Journal of Current Research and Review
Volume 13, Number 5; May-2022;
ISSN: 2836-5615 | Impact Factor: 6.19
https://zapjournals.com/Journals/index.php/jcrr/index
Published By: Zendo Academic Publishing

THE DYNAMICS OF SOCIAL TRUST DURING THE COVID-19 PANDEMIC: A SOCIOECONOMIC PERSPECTIVE ON TRAJECTORIES

[1]Sturgis, P, Read, S, and Allum, N.

Article Info

Keywords: social trust, crises, COVID-19 pandemic, socioeconomic position, generalized trust, neighborhood trust, person-centered mixture approach, longitudinal latent class analysis, trajectories, social stratification.

Abstract

Crises have the potential to significantly impact social relationships and alter people's perceptions of others. Social trust, which encompasses beliefs in the honesty, integrity, and reliability of individuals, plays a crucial role in maintaining a well-functioning society and can lead to various positive outcomes such as wealth, happiness, and health. Trust becomes particularly crucial during times of crisis as it facilitates collective action and helps mitigate the negative effects of crises on mental health. However, the effect of crises on trust remains a topic of debate. This study aims to shed light on the impact of the COVID-19 pandemic on social trust by examining three distinct perspectives: the crisis-to-negative experiences model, the crisis-to-solidarity perspective, and the stability perspective. Prior research on the changing pattern of trust during the pandemic has yielded mixed results, with some studies reporting an increase in trust and others indicating a decline. To address this inconsistency, this paper adopts a person-centered mixture approach and focuses on two major forms of trust—generalized trust and neighborhood trust—during the COVID-19 pandemic. Longitudinal latent class analysis is employed to identify trajectories of change in trust among individuals with different socioeconomic positions. The analysis utilizes data from multiple waves of national samples of Canadians from September 2019 to February 2021. The findings reveal multiple trajectories of trust, including increases, decreases, and stability, with socioeconomic position emerging as a key predictor of trust trajectory membership. The research highlights that different segments of the population experience varying changes in trust during crises, and these changes are influenced by existing structures of social stratification. This study contributes to the literature on the social context of trust by providing evidence that supports each of the three perspectives, indicating that

[1]York University, Canada [b] University of Calgary, Canada [c] University of Toronto, Canada

their relevance depends on the socioeconomic characteristics of individuals. By considering the diverse trajectories of trust during crises, this research enhances our understanding of the consequences of crises on social trust and its relationship with socioeconomic factors.

Introduction

Crises such as the COVID-19 pandemic can dramatically change social relationships and update people's views toward others. People's social trust, largely understood as the belief in the honesty, integrity, and reliability of others (Ross et al., 2001; Yamagishi, 2011), is essential for the smooth functioning of society (Luhmann, 2018 [1979]; Simmel, 1990) and can generate a wide range of positive outcomes including wealth, happiness, and health (Algan and Cahuc, 2010; Helliwell and Aknin, 2018; Uslaner, 2018). The importance of social trust for propelling congenial social dynamics is particularly true in times of crisis. Trust helps facilitate collective action, which is essential for accomplishing critical tasks in emergency situations (Putnam, 2002; Klinenberg, 2015). Trust also buffers against the negative impact of crises on people's mental health such as anxiety, mood disorders, and sleep problems (Ross and Jang, 2000; Aldrich, 2012; Bierman and Schieman, 2020). Lack of trust, on the other hand, hinders cooperation and collective actions, limiting efforts from individuals and communities (Alonge et al., 2019; Makridis and Wu, 2021). The critical role of trust during crises raises the question of how trust may be affected by public crises.

Currently, three distinct perspectives have provided contradictory conclusions on how trust may change during a crisis. A crisis-to- negative experiences model suggests that crisis and conflicts can produce negative impacts on trust in others (Ananyev and Guriev, 2019; Mesch and Schwirian, 2019; Richards et al., 2019). A crisis-to-solidarity perspective suggests that public crises can lead to solidarity and thus promote higher trust among members of society (Collins, 2004; Moore and Recker, 2017). Finally, a stability perspective views trust as a relatively stable, persistent human trait that does not respond to life experiences in adulthood (Uslaner, 2008; Dawson, 2019). The COVID-19 pandemic provides a unique opportunity to disentangle these perspectives. In fact, several studies have already considered the changing pattern in social trust during the COVID-19 pandemic, but their conclusions have been mixed: some show trust has increased (e.g., Baekgaard et al., 2020; Kye and Hwang, 2020; Esaiasson et al., 2020), while others suggest trust has declined (e.g., Bierman and Schieman, 2020; Borkowska and Laurence, 2021).

One possible reason for the mixed findings about change in trust levels during crises is that previous research often looks at "snapshots" of change over two waves and has only considered mean levels of change (e.g., Habibov and Afandi, 2015; Esaiasson et al., 2020; Rainie and Perrin, 2020). In this paper, we argue that, when a crisis occurs, trust is likely to fall into distinct trajectories of change among individuals occupying different socioeconomic positions within a society. For individuals at a lower socioeconomic position with few resources and low trust, their trust is most likely to decrease further because they are already vulnerable, and this elevates their risk of trusting. Conversely, individuals at higher socioeconomic positions have more resources that they can draw from to deal with risks and uncertainties and their higher trust and greater commitment to the pre-established social order can make them trust even more. Still, trust could remain unchanged for many, as suggested by the stability perspective.

Using a person-centered mixture approach, we consider changes in two major forms of social trust— generalized trust and neighborhood trust—during the COVID-19 pandemic. The data of this study come from multiple waves of national samples of Canadians from September 2019 to February 2021. Taking advantage of the panel structure of our data, we use longitudinal latent class analysis (LLCA) to identify trajectories of within-individual changes

in both forms of trust over time. We show multiple forms of trajectories, compromising increases, decreases, and stability, with socioeconomic position a key predictor of membership in these trajectories. This research contributes to the literature on the social context of trust by reconciling contrasting views of the consequences of crisis for social trust through evidence showing that each of these perspectives are relevant to different segments of the population, with the segmentation of changes in trust proscribed by structures of social stratification.

1. Crisis and social trust: three perspectives

Trust is a multidimensional concept. The focus of this paper is on the social dimension of trust, or people's trust in others. When people trust, they believe in the goodwill and benign intent of general others (Yamagishi, 2011; Uslaner, 2018). People with little trust tend to interpret the "intentions and behavior of other people as unsupportive, self-seeking, and dishonest" (Ross et al., 2002: 59). Depending on who the "others" are, social trust can be categorized into two major forms. One is generalized trust, or trust in "a wider circle of unfamiliar others" (Delhey et al., 2011: 786; Yamagishi, 2011)—this form of trust is highly prominent in social science research on trust. Another is particularized trust, or trust in "known others" (Glanville and Shi, 2020: 1801). A commonly studied form of particularized trust is trust in one's neighbors (or "neighborhood trust") (Lancee and Dronkers, 2011; Wollebaek et al., 2012; Schmid et al., 2014).

Both generalized trust and neighborhood trust are even more essential in times of crisis. Greater generalized trust endows individuals with a greater concern for unknown others and helps facilitate collective actions in accomplishing critical tasks in emergency situations (Alonge et al., 2019; Makridis and Wu, 2021). Lack of generalized trust challenges the effectiveness of emergency responses, as lack of generalized trust might cause disruptions of community interactions, public panic, and fragmentation. For example, Nivette et al. (2021) show that during the COVID-19 pandemic, low generalized trust is associated with an increased likelihood of non-compliance with social distancing. On the other hand, neighborhood trust can have a protective effect on mental health and physical health during crises (Lochner et al., 2003;Bierman and Schieman, 2020; Miao et al., 2021). Neighborhood trust is associated with greater number of friends, and an elevated sense of support from friends, and reduced loneliness (Yang and Moorman, 2021). Neighborhood trust also helps buffer the effect of stressors and reduce overall levels of distress (Xiao et al., 2020). There is also evidence that people's trust in their neighbors, as a form of particularized trust, can spill over to their trust in generalized others (Glanville and Shi, 2020).

While it is well established that trust plays essential roles in times of crisis, less known is how crises themselves actually influence people's trust in others. For decades, scholars have considered the effect of public crises on social trust, including the 9/11 terrorist attacks in the United States (2001), the London terror attacks (2005), the global financial crisis (2008), and the Breivik attacks in Norway (2011) (e.g., Sander and Putnam, 2002, 2010; Wollebæk et al., 2012; Giordano and Lindstrom, 2016¨ ; Lindstrom and Giordano, ¨ 2016). However, conclusions from these studies are mixed. From these studies, three distinct perspectives have emerged that suggest increasing, decreasing, and stable trends of trust, respectively.

