to the idea of change and the acceptance of "outsiders" (Levi 1996:51; Portes 1998:15). Thus, when voluntary associations develop 'in-group' versus 'out-group' situations, anti-social behaviour can arise and trust is not promoted among strangers and/or generalized to the larger community. Again, the prediction here would be that, in a research design modeled to test this claim, one would not expect to find a causal path, if any correlation at all, from voluntary associations to trust.

Dense social networks and strong social ties can also create forms of inequality (Field 2003:74). Access to a variety of different networks is not equally distributed among communities; often members of a group can exclude others from access to opportunities. For example, Portes (1998) points to the manual trades, and police and fire fighting unions of New York. At one time, these areas of work were largely dominated by Italian, Irish and Polish descendants and the solidarity that was formed amongst these ethnic groups was largely exclusionary to outsiders wanting to get access to employment (1998:15). Thus, social ties and relations can greatly advance opportunities for some groups and greatly restrict opportunities for others. This type of association involvement engenders self-interest and is unlikely to promote trust in the generalized other. If this is the case, we might not expect to find that voluntary association involvement leads to generalized trust.

Over the years, social capital as a concept has received both good and bad reviews. On the one hand, Uslaner argues that the relationship between trust and voluntary involvement is

[5] Putnam made a similar argument in his distinction between bonding and bridging social capital. Bonding social capital involves groups that are inward looking and particularized. Bridging social capital is outward looking and involves broad community involvement (Putnam 2000:22). This is discussion in further detail on page 17.

weaker than what some authors seem to suggest. Others argue that voluntary association involvement (as a part of social capital) can have a multitude of consequences – not all positive. For example, social capital may bring with it risks of anti-social behavior, inequality and exclusion of certain groups. All of the above leaves us to question the competing theories around causal connection - is it voluntary association involvement that causes trust, is it trust that cause associational involvement or is it neither?

Trust

The concept of trust is not easily defined and the topic has been under much debate over recent years (see Fukuyama 1995; Mistzal 1996; Stolle 1998a; Glaeser et al 2000; Newton 2001; Anheier and Kendall 2002; Cohen 2002; Uslaner 2002). Within this literature, there has been much discussion regarding the different dimensions and types of trust. For example, some of the different types of trust include: interpersonal trust, generalized trust (known to Putnam as social trust), particularized trust, as well as "thick" and "thin" trust.[6] Arguably, some of these types can be grouped together, but it is the concept of generalized trust that is key to the social capital argument in relation to voluntary association involvement.

Generalized Trust

Generalized trust is one of the central features of much of the literature around trust (Yamagishi and Yamagishi 1994; Fukuyama 1995; Uslaner 2002). Similar discussions also arise under the heading of 'thin trust' with comparable definitions to that of generalized trust (Putnam 2000; Anheier and Kendall 2002). Generalized trust is described by Uslaner as trust in other people (often strangers) and is based upon a "fundamental ethical assumption: that other people share your fundamental values" (Uslaner 2002:2). It is formed between individuals and people

[6] There is also a body of research that examines political trust and its relationship to voluntary association involvement (see for example Brehm and Rahn 1997; Johnston and Soroka 2001; Stolle 2004).

they do not know (i.e. strangers in their communities) (Uslaner 2002:26). Uslaner's notion of generalized trust is based on the idea that moral values are taught to children by parents. Uslaner argues that, for the most part, generalized trust is formed through childhood socialization and is based upon the notion that those who share the same/similar moral foundations can be trusted to engage in the same norms of expectation, reciprocity, and co-operation. Thus, generalized trust involves the acceptance to the idea that, by and large most people can be trusted.

According to Uslaner, generalized trust is more stable than other forms of trust (i.e. particularized trust) and is not easily destroyed or altered. Moral values, he argues, have the tendency to remain constant over time and do not fluctuate to any appreciable degree. For example, despite the fluctuating political and social climate of 1960's and 1970's America[7], for some groups, levels of trust and faith in others still remained positive (Uslaner 2002:161).[8] Uslaner thus claims that generalized trust is not easy to destroy (and that claims that generalized trust levels are declining are false) (Uslaner 2002:67). On the whole, Uslaner argues that, for the majority of the population, people think of trust in largely general or moral terms (i.e. generalized trust) and do not orient to particular incidents experienced by each individual (i.e. particularized trust) (Uslaner 2002:74).

Previous research has also explored the role of thin trust in social capital. Thin trust is also broad in its conception: it is trust in strangers and placing faith in those outside an individual's familiar circle. It is based on community norms rather than personal reactions to specific individuals or groups and can be applied to individuals outside the range of personal connections (Uslaner 2002:29). Thin trust is often discussed in terms of ties that are created

[7] The Vietnam War and Civil Rights Movement occurred in 1960's and 1970's America.
[8] Uslaner reaches this conclusion based on the positive impact that the civil rights movement had on those involved. Survey results reporting out on the "generalized trust" question report that levels of trust for civil rights volunteers remained stable over the time period of the 1960s to 1980s. This is because the civil rights movement built bonds between people and created a positive arena for higher levels of trust.

across and in-between various networks of voluntary associations. It is these ties that create influential and long-lasting social integration relationships that can serve to bind society together and develop norms and rules of reciprocity (Newton 2001b: 228; Putnam 2000:136).

In some ways it can be argued that generalized trust and thin trust are similar. Both involve trusting those outside a personal range of connections. Where they differ, at least in the eyes of some writers, is that generalized trust is formed out of a moral basis whereas thin trust is formed through weak ties developed in the connections and networks of associations (Uslaner 2002; Newton 2001b).

Putnam's Trust

It is debatable which type of trust Putnam is talking about when he uses the term "social trust." This is mostly due to his inability to provide a clear definition of what he means by "trust."[9] Putnam claims that his primary interest lies in social trust, which is created and developed among people who share some sort of relationship connected through community participation and obligations (Putnam 2000:136-137). For Putnam, social trust is the general trust of people in an individual's community that an individual will form patterns of reciprocity with. However, at times, Putnam interchanges the terms "social trust," "thin trust" and "generalized trust"; while these references may be speaking to the same concept, Putnam fails to remain consistent in his discussion around trust (see for example Putnam 2000: 137,142,254; Putnam 2001:45).

Uslaner (2002) argues that Putnam's notion of social trust is in fact a form of particularized trust because it only promotes trust in those one knows and interacts with (Uslaner 2002:41). Similarly, others have claimed that associational memberships do little more than

[9] Putnam's conception of trust also moves between what he terms "social" and "political" trust. However, Putnam does define a difference between the expectations, norms and rules between friends, family and neighbors and the expectations, norms and rules between the citizenry and government (2000:137).

bring together special interest groups. Joining with like-minded individuals with shared interests does not promote trust in the generalized other – rather it promotes narrow or particularized trust (Gordon and Babchuk 1959:24). Yet, Putnam does differentiate between the particular and the general. Unfortunately, it is situated in his discussion of voluntary associations. In this section, Putnam makes a clear distinction between "bonding" and "bridging" associations. Specifically, bonding associations are in-ward looking groups that engender in-group identities and limited connections with people outside of that group (i.e. particularized trust). Examples of bonding associations include fraternal organizations, country clubs and gendered organizations (e.g. the Lions club). On the other hand, bridging associations involve a broad spectrum of individuals whose interaction fosters a wide range of connections (i.e. generalized trust). Examples of bridging associations include community groups, youth organizations and civil rights groups (Putnam 2000:22-23). From this, it can be seen that Putnam conceptually differentiates between the particular and the general, albeit indirectly, through his typology of voluntary associations.

Much of the literature speaks to this distinction and most often positions generalized trust as central to the voluntary association and trust relationship claim. The following section outlines the literature surrounding voluntary associations and how they are conceptually linked to generalized trust and social capital.

Voluntary Associations

The importance of voluntary association involvement stems from their central position in many social capital conceptualizations: specifically that voluntary activity creates positive effects, such as increased levels of trust, for both individuals and the larger community. The networks and social ties that form as a result of voluntary involvement can in turn create social, economic and political advancement and success.

Within the majority of the traditional social capital literature, voluntary associations are often defined as formal group memberships (Paxton 1999:100). With these formal group memberships, individuals are connected through attending group events and functions as well as basic membership in an association. With associational memberships, the connections exist beyond the individual and are attributed to the group as a whole; and in turn the group will continue to create social ties through the cycles of membership.[10]

The foundations of voluntary associations and organizations, arguably, have been shaped by a history of power relations. Traditionally, voluntary associations may not have had equally positive outcomes for every individual in a given society. Voluntary association types, group motivations and objectives were often a product of the norms and values of mainstream society. The existing status quo could be preserved by those who formed and supported voluntary association involvement. Arguably, within the origins of voluntary associations were systems of inclusion and exclusion through which those in power protect and promote in-group interests at the expense of those who were less fortunate (Arneil 2006:17). The underlying intent of these types of voluntary associations was arguably quite insular, focused on in-group solidarity and involvement. Thus, the benefits often attributed to voluntary association involvement existed only for those at which the objectives intended on serving. In this way, these voluntary associations did not necessarily foster community connectedness, cooperation and benefits for society at large but only for those directly involved. For those who were excluded (i.e. those who were not connected to the framework of mainstream society), the impact was destructive: as they were denied access to the relations, ties and opportunities that are typically extended through voluntary association involvement (Arneil 2006:19).

[10] There is also a debate as to whether it is mere membership or actual voluntary association involvement that creates social ties, norms and networks of reciprocity. This will be discussed later in this section.

In response, those individuals who were not in power, but were seeking ways in which to be involved, reacted by forming voluntary associations of their own. These types of associations were often focused on a group of objectives and were formed to counteract the exclusionary underpinnings of some of the more traditional types of voluntary association involvement. Examples of these types of associations would be women's groups (focused on women's right to vote) or identity based associations (focused on protecting cultural and group identities) (Arneil 2006:20 &30). In this way, voluntary associations also served to challenge the status quo and advocate for those who suffered from exclusion and discrimination.

Thus, some voluntary associations are formed as responses to specific times and situations within a given society: such as educational improvements, political reform or identity politics. Changes in types of voluntary organizations are to be expected as issues are resolved or develop into something else (Babchuk and Booth 1969:41). Loosely following Putnam's argument, it would not matter who one socializes with as long as he or she is interacting with other people (Putnam 1993). Here, it is important to discuss whether voluntary association involvement is the same across the board or whether the nature of the voluntary association influences outcomes and consequences of involvement.

As mentioned above, not all voluntary associations operate in the same manner and produce the community connectedness anticipated in the social capital literature (Morales and Ulzurrun 2002; Uslaner and Conley 2003:332; Arneil 2006). Joining an association can consist of interactions within a closed circle with people and/or groups with similar characteristics which at times can be exclusionary or discriminatory. If individuals are only members of associations that consist of people who are very similar or share similar characteristics, then they will not have the chance to interact with people from different backgrounds. Trust will then only involve

fellow club members and not the outside community as a whole. This type of association does not create the type of community connectedness that is required to build social capital. This is because the characteristics of the individuals people associate with leads these individuals to co-operate with and trust others, with the effect especially prominent in the case of strangers. If interaction does indeed foster trust between people, the individual will not learn to trust or co-operate with other individuals unlike themselves (Uslaner 2002:5). As an example, Uslaner and Conley argue that voluntary involvement that is restricted to ethnic organizations leads to narrow social networks and limited social ties (Uslaner and Conley 2003:349). It follows from this that involvement in this type of association would not create broader community connectedness outside of that ethnic organization as per the social capital argument. Similarly, Eastis (1998) argues that not all types of associations are equally effective in developing generalized trust. By comparing two voluntary musical organizations (one a community choir and the other a university collegium musicum), Eastis claims that involvement in the community choir promotes wider social connection, whereas the university collegium musicum only reinforces in-group connections. This is because the community choir is open to all individuals willing to join while the university collegium musicum is only open to experienced musicians who are involved with the university community (Eastis 1998:71).

Although Putnam does not offer a discussion on type of association that is as specific as the example above, he does present a differentiation between what he labels 'horizontal' and 'vertical' associations. Horizontal associations are organizations in which reciprocity, co-operation and inclusiveness are central to the formation of the group. Vertical associations maintain structures of hierarchy and tradition and the forms of communication and exchange are structured (Putnam 1993:174). Examples of these would be the Mafia or religious organizations.

Member directed associations are groups whose members are invited to participate in the overall structure and workings of the association. Member directed associations are seen as 'horizontal' because they promote experiences of co-operation and higher levels of engagement whereas leader-directed associations (i.e. vertical) do not (Stolle and Rochon1998:502). Examples of these would be bowling leagues, community choirs, or civil rights groups. Thus, horizontal associations contribute more to civil society, social capital and the generation of trust than vertical associations.

Such examinations of voluntary association type emphasize the significance of the nature of the group in relation to the ability to promote or develop both generalized trust and social capital. The general claim that networks and social ties create norms of trust and co-ordinated actions can be misleading when some voluntary association groups can be exclusive and in-ward looking.

What some of the literature fails to acknowledge is that an individual can be a member of a voluntary organization without being actively engaged in the organization (Baumgartner and Walker 1988:915). Many voluntary organizations only require monetary donations and may not provide opportunities through which an individual can do much more than just contribute money. For example, opportunities to be involved in some third world aid associations are unlikely for most members of these associations. Voluntary activity is often done overseas and requires significant time and financial commitments (and also possibly skill requirements) that an individual member cannot contribute. Similarly, administration work for some of these associations is often out-sourced in the form of paid positions due to the size of the organizations. Voluntary memberships in associations like these do little to facilitate active engagement in the association. Teasing out membership based on active membership and

monetary donation is important to the trust and voluntary association relationship. Active membership involves repeated interaction and the opportunity to form bonds of reciprocity and obligation, which is fundamental to the social capital argument. Membership through monetary donation signals little to no opportunity to have personal or repeated interaction.

The discussion of voluntary association involvement has thus far outlined a definition of associational membership as well as how it can be linked to trust and/or social capital. The following section will review some of the assumptions that have been made regarding the relationship between trust and voluntary association involvement.

Relationship between Trust and Associational Membership in Social Capital Literature

"The more we connect with other people, the more we trust them, and vise versa."

Putnam 1995:665

Within the social capital literature, some form of causal or processed relationship between trust and voluntary association involvement is frequently thematized. At certain points, the literature has followed Putnam's claim that voluntary association involvement and trust are indicators of one uni-dimensional social capital concept. The putative simultaneous decline in both generalized trust and levels of associational membership has been used by analysts to conceptualize the two constructs as direct indicators of the presence or absence of social capital. As a result, some of the literature has begun to conflate the notion of trust and voluntary associations as being the key indicators of social capital due to the lack of a consistent empirical argument.

There is little empirical evidence that has addressed the causal relationship between voluntary associations and trust; more focus has been given to conceptual approaches to examine the theoretical implications of the relationship between associational involvement and

generalized trust. Two opposing approaches connect trust and associational membership as either separate constructs (Curtis et al. 2001; Uslaner 2002), or as indicators, often interchangeable, of the social capital concept (Fukuyama 1995; Stolle and Rochon 1998; Putnam 1993; 1995; 2000).

In principle, Putnam examines many factors that may affect the growth or decline of social capital within America (see Putnam's analysis of television and media, generational differences, mobility, changes to the family structure). Putnam's 'social capital index' which is used throughout his research to measure social capital consists primarily of measures of social trust, community volunteerism and community organizational life (Putnam 2000:291). Putnam claims that these indicators (trust and voluntary association involvement) can be used to evaluate the principal elements of social capital. Overall, Putnam's view has set the tone that trust and voluntary association involvement are indicators of social capital that can be used interchangeably.

Conceptually, the link between trust and associational membership in Putnam's work is established through the idea of the virtuous or vicious circle – i.e. levels of social capital cause voluntary association involvement and trust to concurrently rise or decline. Implicit in this is an idea of reciprocal causation between voluntary association involvement and trust. However, there is a growing debate within the literature on whether or not both trust and associational involvement are in fact in decline and whether or not this decline is simultaneous (Fukuyama 1995:51; Uslaner 2002). Some social science theorists believe that trust and voluntary association involvement are in fact distinctly separate constructs (Glaeser at al. 2000; Uslaner 2002; Hooghe 2003; Diani 2004). For example, Uslaner treats trust as a distinct construct with its own underlying foundations, causes and consequences. Although related to the concept of

social capital, Uslaner argues that declining trust is not responsible for declining levels of associational membership (Uslaner 2002:5). On the contrary, Uslaner argues that there are many other reasons in addition to participation in voluntary associations and that these call for an investigation of where and how important trust is to social life. Similarly, Hooghe (2003) is interested in the effects of voluntary associations in relation to a community's political culture. Participation in voluntary associations does help shape social capital but at the same time must be conceptualized and analytically measured as a separate construct (Hooghe 2003:48). For these authors, the trend of using trust and voluntary associations as the two main indicators of social capital is much too simplistic (Paxton 1999; Uslaner 2002).

Pamela Paxton (1999) finds fault in equating trust and associational membership together even though some of her work uses the two constructs as indicators of social capital (1999:97). In her empirical study of social capital in the United States, Paxton utilises multiple indicators to analyse levels of social capital over a period of twenty years. Drawing from theorists such as Bourdieu, Coleman and Putnam, she uses data from the *General Social Survey* 1975-1994 to measure trust towards others in a community and levels of associational membership or ties to the community (1999:104). Through confirmatory factor analysis, she concludes that although there is some decline in a general measure of trust in individuals there is no corresponding decline in associational membership (1999:122). Paxton's findings casts doubt on the notion of treating voluntary association involvement and trust as two indicators of the same construct. Arguably, Paxton has shown evidence that trust and voluntary associations cannot be conflated to represent the concept of social capital since trends found in the data report that a decline in trust does not necessarily involve a decline in voluntary association involvement.

In the same way, a concern has been raised around using past and current levels of trust with declining levels of associational memberships. Hardin (1999) argues that comparing past and current levels of trust is deceiving and that declining levels of trust should not be simply attributed to declining levels of associational membership. Instead, low levels of trust may be a result of contemporary circumstances. Specifically "those who trust people less today may be speaking of more people than those who trusted people more a generation ago" (Hardin 1999:39). In general, people today have much larger social networks and interactions than was the case with previous generations. Thus, is seems likely that people will not trust more people today to the same degree in which people trusted fewer people in the past. Similarly, it is conceivable that the notion of distrust should be considered as a factor for why individuals do or do not join voluntary associations (Claibourn and Martin 2000: 269).

Social capital theorists who are concerned with trust and voluntary association involvement have left the empirical question of a relationship between the two, if any, largely unanswered. If voluntary associations and trust were truly two indicators of the same thing (i.e. social capital), then there would be no issue of causal order – both would be caused by the underlying concept of social capital. However, within some of the social capital literature, there is a growing discussion on the direction of the causal connection, although little has been empirically proven. Even Putnam, whose work arguably claims that voluntary association involvement and trust are indicators of the social capital concept, makes comments that imply reciprocal causation (see virtuous/vicious circle discussion on page 29).

Within the causal direction debate there are two opposing views regarding direction of causation between trust and voluntary associations. Putnam himself often claims that perhaps people who participate in voluntary associations are also people who exhibit higher levels of

trust (Putnam 1995: 666; Brehm and Rahn 1997:1017; Veenstra and Tanner 2002:552). However, this argument is circumstantial and Putnam cannot empirically establish causal order based on his methods and use of cross-sectional data sets.

Others claim that trusting people are also people who have higher instances of joining and therefore the relationship is strongest from trusting to joining (Stolle 1998a: 500; Tonkiss and Passey 1999:262; Uslaner 2002:77). These scholars argue that members of voluntary organizations do not come together solely on the basis of a 'for the common good' contractual relationship. Rather, they form on the basis of existing levels of generalized trust. Thus, trust is established in other social networks prior to participation in voluntary organizations and the causal relationship is in the opposite direction.[11]

While much of the literature only makes claims with conceptual terms, some investigators have attempted to tease out any evidence of a causal direction between generalized trust and voluntary association involvement. The following section outlines research that uses empirical data to examine the question of causal connection between generalized trust and voluntary association involvement.

[11] Arguably, the roots of trust are most likely to be formed from participation in school, family and work life.

Empirical Research – Social Capital, Trust and Voluntary Associations

Despite the current significance of trust and associational membership in the social capital literature, the central issue of causal order has, as Anheier and Kendall claim, rarely been assessed within social capital literature (Anheier and Kendall 2002:350). Many scholars have argued that, to empirically test causal relationships between voluntary associations and trust, the design of a study must consist of longitudinal data (Brehm and Rahn 1997:1005; Stolle and Rochon 1998:507; Veenstra and Tanner 2002:553).[12] The key research questions that need to be addressed are: Does voluntary association involvement cause trust? Or does trust cause voluntary association involvement? Is there no effect at all between the two constructs? Or finally, is there a reciprocal relationship between voluntary association involvement and generalized trust?

As mentioned earlier, some research has attempted to deal with this question, but in the absence of conclusive empirical evidence, no consensus has been reached on the causal order between trust and voluntary associations. Previous studies of social capital have generally sought out to measure quantities of trust and/or levels of civic engagement and community participation (Veenstra and Tanner 2002:548). These studies often discuss the issue of causation in the body of their writing but do not present valid empirical findings or generalizations about the causal relationship between the two constructs. The following is a review of the studies that have attempted to address the growing interest in the empirical connections between trust and voluntary associations.

[12] As will be discussed later, Claibourn and Martin (2000) are the only authors who employ the use of longitudinal data.

Previous research by Brehm and Rahn (1997) found evidence to support Putnam's argument of a connection between trust and associational membership at the individual level.[13] The purpose of the 1997 study was to act in response to the growing number of questions that have emerged regarding the mechanism by which social capital forms. The main focus was to develop a model of social capital that tested both the hypothesized relationship, and the strength of this relationship, between civic participation and interpersonal trust.[14] A secondary goal was established in an attempt to identify the causes for any perceived increase or decrease in levels of social capital (1997:1000).

In principal, Brehm and Rahn rely on the work of Putnam as the theoretical framework for their study. Brehm and Rahn start with the claim that the concept of social capital is a mutual relationship between associational membership and interpersonal trust (1997:1001). Although the authors refrain from speculating which direction of the relationship is stronger, the authors do believe that it is likely that a reciprocal relationship exists.

Brehm and Rahn estimate their model of civic engagement, interpersonal trust and confidence in government using structural equation models. For the analysis, cross-sectional data were pooled from the 1972 to 1994 *General Social Surveys* (GSS) in combination with yearly aggregate data from other various sources.[15] The GSS is an annual personal interview survey of U.S. households conducted by the National Opinion Research Center. Although the GSS is a cross-sectional survey, it contains the same questions each year. The number of cases available ranged from 9,118 to 32,380 respondents depending on the year of the GSS.

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[13] As quoted earlier, Putnam admits to some uncertainty concerning the direction of the causal relationship. He clearly states "the causal arrows among civic involvement, reciprocity, honesty, and social trust are as tangled as well-tossed spaghetti" (Putnam 2000:137). For Putnam, the causal direction is both empirically and theoretically challenging but is "only tangential" to the central question he raises (Putnam 2000:466).

[14] The authors also include 'confidence in government' as part of their model to be tested.

[15] These other sources are not identified by Brehm and Rahn.

Brehm and Rahn brought together a number of indicators to be used as measures of civic engagement, interpersonal trust and confidence in government (created as three separate latent dependent variables) for the study (Brehm and Rahn 1997:1004). Independent variables used in the civic engagement model included interpersonal trust, confidence, education, partisanship, days read newspaper, real family income, TV hours, number of preschool children, lived in same city since 16, and lived in the south. Exogenous variables used in the interpersonal trust model included civic engagement, confidence, life satisfaction, education, real income, black, size of city, divorced, unemployed, income inequality (GINI index)[16], fear at night, robbed last year, newspaper reading, income at 16, parents' divorced, early baby boom, late baby boom, and whether or not the respondent belongs to the "generation x." The independent variables used in the confidence in government model included civic engagement, interpersonal trust, life satisfaction, real income, public officials not interested, black, bad news about government, unemployment (aggregate), inflation, changes in finance, satisfaction with finances, presidential popularity, liberal-conservative self-placement, and economic expectations.

As mentioned above, Brehm and Rahn make use of cross-sectional GSS data for their analysis. To establish a causal connection using cross-sectional data, the authors must have strong assumptions (restrictions) regarding their instrumental variables. Instrumental variables are variables that affect one or more of the dependent variables but which, by definition, have no direct effect on other dependent variables. Essentially, Brehm and Rahn had to omit the paths from their instrumental variables to at least one dependent variable or else the model will be under-indentified (and hence not estimable). The difficulty in this type of analysis is that the assumptions and/or restrictions that the authors make regarding omitted paths must be

[16] The authors fail to mention the level for which this index was created (i.e. city, state or national?),

conceptually valid. Moreover, these assumptions must be imposed theoretically and cannot be tested empirically.

The authors attempt to assess the causal relationship among the dependent latent variables through the use of LISREL-type models. On the basis of their models, the authors claim a reciprocal relationship between trust and voluntary association involvement. Individuals who trust others also tend to be members of voluntary organizations and individuals who are members of voluntary organizations also tend to trust others. This relationship suggests the potential for the creation of both the "virtuous" circle and the "vicious" circle. What this reciprocal connection suggests is that it is likely that as one variable increases or decreases so does the other. However, Brehm and Rahn found that the overall direction of the relationship was not equal and that the strongest relationship could be seen from voluntary association involvement to interpersonal trust (Brehm and Rahn 1997:1017). These results, if valid, would support Putnam's claim that the causal direction flows from voluntary association involvement to generalized trust (Putnam 2000:137).

Of the exogenous measures, the authors claim in their writing that education and real family income appear as predictors in all three equations for all three dependent variables (Brehm and Rahn 1997:1006). However, the education variable is not included in their visual display of the confidence model on their "Structural Model Table" (see Table 2, page 1013). This is problematic because it is difficult to determine Brehm and Rahn's models given that the equations were not explicitly stated and that the written text differs from the visual tables presented in their study. Thus, it is impossible to re-create any of their models to replicate their results (in general it is difficult to determine which instruments were used). Another concern is that the assumptions or identification restrictions that the authors placed on their models may not

be conceptually valid. For example, "generation X" is included in the interpersonal trust equation yet omitted from the civic engagement model. However, it could in fact be causally related to civic engagement especially since some of the social capital literature speaks to the generational differences in civic engagement (Putnam 2000:254).

Although Brehm and Rahn attempt to establish a connection between generalized trust and associational membership, they do not explain their models in detail. The central issue is that Brehm and Rahn are vague around how they identify the restrictions in their model, specifically with their use of instrumental variables. As mentioned above, it can be argued that many of their instrumental variables conceptually can have causal connections to all three dependent variables. It is thus questionable whether or not they can accurately claim a causal relationship between trust and associational memberships.

