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Socio-economic position and local solidarity in times of crisis. The COVID-19 pandemic and the emergence of informal helping arrangements in Germany

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ABSTRACT

In this article we study the emergence of local solidarity in the wake of the COVID-19 crisis in Germany. The COVID-19 pandemic and ensuing lockdown measures have had far-reaching and quite diverse consequences for different social groups, and have increased the need for practical help, childcare, financial aid, but also emotional support to cope with the psychological consequences of social isolation. Hence, even individuals who are not traditionally receivers of informal help have suddenly become dependent on it. Existing research on volunteering, caregiving and donations has shown that the provision of help and volunteer work has a social gradient, and that social inequalities therein can partly be explained by reference to individuals' attitudes and social networks. Against this backdrop, we ask: (1) Has the COVID-19 pandemic sparked the emergence of a new local solidarity? (2) What types of help are provided, and to whom? (3) How does socio-economic position affect the provision of different forms of help during the COVID-19 crisis? (4) Which sociological mechanisms can explain these inequalities in helping? Using data from a topical online-survey based on a quota sample which was collected, during the heydays of the first lockdown in Germany, we find that one of two respondents engages in some sort of local solidarity. Depending on the recipient and the way of helping – up to half of these helping arrangements has newly emerged and does not build on already existing (pre-crisis) help-arrangements. Differences between income and educational groups can mostly be explained by attitudes and social networks. Embeddedness in formal networks is particularly important for extending help to previously unknown recipients in the community. This article contributes to the literature on the social origins of help and the initiation of social capital during crises in general, and the political discussion about solidarity in the COVID-19 pandemic in particular.

1. Introduction

The COVID-19 pandemic and the subsequent governmental lockdown measures have created existential challenges for people across Europe and the globe. Germany is no exception. In mid-March 2020, at the beginning of the pandemic in Germany, national and federal governments passed lock-down measures, which resulted in a full halt of public life. These measures included the closing of schools, numerous companies and public agencies, as well as severe limitations of social contacts in general. Despite the existence of substantial welfare state support in Germany, the unforeseeable and abrupt spread of the pandemic and the necessary governmental interventions have created

needs among groups of people who were not dependent on support before these interventions. The closure of kindergartens and schools, for instance, has left parents without childcare, while having to keep up with their work (Cluver et al., 2020). People with medical pre-conditions or chronic diseases as well as the elderly were defined as high "risk groups" due to their increased risk for severe pathologies (Jordan, Adab, & Cheng, 2020). As these groups were asked to self-isolate, a new demand for help, for example in running basic errands, emerged (Armitage & Nellums, 2020). Moreover, millions of employees and self-employed had to reduce their working hours, got unemployed or went out of business, increasing the demand for (public and private) monetary support (Bundesagentur für Arbeit, 2020). Thus,

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the COVID-19 pandemic has created various situations of need among a large variety of groups and has prompted the emergence of new support arrangements (Carlsen, Toubøl, & Brincker, 2020; Duque Franco, Ortiz, Samper, & Millan, 2020; Lachance, 2020; Mak & Fancourt, 2020; Miao, Schwarz, & Schwarz, 2021; Seddighi, Salmani, Ermolaeva, Basheva, & Sedeh, 2020).

Due to the novel situation at the beginning of the crisis during the first lockdown in spring 2020, the capacity of the state and charities were very limited in providing all the needed support with childcare, practical help, and financial support. As a consequence, private informal helping and caring arrangements were needed to step in, in order to guarantee the coverage of basic needs for the affected individuals. Theoretically, such helping arrangements can be understood as a form of local solidarity, in which people bear some cost to increase the welfare of proximate others, without receiving a tangible individual benefit (Piliavin & Charng, 1990; Smith & Sorrel, 2014; Van Oorschot & Komter, 1998). Generally, the literature on solidarity distinguishes two different types of informal help: volunteering and donating (Wilson & Musick, 1997). Due to the diverse consequences of the pandemic described above, we can expect both the provision of practical help and financial support to occur. However, since the pandemic is also creating psychological stress (Beland, Brodeur, Haddad, & Mikola, 2020), emotional support as a pivotal form of support has emerged (Arpino, Pasqualini, Bordone, & Solé-Auró, 2020; Mak & Fancourt, 2020).

Yet, despite its essential nature to bridge the gap between needs created during the lockdown and public services available, local solidarity or informal help is often a highly precarious and conditional form of social support, as it depends on available resources, networks, and personal attitudes of (potential) helpers (Havens, O'Herlihy, & Schervish, 2006). Socio-economic position might affect patterns of helping others through the access to available resources, networks, and attitudes. Extant research shows that there are marked differences in helping others along the lines of socio-economic position. Individuals with higher income, higher education and higher occupational positions are more often engaged in volunteering and donating than individuals with fewer of these resources (Musick, Wilson, & Bynum Jr, 2000) (Wiepking & Bekkers, 2012; Wiepking & Maas, 2009; Wilson, 2012). With regard to the COVID-19 pandemic, first research shows that poorer households are more likely to be exposed to financial issues, emotional strain and family distress, possibly reducing the necessary resources to help others (Arpino et al., 2020; Beland et al., 2020; Kapteyn et al., 2020).

If a social gradient in helping during the COVID-19 crisis exists, this may be problematic for a number of reasons. First and most importantly, processes of social homophily suggest that donors are more likely to help people that are similar to themselves (McPherson, Smith-Lovin, & Cook, 2001). If resources constrain the opportunity to help also during the COVID-19 crisis, especially those with higher social positions would benefit, leaving lower social classes behind with uncovered need (Settersten, Bernardi, & Härkönen, 2020). Second, by engaging in volunteering or charitable organizations, helpers are able to promote their own interests and ideas in local politics. In other words, people in higher socio-economic positions have more power in deciding whom, how and when to help than people in lower socio-economic positions, potentially putting the latter at a further disadvantage. Last but not least, helping is a normatively-connoted behavior, with people who help being perceived as righteous and moral (Sanghera, 2016). Hence, social inequalities which constrain the opportunities of helping might also exclude lower-status individuals from positive social rewards or the "warm glow of giving" (Andreoni, 1990).

In sum, social inequalities in helping during the pandemic might disproportionately affect those already in disadvantaged positions in a crisis situation. The COVID-19 crisis provides a unique opportunity to study such inequalities in the provision of help, since it has created diverse acute needs by people, which are partly independent of their position in the social strata, just by means of belonging to a specific age or health risk group, by having children or unexpectedly losing one's

income. Against this backdrop, we ask: (1) Has the COVID-19 pandemic sparked the emergence of a new local solidarity? (2) What types of help are provided, and to whom? (3) How does socio-economic position affect the provision of different forms of help during the COVID-19 crisis? (4) Which sociological mechanisms can explain these inequalities in helping?

We argue that patterns of helping are characterized by distinct social inequalities, which are shaped by the socio-economic positions of donors and volunteers. Yet, to fully understand how these inequalities in helping others unfold, we need to investigate the specific mechanisms that link socio-economic positions to behavior (Rössel, 2008). Existing theories have suggested three main explanations of pro-social behavior: first, giving is shaped by the individual availability of specific resources or types of capital (Wiepking & Maas, 2009; Wilson & Musick, 1997). These resources are directly related to the socio-economic position in a system of stratification. The absence of resources might create an obstacle for help, independent of individual willingness to support others. Second, specific individual motivations, such as altruistic attitudes, render helping others more likely (Monroe, 1994; Oliner & Oliner, 1988; Schwartz, 1977). Third, personal social ties or the embeddedness in social networks play an important role in providing help, because they provide information about need and channel requests and offers for help (Brown & Ferris, 2007; Varese & Yaish, 2000). Distinguishing between these three branches of explanations, the aim of this article is to investigate how they map onto informal help during a crisis.