First, a crisis-to-negative experiences model posits that crises and people's negative experiences associated with them can reduce trust. This perspective predicts that, in times of crisis, individuals generally react with fear or emotional paralysis (Grossman, 2014). Fear and anxiety decrease people's willingness to intervene or interact with others, to form ties with others, and to trust and support others (Sampson et al., 2002; Ross and Mirowsky, 2009; Wu, 2020b). In facing a crise, misinformation, bureaucracy, political censorship, as well as corruption and government mishandling might trigger public anger (Blair et al., 2017). When government fails (or is perceived as failing), people's trust in political institutions will decrease (Uslaner, 2016). The loss of faith in political

institutions could further damage people's trust in others (Mesch and Schwirian, 2019). Empirically, for example, studies based on the British Household Panel Survey (BHPS) show that the London terror attacks in 2005 and the 2008 financial crisis have led to a decline in generalized trust in the UK (Giordano and Lindstrom, 2016¨ ; Lindstrom and Giordano, 2016¨). The financial crisis has also been shown to have led to a decline in social trust in Russia (Ananyev and Guriev, 2019).

Second, a crisis-to-solidarity model contends that crises such as wars and terrorist attacks can form a sense of solidarity, thereby enhancing mutual trust among members of society. Crises often lead to more bonding among people and individuals usually come to each other's assistance in helping people recover (Aldrich, 2012; Uslaner, 2016). Theoretically, Collins (2004) has explained how conflicts can produce solidarity. He argues that solidarity is created through "the sharp rise in ritual intensity of social interaction" after a conflict, rather than the conflict itself (2004:55). Specifically, when a conflict occurs, people are often "swept up into a collective mood" as they tend to focus their attention on the same event (Collins, 2004:55). For example, in times of national crisis, citizens tend to "rally around the flag" and become more trusting in their government and political leaders (Chanley, 2002; Dinesen and Jæger, 2013). Their increased support and trust in their political leaders will lead to an increase in their trust in each other (Rothstein and Eek, 2009; Sønderskov and Dinesen, 2016). For example, focusing on the 9/11 terrorist attacks in the United States, for example, Sander and Putnam (2002) wrote that "the tragedy of 9/11 dramatically led us to rediscover friends, neighbors, public institutions, and a shared fate." Peterson and Seligman (2003) also show that Americans became kinder, more loving, and more cooperative immediately following the 9/11 attacks. Several studies have shown that the 9/11 terrorist attacks in 2001 led to an increase in social trust including both generalized trust in people and trust in neighbors (Putnam, 2000; Woods, 2011). Similarly, in Norway, Wollebæk et al., (2012) show that the Breivik attacks in 2011 led to an increase in civic engagement and institutional trust—and ultimately increased social trust more generally.

Third, a stability perspective suggests trust is a relatively stable, persistent human trait that does not fluctuate in response to life experiences in adulthood. In this view, people learn trust early in life through socialization— and that learned trust tends to remain stable over time (Uslaner, 2002; Stolle and Hooghe, 2004; Wu, 2020a). Analyzing the British Household Panel Survey (BHPS), Dawson (2019: 590) shows individuals who have certain levels of trust in one period tend to hold the same levels of trust in subsequent periods, and therefore suggests that post-childhood environmental forces are less influential for shaping levels of trust. Bauer (2015) also shows that negative experiences including victimization do not seem to change people's trust. However, even though individuals' social trust often reverts to an initial, long-term level, this does not mean that momentary levels of social trust are impervious to temporal changes (Dawson, 2019). Nonetheless, scholars from the stability perspective also agree that extreme events and traumatic experiences may still alter people's trust (Uslaner, 2002; Wu, 2021a, 2021b). Considering how the Catalan secession may change people's social trust, Bjørnskov et al. (2021) find that the major institutional upheaval has little impact on people's trust in the long-term, but it did post a positive shock to regional social trust temporally, roughly corresponding to the secessionist conflict phase between 2012 and 2017. It is therefore possible that, even if trust is established early in the life-course, trust may still be malleable to increases or decreases in response to extreme events such as the COVID-19 pandemic.

Recent analyses of change in social trust during the COVID-19 crisis also find mixed evidence. Some suggest that the pandemic has generated a positive impact on social trust. In the United States, according to a Pew Research Center survey of adults conducted shortly after the outbreak in March of 2020, Americans had become slightly more trusting in others since the outbreak. Subsequent research in Sweden and South Korea also showed an increase in trust in others (Esaiasson et al., 2020; Kye and Hwang, 2020). Conversely, in the United Kingdom,

Borkowska and Laurence (2021) found that neighborhood trust declined substantially around the pandemic, compared to pre-pandemic periods, while Bierman and Schieman (2020)showed a similar pattern among Canadians. To our knowledge, however, no studies have documented stability in population levels of social trust during the pandemic.

One possible reason for the mixed findings about change in trust levels during crises is that previous research often looks at "snapshots" of change over two waves and has only considered mean levels of change (e.g., Habibov and Afandi, 2015; Esaiasson et al., 2020; Rainie and Perrin, 2020). We argue that trust may show differential trajectories of change among subgroups of the population. Therefore, each perspective we discussed early on about how trust may change during a crisis might be relevant, but differentially so according to different segments of the population. To uncover heterogeneous groups of individuals whose changes in trust may show differential trajectories requires a person-centered mixture approach that does not assume population homogeneity, but instead suggests unobserved heterogeneity within the population (see e.g., Muthen and Muth´ ·en, 2000; Bierman and Pearlin, 2011). In what follows, we outline our argument that, when a crisis occurs, trust is likely to fall into distinct trajectories of change among individuals occupying different socioeconomic positions within a society.

2. Stratification-based trajectories of trust during crises

The most consistent pattern from the long-standing trust literature is that trust is common among individuals with higher socioeconomic positions, while mistrust is widespread among individuals at lower socioeconomic positions (Putnam, 2000; Alesina and La Ferrara, 2002; Uslaner, 2002; Ross et al., 2002; Smith, 2010; Wilkes and Wu, 2018). Socioeconomic position refers to "the social and economic factors that influence what positions individuals hold within the structure of a society" (Galobardes et al., 2006:7). Unlike other terms such as social class or social status, socioeconomic position is an aggregate concept that incorporates both resource-based (e.g., income and wealth) and prestige-based measures (e.g., social status). The concept of socioeconomic position therefore captures individual placement in structural conditions of power and privilege within a society (Krieger et al., 1997; Galobardes et al., 2006).

Summarizing decades of trust research, Delhey and Newton (2003: 96) point out that trust is lower among those with a poor education, low income, low status, while the 'winners' in a society, as measured in terms of money and status, often trust more.

Trust scholars have argued that socioeconomic position is associated with trust through both resource-based mechanism as well as prestige-based mechanism. Indeed, while resource-based measures and prestige-based measures can be highly correlated to each other, they do not fully overlap. It is well documented that resourcebased measures that capture material and social resources and prestige-based measures that capture individuals' rank or status in a social hierarchy can produce differential impacts on social outcomes including health and well-being (Krieger, 2001; World Health Organization, 2010). In the case of trust, the resourcebased mechanism argument centers on risk. Specifically, trust is riskier for individuals at lower socioeconomic positions because individuals occupying disadvantaged positions cannot afford to lose even a little of what they have, so they must be more cautious (Ross et al., 2002; Delhey and Newton, 2003). Disadvantaged individuals often trust less because they have scarce resources and often feel powerless to avoid or manage the harm or cope with the negative consequences should the trust relationship falter (Ross et al., 2002; Ross, 2011). On the other hand, trust is more common among individuals at higher socioeconomic positions not only because they stand to lose comparatively less, but also because they may even benefit more from trusting others (Delhey and Newton, 2003: 96). Individuals at higher socioeconomic positions have more resources that they can draw from to deal with risks

and uncertainties and are more capable of handling the results even if trust is misplaced (OUberg and Svensson, 2010¨ ; Sturgis et al., 2010). As Putnam points out (2000:138), "in virtually all societies 'have-nots' are less trusting than 'haves'".

The status-based mechanism argument centers on socializing effect. Status can indicate people's social and therefore socializing experience. High-status individuals are more aware and more knowledgeable about the social and institutional environment (Charron and Rothstein, 2016), and they are also often treated by others with more honesty and respect and they in turn are also more likely to interpret others as honest and trustworthy and are better able to accrue the benefits of norms of reciprocity (Putnam, 2000;Lount and Pettit, 2012). The accumulative positive experiences interacting with others as well as their ability to accrue the benefits of norms of reciprocity among high status individuals make them more trusting (Hooghe et al., 2012). Research has shown that individuals at high status tend to have more cosmopolitan and optimistic worldviews, and these positive attitudes lead to their higher trust in others (Uslaner, 2002).