Another weakness in Brehm and Rahn's argument that is common to the majority of the previous studies, is they employ cross-sectional data which do not continually measure an individual's levels of trust and associational memberships over any period of time. It is very difficult to establish a causal connection using cross-sectional data.[17] As mentioned above, unstable and often questionable restrictions must be made. There may also be some bias to the Brehm and Rahn study. Admittedly, the authors have biased their sample to include all applicable cases from the GSS survey (Brehm and Rahn 1997:1005). When the authors re-ran the model using list-wise deletion the statistical significance of many of the estimates declined; list-wise methods are less statistically efficient than some other superior approaches.

In another study, Dhavan Shah (1998) attempted to investigate and provide evidence of the reciprocal relationship between trust and civic participation. The goal of the research was to

[17] Longitudinal data are superior because it has the ability to measure the same individual's levels of trust and associational memberships over time.

explore the relationship between trust and civic engagement (as representative of social capital) as well as explore the connection between social capital and television viewing. Shah relies heavily on Putnam as well as Brehm and Rahn for the theoretical framework of the study. Shah suggests that it is important to take into account the causes of social capital and thus assess the causal relationship between trust and voluntary association involvement (Shah 1998:470). Shah is largely in agreement with the argument that trust and voluntary associations are linked, but argues that social capital research should re-position its focus to examine the relationships that form the establishment of social capital itself.

Using data from the 1995 DDB Needham Life Style Study, ordinary least square regressions (OLS) followed by two-stage least squares regressions were run with civic engagement and interpersonal trust as endogenous variables to test the reciprocal relationship between the two variables. The Needham Life Style Study is an American annual national cross-sectional survey conducted by an American advertising agency. Of the 5,000 mailed questionnaires, 3,613 were completed resulting in a response rate of 72%. Shah's model was developed on the assumption that the social capital phenomenon will, by design, manifest itself as a reciprocal relationship between associational membership and trust.

To start, Shah constructed a zero-order correlation equation between a civic engagement index and the trust measure to determine if the assumed relationship existed in the absence of controls (result = .16). Following this, OLS regressions were run against civic engagement (voluntary associations) and trust to explore the assumed reciprocal model. Exogenous variables used in the civic engagement OLS model included: age, education, marital status, population density, partisanship, interest in politics, financial concerns, contentment, busyness, newspaper, science fiction (TV viewing), social drama (TV viewing), broadcast news (TV viewing) and total

television viewing. All variables, with the exception of total television viewing and broadcast news performed as expected for the author. However, total television viewing and broadcast news were not related to civic engagement and were thus removed from the re-specified civic engagement model. Shah claims that this finding contradicts Putnam's argument regarding the effects of television on social capital.[18]

Exogenous variables used in the trust OLS model included: age, income, race, contentment, trust in government, trust in big business, fear of crime, science fiction (TV viewing), kinship sitcom (TV viewing), friendship sitcom (TV viewing), reality-based TV and total television viewing. Fear of crime, kinship sitcom, and reality-based TV were removed in the re-specified trust model as they did not contribute to the modeling of trust.

Findings from the OLS equations suggested that only age, contentment[19] and science fiction viewing[20] were common predictor variables to both civic engagement and interpersonal trust (Shah 1998:486). Thus, Shah assumes that the remaining predictor exogenous variables used in each equation are exclusive predictors of either civic engagement or interpersonal trust and are not both.[21]

In this study, Shah was looking for a connection between civic engagement and trust as a method of examining the overall concept of social capital. Based on the findings, Shah suggests

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[18] Shah found that in general, content of television programs was much more influential than merely general hours spent watching television. The patterns revealed a series of both negative and positive relationships between certain genres of television and social capital. Social drama viewing resulted in a positive relationship whereas science fiction viewing resulted in a negative relationship to social capital. These results show that Putnam's analysis may be too hasty to point the blame and are useful for a starting point for further analysis into the effects of television genres on social capital.

[19] An index formed from the following statements represents the contentment variable: "I am very satisfied with the way things are going in my life these days," "I wish I could leave my present life and do something entirely different," "I feel I am under a great deal of pressure most of the time," "Sometimes I feel that I don't have enough control over the direction my life is taking," and "I feel like I am so busy trying to make everyone else happy that I don't have control over my own life" (Shah 1998:479).

[20] Science fiction viewing index was created by summing viewership responses to the following programs: *SeaQuest DSV, MANTIS, Earth 2*, and *the X-Files* (Shah 1998:481).

[21] Like Brehm and Rahn, Shah needed to use "instruments" to avoid an "under-identified" model.

that the causal relationship between associational memberships and generalized trust runs from joining to trusting (Shah 1998:488). Participation in voluntary associations was the most influential predictor on levels of trust. What is more, the results did not provide any verification for trust's contribution to participation in voluntary associations, suggesting that only participation in voluntary associations encourage positive activity with other people. Arguably, then, the increased positive activity achieved through voluntary association involvement serves to create an atmosphere of trust and reciprocity that can be extended to others outside the voluntary association groups. Putnam's "virtuous circle" theory[22] does not apply to the results shown in Shah's analysis. On the basis of these findings, Shah claims that a reciprocal relationship does not exist between trust and voluntary association involvement.

Overall, Shah's study strongly suggests that the ties between voluntary associations and trust run in the direction from joining to trusting. However, to establish a credible and valued analysis of the causal relationship between voluntary associations and trust, the use of longitudinal data provides a better-quality of analysis. As in previous literature, the data used was cross-sectional and not longitudinal. This implies that Shah must make strong assumptions around the instrumental variables she that uses; however these are only loosely alluded to. With that, Shah's study is, like Brehm and Rahn's work, limited to the strength of the identified restrictions. Without clearly outlining what the assumptions were, the validity of the research results may be questionable. Most importantly, the author cannot empirically determine the causal order using two separate OLS equations. For causal order to be established in a reciprocal path model, a simultaneous equation needs to be estimated. Not surprisingly, Shah's results can be seen as misleading and the results that she presents cannot validly show any evidence, over time, of the causal direction between voluntary association and trust. There are also possible

[22] Putnam's virtuous circle theory claims that the relationship is reciprocal.

collinearity issues with Shah's media variables. It could be possible that total television viewing is highly correlated with the other types of television viewing that it is difficult for Shah to come up with reliable estimates of their individual regression coefficients.

Other scholars who have studied the connection between voluntary associations and trust claim different results from those that Brehm and Rahn, as well as Shah reported. Eric Uslaner argues that trust is the basis for participation in voluntary associations and not vise versa (Uslaner 2002:4-5). This is based on the belief that trust is essential to the co-operation with other individuals and it is a pre-requisite for the ability to join organizations and voluntary associations (Fukuyama 1995; Inglehart 1999; Tonkiss and Passey 1999; Uslaner 2002). Motivation to interact and participate with others is minor if an individual is non-trusting.

Uslaner set out to examine the foundations of the concept of trust. Specifically, the purpose of Uslaner's study was to examine the concept of trust and the possibility that trust is formed from a common set of moral values. Although Uslaner distinguishes a difference between particularized trust and generalized trust, it is the latter concept that is more relevant to this study.[23] The author sets out to prove that generalized trust is formed early in life, mainly from parental nurturing, the surrounding environment and ideals learned later in adult life (Uslaner 2002:77).

Positioning his argument against Putnam's concept of the "virtuous circle," Uslaner argues that it is a mistake to assume that civic participation causes trust. If anything, Uslaner argues that the causal direction would flow from trust to associational involvement (Uslaner 2002:116). For Uslaner, there is another dimension of trust that is not based on individual experience or information but based on moral foundations, individual faith and the "egalitarian

[23] For Uslaner, generalized trust is trust in people different from ourselves, essentially trust in strangers (Uslaner 2002:52).

ideal" (Uslaner 2002:3). Generalized trust is based upon the belief that others share similar moral beliefs of good will and cooperation. If generalized trust is not present to begin with, individuals will not interact at the community level (Uslaner 2002:18-19).

Uslaner employs simultaneous equation modeling to explore the possibility of a causal direction, if any, between voluntary association involvement and trust. In his model, Uslaner examines formal and informal associations as they relate to trust (Uslaner 2002:122).[24] Data is pooled from a number of surveys including the GSS, the Pew Survey and the American National Election Study. In most cases, Uslaner found that membership in associations (formal or informal) did not directly cause significant increases in levels of trust (Uslaner 2002:124 &126).

Using a variety of surveys to complement his argument, Uslaner draws on data from studies such as the General Social Survey, the American National Election Survey, and the Giving and Volunteering Survey, each varying in year and number of respondents. Uslaner uses multivariate models to test generalized trust with independent variables such as "optimism," family income, age, education and race (Uslaner 2002). Uslaner presents analyses that support his argument that trust is based on moral beliefs and ideals formed in childhood and throughout life. For example, using data from the General Social Survey, his results indicated that race and education were strong predictors of generalized trust, while family income ranks low. Similarly, education is a strong predictor of trust whether or not family income is high or low.[25] Uslaner argues that these results highlight that trust is morally based and not experientially. Family income reflects the individual's personal experience and yet does not influence trust levels in the

[24] The list of variables included in Uslaner's models is wide ranging. Some include: going to bars, playing bingo, playing pinochle, playing bridge, trust in government, age, safety, education, family income, gender, religion, own your home, and many more.
[25] It appears that voluntary association involvement was not a variable used in this equation.

same way that education does. This is because education teaches world values and exposes students to other worlds and peoples different from their own (Uslaner 2002:35).

Uslaner provides interesting critiques and analysis of the social capital argument and makes use of a mixture of data, samples and sample years. Based on his argument and supporting results, it can be deduced that Uslaner's argument is that trust forms the basis for joining voluntary organizations and there is no clear causal connection from voluntary associations to trust (Uslaner 2002:4-5 and 122). While he comments on levels of trust and civic engagement, the majority of his data are cross-sectional and he consistently fails to clearly outline any model assumptions, restrictions or omitted paths. Arguably, without clearly explaining the assumptions of his models, Uslaner's claims around trust initiating associational membership are limited.

Out of all the literature that has attempted to establish a causal link between trust and voluntary associations, Claibourn and Martin (2000) provide one of the few published studies that empirically tests the relationship using longitudinal data. Specifically, the authors set out to examine the degree to which voluntary associations produce trust, as a form of social capital, or vise versa. As a secondary goal, Claibourn and Martin attempt to examine if current group membership fosters continued membership and promotes further joining (Claibourn and Martin 2000: 269).[26]

The study uses data collected in 1965,1973 and 1982 from the Michigan Socialization Study (1965-1973-1982 Panel Study). The sample was selected in a national probability sample

[26]The authors build on Coleman's argument that social relations help produce norms, obligations and networks of reciprocity (Claibourn and Martin 2000: 267-68). For Claibourn and Martin, the importance of social capital spans further than Coleman's original theory. Social capital can now been seen in arguments as the aid collective action problems, facilitator of democracy and the connection between trust and civic engagement. The authors also bring in Putnam's social capital concept as the theory they set out to test in their analysis. In particular, Claibourn and Martin examine Putnam's argument that in general the more individuals connect with each other the more individuals trust each other (Claibourn and Martin 2000: 268-69).

of 97 schools, and 15-21 students and parents were selected from each school. The Michigan Socialization study consists of three waves of a survey administered to high school students and their parents beginning in 1965. The respondents were then re-interviewed eight years later in 1973 and then again nine years later in 1982. Overall the retention rate was 84% for 1973-1982 and 68% for 1965-1982 (Damico et al. 2000:382). In total, the number of respondents in the sample ranged from 672 to 883. Several exogenous variables were included in the study to also examine why individuals trust and join groups beyond the reciprocal relationship between trust and associational membership. These variables included: partisanship, political activity, television consumption, number of children, hours worked, newspaper readership, life satisfaction, marital status, race, gender, income and education (Claibourn and Martin 2000: 272).

Using two-stage least squares and two-stage ordered probit models, the authors tested both the youth sample and the parent sample for the effects of trust on membership and vise versa. Group membership[27] was modeled as a function of past membership, current and past levels of interpersonal trust. Trust was measured through the additive index of responses to three questions[28] that focused on beliefs that people were trustworthy, helpful and fair (Claibourn and Martin 2000: 271). The trust model included past trust, current and past levels of memberships as well as the exogenous variables.

In their analysis of the youth sample, Claibourn and Martin found a weak result for the relationship between trust and associational memberships. The authors found that there were no

[27] Group membership was constructed as an additive index of nine voluntary association indicators where the survey asked respondents if they were active in nine different organization types (2000:271).

[28] A trust index was created from the following questions: "Generally speaking, would you say that most people can be trusted or that you can't be too careful in dealing with people," "Would you say that most of the time people try to be helpful or that they are mostly just looking out for themselves," and "Do you think most people would try to take advantage of you if they got a chance or would they try to be fair."

simultaneous or lagged effects of trust on the level of group memberships.[29] They also concluded that in the youth sample, trust did not influence the number of associations an individual is a member of. As a result, the authors found no empirical evidence in the youth sample of Putnam's theory of social capital.

For the parent sample, the authors found that there was a causal flow from joining groups to trust, though it was not as strong as previous literature has suggested (Claibourn and Martin 2000:280). The authors did find that previous membership in voluntary associations was indicative of later group involvement, suggesting some continuity of associational membership over time. Similar results were found in the analysis of trust: the strongest predictor of trust was earlier trust.

While accurately addressing the question of causal order through the analysis of longitudinal data, the study is limited due to the fact that the data are old, the time-span between lags is large, and the data were sampled from a specific high-school population in Michigan, U.S.A. Although, it is unknown what the appropriate time lag is needed to measure the causal relationship between trust and organizational memberships, it can be argued that a lag of eight years followed by a nine year time-lag may or may be too long to accurately capture the cause and effect of trust and civic engagement.

Finally, some authors look at the trust and voluntary association argument and claim that levels of trust within an individual are not connected to associational memberships at all. Rahn and Transue (1998) set out to examine the foundations of trust in American youth and the degree to which the social capital argument explains the causes of change in trust levels over time. Rahn and Transue claim that recent changes in society, such as increases in materialism, have

[29] Simultaneous and lagged effects were tested separately. Sample size ranged from 672 to 883 responses. Although it is a small sample size, it is not too small to find any results.

promoted increased individualism in today's modern society. This increased individualism has served to create social isolation and decreased levels of generalized trust resulting in the collapse of social bonds (Rahn and Transue 1998:551). The authors sought to examine the popular social capital argument, stemming from Tocqueville, that increased materialism serves to threaten the foundations of democracy because it promotes individualism and isolation.

Survey data used for their analysis was collected from high school students from 1976 to 1995, under the Monitoring the Future (MTF) project. Each spring since 1975, the MTF surveys a sample of 15,000 to 18,000 American high school senior students in both public and private schools using a multistage sampling strategy. The sample serves to represent senior high school students within the 48 contiguous states of America. For each year, the survey samples the current year of senior students and so no individual level longitudinal data is available for analysis. Also, each year the survey is split into five or six different forms, with a core set of questions and along with a set of rotating questions (distributed among the 5-6 difference versions of the survey form). This reduced the sample size of the Rahn and Transue study to roughly 3,000 respondents in any given year. For their analysis, Rahn and Transue used data collected between 1976 and 1995 (Rahn and Transue 1998:547).

Using the cross-sectional data, aggregate time series correlations as well as individual level models, the authors examined the origins of social trust among youth and the causes of change in trust levels over time. Trust was measured through pooling the responses to three questions that centered on trust in others, helpfulness of others and whether other people take advantage or try to be fair. Materialism was measured through a combination of survey questions that cover monetary expectations and material expectations.

Similar to the previous literature examined, the data used was cross-sectional. The use of cross sectional data does not allow the authors to fully deconstruct the social capital argument of causation. There are also some concerns with the data sample. Although the sample is representative of most senior high school students in America, it does not include students who drop out in or before their senior year (about 15% of the student population) (Rahn and Transue 1998:547). This may yield a cohort of students who are involved and better informed which would alter the results of their study.

The results of this study both challenge and support some of Putnam's social capital claims. The authors concluded that there has been a sharp rise of materialistic value orientations among American youth that prove to have a stronger correlation to the decline of social trust than levels of associational membership (Rahn and Transue 1998:561). These results do cause question to Putnam's claim that a decline in voluntary association involvement will coincide with a decline in levels of trust. On the basis of their findings, Rahn and Transue found that decreased civic engagement was not the strongest predictor of decline. Other results indicated that religion and education are the strongest predictors of reduced materialism, suggesting that the destruction of social bonds can be reduced through these forces. This is an argument that is consistent with previous social capital research.

On the whole, many scholars agree that trust and participation in voluntary associations are connected in some manner (Putnam 1993; Brehm and Rahn 1997; Shah 1998; Stolle and Rochon 1998; Tonkiss and Passey 1999; Claibourn and Martin 2000; Putnam 2000; Uslaner 2002). However, the studies discussed above need to be interpreted with caution, as there is no literature that presents conclusive empirical evidence that supports the causal relationship between trust and associational membership. Overall, there were many inconsistencies between

the results of the previous studies and as a result we do not know enough about whether or how voluntary associations make individuals more trusting nor do we know enough about the strength and direction of these relations.

Voluntary Association Type

While some studies have focused on the role of voluntary association involvement on trust, others have recently moved in the direction of examining the effect of certain types of voluntary associations on generalized trust. Specifically, the intent of this research is to know more about whether or not certain types of voluntary associations fosters trust and if so which voluntary associations are likely to do so. Currently, little research acknowledges the diversity among voluntary associations and the significance, if any, of type of association on the production of trust and social capital. As mentioned before, it may be the case that some voluntary associations broaden social networks while others are very limiting (Eastis 1998; Stolle and Rochon 1998; Uslaner and Conley 2003).

Conceptually, many authors focus on how the organizational structure of an association categorizes the type of voluntary association. Other factors that have also been examined include of degree of accessibility, size of organization, functions of the organization, status conferring capacity, recruitment styles and paid versus free membership (Gordon and Babchuk 1959; Wilderom and Miner 1991; Eastis 1998). Gordon and Babchuk (1959) employ three different typologies to categorize different types of voluntary associations. Some authors use degree of accessibility, functions of the organization and status conferring capacity as the principle criteria for assessing different types of voluntary associations. For Gordon and Babchuk, three types of associations were created – 'instrumental,' 'instrumental-expressive,' and 'expressive' (1959:28). Instrumental associations are those which function as social

influence groups dedicated to issues that relates to the broader community. Expressive associations primarily function to serve the needs and satisfaction of their members only. Instrumental-expressive associations are a type of hybrid, such that they function to meet the needs of their members but also focus on issues and goals that are outside of the association itself (1959:25-26).

Similarly, Wilderom and Miner define two different types of voluntary organizations – 'voluntary groups' and 'voluntary agencies' (1991:368). Voluntary groups are a type of voluntary organization that operates with volunteers only, with no paid staff and no membership fees. On the other hand, voluntary agencies involve paid members and employed, paid staff. The purpose for this distinction is that 'voluntary groups' are orientated to facilitate the interests of the group and its members whereas 'voluntary agencies' work to facilitate interests that benefits the wider community (Wilderom and Miner 1991:368).

Associational membership type is commonly measured through extensive sets of questions for membership in civic, social, labour and political organizations. A question commonly used in social surveys to evaluate civic engagement is as follows: "Now we would like to know something about the groups or organizations to which individuals belong. Here is a list of various organizations. Could you tell me whether or not you are a member of each type?" Types of voluntary associations that are listed include: church organizations, neighborhood, professional, informal, school-service, sports, veterans clubs, recreational, youth, multicultural, hobby, and political or civic (Claibourn and Martin 2000: 271; Schofer and Fourcade-Gourinchas 2001:815; Veenstra and Tanner 2002:571).

For his part, Putnam divides voluntary association types into three categories: community based, church based and work based (2000:49) while some authors group voluntary association

types into three different groups: religious groups, ethnic groups and an "other" category (Soroka et al. 2007:108). Others types of groupings include quasi-political and non-political (Bekkers 2005: 443), religious attendance, public attendance and informal socializing (Kwak et al. 2004:644). Some voluntary association types, such as environmental organizations, are not easily categorized into the defined groupings while other types may belong to more than one group. Nevertheless, an assessment of voluntary association type is necessary to examine the possibilities that some groups have more significant effects on the trusting and joining relationship than others.

Using empirical data as the foundation of their study, Dietlind Stolle and Thomas Rochon (1998) set out to examine differences in the specific types of associations and how they affect the growth or decline of social capital. For this research, Stolle and Rochon defined seven different types of associations (based on 43 different types of organizations) for the analysis. The seven voluntary association categories were: political, economic, group rights, cultural, community, private interest and social-leisure. The study employed surveys from the United States, Sweden and Germany. Data were pooled from three national surveys and the World Values Study for the relevant countries for various years ranging from 1983 to 1990 (all cross-sectional surveys).[30]

There is some reason to believe that organization type matters. Stolle and Rochon analyzed the effect of associational membership on social capital (measured through indicators such as trust, civic engagement, and political trust). Overall, their results showed that association members are significantly different from non-association members irrespective of the type of association they belong to. On the basis of their findings, the authors' claims that association membership is positively related civic engagement and trust (1998:61). However, within the

[30] Stolle and Rochon do not clearly articulate methods but do note that the statistical procedure used is analysis of covariance.

typologies of voluntary associations Stolle and Rochon found variation. Individuals belonging to cultural, community and personal interest associations tended to display higher levels of trust and community connectedness. Members of political associations tended to display lower levels of trust and social capital but displayed higher levels of political action. Finally, associations with little diversity displayed results that indicated lower levels of generalized trust and community obligation compared to members of other types of associations (1998:62). These results support the general argument that "bridging" groups have a stronger influence on levels of generalized trust than "bonding" groups which are primarily inward focused (Soroka et al. 2007:96).

On the whole, the results of this study suggest some interesting conclusions around type of association membership and social capital. However, the authors clearly fail to outline any statistical methods used as such many of the claim cannot be re-tested or checked. Such examinations of voluntary association types underline the importance of typologies of associations to the study of the relationship between voluntary association involvement and trust.

More research needs to be brought into the analysis of the role of association type as it relates to the trusting and joining relationship. The present investigation examines the role of voluntary association following the three high level voluntary association types as outlined by Putnam as well as including an assessment of environmental organizations.[31] From this we will be able to determine if some voluntary association types are more likely to cause trusting attitudes when compared to others or if voluntary association type really is a significant related to measures of generalized trust and social capital.

[31] Following Putnam, member of a religious group can be placed under the church based category. Professional organization falls under the work based category while social groups and sports clubs fall under the community based category. In addition, member of an environmental organizations were included in the present analysis given the increased amount of attention environmental organizations have recently received as one of the emerging voluntary association groups of interest (Putnam 2000:53).

In sum, within the social capital literature, the relationship between voluntary associations and generalized trust is a topic of interest that has now come under question. There is a significant gap in the literature between theoretical conceptualizations of the relationship between trust and voluntary association involvement and the empirical study of these relationships. The small number of studies that have attempted to characterize the relationship have left more questions than answers. Studies that have attempted to address the issue have used inadequate data or inappropriate testing (Brehm and Rahn 1997; Claibourn and Martin 2000). Those who champion the idea that voluntary association involvement and trust are causally connected have failed to empirically examine the basis of their claim such that the question still remains - what is the relationship and causal direction, if any, between trust and voluntary associations?

Research Objectives

The review of the literature suggests that limited research has been done that employs the use of longitudinal data to assess the cause-effect relationship between trust and voluntary association involvement. While cross-sectional survey data can tell us much about how trust and group membership correlates with other variables for a specific time and place, the causal direction, if any, between trust and voluntary association involvement has yet to be fully examined using longitudinal data. Longitudinal data is of great importance when examining social phenomena where the cause takes time to produce its effect. The use of longitudinal data is fundamental for the purpose of this study to explore the development of trust in associational members over time.

This study tests the hypothesis that joining causes trust and the related hypothesis that trust causes joining in an attempt to determine the causal order between trust and voluntary

association involvement. In order to establish the causal relationship between trust and voluntary association involvement, as well as to determine if type of voluntary association influence trusting and joining, the following questions are examined:

1. The main question is: *What is the causal relationship, if any, between voluntary association involvement and generalized trust*? The possible relations include:

    (a) Voluntary Associations → Trust **and** Trust → Voluntary Associations

    (b) Voluntary Associations → Trust (but not Trust → Voluntary Associations)

    (c) Trust → Voluntary Associations (but not Voluntary Associations → Trust)

    (d) No relationship exists

From this question, a set of hypothesis have been formulated. They are as follows:

Hypothesis 1a: Voluntary association involvement leads to increased levels of generalized trust.

Hypothesis 1b: Individuals who are active in voluntary associations are more likely to exhibit higher levels of trust than those whose involvement is 'non-active.'

Hypothesis 2: High levels of generalized trust leads to increased participation in voluntary associations.

As a supplement to the main causal question, another analysis is developed to help address the question of voluntary association type and its role in the relationship between trust and voluntary association involvement. This step of the analysis follows the same general research methodology as explained above.

CHAPTER 3: METHODOLOGY

As we can see from the growing body of literature on social capital, trust and voluntary association involvement discussed above, the relationship between trusting and joining has been well studied over the years but the question of causal order still remains unclear. The present analysis will look to improve on the previous empirical work by using a larger, timelier data set which contains longitudinal data and which includes three separate measures of voluntary association involvement and one measure of generalized trust.

Data Source

The data source for this study is the British Household Panel Survey (BHPS) collected by the Economic and Social Research Council UK Longitudinal Studies Center for Social and Economic Research at the University of Essex.[32] The BHPS is a panel survey and is one of the few longitudinal data sets that includes questions related to generalized trust and voluntary association involvement. The data set was also chosen due to the range of voluntary association involvement measures as well as measures for type of voluntary association.

The Data Sample

The BHPS is an annual survey of adults in the United Kingdom and is a longitudinal survey that spans from 1991 to the present.[33] The sample is broadly representative of the population of Britain, making the data suitable for UK-wide research. The BHPS is designed as a survey of each adult (16+ years) member of a nationally representative sample of more than 5,000 households drawn from 250 areas of Great Britain, making a total of approximately 10,000

[32] The data used in this study were made available through the ESRC Data Archive. The data were originally collected by the ESRC Research Center on Microsocial Change at the University of Essex (now incorporated within the Institute for Social and Economic Research). Neither the original collectors of the data nor the Archive bear any responsibility for the analyses or interpretations presented here.

[33] Dates of collection can be found in Appendix A

individual interviews at the beginning of the cycle. Additional samples of 1,500 households in each of Scotland and Wales were added to the main sample in 1999, and in 2001 a sample of 2,000 households was added in Northern Ireland. The same individuals are re-interviewed in each successive wave and, if they split-off from original households, all adult members of their new households were interviewed. Children are interviewed once they have reached the age of sixteen. Response rates vary between each wave (see Appendix A for details). Overall, 65% of Wave 1 (1991) respondents who were still alive and living in Great Britain gave an interview at Wave 13 (2004). At the same time, wave on wave response rates for Waves 7 to 13 (direct waves of interest to this study) are consistently above 96%. Total N for the survey is 39, 076.

Dependent and Independent Variables

Four dependent measures are used in this analysis: three measures for voluntary association involvement and one measure for generalized trust. For each model, two cycles of wave data are used: 1997 to 2001 uses wave 7 to 10 data and 1999 to 2004 uses wave 9 to 13 data. The following section explores the measurement of trust and associational membership as the dependent variables and provides an overview of the independent and control variables that will also be used in this analysis.