In studying this a number of challenges apply, which need to be addressed with a suitable methodological design. First, some helping arrangements might predate the COVID-19 crisis. This raises the question whether the helping arrangements reported during to COVID-19 crisis are mainly being entertained by individuals who had already helped before – or whether the crisis has untapped the potentials of previous non-helpers. Second, under "normal" circumstances, there is a clear preference for helping family members, respectively asking family members for help (Connidis & Davies, 1990; Messeri, Silverstein, & Litwak, 1993; Suanet, van Tilburg, & Broese van Groenou, 2013). During the pandemic, however, such classic helping relations may have been complicated by the containment measures, and help may have been sought elsewhere. Here, too, we can expect to find a social gradient, as more highly educated individuals entertain more non-family ties and have a larger share of weak ties in their networks (Ajrouch, Blandon, & Antonucci, 2005; Gracia, Garcia, & Musitu, 1995). Given the potentially negative consequences of unequal helping behavior for inequality at a societal level, it is thus crucial to distinguish between pre-existing and newly emerged, respectively between family and non-family helping arrangements. Third, the social gradient in helping also runs along the lines of which type of help is being provided. For instance, when it comes to help within families, financial support is more likely to be provided by individuals with higher incomes, whereas poorer helpers are more likely to provide practical help (Brandt & Deindl, 2013; Brandt, Haberkern, & Szydlik, 2009). For instance, Mak and Fancourt (2020) find for non-family volunteering during COVID-19, that individuals with higher incomes are more likely to provide financial or pro-bono support, emotional support or research volunteering than individuals with lower incomes. Thus, in order to test assumptions about expanding or shrinking social gradients in help during the COVID-19 pandemic, we also distinguish between old and new helping arrangements, family and non-family support as well as financial and non-financial help.

We base our empirical analysis on a unique topical online survey titled "Living under exceptional circumstances", which was conducted during the first lockdown in Germany (for a description of the data, see Wöhler, 2021). Based on a quota sample recruited in an online panel, more than 4,700 respondents were surveyed about their perceptions of and behavior during the first weeks of the COVID-19 crisis. The survey was fielded from late April to early May, during a time in which far-

reaching lockdown measures were in place, and contained a special module on local solidarity during the COVID-19 pandemic. Using descriptive as well as multivariate analyses we first show the extent and types of (new) local solidarity, before analyzing the socio-economic gradient and the underlying mechanisms that render informal help more or less likely.

Volunteering and giving differs widely across Europe, reflecting distinct institutional and cultural settings, such as welfare policies, non-profit sectors or religious heritage (Ruiter & de Graf, 2006; Scheepers & te Grotenhuis, 2005; Schofer & Fourcade Gourinchas, 2001), which have shaped the diverse forms of organizing and institutionalizing solidarity across Europe (Healy, 2000; Stadelmann-Steffen, 2011). Germany is an interesting case to study help during a pandemic crisis. Characterized by a corporatist welfare state and a coordinated market economy, close coordination between organized business, labor and the welfare state as well as far-reaching state initiatives have helped to avoid mass lay-offs and secure welfare support, for those employers and employees affected by the crisis. Compared to most other European countries, volunteering in social services is very low in Germany (Stadelmann-Steffen, 2011), yet formal social capital (i.e. associational membership) is quite extensive (Pichler & Wallace, 2007). Thus, while an active civil society does exist, it is not directly prone to helping others in need. Therefore it is specifically interesting what kind of patterns of local solidarity emerge and whether a new model of co-production of care emerges comparable to for instance Denmark (Andersen, Kirkegaard, Toubøl, & Carlsen, 2020).

In the following, we first discuss how socio-economic position is related to the provision of help, before discussing the two additional explanations for helping. Thereafter we present our data, variables, and method, and then turn to the results. In the conclusion we summarize our findings and discuss limitations and future research avenues.

2. Theoretical background: social inequality and the explanation of informal help

2.1. Social inequality, socio-economic position, and the provision of help

Social inequality can be understood as a multidimensional concept (Blau, 1977) insofar as a person's social position is defined by several status categories, such as education, occupation or income. These status categories are associated with solidarity, such as the provision of help or volunteering both in a direct and indirect way (Paskov & Dewilde, 2012; van den Bogaard, Henkens, & Kalmijn, 2014). Seen from an aggregate perspective, inequalities in societies are the result of unequal distributions of resources among different groups. While social inequality refers to characteristics of a society, we focus on the relative position of individuals within a broader social structure (socio-economic position). The theoretical link between socio-economic position and specific actions often remains implicit. To better understand how social position translates into social behavior, Rössel (2008: 233) suggests a simple model of action, consisting of two successive filter mechanisms: The first filter process structures available alternatives in regard to the costs of and resources for different actions and thus outlines actor's *opportunity structures*. In the subsequent second filter process, the actor's beliefs and desires (or more generally: *preferences*) take effect in the decision for one of the afore structured alternatives. According to Elster (Elster, 1989) (1989: 13), primacy can be attributed to the opportunity structure. Thus, since solidarity refers to the costly provision of help to others, the resources associated with people's socio-economic position can be expected to constrain or enable their contribution to local solidarity (Paskov & Dewilde, 2012; van den Bogaard et al., 2014).

A fundamental opportunity, respectively limitation, for helping others is the availability of resources. Resources are any material or non-material goods, such as money or time, over which an actor has some discretion. The link between socio-economic position and resources is obvious. Even though, socio-economic position should not be equated

with income alone, it is an important dimension of social stratification. Besides, education constitutes a second relevant dimension of stratification and often a precondition for higher income in modern societies. In the following, both aspects will be included when talking about "social position" or "socio-economic position". Many empirical studies show that there is a positive relationship between income and the incidence of donating as well as the amount donated (Wiepking & Bekkers, 2012). The relationship between income and volunteering is inconclusive (Wilson & Musick, 1998). Education is however a consistent and almost ubiquitous predictor of both donating and volunteering (Wiepking & Bekkers, 2012; Wilson & Musick, 1998). *It is thus plausible to assume that individuals with higher education or higher household income are more likely to provide help during the pandemic than individuals with lower education and lower household incomes (H1).*

Yet, a simple resource model might not suffice to fully understand the link between one's social position and helping others in need. As suggested above, specific preferences or altruistic attitudes matter for helping. Moreover, following the ideas of Blau (1977), the networks of a person are directly related to an individual's position in the social structure. Both attitudes and networks can thus be expected to mediate the linkage between one's position in the social strata, and the provision of help to others. In the following two sections, we further discuss these two additional explanatory mechanisms.

2.2. Attitudes and informal help

Attitudes can be decisive to help others. Two types of attitudes are of a particular importance for helping: Pro-social norms, and generalized trust. As regards pro-social norms, the so-called "norm-activation model" starts from the assumption that perceptions about moral obligations constitute a personal norm, which ultimately guides behavior (Schwartz, 1973). Even though not everyone endorses a strong personal pro-social norm, when aligned with a general social norm, e.g. to help people in need, they become powerful yardsticks that provide orientation to human behavior (Schwartz, 1977). Research on personal norms has found that self-expectations are important explanations of helping others (Dovidio, Piliavin, Schroeder, & Penner, 2017: 119; Kroneberg, 2012; Monroe, 1994; Oliner & Oliner, 1988). Personal moral norms of helping others might help to explain why some people helped – and others did not.

A second important prerequisite to helping others is the belief that other people are trustworthy (Uslaner, 2002). If people do not trust the legitimate demand of others, it is unlikely that help is provided. This should be particularly important when one did not know or meet the recipient previous to helping. This is the case if help is anonymously channeled through an online, or a newly emerged neighborhood initiative. Furthermore, people who trust in others are more likely to believe that their altruistic behavior might be reciprocated. Generalized trust can thus be seen as another precondition to help other people (Bekkers, 2012; Putnam, 2000).