In times of crisis, individuals at different socioeconomic positions are also likely to adjust their trust in different directions, with both resource-based mechanism and status-based mechanism in play. We expect that trust is most likely to decrease further among individuals at a lower socioeconomic position. First, individuals at a lower socioeconomic position are more likely to have low levels of trust prior to the pandemic and, in facing a crisis, low trusting individuals will often interpret the intentions and behavior of others as unsupportive, self-seeking, and dishonest, leading to a further decline in their trust (Uslaner, 2002, 2013; Ross, 2011: 289). Second, individuals at a lower socioeconomic position are also more likely to experience greater existential insecurity and anxiety during crises. The reduced economic resources can further diminish their ability to deal with risk and cope with losses, lowering their willingness to accept vulnerability and therefore to trust in others (Nguyen, 2017). Third, economic insecurity and feelings of powerlessness are also associated with reduced optimism and subjective well-being, which may also contribute to the decline of trust (Ross, 2011; Kalleberg, 2018). This suggests that, among individuals at a lower power position, we will likely observe declining trust in others during the COVID-19 pandemic—as the crisis-to-negative experiences model would suggest.

Conversely, individuals at higher socioeconomic positions are likely to become even more trusting during crises. More resources, higher trust, and a sense of personal control help individuals in higher socioeconomic positions address the fallout and better deal with the uncertainties when negative events occur (Uslaner, 1998; Ross and Mirowsky, 2013). In addition, people with higher trust tend to be more optimistic and are more communal (Uslaner, 1998: 443). Their greater commitment to the pre-established social order may lead to their continued and even increased trust during crises (Luhmann, 2018 [1979]; Inglehart and Abramson, 1994; Uslaner, 2007). Consequently, among individuals with a higher socioeconomic position, we may see an increase in trust during the pandemic—as the crisis-to-solidarity model would suggest. This is especially true if they generalize from mediated and personal experiences about unselfish and solidary acts of other people during the crisis (Esaiasson et al., 2020). In fact, research has shown that individuals at a higher socioeconomic position are more likely to perceive good intentions from others during the pandemic. For example, in the US, the better educated and those with higher household incomes and more trust are more likely than their counterparts to think ordinary people in their own communities are doing an excellent or good job responding to the COVID-19 pandemic (Rainie and Perrin, 2020).

Still, trust could remain unchanged for many, as suggested by the stability perspective. From this perspective, trust is a moral value that people learned at a young age from parents, schools, and the social environment in which they were immersed and learned trust is unlikely to respond to ordinary life experience (Uslaner, 2002;

Stolle and Hooghe, 2004; Bauer, 2015). While extreme events such as the COVID-19 pandemic could change people's trust, not everyone experience the pandemic in a dramatic way. Individuals occupying different socioeconomic positions may experience the pandemic differently, and for those who can keep up their daily routines during the pandemic their trust could remain unchanged.

Taken together, our general expectation is that individuals occupying higher economic positions are more likely to show increasing trust during the pandemic, whereas individuals occupying lower economic positions are more likely to show decreasing trust. We also expect that the pattern is likely to be true for both neighborhood trust and generalized trust and regardless of how socioeconomic position is being captured.

3. Data and methods

3.1. Data

Data for this study come from the Canadian Quality of Work and Economic Life Study (C-QWELS). As a national longitudinal study of Canadians, the C-QWELS is conducted in cooperation with the Canadian national survey research firm, the Angus Reid Institute (ARI: https://angusreid.org/). The C-QWELS sample frame is constructed based on the employed Canadian population 18 years of age or older from the 2016 Canadian census. Using the balanced sample frame created, survey respondents were randomly selected from a national panel of Canadian respondents maintained by the ARI. The ARI panel including approximately 65,000 members from representative demographic groups has been validated for the drawing of randomized samples that can represent the whole Canadian population (see e.g.,Bierman and Schieman, 2020; Glavin and Schieman, 2022). More information about how the ARI national panel was constructed and maintained can be found from its official website (https://angusreid.org/how-we-poll-ari/). Further, a sampling weight according to the most current education, age, gender and region Census data is also applied in all analyses to produce estimates that are representative of working Canadians.

The first wave of C-QWELS (C-QWELS I) study was conducted online from September 19th to September 24th, 2019, producing a representative sample of 2524 working Canadians. Seven additional waves of CQWELS surveys were conducted from April 2020 to February 2021 that attempted to follow up all respondents from the C-QWELS I. The second wave of C-QWELS (C-QWELS II) was conducted from March 17th to March 23rd, 2020. However, the recontacted March respondents was not a random sample of C-QWELS I respondents. For this reason, we removed this wave of data in our analysis. However, preliminary analyses did not suggest substantively different results when this additional wave was included in the analyses (see Appendix Fig. 3A). The third wave C-QWELS III was conducted in April 2020 (74% recontact rate), the C-

QWELS IV in May 2020 (72% recontact rate), the C-QWELS V in June 2020 (73% recontact rate), the CQWELS VI in August 2020 (71% recontact rate), the C-QWELS VII in October 2020 (69% recontact rate), the C-QWELS VIII in December 2020 (65% recontact rate), and the C-QWELS IX in February 2021 (65% recontact rate). Analytic methods that take attrition into account are described below. The data have also been used in prior research to study a wide range of social issues during the pandemic (e.g., authors omitted). Listwise deletion based on all variables in analysis yields an analytical sample of 2268 respondents, with an overall of 10% missing data excluded in the LLCA and regression analyses.

3.2. Measures

Our focus is on two forms of social trust: generalized trust and neighborhood trust. We measure generalized trust using the standard question item "Generally speaking, would you say that most people can be trusted, or that you can't be too careful in dealing with people?" Responses were coded on a 1 to 5 scale, with 1 corresponding to "You cannot be too careful" and 5 to "Most people can be trusted." To measure neighborhood trust, we use the question "Thinking about the people in your neighborhood—that is, the local area in which you live—how much

do you agree or disagree with the following statement? My neighbors can be trusted." Responses were coded from 1 = strongly disagree, 2 = somewhat disagree, 3 = somewhat agree, and 4 = strongly agree. A higher score means more trust. Since generalized trust and neighborhood trust are coded at different scales, to better compare these two forms of trust we dichotomized responses into two groups between trusting (those with scores of 3, 4 or 5) and distrusting (scores of 1 or 2) for generalized trust and between trusting (scores of 3 or 4) and distrusting (scores of 1 or 2) for neighborhood trust. Analysis with mean trust scores rather than the binary versions yields similar patterns (see Appendix Fig. 2A).

Our major predictor for an individual's placement in trajectories is the baseline socioeconomic position, which is based on an individual's experience of economic hardship, subjective social status, and household income in September 2019 prior to the pandemic in March 2020. We are aware that these socioeconomic indicators could also change during the pandemic, and this may also affect changes in trust. However, the goal of our paper is to predict an individual's placement in trajectories of trust change during the pandemic. Focusing predictors measured in September 2019 before the pandemic will help us better achieve this goal. Indeed, because different levels of trust could also shape an individual's experience of economic hardship, subjective social status, and household income during the pandemic, it will be difficult to disentangle the causal directions between changes in socioeconomic position and changes in trust during the pandemic.

We use three items to capture economic hardship (Bierman et al., 2021). They are 1) "How often in the past month did you have trouble paying the bills?", 2) "How often in the past month did you not have enough money to buy food, clothes or other things your household needed?", and (3) "How did your finances work out in the past month?". Responses to the first two questions are coded as 1 = never, 2 = sometimes, 3 = rarely, 4 = often, 5 = very often. Responses to the third question are coded as 1 = a lot of money left over = , 2 = a little money left over 3 = just enough to make ends meet, 4 = barely enough to get by, and 5 = not enough to make ends meet. We calculate the mean across these three items to create an index of economic hardship that ranges from 1 to 5. Subjective social status is measured using the question "Where would you place yourself in our society?". Responses are coded on a 1–10 scale, with 1 corresponding bottom status while 10 to top status. Household income is measured using the question: "For the complete year of 2018, what was your total household income, including income from all household sources, before taxes?". Responses include six categories: 1 = Under $25,000, 2 = $25,000 to less than $50,000, 3 = $50,000 to less than $100,000, 4 = $100,000 to less than $150,000, 5 = $150,000 to less than $200,000, and 6 = Over $200, 000. Respondents who answered "Don't know/Rather not say" (about 9.2%) were removed from analysis.

To combine these measures, we use a principal components analysis (PCA). The PCA is useful in conglomerating these measures because the PCA is a data reduction technique that can combine different indicators based on the common variance among the measures. In so doing, it allows us to create an index that represents the overall level of socioeconomic power and privilege held by each respondent. The results of the PCA supported a reduction into one overall measure, as one component with an eigenvalue above 1 was produced that accounts for more than half of the variance (59.5%), with loadings at 0.82 for subjective social status, 0.73 for household income, and 0.76 for economic hardship, respectively. The predicted component score for each respondent is therefore used to measure this individual's baseline socioeconomic position. In additional analyses also presented in the results section, we disaggregate the measures of socioeconomic position as predictors of trajectories of the trust measures. However, model fit statistics were preferable for the models issuing the combined index, further supporting the superiority of this combinatory strategy. We acknowledge, however, that this may not be the perfect measure of individuals' socioeconomic position.