Dependent Variables

Generalized trust is measured through a question developed in 1956: "*Generally speaking, would you say that most people can be trusted, or that you can't be too careful in dealing with people?*" This is the standard question to measure generalized trust that is used in the World Values Survey (1991, 1995, 1999/2001 waves) and the General Social Survey (GSS) (Stolle 1998: 51; Glaeser et al. 2000:812; Newton 2001: 208; Uslaner 2002: 52; Fattore et al. 2003:169). Following the traditional question format, generalized trust is measured in the BHPS

through the following survey question: *Generally speaking, would you say that most people can be trusted, or that you can't be too careful in dealing with people?*

- *Most people can be trusted*
- *Other/depends*
- *Cannot be too careful*

For each successive wave, the distribution of responses fluctuates slightly for each category. The highest proportion of 'trustworthy' respondents are found in Wave 13 (see Table 1 below).

Table 1: Distribution of Dependent Variable Trust by Wave[34]

1998/1999 (Wave 8) Trustworthiness of others		
		Valid Percent
	Most people can be trusted	37.5
	Other/depends	2.3
	Cannot be too careful	60.2
Total	9933	
Missing	93	
2000/2001 (Wave 10) Trustworthiness of others		
		Valid Percent
	Most people can be trusted	36.1
	Other/depends	1.6
	Cannot be too careful	62.3
Total	8795	
Missing	43	
2003/2004 (Wave 13) Trustworthiness of others		
		Valid Percent
	Most people can be trusted	44.9
	Other/depends	2.0
	Cannot be too careful	53.1
Total	6533	
Missing	62	

[34] The generalized trust measure was introduced to the BHPS starting in 1998/1999 and thus there is no data for 1997 (wave 7).

Associational memberships are measured through three separate survey questions in the BHPS. The first looks at the frequency of unpaid voluntary work:

> *We are interested in the things people do in their leisure time, I'm going to readout a list of some leisure activities. Please tell me how frequently you do unpaid voluntary work?*
>
> - *At least once a week*
> - *At least once a month*
> - *Several times a year*
> - *Once a year or less*
> - *Never/almost never*

Although this question does not differentiate between membership or type of voluntary association where the work is carried out, it offers an expansion of the "active/not active" dichotomy. It will be used to assess patterns of involvement or elevated levels involvement which may impact the trust and voluntary association involvement relationship/causal order question. This measure is available at two time points in the survey. To begin, the variable was tested as a regular categorical variable and then a collapsed categorical variable. Due to the small number of Ns in some of the response categories the variable was collapsed into two response groupings: "do voluntary work" and "never/almost never do voluntary work" in the final analysis.[35] Table 2 demonstrates the distribution between the two response categories by wave. Although the majority of respondents report never/almost never do voluntary work (82.3% and 81.9%) a number of respondents do report doing unpaid voluntary work.

[35]With less than 20% of respondents divided between the first four categories of the frequency of voluntary work variable, a collapsed variable was used in the ordered logit analysis. Frequency of unpaid voluntary work was also tested as a collapsed variable coded as 'never/almost never/once a year' versus 'all else.' Results indicate similar patterns compared to the 'never' versus 'all else' coding. Conceptually, it was more logical to collapse the variable into a "do voluntary work" and "do not do voluntary" groupings.

Table 2: Distribution of Dependent Variable Frequency of Voluntary Work by Wave

1998/1999 (Wave 8) How often: Do unpaid voluntary work		
		Valid Percent
Valid	Do Voluntary Work	17.7
	Never/almost never	82.3
Total	9996	
Missing	30	
2000/2001 (Wave 10) How often: Do unpaid voluntary work		
		Valid Percent
Valid	Do Voluntary Work	18.1
	Never/almost never	81.9
Total	8823	
Missing	15	

The second and third measures for voluntary association involvement represent the typical voluntary association survey questions. The following two questions will be used to assess participation in voluntary associations, and the importance of active/inactive membership in voluntary associations:

Association Membership:

Are you currently a <u>member</u> of any of the kinds of organizations on this card?

- *Yes/No*

Active Association Membership:

Do you join in the activities of any of these organizations on a regular basis?

- *Yes/No*

Table 3: Distribution of Dependent Variables Membership/Active Membership

1997/1998 (Wave 7) Member of a voluntary organization			**1997/1998 (Wave 7) Active in a voluntary organization**		
		Valid Percent			Valid Percent
	Yes	56.7		Yes	48.6
	No	43.3		No	51.4
Total	9728		Total	9587	
Missing	2		Missing	143	
1999/2000 (Wave 9) Member of a voluntary organization			**1999/2000 (Wave 9) Active in a voluntary organization**		
		Valid Percent			Valid Percent
	Yes	56.3		Yes	45.5
	No	43.7		No	54.5
Total	9325		Total	9316	
Missing	3		Missing	12	
2001/2002 (Wave 11) Member of a voluntary organization			**2001/2002 (Wave 11) Active in a voluntary organization**		
		Valid Percent			Valid Percent
	Yes	56.3		Yes	45.6
	No	43.7		No	54.4
Total	8386		Total	8385	
Missing	0		Missing	1	

Table 3 above reports that over half of respondents for both time periods (1997-2001 and 1999 to 2004) identify with at least one of the associations listed in the survey (responses are coded 1=yes and 2=no). If the respondent has answered "yes" to the membership question the survey follows up with a general 'active in a voluntary organization' question. At the same time, if a respondent answers "yes" to the general associational membership question, the survey goes on to present the respondent with individual organization questions and he or she is asked to

acknowledge the various types of associations where he or she is a member and/or active member. In all, sixteen different types of organizations are listed:

1. Political party
2. Trade union[36]
3. Environmental group
4. Parents associations
5. Tenants or residents group
6. Religious group
7. Voluntary service group
8. Other community group
9. Social group
10. Sports club
11. Women's institute
12. Women's group
13. Professional organization
14. Pensioners organization
15. Scouts/Guides organization
16. Any other organization

For each type of association the respondent is asked if he or she is a member and if they are active in the organization (coded 0=not mentioned and 1=yes). These questions allow for the analysis of the effect of type of organization on the trust and voluntary association relationship. To address Putnam's voluntary association categories, three association types are chosen from the BHPS: membership in a religious group symbolize an example of what would be Putnam's church based organization, member of a professional organization represents the work based category, and finally, member of a social group corresponds to the community based grouping. Member of a sports club is also included as a secondary example of a community based organization.[37] Membership in an environmental organization is also included to address the impact of an association than has shown recent signs of expansion and popularity among voluntary association membership trends. Environmental groups are worth analyzing to determine if this new breed of voluntary association is indeed a "social-capital-creating"

[36] Union membership are excluded from the present investigation as in most cases they are not "voluntary."
[37] Preliminary results indicated that member of a social group was not significant so a second voluntary association type was added to the analysis to re-test and confirm findings.

association or not (Putnam 2000: 52-53). In all, five different kinds of voluntary associations (environmental, religious, professional, social and sports) are used as the dependent variables in phase two of this investigation.

Independent and Control Variables

A number of exogenous variables are used throughout the analysis to help determine the influence of individual characteristics on trust and associational involvement as well as to control for other factors in the analysis of causal order. With the exception of sex and race, all independent variables are measured and recorded for each successive wave. The following is a list of these variables:

Education - education is seen as one of the most influential factors on trust and voluntary association involvement. Results from a variety of surveys have reported that more highly educated people are more trusting and more likely to participate in voluntary associations (Miller 1992:16; Putnam 1995:667; Schofer and Fourcade-Gourinchas 2001: 819; Rothstein 2002:320; Uslaner 2002:35).

Income - those with higher income levels have been shown to be more likely to engage in community life as well as more likely to be trusting (Brehm and Rahn 1997:1016; Claibourn and Martin 2000:281). On the other hand, others argue that income levels do not have an impact on generalized trust (Uslaner 2002:108; Veenstra and Tanner 2002:562). At the same time, according to Putnam, declining trends in social capital are apparent across all income levels suggesting that income is not a factor (Putnam 1995:669). In order to examine the impact of income on trust and associational involvement income will be included in the analysis.

Sex – gender is an important control and independent variable to be included in all analyses. Putnam reports that a century ago, a number of voluntary associations were segregated

by gender and "men's" clubs were on the rise. Soon after women's groups emerged and promoted activities in both within their associations and in the political sphere (Putnam 2000:388). Research has also shown that members of fraternal groups participate more than others while women form a larger percentage of informal social relations such as visiting with friends, and are more likely to do volunteer work (Putnam 2000:95). However, according to Uslaner, members of gendered associations do not show higher levels of trust than other individuals (Uslaner 2002:127). Participation based on gender can play a role on the type of association and the degree to which an association fosters trust.

Age - age also has shown an effect on trust levels as well as associational memberships. Older people are more likely to trust than younger individuals and they are also more likely to join (Putnam 1995:673; Schofer and Fourcade-Gourinchas 2001: 819; Veenstra and Tanner 2002:561).

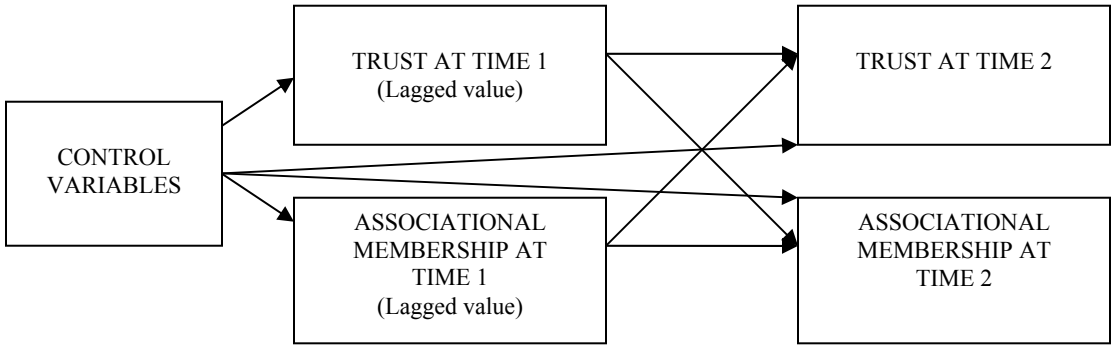
Race - being a member of a minority may lead to forms of discrimination. Thus, racial minorities have shown lower levels of trust and community involvement. The literature argues that this can be attributed to the perceived self-consciousness and insecurity about safety (Brehm and Rahn 1997:1009; Uslaner 2002:35).

Marital status - the breakdown of the traditional family unit is claimed to be an influence on participation and trust. The family itself is seen as a key form of social capital – it is where individuals first interact and where parents teach the foundations of trusting and joining. It is also argued that non-married people are less trusting and less likely to be engaged in civic life (Putnam 1995:671; Fukuyama 1995:51; Veenstra and Tanner 2002:561).

Data Analysis

As has been discussed above, the key focus of this study is to establish an empirical, causal connection between trust and voluntary association involvement. With the use of Statistical Package for the Social Sciences (SPSS) software, data on trust levels and voluntary association involvement will be presented through the use of regression modeling. The present investigation uses a combination of ordered logit modeling and logistic regression to study the longitudinal impact of participation in social networks on trust and vise versa (see Figure 1). Initial tests for the effect of the control variables on each dependent variables (trust, unpaid voluntary work, membership in a voluntary organization and active in a voluntary organization) are taken for 1997 to 2001 to confirm that the data are congruent with the existing literature and to confirm, for the most part, trends in education, age, income, sex, race, marital status and number of children are consistent. The independent variables will be assessed individually (controlling for all other variables) to determine the effect on the dependent variable of interest. Both a linear and quadratic term will be included for the age variable to test for non-linearity. Similarly, the income measure will be logged to deal with possible non-linearity.

Figure 1: Study of Causal Order for Trust and Associational Membership



For the main part of the analysis, the models will assume that the causal influence occurs over a certain period of time, thus utilizing multiple waves in each model. To untangle the

directionality question between voluntary association involvement and trust, regression equations with cross-lagged regression coefficients are used. Campbell and Kenny (1999) support the design of cross-lagged panel correlation and "urge its revival" within social science research. To establish whether or not a causal effect exists, the following variables must be present: the lagged value of the variable of interest (either voluntary association involvement or trust) as well as the lagged value for the dependent variable. Of note, the effect of the lagged dependent variables (i.e. the 'stability coefficient') is expected to be strong. As an example, to evaluate the effect of voluntary association involvement on current values of trust, prior (or lagged) values of associational involvement as well as prior values of trust are included in the model design. The presence of the lagged value of trust allows us distinguish change in trust levels between Time 1 and Time 2 as a result of voluntary association involvement (Finkel 1995: 3-4). The same basic methodology will be used to estimate the effect of trust on voluntary association involvement.

The cross-lagged models also include control variables under the assumption that the effects of these variables (i.e. education, age, income, sex, race, marital status and number of children) have already been determined through their effects on the lagged value of the dependent variable. However, it is possible that the control variables may still exert an influence on the dependent variable so their inclusion is justified as a check for confounding factors at all stages of the study.

There are two basic formats for each of the models presented in this investigation. The first will be to assess the effects of voluntary association involvement on trust. The second will assess the effects of trust on voluntary association involvement. For voluntary association involvement, three different measures are available for use (unpaid voluntary work, membership in an organization as well as active in an organization). Table 4 below illustrates the

relationship between the voluntary association measures for 1997 to 2001 (results are similar for 1999 to 2004 (not shown here)).

Table 4: Voluntary Association Measures

	Active in a voluntary organization	
Member of a voluntary organization	Yes	No
Yes	3490 (69.4%)	1540 (30.6%)
No	553 (14.4%)	3274 (85.6%)

	Do unpaid voluntary work	
Member of a voluntary organization	Do Voluntary Work	Never/almost never do voluntary work
Yes	1285 (25.6%)	3739 (74.4%)
No	324 (8.5%)	3495 (91.5%)

	Do unpaid voluntary work	
Active in a voluntary organization	Do Voluntary Work	Never/almost never do voluntary work
Yes	1139 (28.2%)	2894 (71.8%)
No	470 (9.8%)	4334 (90.2%)

Percentages are shown in brackets.

To prevent the possibility of over-controls, each measure of voluntary association involvement is treated separately for the models where trust is the dependent variable. Following this, the three measures are all included in a master model, again with trust as the dependent variable. Likewise, to examine the effects of trust on association involvement, all three voluntary association involvement measures are tested individually as the dependent variable. Each of the models described above will be tested for the two time series (1997 to 2001 and 1999 to 2004). The following table represents an example model.

Table 5: The effect of unpaid voluntary work on trust

Independent Variables	Dependent Variable
Frequency of Voluntary Work (Time 1)	Trust (Time 2)
Trust (Time 1)	
Control Variables	

For the main analysis, logistic regression is used for the three voluntary association involvement measures that are dichotomous (discrete categorical variable with two possible outcomes). These are: *"Please tell me how frequently you do unpaid voluntary work"* and "*Are you currently a member of any of the kinds of organizations on this card?"* and *"Do you join in the activities of any of these organizations on a regular basis?"* Logistic regression analysis "attempts to model the odds of an event's occurrence and to estimate the effects of independent variables on these odds" (O'Connell 2006:11). These 'odds' represent the probability of success over the probability of failure for the given event (e.g. member of an organization/not). Logistic regression controls for out of range predictions (keeping values between 0 and 1). Unlike ordinary least squares (OLS), logistic regression is not subject to biased estimation of standard errors, as occurs with OLS in the presence of heteroskedasticity.[38]

Coefficients in logistic regression are initially log-odds that eventually are turned into odds followed by expected probabilities. The equation is as follows:

$\ln(\Omega) = b0 + b1\ x1 + b2\ x2 + b3\ x3 \ldots\ldots\ldots + bk\ xk$

To get the predicted values first turn it into odds:
$e^{\ln(\Omega)}$
Followed by probabilities:
$P = e^{\ln(\Omega)} / 1 + e^{\ln(\Omega)}$

For the generalized trust measure, an ordered logit procedure is used to calculate the expected probability for the dependent variable because it has more than two responses. Ordered logit models use cumulative logits (as opposed to log-odds in logistic regression). The main benefit to using an ordered logit model is that ordered logit is more "sensitive" to effects (given that the parallel slopes assumption has been met). Moreover, ordered logit can accommodate a

[38] By definition, linear probability models with non-zero b coefficients will be heteroskedastic.

dependent variable that has small Ns in some of its categories.[39] The middle category for the trust dependent variable ("other/depends") for the most part has small Ns and an alternative model design (i.e. multinomial logit) would most likely fold with such a small category.

The equation is as follows:
$\ln(\Omega) = b0 + b1\ x1 + b2\ x2 + b3\ x3 \ldots\ldots\ldots + bk\ xk$

To get the predicted values first turn it into cumulative odds:
$e^{\ln(\Omega)}$
Followed by cumulative probabilities:
$P = 1 - (e^{\ln(\Omega)}/1 + e^{\ln(\Omega)})$

The second major research question that is addressed is whether type of voluntary association has an impact on trust and vise versa. Five categories are examined: environmental organization, professional organization, religious group, social club and sports group. Thus, for the second stage of the analysis, ten separate models are constructed. Each type of voluntary association is treated separately for the models where trust is the dependent variable. Following this, to examine the effects of trust on association involvement, all five voluntary association typologies are tested individually as the dependent variable. Each model uses data from the 1999 to 2004 time period. Once more, education, age, income, sex, race, marital status and number of own children in household will be included as other independent control variables. The same methods discussed above are applied for the voluntary association type models. The following table represents an example model.

Table 6: The effect of trust on membership in a professional organization

Independent Variables	Dependent Variable
Trust (Time 1)	Membership in Professional Org (Time 2)
Membership in Professional Org (Time 1)	
Active Membership in Professional Org (Time 1)	
Control Variables	

[39] This might be a problem in the case of a multinomial logit model.

As mentioned at the onset, the relationship between trusting and joining has been well studied over the years but the question of causal order still remains unclear. For the present investigation, there are several possibilities for the relationship between trust and voluntary association involvement: a reciprocal relationship, trust effects voluntary association involvement but voluntary association involvement does not effect trust, voluntary association involvement effects trust but trust does not effect voluntary association involvement, or finally, no relationship exists. Similarly for type of association the possible findings may include: no relationship, typology has no effect (i.e. any membership type has a positive or negative relationship with trust), or type of association is significant and different associations have different effects.

CHAPTER 4: RESULTS

The main objective of this study is to investigate the hypothesis that joining causes trust and the related hypothesis that trust causes joining in an attempt to determine the causal connection between generalized trust and voluntary association involvement. As discussed in the review of the literature, previous research on this subject has provided little empirical evidence that has adequately addressed the issue of reciprocal causation between voluntary associations and trust, as more focus has been given to conceptual approaches to the trust and joining relationship. Results from ordered logit regression and logistic regression analyses performed are discussed below.

In order to examine the causal links, data from the British Household Panel Survey (BHPS) are used to investigate the relationship between generalized trust and voluntary associational involvement. In this chapter, findings are presented in three sections. Section one will discuss the results for the main analysis of the relationship between trust and joining for two time periods (1997 to 2001 and 1999 to 2004). Section 2 will look at the impact of selected voluntary association types on the causal connection between trust and voluntary association involvement using 1999 to 2004 data only. Finally, section three will discuss the impact of the independent variables on both trust and voluntary association involvement for 1997 to 2001.

The Impact of Trust and Voluntary Association Involvement: addressing the causal question

Assessing the degree to which voluntary association involvement affects trust and vise versa is the central objective of this study. As mentioned in chapter three, there are two basic types of models in this investigation: models with trust as the dependent variable and models

with voluntary association involvement as the dependent variable.[40] Since there are three different forms that the voluntary association involvement measures can take, in total, seven complete models were examined for this stage of the investigation. Tables for these models will present coefficients, standards errors, and significance levels along with expected probabilities for each variable of interest (i.e. trust and voluntary association involvement). A summary of the analyses are included at the beginning of each section.

Trust

The first set of models will assess the effect of voluntary association involvement on generalized trust. Ordered logit analysis is used to examine the probability that an individual will see others as trustworthy.[41] To begin with, the measures of voluntary association involvement (unpaid voluntary work[42], membership in a voluntary association and active in a voluntary association) are treated separately as independent variables of interest. Following this, all three measures are included in a master model, again with trust as the dependent variable. Two time periods are analyzed for this phase: 1997 to 2001 (using wave 7 to 10 data) and 1999 to 2004 (using wave 9 to 13 data). Summaries of the trust models are given below.[43]

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[40] Descriptives for each model can be found in Appendix C

[41] Ordered logit does not give overall variable significance levels for the independent variables. As a result, test statements were run for each of the independent variables to confirm the overall significance level.

[42] The unpaid voluntary work variable was tested as a continuous variable and a collapsed categorical variable. Based on the preliminary output, the unpaid voluntary work measure was coded as "do voluntary work" and "never/almost never do voluntary work" in the final analysis.

[43] Due to the method by which SPSS codes the variables, the model has been parameterized as follows: $\ln (P/(1-P))0 = b0 - b_1 x_1 - b_2 x_2 - b_3 x_{3....} - bk\ xk$. As a result, a negative coefficient equates to a positive effect. For the following sections, where noted, I have reversed the coding of the coefficients to make the summary tables more legible.

Table 7: Effect of Unpaid Voluntary Work on Trust – 1997 to 2001

Valid Cases: 8464
Missing Cases: 230

Dependent Variable:
Trustworthiness of others

	Coefficient	Std. Error	P-level
Independent Variables:			
Trustworthiness of others	2.180	0.054	0.000
Others/depends	1.075	0.157	0.000
How often: Do voluntary work	0.295	0.068	0.000

With additional controls for sex, race, marital status, education (***), age (***), age-squared (*), income (**) and number of children in household. For all categories: *** indicates $p<.001$; **indicates $p<.01$; * indicates $p<.05$.

Table 7 displays trust as the dependent and unpaid voluntary work as the independent variable of interest. As expected, past levels of trust are significant but, more importantly, past levels of doing voluntary work are also significant. This suggests a relationship from joining to trusting; trustworthiness of others increases with the act of doing unpaid voluntary work. The same analysis undertaken for the 1997 to 2001 period is examined a second time using 9 to 13 wave data (1999 to 2004). Table 8 below displays the model summary. Similar to the 1997 to 2001 time period, past levels of trust are significant. Once more, the past measure of unpaid voluntary work is also significant suggesting that the relationship from joining to trusting still exists in the later period.

Table 8: Effect of Unpaid Voluntary Work on Trust – 1999 to 2004

Valid Cases: 10,059
Missing Cases: 312

Dependent Variable:
Trustworthiness of others

	Coefficient	Std. Error	P-level
Independent Variables:			
Trustworthiness of others	2.013	0.048	0.000
Others/depends	0.838	0.163	0.000
How often: Do voluntary work	0.292	0.059	0.000

With additional controls for sex, race (***), marital status, education (***), age (**), age-squared, income (**) and number of children in household (*). For all categories: *** indicates $p<.001$; **indicates $p<.01$; * indicates $p<.05$.

When looking at the effect of membership in a voluntary association on trust, Table 9 below provides information on the variables of interest included in the 1997 to 2001 model. Similar to the previous models, past levels of trust are found to be significant. Indeed, this is a natural result as previous levels of trust should strongly affect current levels of trust. In addition, past levels of voluntary association involvement is also significant. At a glance, these results indicate that membership in a voluntary association has a positive effect on generalized trust.

Table 9: Effect of Membership in a Voluntary Association on Trust – 1997 to 2001

Valid Cases: 8193
Missing Cases: 206

Dependent Variable:
Trustworthiness of others

	Coefficient	Std. Error	P-level
Independent Variables:			
Trustworthiness of others	2.182	0.054	0.000
Others/depends	1.101	0.159	0.000
Member of a Voluntary Association	0.224	0.057	0.000

With additional controls for sex, race, marital status, education (***), age (***), age-squared (*), income and number of children in household. For all categories: *** indicates $p<.001$; **indicates $p<.01$; * indicates $p<.05$.

The same model was examined again using 1999 to 2004 data. Table 10 provides information on the variables of interest included the model. Again, past levels of voluntary association membership are found to be significant (at the $p<.000$ level) along with past levels of trust (also at the $p<.000$ level). The results from the 1997 to 2001 period again reflected are in 1999 to 2004 indicating that the relationship is valid over the two time series.

Table 10: Effect of Membership in a Voluntary Association on Trust – 1999 to 2004

Valid Cases: 9483
Missing Cases: 264

Dependent Variable:
Trustworthiness of others

	Coefficient	Std. Error	P-level
Independent Variables:			
Trustworthiness of others	2.003	0.050	0.000
Others/depends	0.851	0.167	0.000
Member of a Voluntary Association	0.253	0.050	0.000

With additional controls for sex, race (***), marital status, education (***), age (**), age-squared, income and number of children in household. For all categories: *** indicates $p<.001$; **indicates $p<.01$; * indicates $p<.05$.

For the third model trust is the dependent variable, where respondents indicate whether or not they have been "active" in a voluntary association is the independent variable of interest. As expected, past levels of trust are found to be significant. However, the results (as in Table 11) also show that activity in a voluntary association is significant. Yet again, this suggests a relationship from joining to trusting; trustworthiness of others increases with activity in a voluntary association.

Table 11: Effect of Being Active in a Voluntary Association on Trust – 1997 to 2001

Valid Cases: 8154
Missing Cases: 245

Dependent Variable:
Trustworthiness of others

	Coefficient	Std. Error	P-level
Independent Variables:			
Trustworthiness of others	2.187	0.055	0.000
Others/depends	1.104	0.159	0.000
Active in a Voluntary Association	0.258	0.054	0.000

With additional controls for sex, race, marital status, education (***), age (***), age-squared (*), income (*) and number of children in household. For all categories: *** indicates $p<.001$; **indicates $p<.01$; * indicates $p<.05$.

Using 1999 to 2004 data, the model produces similar results. As before, the relationship between past levels of trust (the lagged dependent variable) and current levels of trust is strong.

Consistent with findings in the 1997 to 2001 model, being active in a voluntary association is also statistically significant in the later time period. Similar to before, these results indicate that activity in a voluntary association has a positive effect on generalized trust.

Table 12: Effect of Being Active in a Voluntary Association on Trust – 1999 to 2004

Valid Cases: 9478
Missing Cases: 269

Dependent Variable:
Trustworthiness of others

	Coefficient	Std. Error	P-level
Independent Variables:			
Trustworthiness of others	2.006	0.050	0.000
Others/depends	0.848	0.167	0.000
Active in a Voluntary Association	0.190	0.048	0.000

With additional controls for sex, race (***), marital status, education (***), age (**), age-squared (*), income (*) and number of children in household. For all categories: *** indicates $p<.001$; **indicates $p<.01$; * indicates $p<.05$.