During the first wave of the COVID-19 pandemic, providing help to the vulnerable population and protecting the "risk groups" from infection with the SARS-CoV2 virus constituted a central pillar of the public discourse. This general perception of legitimate need on the one hand, and the emergence of a new solidarity norm on the other hand, are likely to have reinforced personal pro-social norms and created trust in the legitimate deservingness of others.

Attitudes are linked to socio-economic position, particularly education and income. Higher socio-economic position entails not only economic, but also social and cultural capital. Such cultural capital refers to knowledge and skills, which enable individuals to help others, but also attitudes, which, as part of a certain "habitus", orient and guide actions (Bourdieu, 1986). Several studies show that specifically education is an important element in making people more trustful and pro-social (Wiepking & Maas, 2009). On the one hand, education fosters a better understanding of abstract problems or knowledge about distant issues of

other people. Such understanding can foster trust in complex pro-social interactions (Brown, 2005). On the other hand, education can be expected to have a socializing effect, with the higher educated having more strongly learnt and internalized pro-social norms (Schuyt, Smit, and Bekkers, 2004; Wiepking & Bekkers, 2012).

With regard to income, the mechanisms are less clear. Some studies suggest that the rich developed a unique set of philanthropic attitudes as a reflection of an elite habitus, and may thus be inclined to “help the poor” (Ostrower, 1997). Yet, beside the direct mechanism of available financial resources through higher income discussed above, it seems unclear through which other mechanisms income affects giving (Wiepking & Bekkers, 2012).

Hence, we assume that *when controlling for individuals' attitudes with regard to the moral obligation to help and generalized trust, the effect of education should decrease (H2a)*.

2.3. Social networks and the provision of help

Another important mechanism that gets actors to help others is their social connections or network ties. Social networks constitute the channels through which information on the need for help among others are communicated (Brown & Ferris, 2007; Varese & Yaish, 2000). Thus, if one frequently meets informally with other people or is part of an encompassing formal organization, the likelihood of being connected to someone who is in need and the likelihood of knowing about this need is higher than for people with more confined networks. Moreover, networks are also explicitly used to request help by beneficiaries (Varese & Yaish, 2000). This can occur both informally (e.g., within a family network or a network of friends), as well as formally, (e.g. through membership in associations, or religious organizations). Besides the theoretical distinction between formal and informal social capital (Putnam, 2000) and its relation to helping or pro-social behavior, another theoretical distinction is often made in sociological research. Granovetter (1983) distinguishes between strong ties (e.g., family members and friends) and weak ties (e.g., colleagues at one's work place, or the members of the club or association one is in, but also neighbors). Whereas strong ties are more likely to fulfill the function of direct need-related social support, weak ties carry information and link various networks.

These two conceptualizations overlap insofar as family members constitute both strong and informal ties and members of one's association constitute both weak and formal ties, whereas strong and formal ties do usually not exist. However, combining these two conceptualizations also allow for further differentiation within the group of weak ties (e.g., neighbors being weak and informal, but colleagues at work being weak and formal ties) and informal ties (e.g., friends being informal and strong, whereas neighbors being informal and weak ties). Applied to the situation during the first lockdown of the COVID-19 pandemic, such a differentiated perspective is particularly helpful in estimating a person's network potential for helping. First, local, weak, and informal ties, e.g., in the neighborhood, may be easier accessible than weak, formal ties, because clubs and associations were closed, and religious meetings prohibited during the lockdown. Yet second, pre-existing formal ties may be more liable and binding due to their institutionalized characters. Third, where strong informal ties such as family members are not available due to living distances or health risks, more local, weak, and informal ties might step in. A final note: since during the pandemic, all physical personal contacts were highly discouraged, those with pre-existing ties are advantaged when it comes to accessing networks, because they can rely on an already existing mutual contact and exchange. We thus roughly distinguish three types of ties: 1) strong informal ties, 2) weak formal ties and 3) weak, informal ties.

One's position in the social structure is to some degree connected to the scale and depth of social networks. More affluent and more educated people have been shown to possess larger networks (Pichler & Wallace, 2009). Besides network size, another relevant aspect is network

diversity. Particularly, weak ties carry different benefits than strong ties (Granovetter, 1983). As regards the linkage between socio-economic position and access to formal and informal networks respectively weak and strong ties, we know that individuals from higher social classes or with higher education are more likely to be part of formal networks, particularly associations, and more likely to engage in formal volunteering (Brown & Ferris, 2007; Putnam, 2000). Having more diverse networks (which entail formal and informal ties) can partly offset the negative effect of lower education on volunteering (Ajrouch, Antonucci, & Webster, 2016). When looking at the demand side, i.e. the perspective of receivers of help, individuals of lower social classes are more likely to rely solely on strong, informal ties, particularly, family members (Brandt et al., 2009; Broese van Groenou & van Tilburg, 2003). Partnerless and childless individuals, however, also rely on less strong, informal ties, such as friends and neighbors, for support (Broese van Groenou & Van Tilburg, 1996; Schnettler & Wöhler, 2015). Networks consisting predominantly of friends are, however, not less effective in providing instrumental or emotional support (Suanet & Antonucci, 2017).

Overall, it seems that individuals with a higher education or a higher income are more likely to “benefit” from being integrated into larger networks in terms of their opportunities of volunteering (Wilson & Musick, 1998). Thus, it is plausible to assume that the effect of higher socio-economic status is mediated through participation in formal networks and access to strong and weak ties. Accordingly, we can formulate the following hypothesis: *The effect of socio-economic position on informal help is mediated by embeddedness in social networks (H2b)*.

3. Data, variables, and method

3.1. Data

To test our hypotheses we use data from the multi-purpose online-survey “Living under exceptional circumstances”, which investigates various aspects of peoples' lives under the conditions of the first lockdown during the COVID-19 pandemic in Germany (Wöhler, 2021). The survey was fielded between 29th of April and 8th of May 2020, when most of the harsh lockdown measures were still in place. In fact, only two smaller change in the containment measures occurred during that period: the re-opening of the hairdressers on May 4th, and the re-opening of churches and playgrounds on May 6th.² The survey was embedded into an online access panel based on a quota sample of the adult German population. Quotas were based on gender, age, education and region. The resulting sample represents the distribution of the respective groups in the general populations well (see Table A1 in the Appendix A with a comparison between our sample and German census data). Older people were slightly underrepresented and people in East Germany were deliberately oversampled. In addition, redressment weights were used to correct for small deviations from the general population and the oversampling of East Germany.³ The online survey consisted of several modules focusing on the impact of the COVID-19 pandemic on society. To study local solidarity we included a number of questions on giving and receiving different type of help as well as, whether helping arrangements were already in place before the crisis.

² We checked whether these re-openings would change individuals' reports regarding their help. In fact, we find an increase in help, new help, childcare and help to family members after that date (as compared to before). This effect does not hold, however, when controlling for a general time trend towards more help during our ten-day observation window.

³ During the time of the survey, due to the lockdown measures it was highly difficult to implement any other data collection method, such as face-to-face interviews, and even telephone interviews were problematic, due to availability of interviewers. While a “digital divide” cannot be fully ruled out, the great majority (93 %) of people living in Germany uses the internet at least once a week.

In total, more than 4,700 respondents participated in the survey. We excluded all respondents without valid observations on the dependent and independent variables. Our final sample consists of $n = 4,521$ respondents. The sample description can be obtained from [Table A2](#) in the Appendix A. In the following, descriptive results will be presented using weights; whereas we estimate the multivariate models without weights (weighting does however not change the results).