Demographic variables in analysis include age, gender, education, and visible minority status as well as regions where respondents come from. Gender is coded between male (0) and female (1), and "prefer to selfdescribe" respondents were dropped due to the small analytic category. In Canada, like other western societies, trust is often lower among racialized minorities (Wu and Wilkes, 2016; Wilkes and Wu, 2018). Racial and ethnicity minority status in Canadian survey research is typically assessed using a "visible minority" designation (Bierman and Schieman, 2020), and in this survey respondents self-described visible minority status, with responses coded as 0 = not visible minority and 1 = visible minority. Education and trust association has been well documented in previous research (Hooghe et al., 2012; Wu, 2021a). Education is coded with four categories, including 1 = high school or less (only 30 people less), 2 =post high school, 3 = College/some university, and 4 = university graduate. Since nearly half of respondents are university graduates (48%), we recode it into a binary variable low education with 0 = university graduate and 1 = non-university graduate. We include education only as a control, rather an indicator for baseline socioeconomic position. As compared to the US, there is a greater prevalence of trade degrees in providing for pathways to economic attainment outside of a college or university system in Canada. In fact, our PCA analysis confirms that the loading for education is much lower than for the other items. That said, results are similar when we include education and other socioeconomic indicators separately. In terms of region, we separate between Quebec and the rest of Canada since previous research shows that trust is much lower in Quebec than in other regions (Wu, 2021b).

3.3. Plan of analysis

Our main goal is to track changes in both forms of trust before and during the COVID-19 pandemic. Our analysis takes three general steps. First, we look at overall trends in the observed data. We compare generalized trust and neighborhood trust in the first (pre- pandemic) wave of the survey to both forms of trust after the outbreak in the third and following waves from April 2020 to February 2021. Second, we use longitudinal latent class analysis (LLCA), an extension of latent class analysis (LCA), to discern mixtures of different classes of trends in the data. We use "gsem lclass() option" in Stata 15.1 to run the LCA models. Through a model-based approach, the LLCA allows us to identify underlying groups of "classes", and respondents can be categorized based on their class membership (Lanza and Collins, 2008; Magidson and Vermunt, 2002). To determine the number of classes, we use the Bayesian Information Criterion, which has been shown to perform the best for class enumeration over the rest IC statistics (Nylund et al., 2007). When the indicators in the LCA are the same measures over time, the result classes are essentially trajectories of responses (Bierman and Pearlin, 2011). The trajectories can inform us as to whether trust among individuals based on their class membership may change in different directions. Finally, we use latent class regression (multinomial logistic regression) and consider how an individual's baseline socioeconomic position may predict the placement of trajectories of trust change. We use full-information maximum likelihood (FIML) for estimating LCA models in the presence of missing data. The FIML method provides unbiased, efficient parameter estimates with partial data under MAR and MCAR (Enders, 2010; Bierman and Pearlin, 2011). For example, the total analytical sample size at the first wave is 2,268, meaning that we have 2268 respondents with at least one wave of data. Despite the varying recontact rates in the following waves, our model fit information is based on the total of 2268 cases. This is because the FIML estimates a likelihood function for each respondent based on the data that are (partially) present (Enders, 2010).

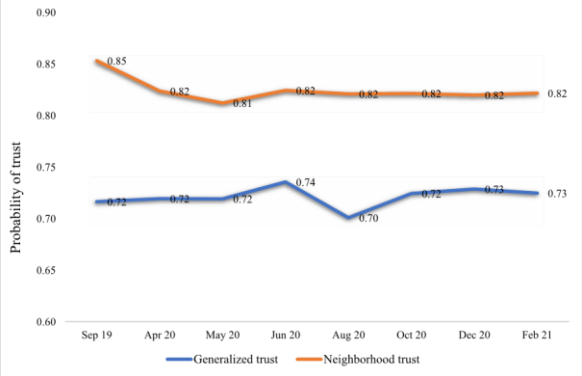

Fig. 1. Changes in probabilities of trusting for generalized trust and neighborhood trust before and during COVID-19.

4. Results

In the first stage of analyses, we consider overall trends in the observed data for both generalized trust and neighborhood trust. Fig. 1 describes changes in the proportions of trusting for both forms of trust before and during the pandemic. Canadians are generally very trusting. Prior to the pandemic, the probability of Canadians saying they trust in their neighbors is 0.85, while the probability of saying most people can be trusted is 0.72. However, after the outbreak, neighborhood trust evidenced a small decline. The probability declined to 0.82 in April 2020, and never been recovered in subsequent waves. In contrast, generalized trust seems to remain unchanged, despite some fluctuations in June 2020 and August 2020. Analyses using the original trust scales show similar patterns (see Fig. 1A in the appendix). However, these analyses only examine the overall level of trends in the data, and do not provide insight into the distinct trajectories of trust that different aspects of the population may have experienced. We therefore move to the LLCA analyses, which can detect multiple subgroups of responses across time.

In the second stage of analyses, we use LLCA and consider whether there are different trajectories of trends for both forms of trust. We calculate the Bayesian Information Criterion (BIC) statistics to compare models that have different numbers of classes. The model with the lowest BIC is preferred (Burnham and Anderson, 2004). Table 1 presents the values of BIC for the one-through four-class LLCA of both generalized trust and neighborhood trust, with the lowest BIC in bold. It shows that, for both generalized trust and neighborhood trust, the smallest value of the BIC is found with a three-class solution, lending strong evidence to suggest three classes as the appropriate number.

Fig. 2 visualizes the results of the item-response probabilities in each of the three latent classes for neighborhood trust. Clearly, three distinct trajectories exist in the trends of neighborhood trust during the COVID-19 pandemic. One group of individuals who initially had relatively low levels of neighborhood trust before the pandemic in September 2019 (0.43) lost nearly 70 percent of their trust after the outbreak in April 2020 (down to 0.13). Their decreased trust never recovered, even after a year into the pandemic (0.12 in February 2021). We classify this group as “low neighborhood trusters.” A second group, with a moderate initial level of neighborhood trust before the pandemic (0.77), also became about 12 percent less trusting (0.68) in April 2020 (0.68) and 19 percent less trusting a year into the pandemic in February 2021 (0.62). We classify this group as “moderate neighborhood trusters.” Finally, we see a third group of individuals who had a very high level of trust before the pandemic and therefore “high neighborhood trusters” (0.94), become even more trusting since the outbreak (trust has increased further to 0.99). Low neighborhood trusters whose trust experienced a sharp decline represent 12.2 percent of the sample, and moderate neighborhood trusters whose trust experienced a less dramatic decline represent 18.6

percent of the sample, while trust of the majority of respondents (69.2% of the sample) increased during the pandemic.

Similarly, three distinct trajectories of changes can be observed in Fig. 3 that shows the probabilities of trusting for individuals from each of the three latent classes for generalized trust. One group of individuals, who initially had low levels of generalized trust before the pandemic (0.19) and therefore we classify as "low neighborhood trusters", lost nearly 58 percent of their generalized trust in April 2020 (0.08). The decreasing trend has continued even after a year into the pandemic (0.04 in February). Generalized trust of a second group has remained stable during the pandemic. This group had a moderate level of initial generalized trust (0.59) and therefore we also label them as "moderate generalized trusters." Finally, a third group with a high initial level of generalized trust (0.94), became slightly more trusting after the pandemic started in April 2020 (0.96). Trust of these "high generalized trusters" increased to its highest point in June 2020 and have stayed relatively stable. Low generalized trusters whose trust experienced a slight decline represent 17.9 percent of the sample, and moderate generalized trusters whose trust remained very stable represent 23.7 percent of the sample, while generalized trust of more than half of respondents (58.4% of the sample) has increased during the pandemic. These patterns suggest that the each of the three perspectives on how trust may change during the COVID19 pandemic appears to be accurate, but for different parts of the population. For individuals who have more trust before the pandemic, their trust change during the pandemic is line with the crisis-to-solidary perspective. Since Canada is a high trust country, these individuals represent the majority in the society. For individuals who have little trust before pandemic, their trust becomes even lower. The pattern is consistent with the crisisto negative experience perspective. Trust among individuals with moderate amount of trust has remained largely stable or changed only slightly, as the stability perspective would suggest.

Finally, we consider how baseline socioeconomic position may predict this individual's placement of changing trajectories. Tables 2 and 3 show results from latent class regressions (multinomial logistic regressions) estimating the effect of baseline socioeconomic position on trajectories of change for neighborhood trust (Table 2) and generalized trust (Table 3), respectively. For both forms of trust, the stable trajectory is treated as the reference category, and the results are indicated in odds ratios.