What is of principal interest is that the results presented in Tables 7 through 12 indicate that past levels of voluntary associational involvement are seen to have significant effects on current levels of trust. Table 13 below re-expresses the coefficients in the form of expected probabilities for generalized trust taking into account the effects of voluntary association involvement.[44]

For the 1997 to 2001 models, the expected probability for trusting is increased across all measures of associational involvement. Doing unpaid voluntary work has an effect on the perceived trustworthiness of others; holding all other variables constant. At average levels of trust in Time 1, those who did voluntary work had a .38 probability of trusting while those who never/almost never did voluntary work had a lower probability of .31.

Membership in a voluntary association as a measure of involvement also produces interesting results. As with the influence of unpaid voluntary work on trust, and controlling for

[44] The expected probabilities are assessed at the weighted average value of the lagged dependent variable unless stated otherwise.

all other variables, findings demonstrate that those who are members of voluntary associations have higher expected probabilities for trusting compared to those who are not members (.35 and .30 respectively). These observed results are consistent with previous research claiming that there is a causal relationship between joining and trusting (Putnam 1995 & 2000; Brehm and Rahn 1997; Shah 1998; Claibourn and Martin 2000; Veenstra and Tanner 2002), but these previous findings are now confirmed using longitudinal data.

Looking at activity in a voluntary association, the effect on trustworthiness of others can also be noted; this effect is similar to that of membership in a voluntary association. Again, with all other variables held constant, respondents who are active in a voluntary organization are more likely to be trusting (.36) than those who are not active (.30). At the same time, individuals who are not actively engaged in a voluntary association are also more likely to respond "can't be too careful" (.68 compared to .62 for those who are actively involved). Again, these results are consistent with the claims made in the existing literature indicating that those who are engaged and participate in associations and community activities thereby increase social ties as well as broader community connectedness and trustworthiness (Putnam 1995 & 2000; Brehm and Rahn 1997). This causal link is now fully tested through the use of longitudinal data.

Table 13: Expected Probabilities for Trustworthiness of Others

	Dependent Variable: Trust - Expected Probabilities		
Independent Variable of Interest	Most people can be trusted	Other/depends	Can't be too careful
1997-2001			
Do Voluntary Work	0.38	0.02	0.60
Never/almost never	0.31	0.02	0.66
1997-2001			
Member of a Voluntary Association	0.35	0.02	0.63
Not a Member of a Voluntary Association	0.30	0.02	0.68
1997-2001			
Active in a Voluntary Association	0.36	0.02	0.62
Not a Active in a Voluntary Association	0.30	0.02	0.68
1999-2004			
Do Voluntary Work	0.51	0.03	0.46
Never/almost never	0.44	0.03	0.53
1999-2004			
Member of a Voluntary Association	0.48	0.03	0.49
Not a Member of a Voluntary Association	0.42	0.03	0.56
1999-2004			
Active in a Voluntary Association	0.48	0.03	0.49
Not a Active in a Voluntary Association	0.43	0.03	0.54

Note: Held constant at past levels of trust. Row proportions sum to 1.0

When looking at the impact of voluntary association involvement on trust for the 1999 to 2004 time period, again we see that for all three indicators of voluntary association involvement, the expected probability for trusting is increased when one is involved. Similar to the 1997 to 2001 model, again we find that voluntary association involvement affects trust (as measured using the unpaid voluntary work indicator). Holding all other variables constant, individuals who do unpaid voluntary work are more likely to believe that most people can be trusted (.51). On the other hand, respondents who never/almost never do voluntary work are less likely to be trusting (.44).

Membership in a voluntary association as a measure of involvement produces similar results to the frequency of voluntary work model. Table 13 shows that respondents who are members of voluntary associations versus those who are not members have higher expected probabilities for trusting (.48 and .42 respectively) controlling for all other variables. Individuals who in the past were not members of a voluntary association have a higher probability (.56) for being skeptical of the trustworthiness of others (i.e. responding "cannot be too careful"). Again, this result is consistent with the 1997 to 2001 model as well as the existing social capital literature that supports the relationship links from joining to trusting. Looking at active in a voluntary association, and with all other variables held constant, respondents who are active in a listed organization are still more likely to be trusting (.48) than those who are not active (.43). Following the pattern seen in the membership model above, individuals who are not actively engaged in a voluntary association are also more likely to respond "can't be too careful" (.54 compared to .49 for those who are actively involved).

As illustrated above, when isolated, all three indicators of voluntary association involvement (memberships, activity, doing unpaid voluntary work) are significant when

examining the effect of voluntary association involvement on generalized trust. Based on this, the three voluntary association measures are gathered together into a single model.[45] Again, ordered logit analyses are used to assess the probability for whether or not respondents in the sample thought that most people can be trusted. Summaries of the models (for both time periods) are given below.

Table 14: Effect of Voluntary Association Involvement on Trust – 1997 to 2001

Valid Cases: 8139
Missing Cases: 260

Dependent Variable:
Trustworthiness of others

	Coefficient	Std. Error	P-level
Independent Variables:			
Trustworthiness of others	2.169	0.055	0.000
Others/depends	1.088	0.159	0.000
Member of a Voluntary Association	0.087	0.070	0.214
Active in a Voluntary Association	0.168	0.067	0.013
How often: Do voluntary work	0.219	0.071	0.002

With additional controls for sex, race, marital status, education (***), age (**), age-squared (*), income (*) and number of children in household. For all categories: *** indicates $p<.001$; **indicates $p<.01$; * indicates $p<.05$.

For the 1997 to 2001 model (again with trustworthiness of others as the dependent variable), Table 14 above shows that active in a voluntary association and frequency of voluntary work are both found to be significant. Similar to previous models, the effect of past trustworthiness is significant and is also expected. However, mere membership in a voluntary association is not significant in this model; what seems to matter is one's degree of involvement. This may be a result of over-controlling for voluntary association involvement given that the measure is significant when it is the exclusive independent variable of interest. Another explanation may be the membership indicator includes "actives." A variable measuring 'nominal' membership would be able to distinguish such a difference but it is not available in the

[45] This is done with caution, keeping in mind the possibility of collinearity between the three indicators.

BHPS. Overall, these results indicate that voluntary association involvement has a significant effect on levels of generalized trust.

The same model was assessed using 1999 to 2004 data. Membership in a voluntary organization and frequency of voluntary work are significant in this model (as shown in Table 15 below). Although active in a voluntary association is not significant (opposite to the previous model where member of a voluntary association is not significant) this is most likely due to high correlations between the two measures.[46] As we saw earlier, active in a voluntary association is significant when it is a single measure of voluntary association involvement.

Table 15: Effect of Voluntary Association Involvement on Trust – 1999 to 2004

Valid Cases: 9458
Missing Cases: 289

Dependent Variable:
Trustworthiness of others

	Coefficient	Std. Error	P-level
Independent Variables:			
Trustworthiness of others	1.996	0.050	0.000
Others/depends	0.840	0.167	0.000
Member of a Voluntary Association	0.186	0.058	0.001
Active in any listed organizations	0.056	0.056	0.313
How often: Do voluntary work	0.241	0.063	0.000

With additional controls for sex, race (***), marital status, education (***), age (*), age-squared, income (*) and number of children in household. For all categories: *** indicates $p<.001$; **indicates $p<.01$; * indicates $p<.05$.

Converting the results above into expected probabilities, Tables 16 and 17 below provide detailed information on the effects of the voluntary association variables on generalized trust. To further illustrate results, additional examples are included where the lagged dependent variable (trust) is not held constant at the average value.

As with previous models, the expected probability for trusting increases with positive responses to the measures of associational involvement for 1997 to 2001 (keeping in mind only

[46] Approximately 70% of respondents who indicated membership in a voluntary association also reported activity in a voluntary association (see Table 4: Chapter 3).

two of the three measures are significant in this model). Controlling for previous levels of trust and holding all other variables constant, individuals who do voluntary work are more likely (.37) to believe that most people can be trusted. On the other hand, respondents who never/almost never do voluntary work are less likely to be trusting (.32). At the same time, individuals who are active in a voluntary association have an expected probability of .35 for trusting others while individuals who are not active are less likely to be trusting (.31).

To further illustrate these results, Table 16 also illustrates the effect of associational involvement when past levels of trust are not held at their average value. Respondents who do voluntary work, are a member of a voluntary association and are active in an association are more likely (.22) to become trusting even if they were not trusting in the past. Results for those who are not trusting and have no voluntary association involvement indicate a lower (.15) probability for presently trusting others. At the same time, respondents who have shown past levels of trust are involved in voluntary associations are more likely to maintain their trusting attitude (.71) over time. Surprisingly, for those who have no voluntary association involvement but have indicated trusting attitudes at Time 1, only 61 per cent will maintain a trusting attitude over time. Contrary to the argument that the effect of previous levels of trust is convincingly strong (Uslaner 2002), results indicate a lower probability suggesting that trust is not all that stable.

Table 16: Expected Probabilities for Trustworthiness of Others (1997 to 2001)

		Dependent Variable: Trust - Expected Probabilities		
		Most people can be trusted	Other/depends	Can't be too careful
1997 to 2001				
Lagged dependent variable held constant	Do Voluntary Work	0.37	0.02	0.61
	Never/almost never	0.32	0.02	0.66
	Are a member**	0.34	0.02	0.64
	Are not a member**	0.32	0.02	0.66
	Are an active member	0.35	0.02	0.63
	Are not an active member	0.31	0.02	0.67
At different levels of lagged dependent variable	No past trust, voluntary association involvement	0.22	0.02	0.76
	No past trust, no voluntary association involvement	0.15	0.01	0.84
	Past trust, voluntary association involvement	0.71	0.02	0.27
	Past trust, no voluntary association involvement	0.61	0.02	0.37

Note: **Not significant. Row proportions sum to 1.0

As with the 1997 to 2001 model, the expected probability for trusting increases with associational involvement (however, unlike the earlier time series, active in a voluntary association is not significant). Controlling for previous levels of trust and with all other variables held constant, Table 17 below shows that individuals who do voluntary work are more likely to believe that most people can be trusted (.50) while respondents who never/almost never do voluntary work are less likely to be trusting (.44). At the same time, individuals who are members of a voluntary association have an expected probability of .47 for trusting others while individuals who are not members of an association are much less likely to be trusting (.43).

To further illustrate the patterns, Table 17 also presents results for the effect of associational involvement when past levels of trust are not held constant. Respondents who have past levels of trust and are involved in voluntary associations are more likely to maintain their trusting attitude (.79). Those who have no voluntary association involvement but have already shown trusting attitudes have a lower probability of still trusting (.70). Of central interest, individuals who do voluntary work, are a member of a voluntary association and are active in an association are more likely (.34) to become trusting even if they have shown no previous beliefs in the trustworthiness of others. Individuals who show no previous levels of trust and also have no voluntary association involvement indicate a lower (.24) probability for presently trusting others.

Table 17: Expected Probabilities for Trustworthiness of Others (1999 to 2004)

		Dependent Variable: Trust - Expected Probabilities		
		Most people can be trusted	Other/depends	Can't be too careful
1999 to 2004				
	Do Voluntary Work	0.50	0.03	0.47
Lagged	Never/almost never	0.44	0.03	0.53
dependent	Are a member	0.47	0.03	0.50
variable held	Are not a member	0.43	0.03	0.54
constant	Are an active member**	0.46	0.03	0.51
	Are not an active member**	0.45	0.03	0.52
At different levels of lagged dependent variable	No past trust, voluntary association involvement	0.34	0.02	0.63
	No past trust, no voluntary association involvement	0.24	0.02	0.74
	Past trust, voluntary association involvement	0.79	0.02	0.19
	Past trust, no voluntary association involvement	0.70	0.02	0.28

Note: **Not significant. Row proportions sum to 1.0

Trends from both 1997 to 2001 and 1999 to 2004 time periods indicate a significant relationship from voluntary association involvement to trust. All models have successfully demonstrated that levels of generalized trust increase with voluntary association involvement (for all three measures). Indeed, even with no previous levels of trust, voluntary association involvement leads to higher probabilities of presently trusting.

Voluntary Association Involvement

Having looked at the impact of associational involvement on generalized trust, the focus will now be moved to the effect of trust on associational involvement. The second set of models will assess the effect of generalized trust on voluntary association involvement. Logistic regression is used to look at the probability of whether or not respondents in the sample are involved in voluntary work, organizations and activities. Each measure of voluntary association involvement (doing voluntary work, membership in a voluntary association and active in a voluntary association) is treated separately as the dependent variable while the main independent variable of interest is the respondents' past level of trust. Two time periods are analyzed for this phase: 1997 to 2001 and 1999 to 2004. Summaries of the models are given below.[47]

When looking at the effect of trust on unpaid voluntary work, Table 18 illustrates that the respondent's sense of trustworthiness has a significant impact on doing unpaid voluntary work. As expected, the three measures of past voluntary association involvement are also significant. Overall this result suggests a causal relationship from trusting to doing voluntary work; the frequency of unpaid voluntary work increases with past levels of generalized trust, holding constant past levels of voluntary engagement.

[47] Again, due to the method by which SPSS codes the variables, I have reversed the coding of the coefficients in this section to make the summary tables more legible.

Table 18: Effect of Trust on Unpaid Voluntary Work– 1997 to 2001

Valid Cases: 8161
Missing Cases: 238

Dependent Variable:
How often: Do voluntary work

	Coefficient	Std. Error	P-level
Independent Variables:			
Trustworthiness of others	0.248	0.073	0.002
Others/depends	0.358	0.220	0.104
Member of a Voluntary Association	0.507	0.099	0.000
Active in a Voluntary Association	0.635	0.089	0.000
How often: Do voluntary work	2.400	0.072	0.000

With additional controls for sex (**), race, marital status, education (***), age (***), age-squared (***), income and number of children in household. For all categories: *** indicates $p<.001$; **indicates $p<.01$; * indicates $p<.05$.

Using 1999 to 2004 data, the model produces similar results. Table 19 illustrates that past levels of trust have a significant impact on unpaid voluntary work. As with before, past levels of associational membership, along with active in a voluntary association and frequency of voluntary work (lagged dependent variable) are also significant. Overall, results are consistent with the previous time series suggesting that the links from trusting to doing unpaid work is stable over time.

Table 19: Effect of Trust on Unpaid Voluntary Work– 1999 to 2004

Valid Cases: 9969
Missing Cases: 245

Dependent Variable:
How often: Do voluntary work

	Coefficient	Std. Error	P-level
Independent Variables:			
Trustworthiness of others	0.198	0.053	0.000
Others/depends	0.353	0.190	0.063
Member of a Voluntary Association	0.390	0.064	0.000
Active in a Voluntary Association	0.263	0.059	0.000
How often: Do voluntary work	1.927	0.060	0.000

With additional controls for sex (***), race (*), marital status (***), education (***), age (***), age-squared (***), income (***) and number of children in household (**). For all categories: *** indicates $p<.001$; **indicates $p<.01$; * indicates $p<.05$.

To determine the effect of trust on membership in a voluntary association, logistic regression analysis was performed again; this time using member of a voluntary association as the dependent variable (see Table 20 below). In this model, the independent variable of interest (past levels of trust) is significant. At the same time, all three past measures of voluntary association involvement are also significant. From these results, it can be seen that there is a relationship from trust to associational membership.

Table 20: Effect of Trust on Membership in a Voluntary Association 1997 to 2001

Valid Cases: 8624
Missing Cases: 244

Dependent Variable:
Member of a Voluntary Association

	Coefficient	Std. Error	P-level
Independent Variables:			
Trustworthiness of others	0.147	0.059	0.035
Others/depends	0.181	0.187	0.333
Member of a Voluntary Association	2.062	0.064	0.000
Active in a Voluntary Association	0.584	0.065	0.000
How often: Do voluntary work	0.588	0.082	0.000

With additional controls for sex, race, marital status, education (***), age (***), age-squared (***), income (***) and number of children in household (*). For all categories: *** indicates $p<.001$; **indicates $p<.01$; * indicates $p<.05$.

Looking at the same model format but using 1999 to 2004 data, Table 21 shows that past trust is not significant while all three past measures of voluntary association involvement are significant. In comparison to the 1997 to 2001 model, this result is not consistent but may be a result of a smaller number of valid responses for this time period (8624 compared to 7895 at for the 1999 to 2004 model). On the other hand, it may also indicate that the effect of trust on membership in a voluntary association is not as deep-seated as some would believe.

Table 21: Effect of Trust on Membership in a Voluntary Association 1999 to 2004

Valid Cases: 7895
Missing Cases: 319

Dependent Variable:
Member of a Voluntary Association

	Coefficient	Std. Error	P-level
Independent Variables:			
Trustworthiness of others	0.124	0.062	0.068
Others/depends	0.324	0.235	0.167
Member of a Voluntary Association	2.251	0.065	0.000
Active in a Voluntary Association	0.409	0.066	0.000
How often: Do voluntary work	0.874	0.086	0.000

With additional controls for sex, race, marital status (*), education (***), age (**), age-squared (**), income (***) and number of children in household. For all categories: *** indicates $p<.001$; **indicates $p<.01$; * indicates $p<.05$.

Having looked at the effect of trust on membership in a voluntary association, the voluntary association involvement indicator measuring whether a respondent indicates that he or she is active in a voluntary association is then examined as the dependent variable of interest; first using 1997 to 2001 data followed by 1999 to 2004 data. For the 1997 to 2001 model, past levels of trust are found to have a significant impact. Table 22 indicates that, as expected, past membership, past activity in a voluntary association (lagged dependent variable) and past frequency of unpaid voluntary work are also significant. The results here suggest that trust has a significant impact on activity in a voluntary association.

Table 22: Effect of Trust on Being Active in a Voluntary Association 1997 to 2001

Valid Cases: 8618
Missing Cases: 250

Dependent Variable:
Active in a Voluntary Association

	Coefficient	Std. Error	P-level
Independent Variables:			
Trustworthiness of others	0.195	0.053	0.001
Others/depends	-0.022	0.166	0.893
Member of a Voluntary Association	0.739	0.062	0.000
Active in a Voluntary Association	1.212	0.058	0.000
How often: Do voluntary work	0.702	0.068	0.000

With additional controls for sex, race, marital status, education (***), age, age-squared, income and number of children in household. For all categories: *** indicates $p<.001$; **indicates $p<.01$; * indicates $p<.05$.

For the 1999 to 2004 model, Table 23 below shows past levels of trust are statistically significant. Much like previous models, past levels of membership, active involvement and frequency of voluntary are also statistically significant. Generally, results are consistent with the previous time series suggesting that the links from trusting to activity in a voluntary association has remained fairly stable over time.

Table 23: Effect of Trust on Being Active in a Voluntary Association 1999 to 2004

Valid Cases: 11,807
Missing Cases: 251

Dependent Variable:
Active in a Voluntary Association

	Coefficient	Std. Error	P-level
Independent Variables:			
Trustworthiness of others	0.130	0.046	0.017
Others/depends	0.043	0.166	0.798
Member of a Voluntary Association	0.974	0.049	0.000
Active in a Voluntary Association	1.161	0.047	0.000
How often: Do voluntary work	0.807	0.058	0.000

With additional controls for sex, race, marital status (**), education (***), age, age-squared, income and number of children in household (***). For all categories: *** indicates $p<.001$; **indicates $p<.01$; * indicates $p<.05$.

Having captured the essence of the relationship between trust to voluntary association involvement, Tables 18 through 23 indicate that past levels of trust significantly predict current levels of associational involvement. To provide an idea of how this translates into causal links between the two variables, the following section illustrates the probabilities for voluntary association involvement given past levels of trust. To begin, Tables 24 and 25 below provide expected probabilities for unpaid voluntary work variable.

Table 24: Expected Probabilities Unpaid Voluntary Work (1997 to 2001)

Dependent Variable: Unpaid Voluntary Work - Expected Probability

1997 to 2001		Do Voluntary Work
Lagged dependent variable held constant	Most people can be trusted	0.14
	Other/depends	0.15
	Cannot be too careful	0.11
At different levels of the lagged dependent variable (no voluntary association involvement)	Most people can be trusted	0.05
	Other/depends	0.06
	Cannot be too careful	0.04
At different levels of the lagged dependent variable (voluntary association involvement)	Most people can be trusted	0.66
	Other/depends	0.68
	Cannot be too careful	0.60

Holding all other variables constant, respondents who are trusting have a higher probability for doing voluntary work (.14) than respondents who have reported low levels of trust (i.e. "cannot be too careful") in the past (.11). At the same time, the coefficient (and resulting probability) for the "other/depends" response to the trustworthiness of others is stronger, suggesting a higher likelihood of doing voluntary work. However, while the probability is higher, the difference between responses "most people can be trusted" and "other/depends" is not significant (p=0.104). Thus, the result for the middle category is insignificant.

To provide an alternative way to assess the effects of trust, values for the lagged dependent variable as well as member and active in a voluntary association are set to values other than the weighted average. Table 24 indicates that individuals who have no past voluntary association involvement (i.e. are not members of a listed organization are not active members and never/almost never do voluntary work) but do have past levels of trust are more likely to do voluntary work (.05) even with no past affiliation to voluntary work or involvement. Of course, those who reported past levels of trust and associational involvement have a much higher likelihood of doing voluntary work again (.66); it is not surprising that respondents who were previously participating in voluntary activities have a greater likelihood of being involved again in later waves than those who were previously not participating in voluntary activities.

Table 25 below provides detailed information on the effects of trust on unpaid voluntary work variable using 1999 to 2004 data. Holding all other variables constant, respondents who are trusting have a higher probability for doing voluntary work (.27) than respondents who are less trusting (.23). Similar to the 1997 to 2001 findings, the coefficient for the "other/depends" response to the trustworthiness of others is stronger than the "most people can be trusted" coefficient suggesting a higher likelihood of doing voluntary work. Again, this should be interpreted with caution as the difference between responses "most people can be trusted" and "other/depends" is not significant ($p<0.063$).

Table 25: Expected Probabilities Unpaid Voluntary Work (1999 to 2004)

Dependent Variable: Unpaid Voluntary Work - Expected Probability

1999 to 2004		Do Voluntary Work
Lagged dependent variable held constant	Most people can be trusted	0.27
	Other/depends	0.30
	Cannot be too careful	0.23
At different levels of the lagged dependent variable (no voluntary association involvement)	Most people can be trusted	0.15
	Other/depends	0.17
	Cannot be too careful	0.13
At different levels of the lagged dependent variable (voluntary association involvement)	Most people can be trusted	0.70
	Other/depends	0.73
	Cannot be too careful	0.66

Table 25 also provides results for where the expected probabilities are assessed at different levels of the lagged dependent. In particular, individuals who gave the trusting response at Time1 and indicated no past voluntary association involvement have a higher probability of currently doing voluntary work (.15), while individuals who gave the non-trusting response at Time1 and had no past associational involvement have the lowest likelihood of doing voluntary work (.13). However, those who reported past levels of trust and associational involvement have a much higher likelihood of doing voluntary work again (.70). Much like in the 1997 to 2001 model, it is not unexpected that respondents who were previously participating in voluntary activities have a greater likelihood of being involved again in later waves than those who were previously not participating in voluntary activities.

Using membership in a voluntary association as the dependent variable, Table 26 shows that individuals who were trusting in the past have a higher expected probability of currently being a member (.62) when compared to those who report "cannot be too careful" (.58), holding past membership at the average. Again, the 'other/depends' response category suggest a similar

likelihood of doing voluntary work as the "most people can be trusted" response but the N is small, the standard error is much larger and the middle category is not significantly different from the "most people can be trusted" response category ($p<0.333$).

Table 26: Expected Probabilities for Membership in a Voluntary Organization (1997 to 2001)

Dependent Variable: Member of a Voluntary Association - Expected Probability

1997 to 2001		Member of a Voluntary Association
Lagged dependent variable held constant	Most people can be trusted	0.62
	Other/depends	0.62
	Cannot be too careful	0.58
At different levels of the lagged dependent variable (no voluntary association involvement)	Most people can be trusted	0.25
	Other/depends	0.26
	Cannot be too careful	0.22
At different levels of the lagged dependent variable (voluntary association involvement)	Most people can be trusted	0.89
	Other/depends	0.90
	Cannot be too careful	0.88

As shown in Table 26, individuals who gave the "trusting" response in the past but had no past voluntary association involvement (i.e. are not members of a listed organization are not active members and never/almost never do voluntary work) have a higher probability of currently being a member of a voluntary association (.25) than those who are not trusting (.22). At the same time, those who reported past levels of trust as well as associational involvement have a much higher likelihood of being a member again (.89). Probabilities for the 1999 to 2004 model are not presented as trust does not have a significant impact on membership in a voluntary association in this model.

Looking at the impact of trust on active voluntary association involvement, Table 27 shows that respondents who gave the "trusting" response in the past have a higher expected

probability of currently being an active member of a listed organization member (.48) whereas respondents who report lower levels of trustworthiness (i.e. respond "cannot be too careful") have a lower probability of being an active member in a voluntary association (.43).

Table 27: Expected Probabilities for Active in a Voluntary Organization (1997 to 2001)

Dependent Variable: Active in a Voluntary Association - Expected Probability

1997 to 2001		Active in a Voluntary Association
Lagged dependent variable held constant	Most people can be trusted	0.48
	Other/depends	0.42
	Cannot be too careful	0.43
At different levels of the lagged dependent variable (no voluntary association involvement)	Most people can be trusted	0.23
	Other/depends	0.19
	Cannot be too careful	0.19
At different levels of the lagged dependent variable (voluntary association involvement)	Most people can be trusted	0.80
	Other/depends	0.77
	Cannot be too careful	0.77

Next, results are presented where past membership in a voluntary association variable, and doing unpaid voluntary work are set to values other than the weighted average, the findings further illustrate the significance of trust. Respondents with a sense of trust in the past but no past voluntary association involvement (i.e. are not members of a listed organization are not active members and never/almost never do voluntary work) have a higher probability of currently being an active member of a voluntary association (.23) than those who were previously not trusting (.19). At the same time, individuals who had indicated trust in the past along with high associational involvement have a slightly higher likelihood of currently being an active member of a voluntary association (.80) when compared to those who did not believe in the trustworthiness of others (.77).

Probabilities from the 1999 to 2004 model produce similar results. Controlling for all other variables, Table 28 below suggests respondents who had indicated trusting attitudes in the past are expected to have a higher probability (.47) to become active in a voluntary association if they are not presently active and/or maintain levels of activity if already engaged in a voluntary association. Furthermore, and again controlling for all other variables, respondents who report lower levels of trustworthiness (i.e. respond "cannot be too careful") are expected to have a lower likelihood (.44) of becoming an active member in a voluntary association and/or maintaining their levels of activity if already so. At the same time, respondents who had indicated a sense of trust in the past but had no past voluntary association involvement (i.e. are not members of a listed organization are not active members and never/almost never do voluntary work) have a higher probability of currently being an active in a voluntary association (.20). Individuals who have past levels of trust and high associational involvement have a much higher likelihood of currently being an active in a voluntary association (.83).