3.2. Dependent variables

We operationalize the phenomenon of helping during the COVID-19 pandemic using *four dependent variables*. First, and more generally, we investigate whether (1) help was being provided during the first lockdown. (“helping”). Thereafter, we take a closer look at the helpers and differentiate (2) whether this help had already been provided before the COVID-19 pandemic (“new help vs. old help”), (3), whether this help was provided to a family member respectively to a non-family person (“family vs. non-family”), and (4), whether financial support was provided as opposed to other forms of support (“money vs. other help”).

(1) The first dependent variable is based on following question: “In the last weeks since mid-March, the COVID-19 crisis and the measures linked therewith, such as curfews and closures of childcare facilities, have led to many people now needing private help from others, for instance through shopping, childcare, emotional support or in other ways. In this time, did you:”, followed by five boxes that could be checked: “Offer help to someone (also via a platform)”, “Help someone”, “Need help”, “Ask someone for help (also via a platform)” and “Receive help”. Individuals were asked to select all answering options that applied.⁴ We created a dichotomous variable which takes on the value “1” if the respondent has selected the answering option “Help someone” and “0” otherwise.⁵

For those who reported providing help, we further asked to whom and what type of help was provided. This information is used for creating the remaining three dichotomous variables. The respondents were presented four groups of receivers: family members, friends or neighbors, members of one’s association or religious group, and other people one did not previously know. For each of these groups, three answering categories were presented, from which one had to be selected: “No”, “Yes, newly”, “Yes already before the COVID-19 crisis”. This information is used in the following to differentiate between (2) “old” help (pre-existing helping arrangements) and “new” help (which emerged since COVID-19). All individuals who provided new help to at least one group of recipients were identified as “new helpers” (and assigned the value “1”), even if they may also provide “old” help to another recipient. All other individuals, who only provided old help were set to zero, non-helpers were set to missing. Next, we differentiate (3) between help provided to a family member, irrespectively of whether that was old or new help, or whether they additionally provided help to a non-family person and set all other helpers to zero (respectively non-helpers to missing). Finally, we use information on five types of help provided: practical, childcare, financial, emotional and “other”. Respondents were asked to check all that apply. Finally (4) financial help was set to the value “1” for all respondents who had reported providing financial help and set to zero for all other helpers.

⁴ 36 per cent of our respondents did not select any of these five options ($n=1,760$).

⁵ Even though, the investigation of receiving or needing help would be very interesting, it is beyond the scope of the analyses presented in this article. Due to the theoretical focus of this paper and the policy and societal relevance of identifying providers of local solidarity during a crisis, we focus exclusively on analyzing the provision of help.

3.3. Independent variables

Our main independent variables were operationalized as follows. Socio-economic position is represented by education and income. Education was measured as the *highest degree of education attained*. It was collected in detail with two items asking for the highest general educational certificate and the highest vocational certificate one had attained. Using information from both scales, we constructed a categorical variable with four groups: At most compulsory schooling, a vocational secondary schooling certificate, A-levels (which is a general secondary leaving certificate in Germany, allowing access to universities), and a tertiary certificate. Income was collected on a continuous scale as *the monthly net household income*. For those respondents who refused an answer on their income, we presented a categorical variable with six income ranges. The continuous income was recoded into a categorical variable using the same income ranges in order to combine information from both questions. Overall, we use five income groups in our models: <900 Euros, 900–1499 Euros, 1500–4000 Euros,⁶ 4000–5999 Euros, and more than 6000 Euros. Alternatively, we also calculated a measure using the equalized net household income (using the continuous variable and dividing it by the square root of the number of household members). This variable, however, exhibited no effect on helping, suggesting that it is rather absolute than relative income which matters for informal help.

Attitudes were measured using two items. The first item pertains to an individual’s subjectively perceived helping norm (“I feel morally obliged to help other people in need”), measured on a seven point scale ranging from “Do not agree at all” (1) to “Fully agree” (7). The second item is the standard question on generalized trust, which is also used in other large scale surveys. It reads as follows: “In general, what do you think: Can one trust most people, or can one not be cautious enough when dealing with others?” and can be answered on an 11-point scale ranging between two poles from “One cannot be cautious enough” (0) to “One can trust most people” (10). Both items were included into our models as continuous variables.

Networks were measured with three questions. Depicting *strong and informal ties*, we asked for the average amount of contact with family members and friends before the lockdown (using six answering categories from “Daily” to “Less than monthly” and “Don’t know” as a residual category). This variable was recoded into three categories: “At least weekly”, “At least monthly”, “Less than monthly” and the “Don’t know”-category was set to missing. Second, we asked for *weak and formal network ties*, using two items. One item pertains to whether the respondent is an active member in one or several clubs, associations or charitable societies: “No”, “Yes, in one”, “Yes, in more than one”. We also asked for the average frequency of attending religious service in one’s church, mosque, temple, or synagogue, ranging from “Once per week or more often” to “Never”, plus a sixth category “Don’t know” which was set to missing. This variable was recoded, so that higher values represent higher frequencies and was included into our models as continuous variables. No direct questions were asked in the survey regarding weak and informal ties, such as contacts with neighbors, or private contacts with work colleagues. However, we have information on having children or being employed, which are at least rough proxies for the existence of such potential ties.

Finally, we included a number of socio-demographic and other *control variables*. Besides education and income, a broader set of resources has been associated with the likelihood to help others ([Papa, Cutuli, Principi, & Scherer, 2019](#)). The availability of time is an important prerequisite to help others. Time resources are measured with employment and family status. Respondents’ employment status is included into the models with five categories: “Full-time employed”,

⁶ This category was contracted from two adjacent categories, as our tests showed that these two groups were not significantly different from each other.

“Part-time employed”, “Retired”, “Unemployed” and “Economically inactive”. To measure family status, we include two dummy variables indicating whether one lives with minor (biological or non-biological) children in the household (1 = yes), and whether lives with a spouse or partner (1 = yes). Second, health is an important resource that enables the provision of help (Niebuur, van Lente, Liefbroer, Steverink, & Smidt, 2018; Papa et al., 2019). This is particularly true in a pandemic situation, where helping also constitutes a health risk. To operationalize health, we included a continuous variable based on five categories of self-reported health (“Severe health problems” to “excellent health”). These resources are not fully independent of one’s position in society (Ajrouch et al., 2016; Boronovi & Andrieu, 2020), and may thus also mediate effects of socio-economic position.

Finally, we also include a number of standard socio-demographic control variables. Next to gender (0=male, 1=female), we included age grouped into four categories (18–34 years, 35–49 years, 50–64 years, and 65 years or older). A dichotomous variable indicates migration background, measured as the respondent or both his or her parents having been born outside of Germany (1 = yes). Another dichotomous variable indicated whether the respondent’s place of residence is urban (1=“Large city”/“Suburban area”) or rural area (0=“Small town”/“Village), and whether the place of residence is located on territory of the former German Democratic Republic (GDR) (1 = yes). We also account for the prevalence of the SARS-Cov2 virus in the region of the respondent, by including the number of infections per 100,000 inhabitants in the federal state on the interview day.

3.4. Analytical strategy

Besides gaining insights into the potential of local solidarity during the COVID-19 crisis, we are interested in explaining social structural inequalities in the provision of help during the COVID-19 crisis as well as in the differences between different types of help (such as “new” vs. “old” help, help to family members vs. non-family persons, financial support vs. more practical forms). For this reason, we first provide an extensive overview over the prevalence of help and its diverse forms during the first lockdown in Germany in the description section.