Table 2 shows the multinomial logistic regressions estimating effects baseline socioeconomic position on neighborhood trust trajectories. In Model (1), we consider how resource-based socioeconomic indicators including economic hardship and household income may affect respondents' placement in trajectories of trust change holding key demographic indicators constant. Results show that household income has a significant negative impact on respondents' placement into the decreasing trajectory, and experience of economic hardship has a significant negative impact on placement into the increasing trajectory. These findings suggest that resource-based socioeconomic indicators have significant impacts on individuals' placement into different trajectories of trust change during the pandemic. In Model (2), we consider how status-based socioeconomic indicator subjective social may affect respondents' placement in trajectories of trust change holding key demographic indicators constant. Results show that subjective social status has a

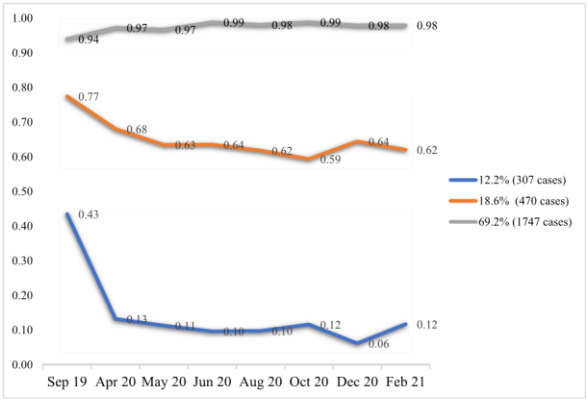

Fig. 2. Trajectories of neighborhood trust.

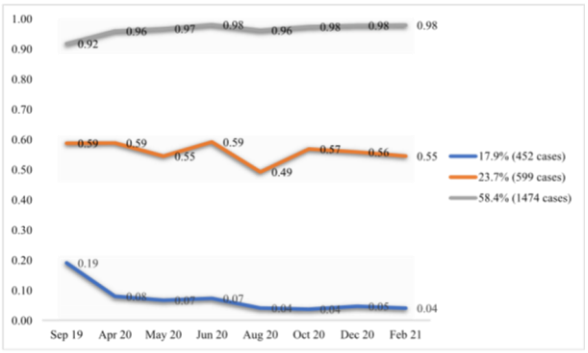

Fig. 3. Trajectories of generalized trust.

Table 1

Comparing LLCA models with different numbers of classes.

Number of classes	Observations	Degree of freedom	Bayesian Information Criterion (BIC)	
			Generalized trust	Neighborhood trust
1	2524	8	17463.69	13778.28
2	2524	17	12553.22	10226.21
3	**2524**	**26**	**12204.85**	**10045.87**
4	2524	35	12237.65	10092.82

significant negative impact on respondents' placement into the decreasing trajectory, and it has a significant positive impact on placement into the increasing trajectory. This finding suggests that status-based socioeconomic indicator can also affect individuals' placement into different trajectories of trust change during the pandemic. However, when resource-based socioeconomic and status- based indicators are included together in Model (3), results show that only resource-based socioeconomic indicators have significant impacts on individuals' placement into different trajectories of trust change during the pandemic.

Finally, Model (4) shows that what matters for trajectory allocation is, in the end, the index of strain that captures both income and overall subjective rank. Specifically, as compared to falling into a more stable or slight change trajectory, Model (4) shows that one unit increase in baseline socioeconomic position index predicts about 28 percent lower odds of falling into a decreasing trajectory of neighborhood trust and that one unit increase in baseline socioeconomic position index predicts about 50 percent higher odds of falling into an increasing trajectory of neighborhood trust.

Table 3 shows the multinomial logistic regressions estimating effects baseline socioeconomic position on generalized trust trajectories. The general pattern is almost identical to neighborhood trust in Table 2. When included separately, both resource-based socioeconomic indicators and status-based indicators show significant impacts on individuals' placement into different trajectories of trust change during the pandemic. However, when included together, only resource-based socioeconomic indicators show significant impacts.

Still, at the 90 percent confidence level (t > 1.68), subjective social status does seem to show significant effects. Similarly, the PC index combing all three measures together have significant impacts on trajectory allocation. Model (4) shows that one unit increase in baseline socioeconomic position index predicts about 27 percent lower odds of falling into a decreasing trajectory **Table 2**

Multinomial logistic regressions estimating effects baseline socioeconomic position on neighborhood trust trajectories (ref. stable, odds ratios).

	Model (1)		Model (2)		Model (3)		Model (4)	
	Decrease	Increase	Decrease	Increase	Decrease	Increase	Decrease	Increase
Resource-based position								
Economic hardship	0.975	0.674***			0.940	0.699***		
	(− 0.25)	(− 5.13)			(− 0.58)	(− 4.39)		
Household income	0.713**	1.049			0.766*	1.016		
	(− 2.90)	(0.56)			(− 2.04)	(0.17)		
Status-based position								
Subjective social status			0.833*	1.166**	0.889	1.083		
			(− 2.49)	(2.83)	(− 1.35)	(1.30)		
Socioeconomic position								
PC index							0.720**	1.500***
							(− 3.03)	(4.41)
Demographic indicators								
Visible minority	0.877	0.646	0.998	0.642	0.964	0.675	0.968	0.676
	(− 0.42)	(− 1.84)	(− 0.01)	(− 1.88)	(− 0.12)	(− 1.65)	(− 0.10)	(− 1.64)
Non-university graduate	0.904	0.752	0.904	0.716	0.860	0.785	0.881	0.794
	(− 0.42)	(− 1.63)	(− 0.42)	(− 1.82)	(− 0.63)	(− 1.34)	(− 0.54)	(− 1.29)
Female	0.725	1.050	0.783	1.012	0.734	1.054	0.743	1.058
	(− 1.36)	(0.29)	(− 1.08)	(0.07)	(− 1.33)	(0.31)	(− 1.30)	(0.33)
Age	0.997	1.012	0.991	1.014*	0.996	1.012	0.994	1.011
	(− 0.30)	(1.66)	(− 0.93)	(1.98)	(− 0.49)	(1.68)	(− 0.64)	(1.57)
Quebec	1.178	1.158	1.436	1.129	1.253	1.161	1.345	1.255

	(0.52)		(1.24)		(0.73)		(1.02)	
N	2268		2268		2268		2268	
BIC	8966.5		8983.9		8966.9		8944.8	

(0.56) (0.49) (0.58) (0.92)

Exponentiated coefficients; t statistics in parentheses. *p < 0.05, **p < 0.01, ***p < 0.001.

Table 3

Multinomial logistic regressions estimating effects baseline socioeconomic position on generalized trust trajectories (ref. stable, odds ratios).

	Model (1)		Model (2)		Model (3)		Model (4)	
	Decrease	Increase	Decrease	Increase	Decrease	Increase	Decreas	Increas
Resource-based position								
Economic hardship	1.094	0.736***			1.034	0.763***		
	(1.02)	(− 4.33)			(0.37)	(− 3.73)		
Household income	0.819*	0.975			0.884	0.940		
Status-based position	(− 2.12)	(− 0.36)			(− 1.22)	(− 0.80)		
Subjective social status			0.835**	1.136**	0.874	1.090		
			(− 2.94)	(2.82)	(− 1.95)	(1.68)		
Socioeconomic PC index					0.726**	1.311***	Demographic	
			(− 3.23)	(3.58)			indicators	
Visible minority	0.921	0.757	0.976	0.738	0.948	0.758	0.938	0.759
	(− 0.30)	(− 1.32)	(− 0.09)	(− 1.48)	(− 0.20)	(− 1.34)	(− 0.25)	(− 1.34)
Non-university graduate	1.215	0.648**	1.185	0.657**	1.134	0.678*	1.147	0.683*
	(0.97)	(− 2.84)	(0.82)	(− 2.72)	(0.60)	(− 2.52)	(0.66)	(− 2.47)
Female	0.756	1.252		0.791	1.215	0.766	1.264	0.747 1.252
	(− 1.48)	(1.55)		(− 1.28)	(1.36)	(− 1.42)	(1.62)	(− 1.57) (1.56)
Age	1.007	1.003		1.003	1.003	1.005	1.003	1.006 1.001
	(0.97)	(0.55)		(0.36)	(0.42)	(0.69)	(0.43)	(0.78) (0.14)
Quebec	1.575	0.906		1.760*	0.898	1.641*	0.883	1.652* 0.964
	(1.93)			(2.46)		(2.12)		(2.17)
N	2268			2268		2268		2268
BIC	10809.2			10802.0		10801.7		10785.4

(− 0.48) (− 0.54) (− 0.60) (− 0.18)

Exponentiated coefficients; t statistics in parentheses. *p < 0.05, **p < 0.01, ***p < 0.001.

of generalized trust and that one unit increase in baseline socioeconomic position index predicts about 31 percent higher odds of falling into an increasing trajectory of generalized trust. The smaller values of the BIC for Model

4 in both Tables 2 and 3 lend support for the use of PC index that captures both resource-based and status-based mechanisms.