Table 28: Expected Probabilities for Active in a Voluntary Organization (1999 to 2004)

Dependent Variable: Active in a Voluntary Association - Expected Probability

1999 to 2004		Active in a Voluntary Association
Lagged dependent variable held constant	Most people can be trusted	0.47
	Other/depends	0.45
	Cannot be too careful	0.44
At different levels of the lagged dependent variable (no voluntary association involvement)	Most people can be trusted	0.20
	Other/depends	0.19
	Cannot be too careful	0.18
At different levels of the lagged dependent variable (voluntary association involvement)	Most people can be trusted	0.83
	Other/depends	0.82
	Cannot be too careful	0.81

In general, the findings from the 1997 to 2001 period and the 1999 to 2004 time period indicate that voluntary association involvement has a significant impact on levels of trust, regardless of which measure of voluntary association involvement is used. At the same time, the results also suggest that generalized trust has a significant impact on the frequency of voluntary work, membership in a voluntary association and activity in a voluntary association. Thus, a reciprocal relationship appears to exist between the two variables. Details of these findings will be discussed in the following chapter.

The Impact of Association Type on Trust and Involvement

As discussed in the review of the literature, scholars have argued that not all types of voluntary associations produce equal effects when it comes to the relationship between trust and joining. Additional models are examined in the next step in the analysis to assess the relationship between type of voluntary association and generalized trust. Memberships in different types of voluntary associations are used as the dependent variables of interest. The

association types used here are: (1) religious group, (2) professional organization, (3) social group, (4) sports group and (5) environmental organization. At the same time, the effects of different types of associations on generalized trust are also examined to identify which, if any, associations lead to increased or decreased levels of trust. In total, ten complete models were examined for this stage of the investigation. In this section variable coefficients, standards errors, significance levels along with expected probabilities are presented.[48] Analysis for this phase of the study is focused on the 1999 to 2004 period only. A summary of each model is presented followed by the resulting expected probabilities.[49]

In Table 29 below, membership in a religious group is the dependent variable. In this model, past levels of trust are seen to have a significant effect on membership in a religious group. This suggests a relationship between trust and voluntary association involvement for this particular type.

Table 29: Effect of Trust on Membership in a Religious Group 1999 to 2004

Valid Cases: 9301
Missing Cases: 271

Dependent Variable:
Member of religious group

	Coefficient	Std. Error	P-level
Independent Variables:			
Trustworthiness of others	0.413	0.101	0.000
Others/depends	0.731	0.306	0.017
Member of a religious group	3.542	0.121	0.000
Active in a religious group	1.233	0.127	0.000

For membership in a professional organization, Table 30 displays the results for the effect of trust as well as the results for the lagged dependent variable. As expected, past

[48] All models in this section were tested a second time to allow for the inclusion of the "doing unpaid voluntary work" measure. Results produced similar patterns and trends to the models presented here. Unpaid voluntary work was significant in all ten models. Again, I have reversed the coding of the coefficients in this section due to the method by which SPSS codes the variables.
[49] Descriptive statistics for the variables in each model can be found in Appendix D

membership in a professional group has a significant impact on current membership. However, generalized trust does not have a significant effect on membership in a professional group. This finding suggests that trust does not play an important role in work based associations.

Table 30: Effect of Trust on Membership in a Professional Group 1999 to 2004

Valid Cases: 9301
Missing Cases: 271

Dependent Variable:
Member of a professional group

	Coefficient	Std. Error	P-level
Independent Variables:			
Trustworthiness of others	0.153	0.100	0.244
Others/depends	0.306	0.322	0.342
Member of professional organization	3.054	0.113	0.000
Active in professional organization	0.465	0.157	0.003

Membership in a social group along with membership in a sports club both fall under the 'community organization' typology. Tables 31 and 32 present the results for the models where social group and sports club are the dependent variables of interest. When looking at social group associations, past membership is significant whereas past "active" involvement in a social group does not have a significant impact on current levels of membership. However, past levels of trust are significant.

Table 31: Effect of Trust on Membership in a Social Group 1999 to 2004

Valid Cases: 9301
Missing Cases: 271

Dependent Variable:
Member of a social group

	Coefficient	Std. Error	P-level
Independent Variables:			
Trustworthiness of others	0.182	0.060	0.004
Others/depends	0.232	0.241	0.335
Member of social group	0.560	0.111	0.000
Active in social group	0.075	0.128	0.556

As expected, past levels of membership and activity in a sports club also have a significant impact on current membership in a sports club. At the same time, past levels of trust are also significant (see Table 32). The results from the models using membership in a sports club and membership in a social group suggest a relationship from trust to voluntary association membership for the sports group association type.

Table 32: Effect of Trust on Membership in a Sports Club 1999 to 2004

Valid Cases: 9301
Missing Cases: 271

Dependent Variable:
Member of sports club

	Coefficient	Std. Error	P-level
Independent Variables:			
Trustworthiness of others	0.127	0.070	0.043
Others/depends	-0.412	0.277	0.137
Member of sports club	2.270	0.094	0.000
Active in sports club	0.616	0.096	0.000

Finally, membership in an environmental group was examined as a dependent variable of interest. As expected, past levels of membership and activity are significant but, more importantly, past levels of trust are also significant. Again, the findings demonstrate a relationship from trust to joining; here membership in an environmental organization increases with an individual's sense of trustworthiness of others.

Table 33: Effect of Trust on Membership in an Environmental Group 1999 to 2004

Valid Cases: 9301
Missing Cases: 271

Dependent Variable:
Member of an environmental group

	Coefficient	Std. Error	P-level
Independent Variables:			
Trustworthiness of others	0.429	0.155	0.021
Others/depends	0.161	0.487	0.741
Member of environmental group	3.450	0.186	0.000

Active in environmental group	0.786	0.246	0.001

Across the spectrum of association types, the findings above suggest a link between trust and associational membership. A conversion of the results into expected probabilities, each with trust as the main independent variable, is shown in Table 34 below. The role of trust on religious group membership indicates that an individual's sense of trustworthiness results in a higher likelihood of joining a religious group (.06 compared to .04 for non-trusters). Again, the "other/depends" category produces the highest probability for currently being a member of a religious group (.08) and this result is unexplained - the result is significant when compared to "most people can be trusted" category. Membership in a professional organization is the second association type analyzed as the dependent variable of interest. Here, we see that past levels of trust are not significant, therefore probabilities are not examined.

When looking at the effect of trust on membership in a social group, the results suggest those who are more trusting have a higher likelihood of being a member of a social group (.17) as opposed to those who are less trusting (.14), holding past membership/non-membership constant. Individuals who are undecided demonstrate the lowest probability of being a member of a social group (.12 for those who respond "other/depends"). These results follow a similar pattern to the results displayed in the earlier analysis of general membership in a voluntary organization. It also follows the argument in the existing literature that trusting leads to joining. Looking at the impact of trust on membership in a sports club, we see that again trust is a significant predictor of membership. The likelihood of being a member of a sports club is higher when the respondent believes in the trustworthiness of others (.13 compared to .11 for non-trusters). Indeed, respondents who believe in the trustworthiness of others are also more likely to members of a sports club than those who are undecided (.08 for those who respond

"other/depends"). Again these results are consistent with both previous findings and the existing literature: trust is a significant predictor of voluntary association involvement.

The final type of association that is examined as the dependent variable is membership in an environmental group. As with the four other types of associations, individuals who are trusting were found to have a higher likelihood of being a member in an environmental group than those who are not trusting (.02 compared to .01). At the same time, trusters are also more likely to members of an environmental group than those who are undecided (.01 for those who respond "other/depends").

What is interesting is that the effect of trust has a significant impact for four out of five associational types examined. Results for the associational types suggest a relationship from trusting to joining for a church based group, community groups (social group and sports club), environmental organization but no relationship was found for the work based group. The relevance of is that it appears that trustworthiness of others leads to increased likely of joining a voluntary association, regardless of the purpose to which the association is focused with the exception of work based groups. In other words, the causal link from trust to joining a voluntary association appears to be fairly consistent across a broad range of association types.

Table 34: Expected Probabilities for Types of Membership in a Voluntary Organization

Dependent Variable: Member of a Religious Group - Expected Probability	
1999 to 2004	Member of a religious group
Most people can be trusted	0.06
Other/depends	0.08
Cannot be too careful	0.04
Dependent Variable: Member of a Professional Org - Expected Probability	
1999 to 2004	Member of a professional org**
Most people can be trusted	0.03
Other/depends	0.04
Cannot be too careful	0.03
Dependent Variable: Member of a Social Group - Expected Probability	
1999 to 2004	Member of a social group
Most people can be trusted	0.17
Other/depends	0.12
Cannot be too careful	0.14
Dependent Variable: Member of a Sports Club - Expected Probability	
1999 to 2004	Member of a sports club
Most people can be trusted	0.13
Other/depends	0.08
Cannot be too careful	0.11
Dependent Variable: Member of an Environmental Group - Expected Probability	
1999 to 2004	Member of an environmental group
Most people can be trusted	0.02
Other/depends	0.01
Cannot be too careful	0.01

Note: **Not Significant. Held constant at past levels voluntary association involvement.

In part two of the analysis of voluntary association type, trust is used as the dependent variable to examine the effects of the five voluntary association types on the likelihood of having a positive response to the generalized trust measure. Model summaries are presented below.[50] Table 35 displays the results for the model where member of a religious group is the independent variable. Here, we can see that that group membership has a significant impact on an individuals' sense of trustworthiness. Activity in a religious group is not found to be significant. There are a few possible explanations for this result; perhaps the effect of activity is lost through the inclusion of the membership measure or due to a small sample size activity does not impact levels of trust. On the other hand, past levels of trust are significant; as it is very likely that trusting behavior in the past will affect current levels of trusting.

Table 35: Effect of Membership in a Religious Group on Trust 1999 to 2004

Valid Cases: 9284
Missing Cases: 288

Dependent Variable:
Trustworthiness of others

	Coefficient	Std. Error	P-level
Independent Variables:			
Trustworthiness of others	2.000	0.050	0.000
Others/depends	0.842	0.168	0.000
Member of a religious group	0.216	0.110	0.049
Active in a religious group	0.034	0.114	0.765

The second associational type assessed is the effect of member of a professional group on generalized trust. In this model, membership is seen to have a significant impact on levels of trust (see Table 36). However, this could be the effect of "occupation" given that there was no occupation variable included in the model (see Chapter 5 for a detailed discussion). Similar to the religious group model, active membership is not significant.

[50] Descriptives for each model can be found in Appendix E

Table 36: Effect of Membership in a Professional Group on Trust 1999 to 2004

Valid Cases: 9284
Missing Cases: 288

Dependent Variable:
Trustworthiness of others

	Coefficient	Std. Error	P-level
Independent Variables:			
Trustworthiness of others	2.004	0.050	0.000
Others/depends	0.853	0.168	0.000
Member of professional organization	0.273	0.107	0.011
Active in professional organization	0.129	0.155	0.404

In measuring the impact of social group membership on generalized trust, Table 37 below presents a summary of the main variables of interest. As expected, past levels of trust have a significant impact on an individuals' current sense of trustworthiness of others. However, membership and active membership in a social group are not significant. While some argue that community based groups are likely to be more diverse, and as a result facilitate greater cooperation and trust among members and the wider community, results here present findings not in support of such an argument.

Table 37: Effect of Membership in a Social Group on Trust 1999 to 2004

Valid Cases: 9284
Missing Cases: 288

Dependent Variable:
Trustworthiness of others

	Coefficient	Std. Error	P-level
Independent Variables:			
Trustworthiness of others	2.010	0.050	0.000
Others/depends	0.860	0.168	0.000
Member of social group	0.024	0.101	0.814
Active in social group	-0.081	0.113	0.470

Looking at membership in a sports club as the independent variable of interest, the results are similar to the social group model. In this model, past levels of trust have a significant impact on current levels of trust. However, past membership in a sports club does not significantly impact an individuals' sense of trust. At the same time active in a sport club also does not affect current levels of generalized trust.[51]

Table 38: Effect of Membership in a Sports Club on Trust 1999 to 2004

Valid Cases: 9284
Missing Cases: 288

Dependent Variable:
Trustworthiness of others

	Coefficient	Std. Error	P-level
Independent Variables:			
Trustworthiness of others	2.009	0.050	0.000
Others/depends	0.862	0.168	0.000
Member of sports club	0.064	0.091	0.482
Active in sports club	0.158	0.091	0.081

In Table 39 below, trustworthiness of others is the dependent variable, while member of an environmental group is the independent variable of interest. Here, membership in an environmental group is found to be statistically significant whereas active in an environmental group is not significant. This result is consistent with the church and work based models discussed above.

[51] This model was tested a second time to allow for the inclusion of the unpaid voluntary work measure. Similar to the results reported here, the voluntary association type measure was not found to be significant.

Table 39: Effect of Membership in an Environmental Group on Trust 1999 to 2004

Valid Cases: 9284
Missing Cases: 288

Dependent Variable:
Trustworthiness of others

	Coefficient	Std. Error	P-level
Independent Variables:			
Trustworthiness of others	2.004	0.050	0.000
Others/depends	0.850	0.168	0.000
Member of environmental group	0.423	0.183	0.021
Active in environmental group	0.220	0.240	0.358

The inquiry into the connection between voluntary association type and generalized trust has found that while social groups and sports clubs do not impact levels of trust, membership in religious groups, professional organizations and environmental groups do have a significant impact on an individuals' sense of trustworthiness of others. From this, results are converted into expected probabilities, each with trust as the dependent variable of interest (see Table 40 below).

Table 40: Expected Probabilities for Trustworthiness of Others

	Dependent Variable: Trust - Expected Probabilities		
1999-2004	Most people can be trusted	Other/depends	Can't be too careful
Are a member of a religious group	0.50	0.03	0.47
Are not a member of a religious group	0.45	0.03	0.53
Are a member of an professional org	0.52	0.03	0.46
Are not a member of an professional org	0.45	0.03	0.52
Are a member of an environmental group	0.56	0.03	0.42
Are not a member of an environmental group	0.45	0.03	0.52
Are a member of a social group**	0.46	0.03	0.51
Are not a member of a social group**	0.45	0.03	0.52
Are a member of a sports club**	0.46	0.03	0.51
Are not a member of a sports club**	0.45	0.03	0.52

**Not Significant

Membership in a religious group has a significant effect on trust. Holding all other variables constant, respondents who are a member of a religious group have a higher likelihood of trusting others (.50) compared to those who are not members (.45). At the same time, individuals who are members of a religious group are expected to have a lower probability of distrusting when compared to their non-member counterparts. The same effect is slightly stronger for those who are members of a professional organization. With all other variables held constant members of a professional group are expected to have a higher likelihood of trusting than those who are not members (.52 and .45 respectively). The slight increase in effect may be related to the purpose of the group. Professional organizations are typically career related and may expose its members to a more diverse group of people when compared to church based groups (or again, this may be the effect of working in a professional job).

As can be seen in Table 40, membership in an environmental group has a significant effect on trust. Holding all other variables constant, respondents who are a member of an environmental group have a higher likelihood of trusting (.56) than those who are not members (.45), controlling for whether or not he or she was trusting in the past. Similarly, individuals who are members of an environmental group are expected to have a lower probability of distrusting when compared to their non-member counterparts.

Interestingly, membership in social groups or sports clubs has no effect on levels of trustworthiness. Following the argument that joining leads to trust (Putnam 2000; Brehm and Rahn 1997; Claibourn and Martin 2000), it is possible that membership in a sports club may simply mean attending a local gym where opportunities to interact with others is limited (given that most people are doing individual fitness activities). On the other hand, sports clubs are also more likely to represent membership/belonging to an amateur athletic team. In a team or club situation, interaction is expected but so is competition and team rivalry. It is hard to explain why this type of

association is not significant given the limited information we have around the definition of a "sports club." At the same time, active membership was not found to be significant in any of the five models. This is most likely due to small numbers of respondents who answered positively to the active membership question and so this non-result should be interpreted with caution.

Impact of independent variables

In addition to assessing the relationship between trust and voluntary association membership, several other independent variables such as sex, race, marital status, education, age, income and number of children in household are included in the analysis primarily to be used as control variables for the main objective of assessing the relationship between trusting and joining. However, these variables are also examined to explore their impact on trust and voluntary association involvement for the 1997 to 2001 time period in order to provide a comparison to findings from existing literature.[52] Trust is used as the dependent variable in a single model using ordered logit as the method of analysis. Logistic regression is used for the voluntary associational involvement analyses; where the three types of voluntary association involvement variables are presented each as the dependent variable in three separate models. Expected probabilities are calculated for each independent variable using log odds for the model where trust is the dependent variable and cumulative odds for voluntary association dependent variable models.[53] Table 41 below provides summary information for the trust model.

[52] Lagged values for the dependent variables are not included in these models.
[53] Detailed tables presenting the expected probabilities for each model can be found in Appendix E. Due to the method by which SPSS codes the variables, I have reversed the coding of the coefficients in this section to make the summary tables more legible.

Table 41: Impact of Independent Variables on Trust

INDEPENDENT VARIABLES - 1997 to 2001

Valid Cases: 8540
Missing Cases: 154

Dependent Variable:
Trustworthiness of others

Independent Variables:		Coeffic.	df	Sig.
Sex	1 Male	0.00021	1	0.997
	2 Female	0	0	-
Race	1 White	0.60099	1	0.000
	9 Other ethnic grp	0	0	-
Marital status	1 Married	-0.00545	1	0.946
	2 Living as couple	-0.15628	1	0.098
	3 Widowed	-0.14748	1	0.234
	4 Divorced	-0.40282	1	0.001
	5 Separated	-0.33547	1	0.094
	6 Never married	0	0	-
Highest educational qualification	1 Higher Degree	1.89736	1	0.000
	2 First Degree	1.52746	1	0.000
	4 Other Higher QF	0.75926	1	0.000
	6 GCE A Levels	0.89876	1	0.000
	7 GCE O Levels	0.52616	1	-
	8 No higher education	0	0	
Age at Date of Interview (10s of years)		0.60707	1	0.000
Age2 (age-squared)		-0.04302	1	0.000
Total Income: last month (logged)		0.07048	1	0.000
Number of own children in household		0.00706	1	0.794

As Table 41 shows, education, age, income and race are statistically significant predictors for whether or not respondents in the sample thought that most people can be trusted. Sex, marital status and number of own children in household are not significant. Consistent with previous studies, the effect of education is strong, suggesting that higher levels of education result in a higher expected probability for trustworthiness of others. For example, controlling for other variables, respondents who have a first degree have a higher likelihood to be trusting (.59) compared to respondents who have GCE A Levels and are less likely to be trusting (.43).[54] The effect of age is

[54] First degrees (or undergraduate degrees) normally take three years to complete in England, Wales and Northern Ireland and four years in Scotland. A *General Certificate of Education - Ordinary Level* (GCE O-level) is standard UK

also strong and, as shown above, the significance of both the linear and quadratic measures suggests a curvilinear relationship (albeit small) holding all other variables constant. Much like other studies (see Putnam 1995; Schofer and Fourcade-Gourinchas 2001; Veenstra and Tanner 2002), results indicate that older people are more likely to trust than younger individuals. At age 20, the expected probability for trusting is .21, increasing to .35 at age 40, and .43 at age 60. However, as respondents age into their 80s and 90s, the expected probability decreases slightly (to .40 at age 90). This small decline in trust may suggest that an individual's sense of trustworthiness is not as stable as some authors have suggested (see Uslaner 2002), especially as people transition into their elderly years.

The difference between racial categories is also of interest; they demonstrate results similar to the existing literature (see Brehm and Rahn 1997; Uslaner 2002). Respondents who identified as 'white' have a higher probability of trusting (.36) when compared to those who identified as belonging to 'other ethnic group'(.23). At the same time, those who identified as belonging to 'other ethnic group' also have a higher likelihood of answering 'can't be too careful' when trusting in general than whites (.75 compared to .63). Income has a small impact on levels of trust; those with lower income levels are less likely to be trusting.

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qualification usually taken at the age of fifteen/sixteen. An O-level is a requirement for further study (A Level). GCE A Level is the acronym for *General Certificate of Education - Advanced Level* which represents a total of 12 years of primary and secondary education. *The British Council – United States (www.britishcouncil.org)*

Table 42: Impact of Independent Variables on Associational Membership

INDEPENDENT VARIABLES - 1997 to 2001

Valid Cases: 9090
Missing Cases: 119

Dependent Variable:
Member of a voluntary organization

Independent Variables:			Coeffic.	df	Sig.
Sex	1	Male	0.17822	1	0.000
	2	Female	0	0	-
Race	1	White	-0.29554	1	0.024
	9	Other ethnic grp	0	0	-
Marital status	1	Married	0.17902	1	0.000
	2	Living as couple	-0.30467	1	0.022
	3	Widowed	-0.02110	1	0.001
	4	Divorced	-0.22787	1	0.857
	5	Separated	-0.25672	1	0.048
	6	Never married	0	0	0.166
Highest educational qualification	1	Higher Degree	2.02944	1	0.000
	2	First Degree	1.51057	1	0.000
	4	Other Higher QF	1.03482	1	0.000
	6	GCE A Levels	0.80618	1	0.000
	7	GCE O Levels	0.47983	1	0.000
	8	No higher education	0	0	0.000
Age at Date of Interview (10s of years)			0.72464	1	0.000
Age2 (age-squared)			-0.06019	1	0.000
Total Income: last month (logged)			0.13532	1	0.000
Number of own children in household			-0.07670	1	0.003

Table 42 above illustrates the impact of sex, race, marital status, education, age, income and number of children in household on the odds of being a member of a voluntary association. For this model, all seven independent variables were found to be significant. Again, the impact of age is important with both the linear and quadratic producing significant results. Here, as respondents get older, their likelihood of being a member of a voluntary association increases (from .41 at age 20 to .59 at age 40). However, the expected probability for joining peaks when respondents are in their 60s decreasing from .64 at age 60 to .59 at age 80. This is likely due to the fact that as respondents age, their health, mobility, independence and opportunities to join voluntary associations most likely become more limited. Similar to previous literature (and the trust model discussed above),

the effect of education is also strong. When holding all other variables constant, those with higher degrees[55] have a higher likelihood of being members of a voluntary organization (.85) compared to respondents who have first degrees (.77). Those with no higher education (i.e. less than high-school) have the lowest probability (.42) of being a member of a voluntary association.

Much like the previous model, respondents who identified as 'white' have a higher probability of being a member of a voluntary association (.57) when compared to those who identified as belonging to 'other ethnic group'(.50). Differences between male/female participation in voluntary associations are also interesting. Male respondents have an expected probability of .60 for joining compared to females at .55. When looking at the impact of income on associational membership, the effect of monthly wages is less influential. Respondents with a monthly income of £100 have an expected probability of .51 of joining, whereas respondents who have a monthly income of £1100 have an expected probability of .59 for joining a voluntary association. Even at the top of the income levels examined, at £2100 total income for the previous month, probabilities for being a member increase slightly to .61.

Not surprisingly, the number of children in the household does affect probabilities for voluntary association membership. As expected, the more children in the household, holding all other variables constant, the lower the likelihood is of a respondent being a member of a voluntary organization. For example, respondents with one child have a probability of .56 of being a member of a voluntary association compared to .51 for respondents with four children. Finally, the impact of marital status is also significant. Controlling for other variables, respondents who are married have the highest likelihood of being a member of a voluntary association (.60) whereas respondents who are divorced or separated have the lowest expected probability of membership in a voluntary organization (.50). Widowers have the second highest probability of being a member.

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[55] Graduate or Professional degree.

Table 43: Impact of Independent Variables on Active Associational Membership
INDEPENDENT VARIABLES - 1997 to 2001

Valid Cases: 9084
Missing Cases: 125

Dependent Variable:
Active in a voluntary organization

Independent Variables:		Coeffic.	df	Sig.
Sex	1 Male	0.04896	1	0.286
	2 Female	0	0	-
Race	1 White	0.20291	1	0.110
	9 Other ethnic grp	0	0	-
Marital status	1 Married	-0.05295	1	0.001
	2 Living as couple	-0.28728	1	0.484
	3 Widowed	0.01117	1	0.001
	4 Divorced	-0.27918	1	0.923
	5 Separated	-0.39231	1	0.014
	6 Never married	0	0	0.034
Highest educational qualification	1 Higher Degree	1.65511	1	0.000
	2 First Degree	1.14756	1	0.000
	4 Other Higher QF	0.76499	1	0.000
	6 GCE A Levels	0.53521	1	0.000
	7 GCE O Levels	0.52540	1	0.000
	8 No higher education	0	0	0.000
Age at Date of Interview (10s of years)		0.47840	1	0.000
Age2 (age-squared)		-0.03785	1	0.000
Total Income: last month (logged)		0.05638	1	0.001
Number of own children in household		0.00096	1	0.970

Table 43 reports the results for active in a voluntary organization as the dependent variable. Education, age, income and marital status are statistically significant while sex, race and number of own children in household are not significant. Findings for this model largely follow trends found in the model where member of a voluntary organization was the dependent variable of interest. Indeed, age and education have the strongest influence on activity in a voluntary association. At the same time, income and marital status are also significant.

As before, controlling for other variables, both the linear and quadratic measures for age produce significant results. As respondents get older, their likelihood of being active members of

voluntary associations increases (from an expected probability of .34 at age 20 to .46 at age 40). The expected probability for active engagement reaches its highest point when respondents are in their 60s, decreasing slightly from .51 at age 60 to .48 at age 80. Higher levels of education also result in higher probabilities for being an active in a voluntary association. With all other variables held constant, respondents who have a first degree have a high expected probability of active membership in an association (.62) while respondents who have no higher education have a much lower likelihood of being actively engaged in a voluntary association (.34).

Probabilities for active participation are fairly similar across various income levels. Holding all other variables constant and controlling for nonlinearity, respondents with a monthly income of £100 have an expected probability of .43 for being an active member whereas respondents who have a monthly income of £2100 have an expected probability of .47. Although the effect of income is statistically significant, it appears that sizeable increases/differences in monthly income do not lead to major differences in active participation in voluntary associations. For marital status, again the results are fairly similar to the membership model. Respondents who are widowed (closely followed by those who never married) have the highest expected probability of active participation (.48 and .47 respectively). Individuals who are separated are the least likely to be actively engaged in a voluntary association (.38). This finding supports the argument that non-married people are less likely to be engaged in civic life (Putnam 1995; Fukuyama 1995; Veenstra and Tanner 2002).

Table 44: Impact of Independent Variables on How Often Respondents Do Voluntary Work
INDEPENDENT VARIABLES - 1997 to 2001

Valid Cases: 8567
Missing Cases: 127

Dependent Variable:
How often: Do voluntary work

Independent Variables:		Coeffic.	df	Sig.
Sex	1 Male	-0.33776	1	0.000
	2 Female	0	0	-
Race	1 White	0.21262	1	0.215
	9 Other ethnic grp	0	0	-
Marital status	1 Married	-0.07790	1	0.009
	2 Living as couple	-0.38875	1	0.447
	3 Widowed	-0.11035	1	0.003
	4 Divorced	-0.30597	1	0.478
	5 Separated	-0.47953	1	0.045
	6 Never married	0	0	0.070
Highest educational qualification	1 Higher Degree	1.76318	1	0.000
	2 First Degree	1.66580	1	0.000
	4 Other Higher QF	1.22069	1	0.000
	6 GCE A Levels	0.92974	1	0.000
	7 GCE O Levels	0.66319	1	0.000
	8 No higher education	0	0	0.000
Age at Date of Interview (10s of years)		1.03965	1	0.000
Age2 (age-squared)		-0.08072	1	0.000
Total Income: last month (logged)		-0.01847	1	0.392
Number of own children in household		0.08940	1	0.008

The last model, Table 44 above, assessed the impact of independent variables on whether or not respondents do unpaid voluntary work. Unpaid of voluntary work is used to assess patterns of involvement or elevated levels involvement which may be impacted by several of the exogenous variables. In this analysis age, education, sex, marital status and number of own children in household are statistically significant and income and race are not significant. Again, there is an indication of a curvilinear relationship between frequency of voluntary work and age levels. Consistent with the other voluntary association involvement models, as respondents get older the probability for doing voluntary work increases reaching the highest probability levels when

individuals are in their late 60s (controlling for all other variables). Also similar, respondents with higher levels of education also have higher probabilities for doing voluntary work. With all other variables held constant, respondents who have a higher degree have a high expected probability of .36 for volunteering while respondents who have no higher education have a much lower likelihood of doing voluntary work at .09.