Thereafter, we present multivariate models in two stages. In the first stage, we compare helpers to non-helpers applying logistic regression models to the whole sample. Logistic regression models are used as the dependent variables are dichotomous. In order to test whether the social structural differences found can be explained by reference to “classic” explanatory mechanisms, we rely on stepwise model building. We start with bivariate effects for education and income, then estimate the effects of education and income simultaneously, subsequently we add the respective other resources (time, health) and the socio-demographic controls, then separately add all the indicators for the two explanatory mechanisms (attitudes and networks) and finally estimate a full model with all explanatory variables and controls entered simultaneously. Such stepwise model building is conducted for all models but presented only for first model (helping vs. not helping).

In the second stage, we only look at helpers and compare the three distinct forms of help (old vs. new; family vs. non-family; money vs. other ways of helping). In these models. For the sake of brevity, we will only present the full models. Finally, a number of robustness check models was conducted (Heckman selection models, models with different operationalizations). They support our results, if not otherwise discussed in the results section.

A note on the methodology: Logistic regression models come with the challenge that their coefficients (both odds ratios and log odds) are not independent of unobserved heterogeneity (Mood, 2010). Coefficients are not comparable across models and samples. We will not

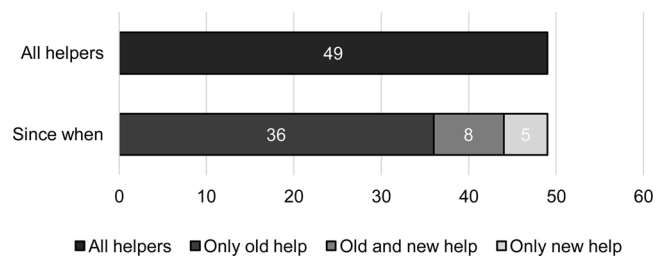


Fig. 1. Old and New Help Provided During the COVID-19 Pandemic. Legend: Survey "Living under exceptional circumstances". Sample: All individuals aged 18–98 years. Own, calculations, weighted results. Percentages of helpers in per cent of the valid sample. All types of help and receivers combined.

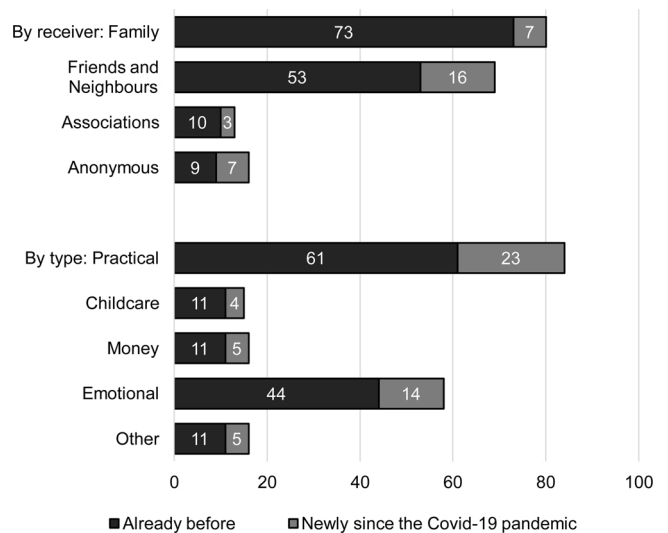


Fig. 2. Help provided by type of help and receiver. Legend: Survey "Living under exceptional circumstances", Wave 1 (spring 2020). Sample: only helping individuals aged 18–98 years. Own, calculations, weighted results. Percentages of respective helping type in per cent of all helpers.

interpret the effect sizes when displaying the changes of the coefficients graphically. In order to compare effect sizes, we follow Mood’s suggestion and additionally present Average Marginal Effects (AME).

4. Results

4.1. Descriptive findings

We are first interested in the level of the emerging local solidarity during the crisis and, whether help has been based on pre-existing support arrangements or constitute novel helping relationships (see Fig. 1). The upper bar represents the percentage of helpers in our sample. About one in two respondents (49 per cent) report providing *at least one type of help*. The lower bar differentiates by whether this help has pre-existed or whether it has newly emerged during the COVID-19 pandemic. About three quarter (36 % of the total sample) are “old helpers”, which means that their helping arrangement has already existed before the pandemic. The remaining 13 per cent have either reported being completely new helpers (5 %) or having both old and new helping arrangements (8%). Hence, the majority of the helping

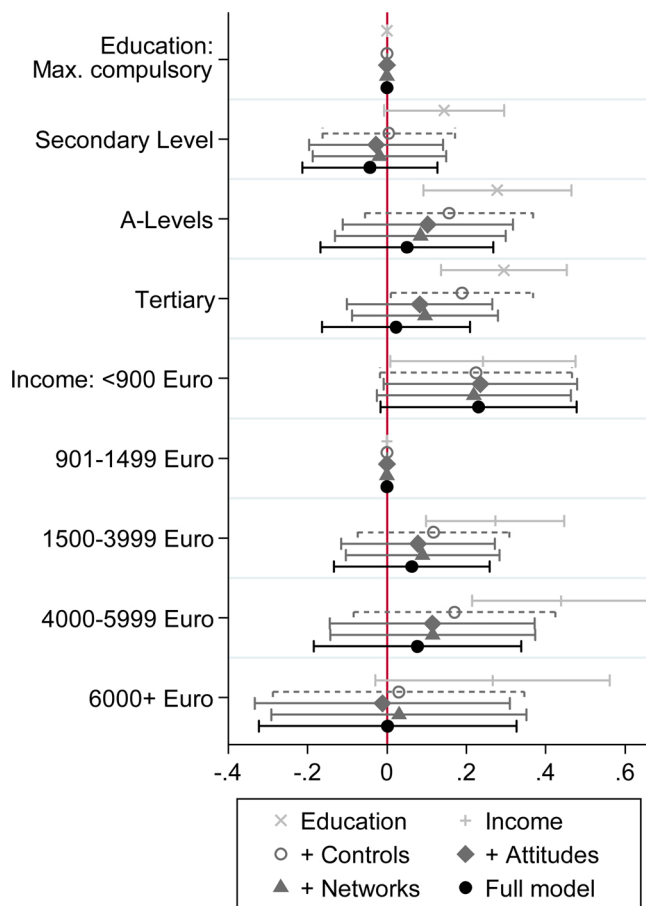


Fig. 3. Helping vs. Not Helping: Mediating Mechanisms. Legend: Survey "Living under exceptional circumstances", wave 1 (spring 2020).. Sample: *Helping and non-helping* individuals aged 18–98 years. Own calculations, unweighted results. Stepwise model building for helping (1 = yes) vs. not helping (0 = no). Logistic regression models, log odds for education and income (coefficient "0" for the respective reference category). N = 4,521. For AME's of the full model, see Table 1. For full set of coefficients (all models, see Table A2 in the Appendix A).

relations have already existed before the COVID-19 crisis.

Next, we are also interested in the different types of help – which we distinguish by recipient and way of helping (Fig. 2). For that purpose, we focus on helpers (excluding non-helpers) and display the percentages of different types of help in the subsample. To ease comprehension we only focus on old versus new help here, with new help including both only new helpers and helpers who provide both old and new help. Since a person may report more than one way of helping different recipients, the bars add up to more than 100 per cent.

With regard to recipients (upper part of Fig. 2), family members, as well as friends and neighbors, are the largest groups to whom help is being provided during the first wave of the pandemic. However, as the comparison of the dark grey and light grey bars indicates, while helping relations that were newly established during the COVID-19 crisis are relatively frequent found among help to neighbors and friends (about one in four), help to family members in more than 90 per cent of cases already builds on existing helping relations. Help being provided to previously unknown persons (e.g., through local helping initiatives or online platforms) is most likely to have been newly established: Here, almost one in two helping relationships were reported not to have existed before the COVID-19 pandemic.