5. Discussion

In this paper, we consider patterns of change for two forms of social trust, namely, generalized trust and neighborhood trust during the COVID-19 pandemic. Results show that increasing, decreasing, and stable trajectories of change, which conform to each of the proposed patterns. Findings of this study not only help reconcile the different perspectives on how social trust may change when a crisis occurs, but they also stress the importance of considering the unobserved heterogeneity within the population when studying changes in values and behaviors. A more person-centered approach can map out multiple trajectories of change in people's values and behaviors in times of crisis.

To fully capture individuals' socioeconomic positions and how they may affect trust changes, we separate between resource-based measures that capture material and social resources (e.g., household income and economic hardship) and status-based measures that capture individuals' rank or status in a social hierarchy (e.g., subjective social status). We also combine these measures to develop a socioeconomic position index that incorporates both resource-based and status-based positions. We find that both resource-based socioeconomic indicators and status-based indicators show significant impacts on individuals' placement into different trajectories of trust change during the pandemic when included separately. However, when included together, resource-based socioeconomic indicators show significant impacts, but subjective social status does seem to show significant effects, especially for neighborhood trust. The finding suggests resource-based mechanisms may play a more important role than status-based mechanisms in shaping trajectories of trust change during the pandemic. Still, our models show that the use of PC index that captures both resource-based and status-based mechanisms provides stronger prediction of an individual' placement into trust trajectories.

In this study, we have made a clear distinction between generalized trust and neighborhood trust. We find three distinct trajectories for both forms of trust, but there is also some evidence that generalized trust tends to be more stable than neighborhood trust. The latent class analyses showed that, besides increasing and decreasing trajectories, generalized trust evidenced a clear stable trajectory, while even the "stable" category for neighborhood trust shows slight decreasing trend. Furthermore, the stable trajectory for generalized trust also represents a greater sample of the respondents (19%) than the stable trajectory for neighborhood trust (24%). In fact, generalized trust is argued to be more rigid than particularized trust because generalized trust reflects our belief in the benevolence of human nature in general, rather than individuals with whom we have personal knowledge or contacts (Uslaner, 2002, 2008; Wu, 2021a, 2021b; Yamagishi and Yamagishi, 1994: 131; Putnam, 2000). Unlike generalized trust, neighborhood trust as a relational form of trust with specific targets and people are more likely to express neighborhood trust based on their real-life experiences, including day-to-day interactions (Freitag and Traunmüller, 2009; Wollebaek et al., 2012). Hence, while generalized social trust is an ingrained attitude that may only change gradually and under extreme circumstances (Uslaner, 2002, 2008), neighborhood trust, as a form of particularized trust, may be more malleable and open to change (Wollebaek et al., 2012).

Findings of this study provide clear evidence that the pandemic has exacerbated the existing trust inequality. We find that individuals' placement of the trajectories depends largely on their socioeconomic positions within the society. Individuals at higher socioeconomic positions have more trust than before the pandemic, then becoming even more trusting, while those at lower positions have little trust, in turn occupying increased risk for declines in trust. Such findings provide a good illustration of the pandemic's diverse and disproportionate impacts. Periods

of economic turmoil or structural change can be especially threatening for individuals at low socioeconomic positions due to the economic insecurity inherent in incumbency in disadvantaged positions, leading such individuals to trust even less. Conversely, in facing a crisis, individuals with higher socioeconomic positions maintain economic and psychological resources that permit confidence and investment in extant structures of social relationships. As a vital resource for health, decrements in trust among the socioeconomically disadvantaged suggests that these declines will be a primary mechanism for bolstering socioeconomic divisions in health during the pandemic.

One major limitation of this study is that the study sample is representative only for working Canadians (those who were employed as of September 2019 before the pandemic). Since there is a significant proportion of Canadians who are unemployed at any given point in time and unemployment could also affect trust, it is essential to include the unemployed population in analysis to have a full picture of how trust may change during the pandemic. Future research should address this limitation and also look into how sociopolitical settings may shape patterns of trust change.

6. Conclusion

While it is well established that trust plays essential roles in times of crisis (e.g., Putnam, 2000; Aldrich, 2012; Klinenberg, 2015), we show that among Canadians, a substantial portion of the population experienced declines in trust, especially trust in one's neighbors. By showing how pre-pandemic levels of socioeconomic advantage and disadvantage predict placement into trajectories of trust during the pandemic, we demonstrate how trust is a dynamic social product that responds to macro-social change in concert with larger tendencies towards trust or distrust. Given that trust is essential to individual health and well-being, the finding that the pandemic is worsening trust inequality illustrates how the pandemic is exacerbating social inequalities. Furthermore, our observations demonstrate the need for a person-centered mixture approach when considering how values and behaviors may change not only in times of crisis but also over time in general. **acknowledgement**

Acknowledgement Funding provided by the Canadian Institutes of Health Research (CIHR, FRN-170368; Cary Wu, PI). The University of Toronto COVID-19 Action Initiative 2020 and Tri-Council Bridge funding also supports this research (Scott Schieman, PI).

Appendix

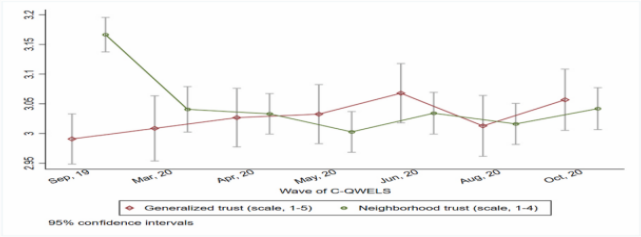

Fig. 1A. Changes in mean levels of generalized trust and neighborhood trust before and during COVID-19.

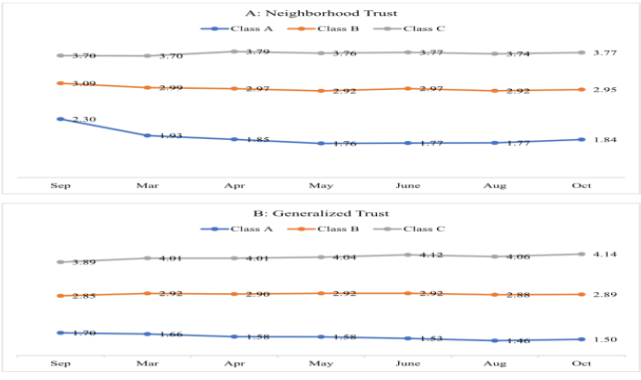

Fig. 2A. Trajectories of neighborhood trust (A) and generalized trust (B) and changes during COVID19 (original scale).

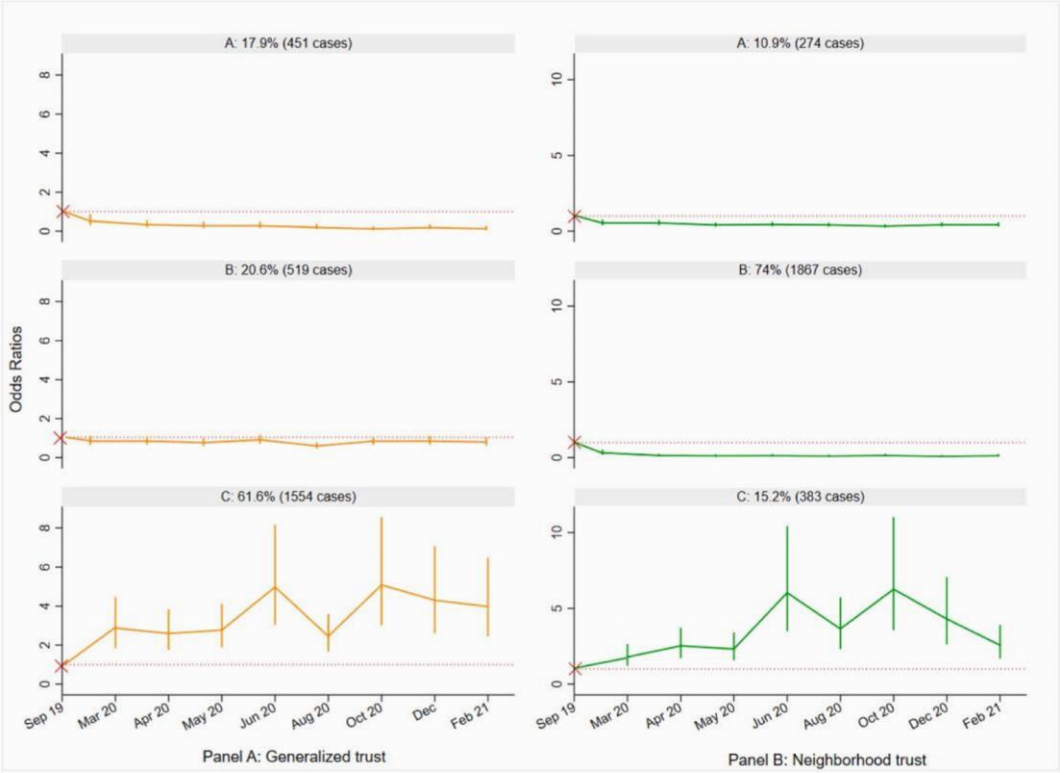

Fig. 3A. Trajectories of generalized trust and neighborhood trust changes during COVID-19 (March sample included).