The effect of gender is also found to be significant when it comes to doing unpaid voluntary work. Male respondents have an expected probability of .14 for doing voluntary work compared to females at .18. This is consistent with Putnam's argument; Putnam also found that women form a larger percentage of informal social relations and are more likely to do volunteer work (Putnam 2000:95). When looking at the impact of marital status, we find that those who have never married have the highest probability for doing voluntary work (.18). Married respondents and widowers are also more likely to do voluntary work than those who are separated or living as a couple.

The number of own children in the household has a reverse effect in comparison to what was observed in the membership model. Probabilities for doing voluntary work increase as the number of children in the household increases (holding all other variables constant). Respondents with four children have a higher likelihood of doing voluntary work (.21) than individuals with one child (.17). Although the impact is small, the results could be explained by the increased exposure to parents associations or after school activities that children are involved in that cause parents to do voluntary work on a more regular basis.

Summary

The central focus of this study is to investigate the relationship between trusting and joining in an attempt to determine the causal connection between generalized trust and voluntary association involvement. Findings from this study indicate the relationship connects both trust and voluntary association involvement in a reciprocal relationship. Although there are slight differences

in the expected probabilities from each time period, the results remain consistent for both 1997 to 2001 and 1999 to 2004.

The inquiry into the relationship between the various voluntary association types and generalized trust suggest that association type is a significant factor when looking for a positive relationship with generalized trust. At the same time, generalized trust is positively linked to memberships in four out of the five voluntary association types examined. Findings from the analysis of the independent variables for the 1997 to 2001 time period confirm that, for the most part, overall trends are consistent with findings in the existing social capital literature. Taking the findings from Chapter 4, the following chapter evaluates the results of the analysis and discusses the outcomes in comparison to previous studies from the existing literature.

CHAPTER 5: DISCUSSION AND CONCLUSION

The purpose of this study is to examine the relationship between trust and voluntary association involvement as discussed in the social capital literature. Since the popularization of Putnam's theory of social capital, the empirical relationship between trust and voluntary association involvement has come into question. A number of possible hypotheses regarding the causal relationship between trust and voluntary association involvement were examined. First, as Putnam (2000), Brehm and Rahn (1997) and others have argued, there is the assumption that a reciprocal relationship exists between voluntary association involvement and generalized trust: that is the causal paths from trusting to joining and joining to trusting are both significant. Secondly, it is also possible for a relationship to exist from voluntary association involvement to generalized trust only (that is trust does not significantly influence voluntary association involvement). A third possibility, as Uslaner (2002) argues, is that causal links can be found from trust to voluntary association involvement but no real causal relationship exists from voluntary association involvement to generalized trust. Finally, it is also possible that there will be no evidence of any causal relationship in either direction between trust and voluntary association involvement.

In addition to the analysis discussed above, an additional step was taken to further examine the relationship that was found in the main analysis above: specifically if the findings apply to certain kinds of voluntary associations. Tests were performed against the hypothesis that the effects of voluntary association involvement varies across different types of associations and the related hypothesis that the effects of generalized trust on membership and engagement may vary across a range of voluntary associations.

The following chapter presents a discussion of the findings including an analysis of how the results of this study either confirm or contest results from previous studies on social capital, trust

and voluntary association involvement. Finally, the limitations of the study are addressed and suggestions for future research are proposed.

Discussion

Trust and Voluntary Association Involvement

The results reported in chapter four suggest a number of interesting points in regards to the relationship between trust and voluntary association involvement. In order to determine the causal links between trust and voluntary association involvement, ordered logit and logistic regression analysis were applied to trust and associational measures. Within each model, both simultaneous and lagged measures of the dependent variable were included to assess the change over time in levels of associational involvement (where voluntary association involvement was the dependent variable) and respondents' sense of trustworthiness in others (where generalized trust was the dependent variable).

Researchers interested in social capital have long argued that there is a strong relationship between generalized trust and voluntary association involvement. The recent literature has made several claims on which way the direction of the causal arrow flows between trusting and joining. While some findings suggest that the relationship exists from trusting to joining (Stolle 1998a: 500; Tonkiss and Passey 1999:262; Uslaner 2002:77), others imply that the causal direction is stronger from joining to trusting (Putnam 1995: 666; Brehm and Rahn 1997:1017; Claibourn and Martin 2000: 279; Veenstra and Tanner 2002:552). All of the above others, with the exception of Claibourn and Martin and Uslaner, also indicate a bi-directional relationship (that is, there is some relationship in the opposite direction too, although less influential).

There is also literature that supports the claim that the relationship is reciprocal in nature with no strong case for which, if any, direction is stronger (Newton 2001; Fattore et al. 2003).

Within this group, some have suggested that weak and inconsistent results between positive expressions of trust and voluntary association involvement indicate reasons to question the existence of any relationship at all (Newton 2001:204). Despite this, the debate continues around the relationship between trusting and joining. Thus, from the existing literature a question emerges: is the relationship between trust and voluntary association involvement uni-directional (if so, in what direction) or is it bi-directional?

Much like previous studies (Brehm and Rahn 1997; Shah 1998; Claibourn and Martin 2000), the presence of a significant relationship was found between voluntary association involvement and trust and is now confirmed using longitudinal data. In general, the results from this study support the claim that voluntary association involvement leads to an increased sense of the trustworthiness of others. For the 1997 to 2001 time periods where generalized trust was the dependent variable and unpaid voluntary work was the independent variable of interest, individuals who did unpaid voluntary work at Time 1 are expected to exhibit a more positive change over time in their sense of trustworthiness (i.e. exhibit higher levels of trust) than those who did not do unpaid voluntary work at Time 1. This positive change over time supports the argument that voluntary association involvement not only encourages group interaction but also leads to an increased sense of cooperation and generalized trust felt by its participants.

Previous work by Uslaner (2002) argued that generalized trust cannot be formed through mere involvement in a voluntary association. Indeed, for Uslaner, generalized trust finds its roots grounded in moral values: a stable element of social life that cannot be altered by day to day events experienced by individuals in adult life such as membership or participation in a voluntary association. Contrary to Uslaner's argument, findings presented in this investigation suggest that there is a causal relationship from voluntary association involvement to generalized trust. With

respect to membership in a voluntary association, results indicate that membership in a voluntary association can change levels of generalized trust. Findings suggest that respondents who were members of a voluntary association in the past have a higher likelihood to see a shift to a more positive sense of trustworthiness of others when compared to those who were not members. Likewise, if the respondent was already trusting at Time 1, he or she is more likely to maintain his or her sense of trustworthiness in Time 2 if members of a voluntary association (when compared to non-members). Again, results provide empirical evidence using longitudinal data that voluntary association involvement is a mechanism by which generalized trust can be produced and maintained. Similarly, the voluntary association involvement indicator that measured whether or not a respondent indicated that he or she is active in a voluntary association was also found to have positive effects on trust levels. Interestingly, those who were active in a voluntary association at Time 1 are more likely to see a higher likelihood of trustworthiness towards others compared to those who were not active, controlling for initial levels of trust. As with before, these results would suggest that voluntary association involvement effects generalized trust in a positive direction over time.

When expected probabilities are assessed at different levels of the lagged dependent and independent variables of interest, results provide further exploration into the degree to which voluntary association involvement leads to generalized trust. Individuals who were not trusting but indicated voluntary association involvement at Time 1 are expected to exhibit a more positive change over time in their sense of trustworthiness (i.e. exhibit an increased sense of trust) when compared to respondents who indicated no voluntary association involvement at all. Thus, regardless of past levels of trust, empirical findings from this investigation confirm that voluntary association involvement alone develops an increased sense of trustworthiness in the generalized other.

The claim that generalized trust is stable, often indestructible, over time is also questionable. According to Uslaner, trust should remain consistent over time and thus, regardless of voluntary association involvement, the expected probability for respondents to maintain his or her trusting beliefs should be relatively high. However, the idea that trust is fairly stable comes into doubt with results demonstrating the likelihood of an individuals' sense of trust remaining stable over time is lower than one would expect if Uslaner's argument were true (expected probabilities to remain trusting are 61% for 1997 to 2001 and 70% for 1999 to 2004).[56]

At the same time, results from the present investigation also support the argument that there is a relationship from trusting to joining: trusting people are also people who have higher instances of joining (Stolle 1998a: 500; Tonkiss and Passey 1999:262; Uslaner 2002:77). When looking at the effect of trust on voluntary association involvement for the 1997 to 2001 period, results indicate causal links between trust and voluntary association involvement. In all, trustworthiness of others affects all three voluntary association involvement indicators: people who trust at Time 1 are also more likely to be a member of a voluntary organization, be actively involved in a voluntary organization and are more likely to do unpaid voluntary work.

Interestingly, one might expect that the effect of trust on active engagement (through associations or by doing unpaid voluntary work) would be more significant than it would be between trust and memberships alone given that membership does not always involve face-to-face interaction and so the role that trust would play in connecting people through membership is diminished (Baumgartner and Walker 1988). However, findings from the present investigation for

[56] In other words, of those who were trusting at Time 1, only 61% can be expected to be trusting again in Time2. In comparison, of respondents with no associational involvement and non-trusting attitudes at Time 1, 84% are expected to still be non-trusting at Time 2 for the 1997 to 2001 period. For 1999 to 2004 the expected probability is 74%.

the 1997 to 2001 support the causal link from trust to all three indicators of voluntary association involvement.

While authors such as Shah (1998) and Claibourn and Martin (2000) found no relationship from trusting to joining, the findings presented here reveal that those who were trusting at Time 1 are more likely to do unpaid voluntary work if not already doing unpaid voluntary work. Similarly, respondents who indicated trust in others at Time 1 are expected to have a higher likelihood of being a member of a voluntary association in Time 2 if not already so (and if already a member in Time 1, a higher likelihood of maintaining his or her membership). The same results exist for "active" involvement (the survey item asking respondents if he or she joined in the activities of a voluntary association on a regular basis). Thus, research evidence that denied the existence of a link from trusting to joining is contradicted by the findings from this investigation. Empirical evidence now shows a positive shift towards voluntary association involvement over time for individuals who have indicated a past sense of trustworthiness.

As mentioned before, Shah's (1998) research was limited to cross-sectional data and could not fully test a causal relationship between trust and associational involvement. Claibourn and Martin, on the other hand, examined longitudinal data from the Michigan Socialization Study. There are some possible explanations as to why findings from the present investigation differ from the findings presented in Claibourn and Martin's study. First, although not significant, the coefficient from trusting to joining in the parent sample is found to be positive: suggesting the presence of a relationship flowing from trust to associational involvement. Secondly, the number of cases examined was relatively small (745 cases compared to an average of 8,000 cases for the present investigation) and may contribute to the existence of a non-significant, yet positive, result.

This investigation had the benefit of having two time periods to asses the causal links between trust and voluntary association involvement. For the most part, findings from the 1999 to 2004 analysis support the argument that trust and voluntary association involvement are indeed mutually reinforcing. When looking at the effects of membership, active membership and unpaid voluntary work, we see that each measure results in a more positive change over time in their sense of trustworthiness. When looking at the effect of trust on voluntary association involvement, we see that at 1999 to 2004 the effect of trust is only significant on unpaid voluntary work and active in a voluntary association (that is trusting people are more likely to become active if they are not presently and to stay active if they already are when compared to individuals with distrusting views of others). This result may indicate that the relationship from joining to trust is more stable given that all the results have remained the same over the two time periods. Given this finding though, the effect of trust on two indicators, active membership and unpaid voluntary work, is still present in 1999 to 2004. Overall, the reciprocal connection between trust and association involvement is evident in both time periods assessed in this investigation.

Social capital theorists define trust and social networks strength as the key components to high levels of social capital. Some also imply that trust and voluntary association involvement are closely tied to one another in such as way that if one decreases so does the other. Putnam has gone on to popularize this idea through the concept of the virtuous or vicious circle – i.e. levels of social capital cause voluntary association involvement and trust to concurrently rise or decline. In part, the present investigation supports the 'virtuous circle' argument that trust and voluntary association involvement form a positive reciprocal relationship with one another. The results imply the relationship is not one-sided and that a bi-directional relationship between trust and voluntary association involvement exists.

Trust and Voluntary Association Type

In this investigation, whether or not the main findings applied to different types of voluntary associations was assessed. Overall, Putnam divides voluntary association types into three categories: community based, church based and work based (2000:49). Of the three categories, four of five of the voluntary association types used in the present analysis fall under these broad groupings: professional organization falls under the work based category while social groups and sports clubs fall under the community based category. Membership in a religious group can be placed under the church-based category. Based on the rapid growth of environmental organizations and their "mail-order" approach to membership, environmental organizations were included in the present analysis given the increased amount of attention they have recently received as one of the emerging voluntary association groups of interest (Putnam 2000:53). Arguably, environmental organizations also represent a type of social movement organization. It has been argued that social movement groups take on different forms compared to traditional voluntary association groups. Thus, the "social-capital-creating" ability of groups such as environmental organizations provides an interesting addition to the analysis of the relationship between trust and selected types of voluntary associations.

The results from this stage of the investigation found that membership in four out of the five voluntary association types examined increases for individuals who gave a trusting response at Time 1. Respondents who indicated a positive sense of trustworthiness at Time 1 are more likely to become a member and/or maintain his or her membership in a religious group, social group, sports club or environmental group in Time 2. Findings indicate that trust is not a significant predictor of membership in a professional organization. However, the overall findings suggest that a causal link from generalized trust to membership applies to various types of voluntary associations.

Interestingly, the nature of membership in a professional organization may provide an explanation for the diminished role of trust on professional organization membership. Professional associations typically represent occupations requiring higher levels of education (for example professional engineering associations, veterinary medical associations etc). They are orientated to facilitate the interests of the group and its members in matters relating to employment, work standards, and wages. Although included among the list of voluntary associations, professional organizations may represent a form of nation-wide employee representation and therefore trust does not play a significant role in membership or the likelihood of being a member of a professional body.

Also, this measure is likely capturing the effects of occupation rather than the causal relationship between trust and voluntary association type. Economic status was controlled for through the income variable, and skill level and abilities were controlled through the education variable. However, since the BHPS did not include a suitable occupation variable[57] for the present investigation, the effect of occupation may correspond to membership in a professional organization measure. Arguably, there may be differences in the levels of trust and voluntary association involvement related to the orientation of different professional occupations.

Much like previous work by Stolle and Rochon (1998), the results also suggest that the nature of an organization does have different effects on levels of generalized trust. Three of the five selected association types were found to influence levels of trust. Those who were members of a religious group, environmental group or professional organization at Time 1 are more likely to have positive attitudes to the trustworthiness of others than those who were not members.

[57] The BHPS uses the Standard Occupational Classification (SOC) system with over 820 occupations (and 449 broad occupation categories). This level of detail requires strong knowledge of the occupational classification grid and would have required a great deal of time and effort to categorize and collapse the variable into a reasonable occupation measure.

By and large, the role of religious membership is often the subject of much debate. From a theoretical point of view, participation in religious group has been thought to be a form of "bridging" social capital where members are encouraged to go out into the community especially to connect with those in need (Kwak et al. 2004: 645). In this view, religious membership should foster increased generalized trust. On the other hand, religious membership is also thought of as a form of "bonding" social capital where members are surrounded only with those who are similar to themselves (Soroka et al. 2007:108). Results from this study indicate that participation in religious groups is more likely to be inclusive and has a significant influence on an individual's sense of trust.

Even with the high proportion of 'mail-in' memberships that are common with environmental groups, findings from this investigation indicate that joining an environmental group leads to increased levels of trust. Within the social capital literature, mail-in memberships are a neglected area of research. According to Putnam (2000:53), mail-in memberships often do not require much work or effort on the part of the member and there is little opportunity, if any at all, to meet and form a connection with other individuals within the member's community of interest.

Following from this, descriptives from the present investigation demonstrate a high proportion of environmental group members were found to be non-active members (approximately 60%).[58] However, results from the joining and trusting analysis suggest the presence of a relationship from membership in an environmental group to generalized trust, regardless of the 'mail-in' membership status. Indeed, findings suggest the act of joining an environmental group does increase the likelihood of trusting the generalized other. Arguably, individuals who are concerned with environmental damage may also have strong community orientations as well as

[58] See Appendix F for cross-tabulations of membership in organization and active in that organization.

concern for the physical and emotional health of their communities. This community care orientation may also attract those with higher levels of generalized trust and civic engagement.

The effect of professional group membership on trust is positive but should be interpreted with caution. As mentioned before, professional associations typically represent individuals in occupations requiring higher levels of education. As would be expected, the relationship between education and trust appears to that more highly educated are more likely to have a more positive sense of trustworthiness of others (Miller 1992; Putnam 1995; Schofer and Fourcade-Gourinchas 2001; Rothstein 2002; Uslaner 2002:35; Soroka et al. 2007:104). Thus, the results seen here may not be a result of participation in a voluntary association but may be a result of occupation classification.

Of interest, social group membership and sports group membership have no effect on levels of generalized trust. Two explanations can account for this finding. First, social groups may be more bonding than bridging (given the limited amount of information in the survey questionnaire the nature of the social group is difficult to determine) and thus represents a form of "bonding" social capital where members are surrounded only with those who are similar to themselves. Sports clubs may simply be membership at a gym or recreation center and do not result in the human relationships required to make cooperative efforts. Indeed, neither of these types of membership would create opportunities to foster generalized trust and thus explain the non-result for a connection between social and sports clubs with trust. A second explanation may be an artefact of the BHPS data set. Small numbers of responses for each association type indicate that results may be weakened and should be interpreted with caution.[59]

The finding of this investigation suggests that across four of the five types of associations examined, the general belief in the trustworthiness of others reflects an overall tendency for higher

[59] Member of a social group (N=993 or 10.7%). Member of a sports club (N=1664 or 17.9%)

chances of being involved in voluntary associations and networks (with the exception of professional organizations). In addition, similar to previous research, results indicate that association type matters when it comes to developing and maintaining a sense of trust in the generalized other.

From a social capital perspective, the findings from this study serve to support the argument that the relationship between trusting and joining is complex. Previous literature has debated, contested and confirmed the reciprocal relationship between trust and associational membership. Results from this study indicate that there is a reciprocal connection between the two concepts and these conclusions are confirmed through the use of longitudinal data. In addition, findings from the associational type analysis provide an interesting glimpse at how associational type can affect levels of generalized trust. At the same time, the effect of trust on membership in the selected voluntary association types revealed that trust, in general, has a significant influence on membership, regardless of the nature of the association.

Control Variables

As part of the analysis, the question of how the variables used as statistical control variables affected voluntary association involvement and trust was also examined. Results from the analysis of the independent variables' effect on trust, associational membership, active associational membership and the frequency of unpaid voluntary work are consistent with overall trends and patterns found in the majority of the existing social capital literature. The overall profile of respondents who are high trusters and joiners confirm the powerful effects of education and age on trust and voluntary association involvement. Income, ethnic group membership, sex, marital status and number of children in household are still significant in most cases but play a less of a dominant

role (with sometimes no significant outcome at all) on trust, group membership, active membership and frequency of unpaid voluntary work.

As would be expected, the relationship between education and trust appears to be fairly straightforward. As with other studies, results from this investigation support the claim that more highly educated people are more trusting and more likely to score high on voluntary association measures (Miller 1992; Putnam 1995; Schofer and Fourcade-Gourinchas 2001; Rothstein 2002; Uslaner 2002:35; Soroka et al. 2007:104). One argument as to why higher levels of education result in higher levels of trusting and joining is that education teaches world values and exposes people to different experiences, cultures and norms (Uslaner 2002).

Not surprisingly, results also indicated that, in general, older people are more likely to trust than younger individuals and they are also more likely to join. However, the relationship is not completely linear; in fact the effect of age is found to be curvilinear in all four cases where levels of trust and voluntary association involvement peak at a certain age group and then show signs of decline (albeit small). In general, when looking at the impact of age on levels of trust, the findings suggest that as respondents get older, the likelihood of trusting people increases. However, positive reactions to the trustworthiness of others are highest when individuals reach the 60 to 70 age range.

Of the three voluntary association indicators, participation through memberships, activities or unpaid voluntary work reaches its maximum somewhere in the 60s age range and are at their minimum for the youngest age group included in the present investigation. This trend follows a similar pattern to Putnam's "natural arc of life's engagements" (2000:249) although the arc has shifted to peak around 15 to 20 years later. This shift could be a result of increased levels of early retirement leaving more time for unpaid voluntary work or associational involvement, improved

health care (that is, people can now stay active for longer and participate more) or increased financial stability that typically comes with age.

Turning to the effect of income, results from this investigation follow similar patterns reported in previous work. The effect of income (albeit small) is found to be significant on trust, membership in a voluntary association as well as active membership in a voluntary association. As expected, those with higher the monthly incomes have a higher expected probability for trusting. Similarly, for the voluntary association membership (membership and active membership) models, the higher the monthly income, the more likely a respondent is to be a member of a voluntary association or to be active in a voluntary association. This is largely because people with higher incomes tend to have more leisure time. Income does not appear to effect frequency of unpaid voluntary work.

While minority status (race) is not found to be significant predictor of activity in a voluntary association or the activity of doing voluntary work, it is found to have a significant effect on trust and membership in a voluntary association. Here, results indicate that respondents who identified as 'white' are more inclined to be trusting than 'non-whites.' What is more, ‘whites’ are expected to have a higher likelihood of being a member of a voluntary association when compared to ‘non-whites.’ This supports findings from previous studies that have suggested that where the majority of the population is white (which is the case), higher degrees of trust can be found among white people when compared to other ethnic minorities (Claibourn and Martin 2000). Others have suggested that being a member of a minority may lead to forms of discrimination and thus, racial minorities have shown lower levels of trust and community involvement (Brehm and Rahn 1997; Uslaner 2002).

Gender does not have a significant effect on trust or active membership in a voluntary association. Interestingly, gender does influence the likelihood that one is a member of a voluntary association as well as the act of doing unpaid voluntary work. In *Bowling Alone* (2000:95), Putnam argued that there are patterns of difference between male and female participation and levels of trust and these differences are reflected in the results from the present investigation. We observe that males have a higher likelihood of being a member of a voluntary association when compared to their female counterparts. However, even with lower levels of formal membership, it has been shown that women spend more time doing unpaid voluntary work and participate more in informal networks and associations whereas men tend more to be members of associations were little active participation is required. This investigation supports this argument: women have higher probabilities for doing unpaid voluntary work than men.

Contrary to previous work (Putnam 1995; Fukuyama 1995; Veenstra and Tanner 2002), results from this study indicate that marital status does not have a significant impact on levels of generalized trust. As would be expected, if generalized trust does indeed only speak to trust in strangers, then its presence or absence should have little to do with interpersonal relationships and/or adult partnerships. However, marital status was found to influence membership in a voluntary association, active membership as well as frequency of unpaid voluntary work. Previous studies have suggested that non-married people are less likely to be engaged in civic life (Putnam 1995; Fukuyama 1995; Veenstra and Tanner 2002). To some degree this assumption is supported by this investigation in that married people do have among the highest probabilities for membership, active membership and frequency of voluntary work when compared to the other categories. What is interesting is that non-married people are also more inclined to be score higher probabilities on the associational involvement members when compared to the other remaining

categories (with the exception of widowers). These results are similar to those found by Claibourn and Martin (2000) suggesting that singles are now showing higher levels of joining and participating than expected for the social interaction component of voluntary organizations.

The number of own children in household is only significant for the membership in a voluntary association and frequency of unpaid voluntary work models. Results show that as the number of children increases, the expected probability for being a member of a voluntary association decreases. This decline in the probability of joining may be due to the limited amount of time parents have to participate in networks outside of their family unit. However the reverse effect is seen when looking at frequency of unpaid voluntary work. Here, the findings show that as the number of children increases, the likelihood of doing voluntary work also increases. What this suggests is that although parents are less likely to be formal members of voluntary associations, as they have more children they are more likely to spend more time doing voluntary work.

Limitations of Study

This study has been limited to the trust and voluntary association involvement measures available in the BHPS. To begin, the BHPS does not have a multiple memberships question. Multiple memberships within associational group categories can serve to indicate if an individual has more than one membership of the same type (typically these would only be counted once) (Curtis et al. 2001:788). A question addressing multiple memberships could reveal findings such as patterns of inclusiveness or elevated levels of civic engagement. This in turn yields a clearer picture of how membership affects trust and voluntary association involvement.

At the same time, the ability to asses the role of type of voluntary association was restricted by small N concerns as well as the types of organizations listed in the survey. The relatively low number of respondents in the various kinds of voluntary association types (ranging from 3.1% to

17.9%) influences the sensitivity of the analysis to any actual effect. In addition, the number organizations listed in the survey questions offer only a narrow choice of types of voluntary associations when compared to surveys such as the World Values Study. For example, Stolle and Rochon (1998) based their analysis on 43 different types of organizations, giving a much broader sense of how specific types of associations affect the growth or decline of social capital. It would be beneficial if future waves of the BHPS allow for the inclusion of additional types of associations – especially memberships that may not represent the typical forms of formal associations (such as female athletic groups, ethnic or cultural identity groups (Arneil 2006)) to capture their effects on levels of trust as well as their abilities to 'bridge or bond.'

A further limitation is the reliability and validity of the measures used to make sure the relationship in question is being measured in a sufficient way. Although previous studies have used similar measures for generalized trust and associational membership, findings here would have been more reliable if additional measures could have been included. Within the BHPS, there was no other measure of generalized trust available for examination. Similar studies have utilized a grouping of trust measures (such as the standard GSS trust question used in the present analysis in combination with other measures such as 'people can be trusted until they prove otherwise' (Soroka et al. 2007:98), 'you can't count on strangers anymore' (Glaeser et al. 2000: 843)) as ways to assess whether or not levels of trust vary across measurements. There were also limitations with the associational membership measures. Although a grouping of measures was used, there is always a possibility that some aspect of association or active participation may be missed. In this sense, a greater elaboration of associational types or methods of participating (formal and informal) may have served to solidify results.