Table 1
Average Marginal Effects for Helping in General and by Type of Help (Full Models).

	All		Only helpers	
	(1) Helping	(2) New help	(3) Family	(4) Money
<i>Socio-economic position</i>				
Highest Educational level attained: Max. compulsory schooling (ref.)				
Max. Secondary Level	-0.010	0.018	0.024	-0.019
Max. A-Levels	0.012	0.049	-0.010	0.006
Tertiary	0.004	0.088**	0.013	-0.004
Monthly net household income: 900–1499 EUR (ref.)				
<900 EUR	0.055	0.024	0.047	-0.009
1500–3999 EUR	0.015	0.034	0.093**	-0.008
4000–6000 EUR	0.018	0.027	0.127***	-0.001
>6000 EUR	0.001	-0.007	0.096*	0.011
<i>Control variables</i>				
Full-time employed (ref.)				
Part-time employed	0.021	0.054	-0.004	-0.043*
Retired	-0.003	0.075	-0.036	-0.004
Unemployed	-0.098*	-0.064	-0.089	0.102
Economically inactive	-0.043	-0.047	0.002	-0.063**
Partnered	0.038*	-0.008	0.067***	-0.009
Children	0.017	0.031	0.047*	0.007
Health	0.008	0.031**	0.004	-0.006
Age group: 18–34 years (ref.)				
35–50 years	0.007	-0.073**	-0.061**	-0.044
51–64 years	-0.009	-0.064*	-0.088***	-0.056*
65 years or older	-0.131***	-0.182***	-0.195***	-0.087*
Female	-0.000	0.029	0.014	-0.042**
Urban area	-0.018	0.011	-0.030	0.038*
Former GDR	0.016	-0.077**	-0.017	-0.036
Migration background	-0.031	-0.002	0.066	0.085***
<i>Attitudes</i>				
Moral obligation to help	0.045***	-0.000	-0.004	0.018***
Generalized trust	-0.001	0.004	0.003	0.002
<i>Networks</i>				
Meeting family/friends: Less than monthly (ref.)				
At least monthly	0.075***	0.023	0.046*	-0.009
At least weekly	0.132***	-0.004	0.030	0.003
Member in association(s): No (ref.)				
One	0.049**	0.055*	0.023	0.006
Two	0.039	0.066*	-0.000	-0.021
Frequency of going to church	0.049***	0.045**	-0.024	0.024*
Incidence rate: COVID-19 cases/100'000 inhabitants	-0.000	-0.000	0.000	0.000
n	4521	2242	2229	2263

Legend: Survey "Living under exceptional circumstances", wave 1 (spring 2020). Sample: Individuals aged 18–98 years. Sample for Model (1): All valid observations. Sample for Model (2): Only helpers. Own calculations, unweighted results, AME.

* p < 0.05.

** p < 0.01.

*** p < 0.001.

Turning to the specific ways in which help is being provided (lower part of Fig. 2), we find that practical and emotional support are most frequently named (84 respectively 58 %). Around one third of these types of helping arrangements has not existed before the pandemic.

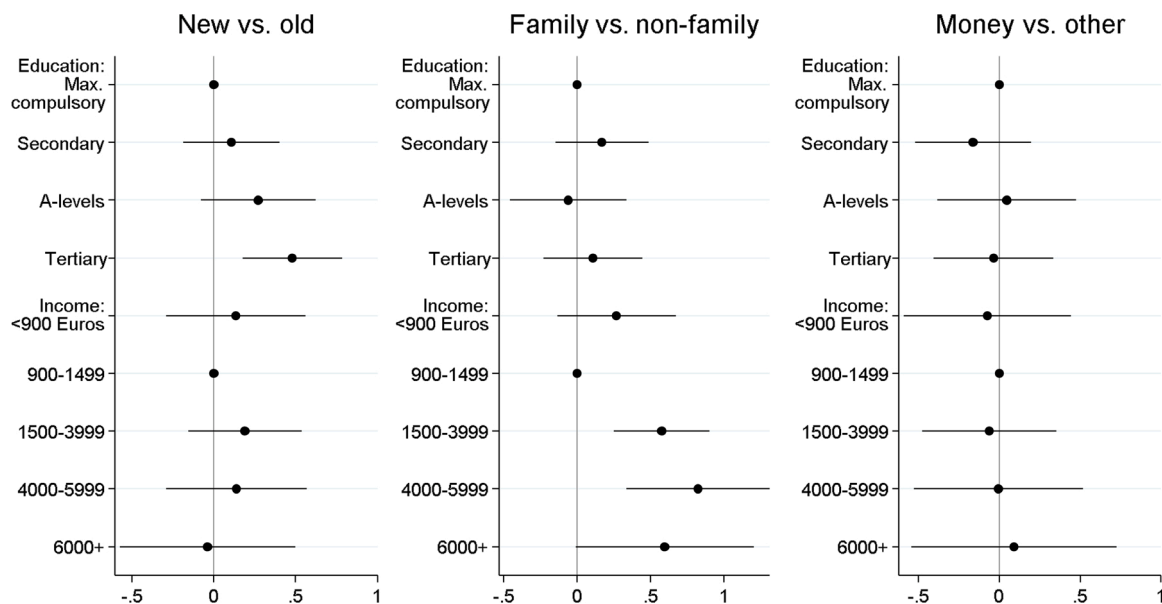


Fig. 4. Social Inequalities in Different Types of Help (Full models).

Legend: Survey "Living under exceptional circumstances", wave 1 (spring 2020). Sample: only helping individuals aged 18–98 years. (n = 2242). Own, calculations, unweighted results. Coefficients from full models. For AME's see Table 1, models (2)-(4).

About one in six respondents helped someone with childcare, money or other types of help. Here, too, about one third of the helping relations have emerged newly during the pandemic.

4.2. Multivariate findings

In the next step, we are interested in the social inequalities in local solidarity during the COVID-19 pandemic. Our focus lies on educational and income gradients of helping behavior. In a first step, we compare helpers with people who do not help. In order to examine through which mechanisms (other resources, attitudes, or networks) these social gradients can be explained, we rely on stepwise model building (Fig. 3). The Average Marginal Effects of all variables in the full model are presented in Table 1, column (1).

Beginning with the "raw" effect of education (light grey coefficients in the upper half of Fig. 3), we find that a higher educational level is associated with a higher likelihood of providing help. Individuals who have attained their A-levels as well as individuals with a tertiary degree exhibit a significantly higher likelihood of providing help as compared to individuals who have at most completed compulsory schooling. The difference for individuals with A-levels becomes statistically insignificant when including the control variables (other resources, socio-demographic factors, and income), but does not when including only income (see Appendix A, Table A3). The effect for individuals with a tertiary degree, however, only becomes insignificant when including either attitudes or networks (see the medium grey triangles and diamonds in Fig. 3) – or both. This concurs with our expectations formulated in H1, H2a and H2b: More highly educated are more likely to help and this has to do with their distinct network structure and more pro-social and trusting attitudes which enable them to help or volunteer.

With respect to income, in the bivariate model, the medium (1500–3900 Euros) and upper medium income groups (4000–5999 Euros) exhibit a higher the likelihood of helping. However, the lowest income group (<900 Euros) and the highest (6000 or more) deviate from that pattern. The lowest income group is more likely to help than those with low incomes (900–1499 Euros); this largely consists of students and unemployed who – during the first lockdown, where chances of getting a new job were scarce – had more time to help and volunteer. The most affluent group may be embedded into very homogenous networks of equally rich, where help can generally be purchased (e.g.

delivery services). Hence, H1 only finds partial support, as the two groups at the extreme ends deviate from what we had expected. All coefficients become insignificant, however, when including control variables (education, socio-demographic variables and other resources). Additional analyses (not displayed here) showed that the income-effect vanishes when including education, age and partnership status into the models. Thus, socio-demographic factors, but also other resources, networks and attitudes, play a role in explaining why more active helpers can be found among those who are better off.