References

Aldrich, D.P., 2012. Building resilience. Social capital in post-disaster recovery. In: Hindmarsh, R., Priestley, R. (Eds.), The Fukushima Effect: A New Geopolitical Terrain. Routledge, pp. 1–166.

Alesina, Alberto, La Ferrara, Eliana, 2002. Who trusts others? J. Publ. Econ. 85 (2), 207–234.

Algan, Yann, Cahuc, Pierre, 2010. Inherited trust and growth. Am. Econ. Rev. 100 (5), 2060–2092.

Alonge, O., Sonkarlay, S., Gwaikolo, W., Fahim, C., Cooper, J.L., Peters, D.H., 2019. Understanding the role of community resilience in addressing the Ebola virus disease epidemic in Liberia: a qualitative study (community resilience in Liberia). Glob. Health Action 12 (1), 1662682.

Ananyev, Maxim, Guriev, Sergei, 2019. Effect of income on trust: evidence from the 2009 economic crisis in Russia. Econ. J. 129 (619), 1082–1118.

Baekgaard, Martin, Christensen, Julian, Madsen, Jonas Krogh, Mikkelsen, Kim Sass, 2020. Rallying around the flag in times of COVID-19: societal lockdown and trust in democratic institutions. J. Behav. Publ. Administrat. 3 (2).

Bauer, Paul C., 2015. Negative experiences and trust: a causal analysis of the effects of victimization on generalized trust. Eur. Socio Rev. 31 (4), 397–417.

Bierman, Alex, Pearlin, Leonard I., 2011. SES, trajectories of physical limitations, and change in depression in late life. Soc. Ment. Health 1 (3), 139–152.

Bierman, Alex, Schieman, Scott, 2020. Social estrangement and psychological distress before and during the

COVID-19 pandemic: patterns of change in Canadian workers. J. Health Soc. Behav. 61 (4), 398–417.

Bierman, Alex, Upenieks, Laura, Paul, Glavin, Scott, Schieman, 2021. Accumulation of economic hardship and health during the COVID-19 pandemic: social causation or selection? Soc. Sci. Med. 275, 113774.

Bjørnskov, Christian, Borrella Mas, Miguel Angel, Rode, Martin, 2021. The economics of change and stability in social trust: evidence from (and for) Catalan secession.́ Econ. Polit. 1–23, 00.

Blair, R.A., Morse, B.S., Tsai, L.L., 2017. Public health and public trust: survey evidence from the Ebola Virus Disease epidemic in Liberia. Soc. Sci. Med. 172, 89–97.

Borkowska, Magda, Laurence, James, 2021. Coming together or coming apart? Changes in social cohesion during the Covid-19 pandemic in England. Eur. Soc. 23 (9), S618–S636.

Burnham, Kenneth P., Anderson, David R., 2004. Multimodel inference: understanding AIC and BIC in model selection. Socio. Methods Res. 33 (2), 261–304.

Chanley, Virginia A., 2002. Trust in government in the aftermath of 9/11: determinants and consequences. Polit. Psychol. 23 (3), 469–483.

Charron, N., Rothstein, B., 2016. Does education lead to higher generalized trust? The importance of quality of government. Int. J. Educ. Dev. 50, 59–73. Collins, Randall, 2004. Rituals of solidarity and security in the wake of terrorist attack. Socio. Theor. 22 (1), 53–87.

Dawson, Chris, 2019. How persistent is generalised trust? Sociology 53 (3), 590–599.

Delhey, Jan, Newton, Kenneth, 2003. Who trusts?: the origins of social trust in seven societies. Eur. Soc. 5 (2), 93–137.

Delhey, Jan, Newton, Kenneth, Welzel, Christian, 2011. How general is trust in “most people”? Solving the radius of trust problem. Am. Socio. Rev. 76 (5), 786–807.

Dinesen, Peter Thisted, Jæger, Mads Meier, 2013. The effect of terror on institutional trust: new evidence from the 3/11 M adrid terrorist attack. Polit. Psychol. 34 (6), 917–926.

Enders, Craig K., 2010. Applied Missing Data Analysis. Guilford press.

Esaiasson, Peter, Jacob, Sohlberg, Ghersetti, Marina, Johansson, Bengt, 2020. How the coronavirus crisis affects citizen trust in institutions and in unknown others: evidence from ‘the Swedish experiment. Eur. J. Polit. Res. https://doi.org/10.1111/1475-6765.12419.

Freitag, Markus, Traunmüller, Richard, 2009. Spheres of trust: an empirical analysis of the foundations of particularised and generalised trust. Eur. J. Polit. Res. 48 (6), 782–803.

Galobardes, Bruna, Shaw, Mary, Lawlor, Debbie A., Lynch, John W., Smith, George Davey, 2006. Indicators of socioeconomic position (part 1). J. Epidemiol. Community Health 60 (1), 7–12.

Giordano, Giuseppe Nicola, Lindstrom, Martin, 2016. Trust and health: testing the reverse causality hypothesis. J. Epidemiol. Community Health 70 (1), 1¨ 0–16.

Glanville, Jennifer L., Shi, Qianyi, 2020. The Extension of particularized trust to generalized and out-group trust: the constraining role of collectivism. Soc. Forces 98 (4), 1801–1828.

Glavin, Paul, Schieman, Scott, 2022. Dependency and hardship in the gig economy: the mental health consequences of platform work. Socius 8, 23780231221082414.

Grossman, D., 2014. On Killing: The Psychological Cost of Learning to Kill in War and Society. Open Road Media.

Habibov, Nazim, Afandi, Elvin, 2015. Pre-and post-crisis life-satisfaction and social trust in transitional countries: an initial assessment. Soc. Indicat. Res. 121 (2), 503–524.

Helliwell, John F., Aknin, Lara B., 2018. Expanding the social science of happiness. Nat. Human Behav. 2 (4), 248–252.

Hooghe, Marc, Marien, Sofie, De Vroome, Thomas, 2012. The cognitive basis of trust. The relation between education, cognitive ability, and generalized and political trust. Intelligence 40 (6), 604–613.

Inglehart, Ronald, Abramson, Paul R., 1994. Economic security and value change. Am. Polit. Sci. Rev. 336– 354.

Kalleberg, Arne L., 2018. Job insecurity and well-being in rich democracies. Econ. Soc. Rev. 49 (3), 241–258.

Klinenberg, Eric, 2015. Heat Wave: A Social Autopsy of Disaster in Chicago. University of Chicago Press, Chicago.

Krieger, Nancy, Williams, David R., Moss, Nancy E., 1997. Measuring social class in US public health research: concepts, methodologies, and guidelines. Annu. Rev. Publ. Health 18 (1), 341–378.

Krieger, Nancy, 2001. A glossary for social epidemiology. J. Epidemiol. Community Health 55 (10), 693–700.

Kye, Bongoh, Hwang, Sun-Jae, 2020. Social trust in the midst of pandemic crisis: implications from COVID19 of South Korea. Res. Soc. Stratif. Mobil. 68, 100523.

Lancee, Bram, Dronkers, Jaap, 2011. Ethnic, religious and economic diversity in Dutch neighbourhoods: explaining quality of contact with neighbours, trust in the neighbourhood and inter-ethnic trust. J. Ethnic Migrat. Stud. 37 (4), 597–618.

Lanza, S.T., Collins, L.M., 2008. A new SAS procedure for latent transition analysis: transitions in dating and sexual risk behavior. Dev. Psychol. 44 (2), 446.

Lindstrom, Martin, Giordano, Giuseppe N., 2016. The 2008 financial crisis: changes in social capital and its association with psychological wellbeing in the United¨ Kingdom–A panel study. Soc. Sci. Med. 153, 71–80.

Lochner, Kimberly A., Kawachi, Ichiro, Brennan, Robert T., Buka, Stephen L., 2003. Social capital and neighborhood mortality rates in Chicago. Soc. Sci. Med. 56 (8), 1797–1805.

Lount Jr., Robert B., Pettit, Nathan C., 2012. The social context of trust: the role of status. Organ. Behav. Hum. Decis. Process. 117 (1), 15–23.

Luhmann, Niklas, 2018. Trust and Power. John Wiley & Sons.

Magidson, J., Vermunt, J., 2002. Latent class models for clustering: a comparison with K-means. Can. J. Market. Res. 20 (1), 36–43.

Makridis, Christos A., Wu, Cary, 2021. How social capital helps communities weather the COVID-19 pandemic. PLoS One 16 (1), e0245135.

Mesch, Gustavo S., Schwirian, Kent P., 2019. Vaccination hesitancy: fear, trust, and exposure expectancy of an Ebola outbreak. Heliyon 5 (7), e02016.