A further issue is the number of missing cases within the data. Overall, the number of missing cases using the complete thirteen waves of the study were high (total N=39, 076).[60] This was partially due to the fact that wave retention from waves 1 through to 13 changed. Similarly, additional households were added in for Scotland and Wales at waves seven and eight. Finally, a number of youth respondents (15 years and under) were excluded from the analysis (due to the fact that they were asked a separate 'youth' survey). Despite the level of missing cases overall, sophisticated methods for dealing with missing cases for categorical dependent variables are not well developed and thus were not executed in this study. However, for the present analysis, participants were linked across waves through a personal identifier and only those who answered full interviews from waves seven through thirteen were included as valid cases for analysis in each model. The number of missing cases for each model (full interview cases only) was fairly small, ranging between 200 and 300 cases. At the same time, descriptive statistics indicate that the general characteristics of the reduced number of valid cases were similar to populations sampled and examined in the existing literature.

Another limitation that must be taken into account is related to the use of multi-wave panel data. When using time-series models, the assumption that the errors related to the time one and two observations are uncorrelated is often violated. Serial correlation can appear in time-series data when errors given at time period one carry over into time period two. The models presented in this investigation do not account for potential correlation of the error terms. This is because in order to address the issue of correlated errors, multiple continuous measures of the dependent variable or a large number of waves of data must be used. In the BHPS, the generalized trust question was only included in waves eight, ten and thirteen; thus reducing the number of waves of data applicable to this study and the ability to employ multiple measures of the trust dependent variable. As the

[60] Valid cases for each model execute in this analysis ranged from N=7895 to N= 11,807.

BHPS continues, hopefully the survey will continue to include the trust and voluntary association involvement measures to allow for continued research on the question of causal links without the drawback of correlated error terms. However, even if serial correlation is present, the consequence of this is that the stability coefficients will be over-estimated and the cross-lagged regression coefficients under-estimated, and thus the models discussed in the present analysis would represent a conservative test of the relationship between trust and voluntary association involvement.

Finally, much of the social capital literature is North American and examines North American data sets. Given that the BHPS is a survey directed to the study of Great Britain, the present analysis is limited to examining the relationship between trusting and joining in the British context. However, results from the control variable analysis indicate that the data are similar and previous findings related to the general characteristics of the population are upheld.

In addition, a number of social capital studies also offer a comparative analysis to allow for a more reliable examination of the relationship between trust and voluntary association involvement. Again, this was not possible because the BHPS is limited to the sample of Great Britain. A future step would be to take the findings from this study and compare them to results from a survey of similar magnitude (although longitudinal surveys that are timely and include trust and associational involvement measures are difficult to locate). However, due to the small amount of empirical research on the causal links between trust and associational involvement, the findings from the present investigation contribute important results that are integral to the study of social capital and more specifically to the study of voluntary associations and trust.

Future Research

Despite these limitations, the present study provides an important addition to current research aimed at explaining the complexities of this relationship using up-to-date longitudinal data

and statistical methods. The causal relationship between trust and associational membership is an intricate issue that requires further research. Two areas of inquiry have emerged during the course of the present investigation. Unsurprisingly, the first area of interest is an expansion of the assessment of voluntary association type. As noted above, the findings in this study surrounding the role of voluntary association type remain unclear. Although the present investigation suggests that church based, work based and environmental organizations promote greater levels of trust for members (while social and sports associations do not), a larger data set with larger Ns and a greater selection of types of voluntary associations would allow for a more reliable examination of the impact of "type." While findings from this study support some of the existing literature and at other times does not, future research must address the issue of association type (using timely longitudinal data) to explore the importance of typologies of associations to the study of the relationship between voluntary association involvement and trust.

The second area of interest would extend the research undertaken in this study to include an analysis of the causal links involving political trust. Within social capital literature, the empirical connection between political trust and voluntary associations remains to be addressed (see Brehm and Rahn (1997)). Expanding the question of causal order to include political trust may provide interesting insights that have yet to be adequately explored in social capital literature. Indeed, many social scholars relate decreasing levels of community participation to political outcomes (Paxton 1999:88) but of the literature that examines the causal relationship between trust and voluntary association involvement, the majority of studies have focused on measures of generalized trust (with the exception of Brehm and Rahn 1997 and Veenstra and Tanner 2002). It is possible to assent to the notion that the two forms of trust are related. Those who express high levels of generalized trust are most likely to report some level of political trust (Hall 1999:454). However, the foundations of political trust appear to be different than basis from which generalizes trust is

formed. Uslaner argues that political trust is largely experience based (and not morally based like interpersonal or generalized trust) and depends on expectations about how government will function (Uslaner 2002:44). Thus, political trust is based on having confidence in government to perform its duties to the citizenry. It can also be based on whether or not the citizenry agrees with the policies and people in power.

Findings that have been presented here suggest a close relationship between generalized trust and voluntary association involvement. What remains to be seen is the role, if any, political trust takes plays in explaining voluntary association involvement and the formation of generalized trust. Future research that aims to explore the empirical relationship between voluntary associations and trust must take these different forms of trust into consideration.

Conclusion

Since the popularization of Putnam's theory of social capital, an important question regarding the empirical relationship between generalized trust and associational involvement has come to the surface. Examining the social capital literature, this study developed several hypotheses regarding the causal link between voluntary association involvement and generalized trust.

Using longitudinal data as recent as 2004, this study has applied statistical forms of analysis to the examination of the relationship between generalized trust and voluntary association involvement using multi-wave data collected from the British Household Panel Survey. Research results indicate that findings from this investigation are fairly consistent for both of the two time periods examined ((1997 to 2001) and (1999 to 2004)). Through the use of longitudinal data, this study demonstrates how voluntary association involvement, anchored in community participation and cooperation, does the work of developing an increased sense of trustworthiness in others over

time. At the same time, findings also demonstrate that an individual's sense of trustworthiness can extend into positive increases in voluntary association involvement. These results not only support the claims of Putnam and others, but also re-confirm them using the appropriate methods and data, that individuals who participate in voluntary associations are also individuals who exhibit higher levels of trust as well as those who claim that individuals with a positive sense of trust are also more likely to be involved with voluntary associations and related activities (Putnam 1993 &2000; Stolle and Rochon 1998; Brehm and Rahn 1997).

The present investigation offers many insights into the relationship between trust and voluntary association involvement that is so ubiquitous within the existing social capital literature. If, indeed, social capital is in decline, the results from this investigation would suggest that an option for response should be aimed at encouraging participation in voluntary associations to increase both levels of generalized trust and the productivity of both the individuals involved as well as the community at large. A caution to this approach is that not all associational involvement will result in increased levels of trust within its members. Results from this research study, however limited, suggest that while some types of voluntary associations increase levels of trust, others have no significant effect.

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APPENDIX A

Table 45: Summary of Outcomes for Wave 1 Respondents

Wave #	% ineligible	% of eligible responding	% of eligible responding at all waves	Wave on wave response rate (interviewed all waves up to previous)
2	1.4	87.7	87.7	87.7
3	2.9	81.5	79.1	90.3
4	4.3	79.9	74.8	94.9
5	5.6	76.8	70.6	94.8
6	6.9	77.3	68.7	97.6
7	8.4	76	66.7	97.6
8	9.5	74.1	64.7	97.4
9	10.5	72.1	62.4	97
10	12	70.4	60	96.7
11	12.8	68.4	59.3	96.1
12	13.7	66.6	57.1	96.5
13	14.8	64.9	55.1	96.8

Table 46: British Household Panel Survey - Dates of Collection

Wave #	**Collection Dates**
1	3rd September 1991 to 30th January 1992
2	5th September 1992 to 30th April 1993
3	5th September 1993 to 30th April 1994
4	3rd September 1994 to 9th May 1995
5	4th September 1995 to 30th April 1996
6	29th August 1996 to 17th April 1997
7	29th August 1997 to 8th May 1998
8	1st September 1998 to 8th May 1999
9	1st September 1999 to 30th April 2000
10	1st September 2000 to 31st May 2001
11	1st September 2001 to 25th May 2002
12	1st September 2002 to 30th April 2003
13	1st September 2003 to 10th May 2004

APPENDIX B

Table 47: Variables Used in Study by Wave

Variable	Type Of Variable		Wave							
	DV	IV	6	7	8	9	10	11	12	13
Generalized Trust	✓	✓			✓		✓			✓
Frequency of Voluntary Work	✓	✓			✓		✓			
Member/Active for Types of Voluntary Association	✓	✓		✓		✓		✓		
Education		✓	✓	✓	✓	✓	✓	✓	✓	✓
Age		✓	✓	✓	✓	✓	✓	✓	✓	✓
Income		✓	✓	✓	✓	✓	✓	✓	✓	✓
Sex		✓	✓	✓	✓	✓	✓	✓	✓	✓
Ethnic Group Membership		✓	✓	✓	✓	✓	✓	✓	✓	✓
Marital Status		✓	✓	✓	✓	✓	✓	✓	✓	✓

APPENDIX C

Table 48: Effect of Unpaid Voluntary Work on Trust – Variable Statistics (1997 to 2001)

Valid Cases: 8464
Missing Cases: 230

Dependent Variable:		**N**	**%**	B
Trustworthiness of others	Most people can be trusted	3063	36.2	
	Other/depends	138	1.6	
	Cannot be too careful	5263	62.2	
Independent Variables:				
Trustworthiness of others	1 Most people can be trusted	3231	38.2	-2.180
	2 Other/depends	182	2.2	-1.075
	3 Cannot be too careful	5051	59.7	0
Sex	1 Male	3798	44.9	-0.038
	2 Female	4666	55.1	0
Race	1 White	8212	97.0	-0.213
	9 Other ethnic grp	252	3.0	0
Marital status	1 Married	4950	58.5	0.034
	2 Living as couple	966	11.4	0.078
	3 Widowed	666	7.9	0.125
	4 Divorced	515	6.1	0.335
	5 Separated	138	1.6	0.102
	6 Never married	1229	14.5	0
Highest educational qualification	1 Higher Degree	170	2.0	-1.233
	2 First Degree	747	8.8	-0.960
	4 Other Higher QF	2002	23.7	-0.522
	6 GCE A Levels	962	11.4	-0.648
	7 GCE O Levels	1599	18.9	-0.394
	8 No higher education	2984	35.3	0
How often: Do voluntary work	1 Do Voluntary Work	1545	18.3	-0.295
	5 Never/almost never	6919	81.7	0
Age at Date of Interview (10s of years)		8694	100.0	-0.362
Age2 (age-squared)		8694	100.0	0.024
Total Income: last month (logged)		8694	100.0	-0.054
Number of own children in household		8694	100.0	-0.023

Table 49: Effect of Unpaid Voluntary Work on Trust – Variable Statistics (1999 to 2004)

Valid Cases: 10,059
Missing Cases: 312

Dependent Variable:		**N**	**%**	B
Trustworthiness of others	Most people can be trusted	4601	45.7	
	Other/depends	197	2.0	
	Cannot be too careful	5261	52.3	
Independent Variables:				
Trustworthiness of others	1 Most people can be t	3863	38.4	-2.013
	2 Other/depends	161	1.6	-0.838
	3 Cannot be too careful	6035	60.0	0
Sex	1 Male	4540	45.1	-0.043
	2 Female	5519	54.9	0
Race	1 White	9820	97.6	-0.737
	9 Other ethnic grp	239	2.4	0
Marital status	1 Married	6023	59.9	-0.073
	2 Living as couple	1141	11.3	0.101
	3 Widowed	751	7.5	-0.013
	4 Divorced	597	5.9	0.151
	5 Separated	170	1.7	0.146
	6 Never married	1377	13.7	0
Highest educational qualification	1 Higher Degree	253	2.5	-0.950
	2 First Degree	1052	10.5	-1.127
	4 Other Higher QF	2674	26.6	-0.409
	6 GCE A Levels	1146	11.4	-0.613
	7 GCE O Levels	1723	17.1	-0.309
	8 No higher education	3211	31.9	0
How often: Do voluntary work	1 Do Voluntary Work	1955	19.4	-0.292
	5 Never/almost never	8104	80.6	0
Age at Date of Interview (10s of years)		10371	100.0	-0.236
Age2 (age-squared)		10371	100.0	0.017
Total Income: last month (logged)		10371	100.0	-0.043
Number of own children in household		10371	100.0	0.057

Table 50: Effect of Membership in a Voluntary Association on Trust – Variable Statistics (1997 to 2001)

Valid Cases: 8193
Missing Cases: 206

Dependent Variable:		**N**	**%**	B
Trustworthiness of others	1 Most people can be t	2988	36.5	
	2 Other/depends	133	1.6	
	3 Cannot be too careful	5072	61.9	
Independent Variables:				
Trustworthiness of others	1 Most people can be trusted	3142	38.3	-2.182
	2 Other/depends	177	2.2	-1.101
	3 Cannot be too careful	4874	59.5	0
Member of a voluntary organization	1 Yes	4735	57.8	-0.224
	2 No	3458	42.2	0
Sex	1 Male	3653	44.6	-0.015
	2 Female	4540	55.4	0
Race	1 White	7949	97.0	-0.165
	9 Other ethnic grp	244	3.0	0
Marital status	1 Married	4863	59.4	0.058
	2 Living as couple	842	10.3	0.046
	3 Widowed	657	8.0	0.138
	4 Divorced	508	6.2	0.334
	5 Separated	134	1.6	0.187
	6 Never married	1189	14.5	0
Highest educational qualification	1 Higher Degree	163	2.0	-1.253
	2 First Degree	711	8.7	-0.961
	4 Other Higher QF	1946	23.8	-0.518
	6 GCE A Levels	916	11.2	-0.632
	7 GCE O Levels or Equiv	1529	18.7	-0.410
	8 No higher education	2928	35.7	0
Age at Date of Interview (10s of years)		8399	100.0	-0.338
Age2 (age-squared)		8399	100.0	0.022
Total Income: last month (logged)		8399	100.0	-0.039
Number of own children in household		8399	100.0	-0.033

Table 51: Effect of Membership in a Voluntary Association on Trust – Variable Statistics (1999 to 2004)

Valid Cases: 9483
Missing Cases: 264

Dependent Variable:		**N**	**%**	B
Trustworthiness of others	Most people can be trusted	4360	46.0	
	Other/depends	191	2.0	
	Cannot be too careful	4932	52.0	
Independent Variables:				
Trustworthiness of others	1 Most people can be trusted	3664	38.6	-2.003
	2 Other/depends	152	1.6	-0.851
	3 Cannot be too careful	5667	59.8	0
Member of a voluntary organization	1 Yes	5636	59.4	-0.253
	2 No	3847	40.6	0
Sex	1 Male	4256	44.9	0.013
	2 Female	5227	55.1	0
Race	1 White	9264	97.7	-0.786
	9 Other ethnic grp	219	2.3	0
Marital status	1 Married	5775	60.9	-0.057
	2 Living as couple	997	10.5	0.132
	3 Widowed	725	7.6	0.015
	4 Divorced	563	5.9	0.155
	5 Separated	159	1.7	0.185
	6 Never married	1264	13.3	0
Highest educational qualification	1 Higher Degree	237	2.5	-0.934
	2 First Degree	994	10.5	-1.121
	4 Other Higher QF	2558	27.0	-0.422
	6 GCE A Levels	1070	11.3	-0.630
	7 GCE O Levels	1610	17.0	-0.320
	8 No higher education	3014	31.8	0
Age at Date of Interview (10s of years)		9747	100.0	-0.241
Age2 (age-squared)		9747	100.0	0.017
Total Income: last month (logged)		9747	100.0	-0.032
Number of own children in household		9747	100.0	0.046

Table 52: Effect of Being an Active in a Voluntary Association on Trust – Variable Statistics (1997 to 2001)

Valid Cases: 8154
Missing Cases: 245

Dependent Variable:		**N**	**%**	B
Trustworthiness of others	1 Most people can be t	2969	36.4	
	2 Other/depends	133	1.6	
	3 Cannot be too careful	5052	62.0	
Independent Variables:				
Trustworthiness of others	1 Most people can be trusted	3122	38.3	-2.187
	2 Other/depends	177	2.2	-1.104
	3 Cannot be too careful	4855	59.5	0
Active in a voluntary organization	1 Yes	3986	48.9	-0.258
	2 No	4168	51.1	0
Sex	1 Male	3631	44.5	-0.021
	2 Female	4523	55.5	0
Race	1 White	7910	97.0	-0.175
	9 Other ethnic grp	244	3.0	0
Marital status	1 Married	4831	59.2	0.043
	2 Living as couple	842	10.3	0.041
	3 Widowed	656	8.0	0.129
	4 Divorced	506	6.2	0.347
	5 Separated	133	1.6	0.155
	6 Never married	1186	14.5	0
Highest educational qualification	1 Higher Degree	162	2.0	-1.220
	2 First Degree	710	8.7	-0.956
	4 Other Higher QF	1936	23.7	-0.511
	6 GCE A Levels	911	11.2	-0.628
	7 GCE O Levels	1525	18.7	-0.402
	8 No higher education	2910	35.7	0
Age at Date of Interview (10s of years)		8399	100.0	-0.352
Age2 (age-squared)		8399	100.0	0.023
Total Income: last month (logged)		8399	100.0	-0.042
Number of own children in household		8399	100.0	-0.028

Table 53: Effect of Being an Active in a Voluntary Association on Trust – Variable Statistics (1999 to 2004)

Valid Cases: 9478
Missing Cases: 269

Dependent Variable:		**N**	**%**	B
Trustworthiness of others	Most people can be trusted	4357	46.0	
	Other/depends	191	2.0	
	Cannot be too careful	4930	52.0	
Independent Variables:				
Trustworthiness of others	1 Most people can be trusted	3661	38.6	-2.006
	2 Other/depends	152	1.6	-0.848
	3 Cannot be too careful	5665	59.8	0
Active in a voluntary organization	1 Yes	4559	48.1	-0.190
	2 No	4919	51.9	0
Sex	1 Male	4253	44.9	0.000
	2 Female	5225	55.1	0
Race	1 White	9259	97.7	-0.791
	9 Other ethnic grp	219	2.3	0
Marital status	1 Married	5770	60.9	-0.070
	2 Living as couple	997	10.5	0.129
	3 Widowed	725	7.6	0.008
	4 Divorced	563	5.9	0.151
	5 Separated	159	1.7	0.192
	6 Never married	1264	13.3	0
Highest educational qualification	1 Higher Degree	237	2.5	-0.970
	2 First Degree	993	10.5	-1.151
	4 Other Higher QF	2555	27.0	-0.446
	6 GCE A Levels	1070	11.3	-0.650
	7 GCE O Levels	1609	17.0	-0.330
	8 No higher education	3014	31.8	0
Age at Date of Interview (10s of years)		9747	100.0	-0.264
Age2 (age-squared)		9747	100.0	0.019
Total Income: last month (logged)		9747	100.0	-0.036
Number of own children in household		9747	100.0	0.052

Table 54: Effect of Voluntary Association Involvement on Trust – Variable Statistics (1997 to 2001)

Valid Cases: 8139
Missing Cases: 260

			N	%	B
Dependent Variable:					
Trustworthiness of others	1	Most people can be t	2966	36.4	
	2	Other/depends	133	1.6	
	3	Cannot be too careful	5040	61.9	
Independent Variables:					
Trustworthiness of others	1	Most people can be trusted	3118	38.3	-2.169
	2	Other/depends	177	2.2	-1.088
	3	Cannot be too careful	4844	59.5	0
Member of a voluntary organization	1	Yes	4687	57.6	-0.087
	2	No	3452	42.4	0
Active in a voluntary organization	1	Yes	3978	48.9	-0.168
	2	No	4161	51.1	0
Sex	1	Male	3625	44.5	-0.027
	2	Female	4514	55.5	0
Race	1	White	7897	97.0	-0.162
	9	Other ethnic grp	242	3.0	0
Marital status	1	Married	4825	59.3	0.031
	2	Living as couple	838	10.3	0.022
	3	Widowed	653	8.0	0.113
	4	Divorced	505	6.2	0.327
	5	Separated	133	1.6	0.154
	6	Never married	1185	14.6	0
Highest educational qualification	1	Higher Degree	162	2.0	-1.167
	2	First Degree	709	8.7	-0.910
	4	Other Higher QF	1935	23.8	-0.469
	6	GCE A Levels	909	11.2	-0.600
	7	GCE O Levels	1521	18.7	-0.382
	8	No higher education	2903	35.7	0
How often: Do voluntary work	1	Do Voluntary Work	1500	18.4	-0.219
	5	Never/almost never	6639	81.6	0
Age at Date of Interview (10s of years)			8399	100.0	-0.315
Age2 (age-squared)			8399	100.0	0.020
Total Income: last month (logged)			8399	100.0	-0.043
Number of own children in household			8399	100.0	-0.024

Table 55: Effect of Voluntary Association Involvement on Trust – Variable Statistics (1999 to 2004)

Valid Cases: 9458
Missing Cases: 289

Dependent Variable:		**N**	**%**	B
Trustworthiness of others	Most people can be trusted	4353	46.0	
	Other/depends	191	2.0	
	Cannot be too careful	4914	52.0	
Independent Variables:				
Trustworthiness of others	1 Most people can be trusted	3653	38.6	-1.996
	2 Other/depends	152	1.6	-0.840
	3 Cannot be too careful	5653	59.8	0
Member of a voluntary organization	1 Yes	5619	59.4	-0.186
	2 No	3839	40.6	0
Active in a voluntary organization	1 Yes	4551	48.1	-0.056
	2 No	4907	51.9	0
Sex	1 Male	4244	44.9	0.001
	2 Female	5214	55.1	0
Race	1 White	9240	97.7	-0.774
	9 Other ethnic grp	218	2.3	0
Marital status	1 Married	5759	60.9	-0.066
	2 Living as couple	996	10.5	0.115
	3 Widowed	723	7.6	0.011
	4 Divorced	562	5.9	0.144
	5 Separated	159	1.7	0.172
	6 Never married	1259	13.3	0
Highest educational qualification	1 Higher Degree	236	2.5	-0.911
	2 First Degree	989	10.5	-1.077
	4 Other Higher QF	2552	27.0	-0.389
	6 GCE A Levels	1068	11.3	-0.610
	7 GCE O Levels	1607	17.0	-0.304
	8 No higher education	3006	31.8	0
How often: Do voluntary work	1 Do Voluntary Work	1849	19.5	-0.241
	5 Never/almost never	7609	80.5	0
Age at Date of Interview (10s of years)		9747	100.0	-0.207
Age2 (age-squared)		9747	100.0	0.014
Total Income: last month (logged)		9747	100.0	-0.034
Number of own children in household		9747	100.0	0.051

Table 56: Effect of Trust on Doing Voluntary Work – Variable Statistics (1997 to 2001)

Valid Cases: 8161
Missing Cases: 238

Dependent Variable:			**N**	**%**	B
How often: Do voluntary work			8161	100.0	
Independent Variables:					
Trustworthiness of others	1	Most people can be trusted	3126	38.3	-0.248
	2	Other/depends	182	2.2	-0.358
	3	Cannot be too careful	4853	59.5	0
Member of a voluntary organization	1	Yes	4698	57.6	-0.507
	2	No	3463	42.4	0
Active in a voluntary organization	1	Yes	3986	48.8	-0.635
	2	No	4175	51.2	0
Sex	1	Male	3634	44.5	0.230
	2	Female	4527	55.5	0
Race	1	White	7912	96.9	-0.066
	9	Other ethnic grp	249	3.1	0
Marital status	1	Married	4835	59.2	-0.091
	2	Living as couple	839	10.3	0.028
	3	Widowed	654	8.0	-0.126
	4	Divorced	507	6.2	0.011
	5	Separated	135	1.7	0.651
	6	Never married	1191	14.6	0
Highest educational qualification	1	Higher Degree	161	2.0	-0.825
	2	First Degree	714	8.7	-0.896
	4	Other Higher QF	1946	23.8	-0.633
	6	GCE A Levels	910	11.2	-0.416
	7	GCE O Levels	1521	18.6	-0.380
	8	No higher education	2909	35.6	0
How often: Do voluntary work	1	Do Voluntary Work	1501	18.4	-2.400
	5	Never/almost never	6660	81.6	0
Age at Date of Interview (10s of years)			8399	100.0	-0.612
Age2 (age-squared)			8399	100.0	0.052
Total Income: last month (logged)			8399	100.0	0.021
Number of own children in household			8399	100.0	-0.048

Table 57: Effect of Trust on Doing Voluntary Work – Variable Statistics (1999 to 2004)

Valid Cases: 9969
Missing Cases: 245

Dependent Variable:			**N**	**%**	B
How often: Do voluntary work			9969	100.0	
Independent Variables:					
Trustworthiness of others	1	Most people can be trusted	3808	38.2	-0.198
	2	Other/depends	171	1.7	-0.353
	3	Cannot be too careful	5990	60.1	0
Member of a voluntary organization	1	Yes	5874	58.9	-0.390
	2	No	4095	41.1	0
Active in a voluntary organization	1	Yes	4760	47.7	-0.263
	2	No	5209	52.3	0
Sex	1	Male	4518	45.3	0.103
	2	Female	5451	54.7	0
Race	1	White	9733	97.6	-0.093
	9	Other ethnic grp	236	2.4	0
Marital status	1	Married	6033	60.5	-0.029
	2	Living as couple	1054	10.6	0.151
	3	Widowed	781	7.8	0.056
	4	Divorced	588	5.9	0.224
	5	Separated	171	1.7	0.224
	6	Never married	1342	13.5	0
Highest educational qualification	1	Higher Degree	242	2.4	-1.142
	2	First Degree	1023	10.3	-0.883
	4	Other Higher QF	2681	26.9	-0.597
	6	GCE A Levels	1112	11.2	-0.714
	7	GCE O Levels	1702	17.1	-0.433
	8	No higher education	3209	32.2	0
How often: Do voluntary work	1	Do Voluntary Work	1912	19.2	-1.927
	5	Never/almost never	8057	80.8	0
Age at Date of Interview (10s of years)			10,214	100.0	-0.263
Age2 (age-squared)			10,214	100.0	0.037
Total Income: last month (logged)			10,214	100.0	-0.021
Number of own children in household			10,214	100.0	-0.036

Table 58: Effect of Trust on Membership in a Voluntary Organization – Variable Statistics (1997 to 2001)

Valid Cases: 8624
Missing Cases: 244

Dependent Variable:			**N**	**%**	B
Member of a voluntary organization			8624	100.0	
Independent Variables:					
Trustworthiness of others	1	Most people can be trusted	3268	37.9	-0.147
	2	Other/depends	197	2.3	-0.181
	3	Cannot be too careful	5159	59.8	0
Member of a voluntary organization	1	Yes	4952	57.4	-2.062
	2	No	3672	42.6	0
Active in a voluntary organization	1	Yes	4213	48.9	-0.584
	2	No	4411	51.1	0
Sex	1	Male	3857	44.7	-0.104
	2	Female	4767	55.3	0
Race	1	White	8359	96.9	-0.132
	9	Other ethnic grp	265	3.1	0
Marital status	1	Married	5046	58.5	-0.139
	2	Living as couple	891	10.3	0.049
	3	Widowed	737	8.5	-0.013
	4	Divorced	532	6.2	0.020
	5	Separated	142	1.6	0.268
	6	Never married	1276	14.8	0
Highest educational qualification	1	Higher Degree	171	2.0	-1.188
	2	First Degree	748	8.7	-0.842
	4	Other Higher QF	2029	23.5	-0.629
	6	GCE A Levels	952	11.0	-0.503
	7	GCE O Levels	1591	18.4	-0.245
	8	No higher education	3133	36.3	0
How often: Do voluntary work	1	Do Voluntary Work	1567	18.2	-0.588
	5	Never/almost never	7057	81.8	0
Age at Date of Interview (10s of years)			8868	100.0	-0.364
Age2 (age-squared)			8868	100.0	0.033
Total Income: last month (logged)			8868	100.0	-0.103
Number of own children in household			8868	100.0	0.064