Our proposed mediator variables exhibit some interesting effects of their own (Table 1, first column). Individuals who feel morally obliged to help others are more likely to help. With regard to networks, we find that individuals who had more frequent meetings with their strong, informal networks before the lockdown, those being part of a formal association or club and those who went to religious services regularly are more likely to help. Thus, both formal and informal networks, strong and weak ties, account for the probability of helping during the pandemic.

Let us now move on to the question as to whether differences by socio-economic position also apply also for different types of help, empirically focusing exclusively on the sub-sample of helpers (n = 2,242). Fig. 4 displays the coefficients for educational and income gradients from three separate logistic regression models (the Average Marginal Effects for all variables from the full model can be found in Table 1, columns (2)-(4)).

First, we differentiate between individuals who have helped already before the crisis and those who have taken on new help, independent of the recipients of such help (column 2 in Table 1). Besides those who started helping newly during the pandemic, also people who report that they had helped some group before the pandemic but had extended their help to a new group during the pandemic were coded as "new helpers". As our models indicate, it is the tertiary educated who engage in new helping arrangements during the pandemic (left panel in Fig. 4). This difference is significant, even when controlling for networks and attitudes. Hence, a more favorable position in the social structure not only promotes informal solidarity, but it also activates untapped potential more strongly in times of crisis. Moreover, the activation of such new help is not fully explained by the "classic" social network ties, such as formal or weak ties. In the next step, we test whether help to different recipients, such as family members and non-family members differs

between education and income groups. As compared to the two lowest income groups (which can dispose of max. 1500 Euros per month), all other income groups report higher likelihoods of helping family members (vs. non-family members), even when controlling for other socio-demographic variables, attitudes and networks. Such help by richer people seems to be mainly targeted towards the family.

We also sub-differentiate further between three groups of non-family ties (see [Table A5](#) in the Appendix A for a more detailed analysis), but for the sake of brevity, we report only the significant differences here. Income does not play a role for giving to members of an association or to previously unknown people (as compared to giving to friends and neighbors), yet we find that formal ties matter in both cases.

Finally, we differentiate between financial help and other forms of help. Since income is a necessary precondition for financial transfers, we test whether we find a difference between monetary and non-monetary forms of help along socio-economic position lines. When adjusting for socio-demographic variables, however, no such difference can be found. This indicates that higher income does not lead to an exclusive focus on financial support. We also sub-differentiate further between other ways of providing help (see [Table A5](#) in the Appendix A for a more detailed analysis). Higher education seems to be especially important for providing emotional support (versus practical help). People who have children themselves are more likely to provide childcare. The number of COVID-19 cases in a region is accompanied by higher levels of emotional support.

Again, there are a number of interesting effects of our mediator and control variables. For instance, we find that new help occurs more often in West Germany than in places which formerly belonged to the GDR. One explanation could be that – due to the higher level of unemployment and poverty, “old” help was already more prevalent, and was sufficient to cover the newly arising needs. Moreover, incidence of COVID-19 was much lower in East Germany during the first wave of the pandemic compared to West Germany. Therefore, risk-groups might have demanded less help. Another interesting finding is that we find higher likelihoods of financial help among migrants and urban residents. Whereas the former may be explained with regard to remittances to the home country, the latter may have something to do with higher economic resources. Finally, we find that the moral obligation to help predominantly motivates financial transfers (as opposed to other ways of providing help) but does not play a role for new vs. old or family vs. non-family help. Those who have more contacts with family members and friends also give more help to family members, whereas those who are part of one or two associations, were more likely to extend their help to new groups or newly starting to help. Finally, more regular attendance to a religious service increases new help and financial transfers but does not affect who the receiver of such help is.

Heckman Probit correction models were estimated to check for the robustness of our results regarding the analysis of different forms of help ([Table A6](#) in the Appendix A). These models do not reveal any differences in the effects of socio-economic position or networks and are not predicting our outcomes better than normal Probit models.

5. Discussion and conclusion

The lives of most Germans have dramatically changed since the outbreak of the COVID-19 pandemic in early 2020. All in all, the need for various types of support has increased, and so has the provision of support during the COVID-19 crisis ([Arpino et al., 2020](#); [Carlsen et al., 2020](#)). Our study contributes to the literature on the emergence of local solidarity in several ways: First, we provide a detailed description of the patterns of help provision, distinguishing between different forms of

help. Second, we investigate whether there is a social gradient in such help. Third, we analyze different explanatory mechanisms behind the observed social gradient in such help, also distinguishing between different recipients, types of help and the novelty of the helping relationship.

In Germany about one in two people have provided some sort of help during the heyday of the first lockdown until early May 2020. One fourth of all helping arrangements had not existed before the outbreak of the pandemic. Given the confined opportunities of in-person meetings imposed by the physical distancing measures and the precariousness of any type of solidarity ([Koos & Bertogg, 2020](#)), this expansion of new solidarity is considerable. Yet we find considerable social inequality in the emerging local solidarity. We argued that those resources which are characteristic of one’s position in the social strata also provide other crucial opportunity structures and motives, such as networks and pro-social attitudes, which enable help during the pandemic. Thus, in order to fully understand how one’s position in the social strata maps on helping arrangements, we investigate how these characteristics mediate the effect of socio-economic position on the probability of helping. In fact, we find that particularly individuals with higher education were more likely to provide help during the first lockdown – and that integration into social networks explains why the prevalence of help is larger among the higher educated. Moreover, the COVID-19 pandemic and the physical distancing measures during the first lockdown in spring 2020 were a challenging situation for helping arrangements to emerge. When help is in high demand, but contact options are very limited, reaching out to people in need or asking for help is challenging in itself, because information on whom to help or whom to ask might not easily be available. Formal social networks which bridge between distinct social groups, such as voluntary associations or churches, can help to overcome this information problem.

Distinguishing between already existing and newly established helping arrangements, we find that higher education as well as formal networks (i.e. associational membership) play an important role in explaining, who extends help to new groups. People with higher income were more likely to provide help to recipients within the family as compared to people with lower incomes. This is somewhat surprising, since – generally – it is rather the low income groups that are more likely to receive care and help within the core family ([Brandt et al., 2009](#)). Yet, besides enabling individuals to help others, financial resources might also facilitate help to relatives who live further away.

To sum up, a momentous and large local solidarity has emerged during the first wave of the COVID-19 crisis in Germany, with almost every second person providing some sort of help, and one of four helping arrangements having newly emerged due to the pandemic. Besides practical help, the level of emotional support was substantial, which is an interesting and novel finding. While under non-pandemic circumstances, help is mostly provided within families, it has also extended to neighbors and friends, and even previously unknown others. Our findings thus yield evidence for the assumption that a crisis may strengthen solidarity or initiate the building of new social capital ([Koos, 2019](#)).

While our results provide important insights into the emergence of local solidarity in times of crisis, several limitations apply. First, we cannot account for the intensity or frequency of help, nor do we have information about how short- or long-lived such emerging local solidarity is. Second, this paper takes a cross-sectional and non-experimental approach in analyzing an emerging phenomenon, and it focuses on a specific country context, namely Germany. Hence, the causal inference and generalizability of our findings should be considered with due caution. In order to test for the universality of the linkages proposed, one would need further analysis, e.g. with data from other

Table A1
Comparing our unweighted sample to population census data.