Miao, Jia, Zeng, Donglin, Shi, Zhilei, 2021. Can neighborhoods protect residents from mental distress during the COVID-19 pandemic? Evidence from Wuhan. Chin. Socio. Rev. 53 (1), 1–26.

Moore, Matthew D., Recker, Nicholas L., 2017. Social capital groups and crime in urban counties. Deviant Behav. 38 (6), 655–667.

Muthen, Bengt, Mut´ h´en, Linda K., 2000. Integrating person-centered and variable-centered analyses: growth mixture modeling with latent trajectory classes. Alcohol Clin. Exp. Res. 24 (6), 882–891.

Nguyen, C., 2017. Labour market insecurity and generalized trust in welfare state context. Eur. Socio Rev. 33 (2), 225–239.

Nivette, Amy, Ribeaud, Denis, Murray, Aja, Steinhoff, Annekatrin, Bechtiger, Laura, Hepp, Urs, Shanahan, Lilly, Eisner, Manuel, 2021. Non-compliance with COVID- 19-related public health measures among young adults in Switzerland: insights from a longitudinal cohort study. Soc. Sci. Med. 268, 113370.

Nylund, K.L., Asparouhov, T., Muthen, B.O., 2007. Deciding on the number of classes in latent class analysis and growth mixture modeling: A Monte Carlo simulation´ study. Struct. Equ. Model. Multidiscip. J. 14 (4), 535–569.

OUberg, P., Svensson, T., 2010. Does power drive out trust? Relations between labour market actors in Sweden. Polit. Stud. 58 (1), 14¨ 3–166. Peterson, Christopher, Seligman, Martin EP., 2003. Character strengths before and after september 11. Psychol. Sci. 14 (4), 381–384.

Putnam, Robert D., 2002. Bowling together. Am. Prospect 13 (3), 20–22.

Putnam, Robert D., 2000. Bowling alone: America's declining social capital. In: Culture and Politics. Palgrave Macmillan, New York, pp. 223–234.

Rainie, Lee, Perrin, Andrew, 2020. The state of Americans' trust in each other amid the COVID-19 pandemic. Available at: https://www.pewresearch.org/fact-tank/ 2020/04/06/the-state-of-americans-trust-ineach-other-amid-the-covid-19-pandemic/.

Richards, Paul, Mokuwa, Esther, Welmers, Pleun, Maat, Harro, Beisel, Ulrike, 2019. Trust, and distrust, of ebola treatment centers: a case-study from Sierra Leone. PLoS One 14 (12), e0224511.

Ross, C.E., Jang, S.J., 2000. Neighborhood disorder, fear, and mistrust: the buffering role of social ties with neighbors. Am. J. Community Psychol. 28 (4), 401–420.

Ross, Catherine E., 2011. Collective threat, trust, and the sense of personal control. J. Health Soc. Behav. 52 (3), 287–296.

Ross, Catherine E., Mirowsky, John, 2009. Neighborhood disorder, subjective alienation, and distress. J. Health Soc. Behav. 50 (1), 49–64.

Ross, C.E., Mirowsky, J., 2013. Theory and modeling in the study of intimate relationships and health. J. Health Soc. Behav. 54 (1), 67–71.

Ross, Catherine E., Mirowsky, John, Pribesh, Shana, 2001. Powerlessness and the amplification of threat: neighborhood disadvantage, disorder, and mistrust. Am. Socio. Rev. 66 (4), 568–591.

Ross, C.E., Mirowsky, J., Pribesh, S., 2002. Disadvantage, disorder, and urban mistrust. City Community 1 (1), 59–82.

Rothstein, Bo, Eek, Daniel, 2009. Political corruption and social trust: an experimental approach. Ration. Soc. 21 (1), 81–112.

Sampson, Robert J., Morenoff, Jeffrey D., Gannon-Rowley, Thomas, 2002. Assessing "neighborhood effects": social processes and new directions in research. Annu. Rev. Sociol. 28 (1), 443–478.

Sander, Thomas H., Putnam, Robert D., 2002. Walking the Civic Talk after Sept. 11, vol. 19. Christian Science Monitor.

Sander, Thomas H., Putnam, Robert D., 2010. Democracy's past and future: still bowling alone?-the post-9/11 split. J. Democr. 21 (1), 9–16.

Schmid, Katharina, Ramiah, Ananthi Al, Hewstone, Miles, 2014. Neighborhood ethnic diversity and trust: the role of intergroup contact and perceived threat. Psychol. Sci. 25 (3), 665–674.

Simmel, Georg, 1990. The Sociology of Georg Simmel, vol. 92892. Simon and Schuster.

Smith, S.S., 2010. Race and trust. Annu. Rev. Sociol. 36, 453–475.

Sønderskov, Kim Mannemar, Dinesen, Peter Thisted, 2016. Trusting the state, trusting each other? The effect of institutional trust on social trust. Polit. Behav. 38 (1), 179–202.

Stolle, Dietlind, Hooghe, Marc, 2004. The roots of social capital: attitudinal and network mechanisms in the relation between youth and adult indicators of social capital. Acta Politic. 39 (4), 422–441.

Uslaner, E., 2016. Disaster and Political Trust: the Japan Tsunami and Earthquake of 2011.

Uslaner, E.M. (Ed.), 2018. The Oxford Handbook of Social and Political Trust. Oxford University Press.

Uslaner, E.M., 2007. The foundations of trust: macro and micro. Camb. J. Econ. 32 (2), 289–294.

Uslaner, Eric M., 2008. Where you stand depends upon where your grandparents sat: the inheritability of generalized trust. Publ. Opin. Q. 72 (4), 725–740. Uslaner, Eric M., 2013. Trust as an alternative to risk. Publ. Choice 157 (3–4), 629–639.

Uslaner, Eric M., 2002. The Moral Foundations of Trust. Cambridge University Press.

Sturgis, P., Read, S., Allum, N., 2010. Does intelligence foster generalized trust? An empirical test using the UK birth cohort studies. Intelligence 38 (1), 45–54.

Uslaner, Eric M., 1998. Social capital, television, and the “mean world”: trust, optimism, and civic participation. Polit. Psychol. 19 (3), 441–467.

Veenstra, G., 2000. Social capital, SES and health: an individual-level analysis. Soc. Sci. Med. 50 (5), 619– 629.

Wilkes, Rima, Wu, Cary, 2018. Ethnicity, democracy, trust: a majority-minority approach. Soc. Forces 97 (1), 465–494.

Wollebæk, Dag, Enjolras, Bernard, Steen-Johnsen, Kari, Ødegård, Guro, 2012. After Utøya: how a high-trust society reacts to terror—trust and civic engagement in the aftermath of July 22. PS Political Sci. Polit. 32–37.

Wollebaek, Dag, Lundåsen, Susanne Wallman, Tragårdh, Lars, 2012. Three forms of interpersonal trust: evidence from Swedish municipalities. Scand. Polit. Stud. 35¨ (4), 319–346.

Woods, Joshua, 2011. The 9/11 effect: toward a social science of the terrorist threat. Soc. Sci. J. 48 (1), 213– 233.

World Health Organization, 2010. A conceptual framework for action on the social determinants of health. https://apps.who.int/iris/bitstream/handle/10665/ 44489/?sequence=1.

Wu, C., 2020b. How does gun violence affect Americans' trust in each other? Soc. Sci. Res. 91, 102449.

Wu, C., 2020a. Does migration affect trust? Internal migration and the stability of trust among americans. Socio. Q. 61 (3), 523–543.

Wu, C., 2021a. Education and social trust in global perspective. Socio. Perspect. 64 (6), 1166–1186.

Wu, C., 2021b. How stable is generalized trust? Internal migration and the stability of trust among Canadians. Soc. Indicat. Res. 153 (1), 129–147.

Wu, Cary, Wilkes, Rima, 2016. Durable power and generalized trust in everyday social exchange. Proc. Natl. Acad. Sci. Unit. States Am. 113 (11). E1417-E1417.

Xiao, Han, Zhang, Yan, Kong, Desheng, Li, Shiyue, Yang, Ningxi, 2020. Social capital and sleep quality in individuals who self-isolated for 14 days during the coronavirus disease 2019 (COVID-19) outbreak in January 2020 in China. Med. Sci. Mon. Int. Med. J. Exp. Clin. Res.: Int. Med. J. Exp. Clin. Res. 26, e923921-1.

Yamagishi, Toshio, Yamagishi, Midori, 1994. Trust and commitment in the United States and Japan. Motiv. Emot. 18 (2), 129–166.

Yamagishi, Toshio, 2011. Trust: the Evolutionary Game of Mind and Society. Springer Science & Business Media.

Yang, Jie, Moorman, Sara M., 2021. Beyond the individual: evidence linking neighborhood trust and social isolation among community-dwelling older adults. Int. J. Aging Hum. Dev. 92 (1), 22–39.