Table 59: Effect of Trust on Membership in a Voluntary Organization – Variable Statistics (1999 to 2004)

Valid Cases: 7895
Missing Cases: 319

Dependent Variable:			**N**	**%**	B
Member of a voluntary organization			7895	100.0	
Independent Variables:					
Trustworthiness of others	1	Most people can be trusted	2870	36.4	-0.124
	2	Other/depends	128	1.6	-0.324
	3	Cannot be too careful	4897	62.0	0
Member of a voluntary organization	1	Yes	4512	57.2	-2.251
	2	No	3383	42.8	0
Active in a voluntary organization	1	Yes	3624	45.9	-0.409
	2	No	4271	54.1	0
Sex	1	Male	3527	44.7	-0.096
	2	Female	4368	55.3	0
Race	1	White	7660	97.0	-0.186
	9	Other ethnic grp	235	3.0	0
Marital status	1	Married	4690	59.4	-0.106
	2	Living as couple	748	9.5	0.086
	3	Widowed	677	8.6	-0.043
	4	Divorced	503	6.4	0.151
	5	Separated	125	1.6	0.497
	6	Never married	1152	14.6	0
Highest educational qualification	1	Higher Degree	173	2.2	-0.784
	2	First Degree	733	9.3	-0.966
	4	Other Higher QF	2130	27.0	-0.516
	6	GCE A Levels	824	10.4	-0.301
	7	GCE O Levels	1346	17.0	-0.255
	8	No higher education	2689	34.1	0
How often: Do voluntary work	1	Do Voluntary Work	1482	18.8	-0.874
	5	Never/almost never	6413	81.2	0
Age at Date of Interview (10s of years)			8214	100.0	-0.302
Age2 (age-squared)			8214	100.0	0.029
Total Income: last month (logged)			8214	100.0	-0.071
Number of own children in household			8214	100.0	0.017

Table 60: Effect of Trust on Being Active in a Voluntary Association – Variable Statistics (1997 to 2001)

Valid Cases: 8618
Missing Cases: 250

Dependent Variable:			**N**	**%**	B
Active in a voluntary organization			8618	100.0	
Independent Variables:					
Trustworthiness of others	1	Most people can be trusted	3264	37.9	-0.195
	2	Other/depends	198	2.3	0.022
	3	Cannot be too careful	5156	59.8	0
Member of a voluntary organization	1	Yes	4945	57.4	-0.739
	2	No	3673	42.6	0
Active in a voluntary organization	1	Yes	4210	48.9	-1.212
	2	No	4408	51.1	0
Sex	1	Male	3853	44.7	-0.019
	2	Female	4765	55.3	0
Race	1	White	8352	96.9	-0.064
	9	Other ethnic grp	266	3.1	0
Marital status	1	Married	5039	58.5	0.067
	2	Living as couple	891	10.3	0.100
	3	Widowed	738	8.6	-0.068
	4	Divorced	532	6.2	0.116
	5	Separated	142	1.6	0.365
	6	Never married	1276	14.8	0
Highest educational qualification	1	Higher Degree	171	2.0	-0.958
	2	First Degree	747	8.7	-0.540
	4	Other Higher QF	2025	23.5	-0.350
	6	GCE A Levels	952	11.0	-0.191
	7	GCE O Levels	1590	18.4	-0.286
	8	No higher education	3133	36.4	0
How often: Do voluntary work	1	Do Voluntary Work	1567	18.2	-0.702
	5	Never/almost never	7051	81.8	0
Age at Date of Interview (10s of years)			8868	100.0	-0.142
Age2 (age-squared)			8868	100.0	0.012
Total Income: last month (logged)			8868	100.0	-0.029
Number of own children in household			8868	100.0	-0.003

Table 61: Effect of Trust on Being Active in a Voluntary Association – Variable Statistics (1999 to 2004)

Valid Cases: 11,807
Missing Cases: 251

Dependent Variable:			**N**	**%**	B
Active in a voluntary organization			11,807	100.0	
Independent Variables:					
Trustworthiness of others	1	Most people can be trusted	4367	37.0	-0.130
	2	Other/depends	197	1.7	-0.043
	3	Cannot be too careful	7243	61.3	0
Member of a voluntary organization	1	Yes	6742	57.1	-0.974
	2	No	5065	42.9	0
Active in a voluntary organization	1	Yes	5476	46.4	-1.161
	2	No	6331	53.6	0
Sex	1	Male	5319	45.0	0.028
	2	Female	6488	55.0	0
Race	1	White	11525	97.6	-0.172
	9	Other ethnic grp	282	2.4	0
Marital status	1	Married	6952	58.9	-0.037
	2	Living as couple	1226	10.4	0.168
	3	Widowed	1009	8.5	-0.156
	4	Divorced	758	6.4	0.124
	5	Separated	197	1.7	0.315
	6	Never married	1665	14.1	0
Highest educational qualification	1	Higher Degree	252	2.1	-0.569
	2	First Degree	1139	9.6	-0.405
	4	Other Higher QF	3026	25.6	-0.349
	6	GCE A Levels	1285	10.9	-0.207
	7	GCE O Levels	2023	17.1	-0.211
	8	No higher education	4082	34.6	0
How often: Do voluntary work	1	Do Voluntary Work	2210	18.7	-0.807
	5	Never/almost never	9597	81.3	0
Age at Date of Interview (10s of years)			12,058	100.0	0.097
Age2 (age-squared)			12,058	100.0	-0.005
Total Income: last month (logged)			12,058	100.0	-0.011
Number of own children in household			12,058	100.0	-0.085

APPENDIX D

Table 62: Effect of Trust on Membership in a Religious Group – Variable Statistics (1999 to 2004)

Valid Cases: 9301
Missing Cases: 271

Dependent Variable:			**N**	**%**	B
Member of a religious group			9,301	100.0	
Independent Variables:					
Trustworthiness of others	1	Most people can be trusted	3588	38.6	-0.413
	2	Other/depends	156	1.7	-0.731
	3	Cannot be too careful	5557	59.7	0
Member of a religious group	0	Not mentioned	8075	86.8	-3.542
	1	Yes	1226	13.2	0
Active in a religious group	0	Not mentioned	8187	88.0	-1.233
	1	Yes	1114	12.0	0
Sex	1	Male	4161	44.7	0.329
	2	Female	5140	55.3	0
Race	1	White	9091	97.7	0.099
	9	Other ethnic grp	210	2.3	0
Marital status	1	Married	5683	61.1	0.130
	2	Living as couple	974	10.5	0.953
	3	Widowed	715	7.7	0.439
	4	Divorced	555	6.0	0.513
	5	Separated	155	1.7	0.947
	6	Never married	1219	13.1	0
Highest educational qualification	1	Higher Degree	231	2.5	-1.207
	2	First Degree	978	10.5	-0.655
	4	Other Higher QF	2510	27.0	-0.366
	6	GCE A Levels	1041	11.2	-0.187
	7	GCE O Levels	1575	16.9	-0.161
	8	No higher education	2966	31.9	0
Age at Date of Interview (10s of years)			9,572	100.0	-0.589
Age2 (age-squared)			9,572	100.0	0.031
Total Income: last month (logged)			9,572	100.0	-0.024
Number of own children in household			9,572	100.0	-0.102

Table 63: Effect of Trust on Membership in a Professional Organization – Variable Statistics (1999 to 2004)

Valid Cases: 9301
Missing Cases: 271

Dependent Variable:			**N**	**%**	B
Member of a professional org			9,301	100.0	
Independent Variables:					
Trustworthiness of others	1	Most people can be trusted	3588	38.6	-0.153
	2	Other/depends	156	1.7	-0.306
	3	Cannot be too careful	5557	59.7	0
Member of a professional org	0	Not mentioned	8404	90.4	-3.054
	1	Yes	897	9.6	0
Active in a professional org	0	Not mentioned	8938	96.1	-0.465
	1	Yes	363	3.9	0
Sex	1	Male	4161	44.7	-0.086
	2	Female	5140	55.3	0
Race	1	White	9091	97.7	-0.324
	9	Other ethnic grp	210	2.3	0
Marital status	1	Married	5683	61.1	0.212
	2	Living as couple	974	10.5	0.385
	3	Widowed	715	7.7	0.719
	4	Divorced	555	6.0	0.331
	5	Separated	155	1.7	0.216
	6	Never married	1219	13.1	0
Highest educational qualification	1	Higher Degree	231	2.5	-3.041
	2	First Degree	978	10.5	-2.940
	4	Other Higher QF	2510	27.0	-2.317
	6	GCE A Levels	1041	11.2	-1.792
	7	GCE O Levels	1575	16.9	-0.861
	8	No higher education	2966	31.9	0
Age at Date of Interview (10s of years)			9,572	100.0	-0.364
Age2 (age-squared)			9,572	100.0	0.042
Total Income: last month (logged)			9,572	100.0	-0.234
Number of own children in household			9,572	100.0	-0.034

Table 64: Effect of Trust on Membership in a Social Group – Variable Statistics (1999 to 2004)

Valid Cases: 9301
Missing Cases: 271

Dependent Variable:			**N**	**%**	B
Member of a social group			9,301	100.0	
Independent Variables:					
Trustworthiness of others	1	Most people can be trusted	3588	38.6	-0.182
	2	Other/depends	156	1.7	-0.232
	3	Cannot be too careful	5557	59.7	0
Member of a social group	0	Not mentioned	8307	89.3	-0.560
	1	Yes	994	10.7	0
Active in a social group	0	Not mentioned	8536	91.8	-0.075
	1	Yes	765	8.2	0
Sex	1	Male	4161	44.7	-0.635
	2	Female	5140	55.3	0
Race	1	White	9091	97.7	-0.291
	9	Other ethnic grp	210	2.3	0
Marital status	1	Married	5683	61.1	-0.063
	2	Living as couple	974	10.5	-0.149
	3	Widowed	715	7.7	-0.232
	4	Divorced	555	6.0	-0.160
	5	Separated	155	1.7	-0.131
	6	Never married	1219	13.1	0
Highest educational qualification	1	Higher Degree	231	2.5	0.808
	2	First Degree	978	10.5	1.172
	4	Other Higher QF	2510	27.0	0.881
	6	GCE A Levels	1041	11.2	0.790
	7	GCE O Levels	1575	16.9	0.457
	8	No higher education	2966	31.9	0
Age at Date of Interview (10s of years)			9,572	100.0	-0.663
Age2 (age-squared)			9,572	100.0	0.025
Total Income: last month (logged)			9,572	100.0	-0.144
Number of own children in household			9,572	100.0	0.063

Table 65: Effect of Trust on Membership in a Sports Club – Variable Statistics (1999 to 2004)

Valid Cases: 9301
Missing Cases: 271

Dependent Variable:			**N**	**%**	B
Member of a sports club			9,301	100.0	
Independent Variables:					
Trustworthiness of others	1	Most people can be trusted	3588	38.6	-0.127
	2	Other/depends	156	1.7	0.412
	3	Cannot be too careful	5557	59.7	0
Member of a sports club	0	Not mentioned	7629	82.0	-2.270
	1	Yes	1672	18.0	0
Active in a sports club	0	Not mentioned	7616	81.9	-0.616
	1	Yes	1685	18.1	0
Sex	1	Male	4161	44.7	-0.444
	2	Female	5140	55.3	0
Race	1	White	9091	97.7	-0.185
	9	Other ethnic grp	210	2.3	0
Marital status	1	Married	5683	61.1	-0.062
	2	Living as couple	974	10.5	0.103
	3	Widowed	715	7.7	-0.343
	4	Divorced	555	6.0	0.124
	5	Separated	155	1.7	-0.100
	6	Never married	1219	13.1	0
Highest educational qualification	1	Higher Degree	231	2.5	-0.606
	2	First Degree	978	10.5	-0.843
	4	Other Higher QF	2510	27.0	-0.590
	6	GCE A Levels	1041	11.2	-0.456
	7	GCE O Levels	1575	16.9	-0.296
	8	No higher education	2966	31.9	0
Age at Date of Interview (10s of years)			9,572	100.0	-0.148
Age2 (age-squared)			9,572	100.0	0.028
Total Income: last month (logged)			9,572	100.0	-0.087
Number of own children in household			9,572	100.0	0.010

Table 66: Effect of Trust on Membership in an Environmental Group – Variable Statistics (1999 to 2004)

Valid Cases: 9301
Missing Cases: 271

Dependent Variable:			**N**	**%**	B
Member of an environmental organization			9,301	100.0	
Independent Variables:					
Trustworthiness of others	1	Most people can be trusted	3588	38.6	-0.429
	2	Other/depends	156	1.7	-0.161
	3	Cannot be too careful	5557	59.7	0
Member of an environmental organization	0	Not mentioned	9013	96.9	-3.450
	1	Yes	288	3.1	0
Active in an environmental organization	0	Not mentioned	9141	98.3	-0.786
	1	Yes	160	1.7	0
Sex	1	Male	4161	44.7	-0.118
	2	Female	5140	55.3	0
Race	1	White	9091	97.7	-1.974
	9	Other ethnic grp	210	2.3	0
Marital status	1	Married	5683	61.1	0.496
	2	Living as couple	974	10.5	-0.266
	3	Widowed	715	7.7	0.558
	4	Divorced	555	6.0	0.700
	5	Separated	155	1.7	0.452
	6	Never married	1219	13.1	0
Highest educational qualification	1	Higher Degree	231	2.5	-1.700
	2	First Degree	978	10.5	-1.959
	4	Other Higher QF	2510	27.0	-1.261
	6	GCE A Levels	1041	11.2	-1.017
	7	GCE O Levels	1575	16.9	-0.772
	8	No higher education	2966	31.9	0
Age at Date of Interview (10s of years)			9,572	100.0	-0.863
Age2 (age-squared)			9,572	100.0	0.072
Total Income: last month (logged)			9,572	100.0	-0.024
Number of own children in household			9,572	100.0	0.136

Table 67: Effect of Membership in a Religious Group on Trust – Variable Statistics (1999 to 2004)

Valid Cases: 9284
Missing Cases: 288

Dependent Variable:		**N**	**%**	B
Trustworthiness of others		9284	100.0	
Independent Variables:				
Trustworthiness of others	1 Most people can be trusted	3590	38.7	-2.000
	2 Other/depends	151	1.6	-0.842
	3 Cannot be too careful	5543	59.7	0
Member of a religious group	0 Not mentioned	8071	86.9	-0.216
	1 Yes	1213	13.1	0
Active in a religious group	0 Not mentioned	8178	88.1	-0.034
	1 Yes	1106	11.9	0
Sex	1 Male	4155	44.8	-0.016
	2 Female	5129	55.2	0
Race	1 White	9074	97.7	-0.797
	9 Other ethnic grp	210	2.3	0
Marital status	1 Married	5675	61.1	-0.088
	2 Living as couple	980	10.6	0.091
	3 Widowed	712	7.7	-0.034
	4 Divorced	550	5.9	0.133
	5 Separated	153	1.6	0.195
	6 Never married	1214	13.1	0
Highest educational qualification	1 Higher Degree	230	2.5	-0.963
	2 First Degree	977	10.5	-1.162
	4 Other Higher QF	2504	27.0	-0.443
	6 GCE A Levels	1041	11.2	-0.645
	7 GCE O Levels	1572	16.9	-0.328
	8 No higher education	2960	31.9	0
Age at Date of Interview (10s of years)		9572	100.0	-0.274
Age2 (age-squared)		9572	100.0	0.021
Total Income: last month (logged)		9572	100.0	-0.038
Number of own children in household		9572	100.0	0.055

Table 68: Effect of Membership in a Professional Organization on Trust – Variable Statistics (1999 to 2004)

Valid Cases: 9284
Missing Cases: 288

Dependent Variable:		**N**	**%**	B
Trustworthiness of others		9284	100.0	
Independent Variables:				
Trustworthiness of others	1 Most people can be trusted	3590	38.7	-2.004
	2 Other/depends	151	1.6	-0.853
	3 Cannot be too careful	5543	59.7	0
Member of a professional organization	0 Not mentioned	8388	90.3	-0.273
	1 Yes	896	9.7	0
Active in a professional organization	0 Not mentioned	8920	96.1	-0.129
	1 Yes	364	3.9	0
Sex	1 Male	4155	44.8	0.008
	2 Female	5129	55.2	0
Race	1 White	9074	97.7	-0.791
	9 Other ethnic grp	210	2.3	0
Marital status	1 Married	5675	61.1	-0.088
	2 Living as couple	980	10.6	0.108
	3 Widowed	712	7.7	-0.046
	4 Divorced	550	5.9	0.133
	5 Separated	153	1.6	0.208
	6 Never married	1214	13.1	0
Highest educational qualification	1 Higher Degree	230	2.5	-0.863
	2 First Degree	977	10.5	-1.113
	4 Other Higher QF	2504	27.0	-0.424
	6 GCE A Levels	1041	11.2	-0.655
	7 GCE O Levels	1572	16.9	-0.337
	8 No higher education	2960	31.9	0
Age at Date of Interview (10s of years)		9572	100.0	-0.251
Age2 (age-squared)		9572	100.0	0.017
Total Income: last month (logged)		9572	100.0	-0.032
Number of own children in household		9572	100.0	0.051

Table 69: Effect of Membership in a Social Group on Trust – Variable Statistics (1999 to 2004)

Valid Cases: 9284
Missing Cases: 288

Dependent Variable:		**N**	**%**	B
Trustworthiness of others		9284	100.0	
Independent Variables:				
Trustworthiness of others	1 Most people can be trusted	3590	38.7	-2.010
	2 Other/depends	151	1.6	-0.860
	3 Cannot be too careful	5543	59.7	0
Member of a social group	0 Not mentioned	8291	89.3	-0.024
	1 Yes	993	10.7	0
Active in a social group	0 Not mentioned	8521	91.8	0.081
	1 Yes	763	8.2	0
Sex	1 Male	4155	44.8	-0.002
	2 Female	5129	55.2	0
Race	1 White	9074	97.7	-0.784
	9 Other ethnic grp	210	2.3	0
Marital status	1 Married	5675	61.1	-0.089
	2 Living as couple	980	10.6	0.109
	3 Widowed	712	7.7	-0.039
	4 Divorced	550	5.9	0.138
	5 Separated	153	1.6	0.207
	6 Never married	1214	13.1	0
Highest educational qualification	1 Higher Degree	230	2.5	-1.009
	2 First Degree	977	10.5	-1.197
	4 Other Higher QF	2504	27.0	-0.466
	6 GCE A Levels	1041	11.2	-0.660
	7 GCE O Levels	1572	16.9	-0.340
	8 No higher education	2960	31.9	0
Age at Date of Interview (10s of years)		9572	100.0	-0.273
Age2 (age-squared)		9572	100.0	0.019
Total Income: last month (logged)		9572	100.0	-0.037
Number of own children in household		9572	100.0	0.051

Table 70: Effect of Membership in a Social Group on Trust – Variable Statistics (1999 to 2004)

Valid Cases: 9284
Missing Cases: 288

Dependent Variable:			**N**	**%**	B
Trustworthiness of others			9284	100.0	
Independent Variables:					
Trustworthiness of others	1	Most people can be trusted	3590	38.7	-2.009
	2	Other/depends	151	1.6	-0.862
	3	Cannot be too careful	5543	59.7	0
Member of a sports club	0	Not mentioned	7620	82.1	-0.064
	1	Yes	1664	17.9	0
Active in a sports club	0	Not mentioned	7606	81.9	-0.158
	1	Yes	1678	18.1	0
Sex	1	Male	4155	44.8	0.021
	2	Female	5129	55.2	0
Race	1	White	9074	97.7	-0.770
	9	Other ethnic grp	210	2.3	0
Marital status	1	Married	5675	61.1	-0.086
	2	Living as couple	980	10.6	0.106
	3	Widowed	712	7.7	-0.037
	4	Divorced	550	5.9	0.136
	5	Separated	153	1.6	0.211
	6	Never married	1214	13.1	0
Highest educational qualification	1	Higher Degree	230	2.5	-0.997
	2	First Degree	977	10.5	-1.171
	4	Other Higher QF	2504	27.0	-0.448
	6	GCE A Levels	1041	11.2	-0.645
	7	GCE O Levels	1572	16.9	-0.333
	8	No higher education	2960	31.9	0
Age at Date of Interview (10s of years)			9572	100.0	-0.279
Age2 (age-squared)			9572	100.0	0.019
Total Income: last month (logged)			9572	100.0	-0.034
Number of own children in household			9572	100.0	0.047

Table 71: Effect of Membership in an Environmental Organization on Trust – Variable Statistics (1999 to 2004)

Valid Cases: 9284
Missing Cases: 288

Dependent Variable:		**N**	**%**	B
Trustworthiness of others		9284	100.0	
Independent Variables:				
Trustworthiness of others	1 Most people can be trusted	3590	38.7	-2.004
	2 Other/depends	151	1.6	-0.850
	3 Cannot be too careful	5543	59.7	0
Member of an environmental org	0 Not mentioned	8997	96.9	-0.423
	1 Yes	287	3.1	0
Active in an environmental org	0 Not mentioned	9124	98.3	-0.220
	1 Yes	160	1.7	0
Sex	1 Male	4155	44.8	-0.002
	2 Female	5129	55.2	0
Race	1 White	9074	97.7	-0.775
	9 Other ethnic grp	210	2.3	0
Marital status	1 Married	5675	61.1	-0.096
	2 Living as couple	980	10.6	0.111
	3 Widowed	712	7.7	-0.058
	4 Divorced	550	5.9	0.122
	5 Separated	153	1.6	0.199
	6 Never married	1214	13.1	0
Highest educational qualification	1 Higher Degree	230	2.5	-0.961
	2 First Degree	977	10.5	-1.169
	4 Other Higher QF	2504	27.0	-0.449
	6 GCE A Levels	1041	11.2	-0.653
	7 GCE O Levels	1572	16.9	-0.330
	8 No higher education	2960	31.9	0
Age at Date of Interview (10s of years)		9572	100.0	-0.258
Age2 (age-squared)		9572	100.0	0.018
Total Income: last month (logged)		9572	100.0	-0.036
Number of own children in household		9572	100.0	0.050

APPENDIX E

Table 72: Impact of Independent Variables on Trust (1997 to 2001/Waves 7 to 10)[61]

Dependent Variable: Trustworthiness of others

		Expected Probabilities		
		Most people can be trusted	Other/depends	Can't be too careful
Age				
	20	0.21	0.01	0.78
	40	0.35	0.02	0.63
	60	0.43	0.02	0.55
	80	0.43	0.02	0.55
	90	0.40	0.02	0.58
	100	0.35	0.02	0.63
Income (Pounds Sterling)				
	100	0.32	0.02	0.66
	350	0.34	0.02	0.64
	600	0.35	0.02	0.63
	1100	0.36	0.02	0.62
	1600	0.37	0.02	0.61
	2100	0.37	0.02	0.61
Race				
	White	0.36	0.02	0.63
	Non-white	0.23	0.01	0.75
Sex**				
	Male	0.35	0.02	0.63
	Female	0.35	0.02	0.63
Education				
	Higher Degree	0.68	0.02	0.31
	First Degree	0.59	0.02	0.39
	Other Higher QF	0.40	0.02	0.58
	GCE A Levels	0.43	0.02	0.55
	GCE O Levels	0.35	0.02	0.64
	No higher education	0.24	0.01	0.75
Marital Status**				
	Married	0.37	0.02	0.62
	Living as couple	0.33	0.02	0.65
	Widowed	0.33	0.02	0.65
	Divorced	0.28	0.02	0.71
	Separated	0.29	0.02	0.69
	Never married	0.37	0.02	0.62
Number of own children in household**				
	0	0.35	0.02	0.63
	1	0.35	0.02	0.63
	2	0.35	0.02	0.63
	3	0.36	0.02	0.63
	4	0.36	0.02	0.62

[61] Calculated at mean values for continuous variables and weighted averages for categorical variables. ** Not Significant.

Table 73: Impact of Independent Variables on Trust (1997 to 2001/Waves 7 to 10)[62]

Dependent Variables: Voluntary Association Involvement

		Expected Probabilities		
		Member of a Voluntary Association	Active Member of a Voluntary Association	Frequency of Volunteering
Age				
	20	0.41	0.34	0.06
	40	0.59	0.46	0.16
	60	0.64	0.51	0.24
	80	0.59	0.48	0.21
	90	0.51	0.44	0.16
	100	0.41	0.38	0.10
Income (Pounds Sterling)				
	100	0.51	0.43	0.17**
	350	0.55	0.45	0.16**
	600	0.57	0.45	0.16**
	1100	0.59	0.46	0.16**
	1600	0.60	0.47	0.16**
	2100	0.61	0.47	0.16**
Race				
	White	0.57	0.46**	0.16**
	Non-white	0.50	0.41**	0.14**
Sex				
	Male	0.60	0.46**	0.14
	Female	0.55	0.45**	0.18
Education				
	Higher Degree	0.85	0.73	0.36
	First Degree	0.77	0.62	0.34
	Other Higher QF	0.67	0.53	0.25
	GCE A Levels	0.62	0.47	0.20
	GCE O Levels or Equiv	0.54	0.47	0.16
	No higher education	0.42	0.34	0.09
Marital Status				
	Married	0.60	0.46	0.17
	Living as couple	0.48	0.40	0.13
	Widowed	0.55	0.48	0.16
	Divorced	0.50	0.41	0.14
	Separated	0.50	0.38	0.12
	Never married	0.56	0.47	0.18
Number of own children in household				
	0	0.58	0.45**	0.15
	1	0.56	0.45**	0.17
	2	0.54	0.45**	0.18
	3	0.53	0.45**	0.19
	4	0.51	0.45**	0.21

[62] Calculated at mean values for continuous variables and weighted averages for categorical variables. ** Not Significant.

APPENDIX F

Table 74: Cross-tabulations for member a of voluntary association by active in a voluntary (for all five voluntary association types)

		Active in religious group	
		Not mentioned	Yes
Member of religious group	Not mentioned	8095	198
	Yes	308	935

		Active in professional organization	
		Not mentioned	Yes
Member of professional organisation	Not mentioned	13843	49
	Yes	782	455

		Active in social group	
		Not mentioned	Yes
Member of social group	Not mentioned	13357	285
	Yes	588	899

		Active in sports club	
		Not mentioned	Yes
Member of sports club	Not mentioned	11915	651
	Yes	542	2021

		Active in environmental group	
		Not mentioned	Yes
Member of environmental group	Not mentioned	14683	50
	Yes	234	162