	Sample (unweighted)	Population (census)
Highest educational level attained:		
Lower education	30.3 %	35.8 %
Secondary schooling	33.7 %	30.5 %
Higher education	35.9 %	33.6 %
Female	51.4 %	50.1 %
Age:		
18–39 years	31.9 %	31.6 %
40–59 years	39.4 %	35.2 %
60+ years	28.6 %	33.2 %
East	32.4 %	19.7 %

Note: East Germany was deliberately oversampled in the survey.

countries or with repeated measures. Third, our measurement of strong and weak ties are rough proxies, which could be better sub-differentiated into distant kin, friends, neighbors, colleagues (see [Carlson et al., 2020](#)). Unfortunately, such detailed assessment was not possible due to space limitations in our multi-purpose online survey. Fourth, in order to test, whether a class-specific provision of local solidarity during a crisis is indeed critical for amplifying social inequality, one would need to look at the receiver-side as well. Such an endeavor is beyond the scope of this article; however, it will be addressed in a different article by the authors.

Despite these limitations, we are confident that our article makes an important contribution to the literature. With its detailed description and its analytical approach, it contributes to a better understanding of local solidarity during crises. These findings may be valuable for the study of providing local support during other environmental or societal crises, such as earthquakes, floods or economic crises.

Declaration of Competing Interest

The authors declare that no conflict of interest applies.

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Appendix A

Table A4

Table A2
Unweighted Sample Description.

	Total	Non-helper	Helper	Sig.
Highest educational level attained:				
Max. compulsory	29.14 %	31.45 %	26.88 %	
Secondary schooling	30.36 %	30.28 %	30.25 %	
A-Levels	14.77 %	14.01 %	15.61 %	
Higher Education	25.73 %	24.26 %	27.26 %	
Monthly net household income:				
<900 EUR	11.35 %	11.44 %	11.32 %	
900–1499 EUR	14.27 %	15.95 %	12.52 %	
1500–3999 EUR	55.81 %	55.17 %	56.43 %	
4000–6000 EUR	13.07 %	11.95 %	14.19 %	
>6000 EUR	5.49 %	5.49 %	5.53 %	
Control variables:				
Full-time employed (ref.)	42.28 %	39.95 %	44.66 %	
Part-time employed	15.56 %	14.05 %	17.09 %	
Retired	23.52 %	26.37 %	20.65 %	
Unemployed	3.90 %	4.84 %	2.97 %	
Economically inactive	14.74 %	14.80 %	14.63 %	
Lives with partner	58.89 %	61.25 %	56.49 %	
Has children	55.51 %	54.43 %	56.60 %	
Health	3.36 (1.10)	3.30 (1.12)	3.42 (1.08)	***
Female	51.36 %	51.12 %	51.60 %	**
Age: 18–34 years	24.44 %	23.79 %	25.06 %	
35–49 years	25.01 %	23.67 %	26.32 %	
50–64 years	32.05 %	30.95 %	33.25 %	
65+ years	18.50 %	21.59 %	15.37 %	
Migration background	6.29 %	6.45 %	6.13 %	**
Urban	43.15 %	44.26 %	42.05 %	*
East	32.40 %	31.95 %	30.77 %	**
Attitudes:				
Moral	4.92 (1.57)	4.68 (1.64)	5.16 (1.46)	***
Trust	5.43 (2.77)	4.26 (2.76)	4.69 (2.78)	***
Networks:				
Meeting with friends: Max. 1x per month	26.27 %	31.67 %	20.84 %	
Max. 1x per week	31.58 %	31.59 %	31.49 %	
Several times per week	42.15 %	36.74 %	47.68 %	
Frequency of going to church	4.38 (1.01)	4.70 (0.95)	4.28 (1.06)	***
Member in associations: None	67.97 %	72.54 %	63.41 %	***
One	22.05 %	19.04 %	25.01 %	
Two or more	9.98 %	8.41 %	11.53 %	
COVID-19 cases/100'000 inhabitants	179.43 (82.55)	179.86 (81.93)	179.01 (83.19)	
n	4,521	2,258	2,263	
Per cent of total sample		49.94 %	50.06 %	

Legend: Survey "Living under exceptional circumstances", wave 1 (spring 2020). Sample: Individuals aged 18–98 years. Own, calculations, unweighted results. *Italics*: Continuous variables (Standard Errors in parentheses). For categorical variables, percentages are presented. Sig.: Significance tests between helpers and non-helpers (column 5). Significance tests used t-tests for continuous variables (two-tailed tests for mean differences) and Cramer’s V tests for categorical variables.

* p < 0.05.
** p < 0.01.
*** p < 0.001.

Table A3
Helping (Stepwise Model Building, Average Marginal Effects).

Helping vs. Not helping	(1) Education	(2) Income	(3) Both	(4) Both + Controls	(5) + Attitudes	(6) + Networks	(7) Full Model
<i>Socio-economic position</i>							
Highest Educational level attained: Max. compulsory schooling (ref.)							
Max. Secondary Level	0.036		0.031	0.001	-0.006	-0.005	-0.010
Max. A-Levels	0.069**		0.061*	0.039	0.025	0.019	0.012
Tertiary	0.073***		0.062**	0.047*	0.020	0.021	0.004
Monthly net household income: <900 EUR		0.060*	0.054	0.055	0.056	0.053	0.055
900–1499 EUR (ref.)							
1500–3999 EUR		0.068**	0.060**	0.029	0.019	0.021	0.015
4000–6000 EUR		0.109***	0.090**	0.042	0.027	0.028	0.018
>6000 EUR		0.066	0.046	0.007	-0.003	0.008	0.001
<i>Control variables</i>							
Full-time employed (ref.)							
Part-time employed				0.033	0.024	0.029	0.021
Retired				-0.000	-0.010	0.007	-0.003
Unemployed				-0.127**	-0.119**	-0.103*	-0.098*
Economically inactive				-0.031	-0.042	-0.034	-0.043
Partnered				0.027	0.033	0.033	0.038*
Has children				0.036*	0.031	0.019	0.017
Health				0.012	0.010	0.009	0.008
Age groups: 18–34 (ref.)							
35–50 years				-0.004	-0.009	0.012	0.007
51–64 years				-0.009	-0.027	0.008	-0.009
65 years or older				-0.117***	-0.143***	-0.110**	-0.131***
Female				0.001	-0.004	0.007	-0.000
Urban area				-0.019	-0.021	-0.017	-0.018
Former GDR				0.009	0.008	0.019	0.016
Migration background				-0.032	-0.038	-0.024	-0.031
<i>Attitudes</i>							
Moral obligation to help					0.048***		0.045***
Generalized trust					0.002		-0.001
<i>Networks</i>							
Meeting family/friends: Less than monthly (ref.)							
At least monthly						0.078***	0.075***
At least weekly						0.136***	0.132***
Not member in association (ref.)							
One						0.061**	0.049**
Two						0.055*	0.039
Frequency of going to church						0.058***	0.049***
Incidence p. 100,000				0.000	0.000	-0.000	-0.000
n	4,521	4,521	4,521	4,521	4,521	4,521	4,521

Table A4
Correlation Matrix of all Independent Variables.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
(1) Education															
(2) Income	0.2218*														
(3) Employment	-0.1044*	-0.2432*													
(4) Partnered	0.0035	0.3179*	-0.1141*												
(5) Children	0.2136*	0.0664*	0.1775*	0.3508*											
(6) Health	-0.2615*	-0.0467*	-0.0041	0.0947*	-0.0814*										
(7) Age	-0.0591*	-0.0944*	0.1892*	-0.0210	0.0448*	-0.3272*									
(8) Female	0.0866*	0.0028	-0.0292*	-0.0930*	-0.0889*	0.0412*	-0.1442*								
(9) Urban	0.2025*	-0.0936*	-0.0445*	-0.0296*	0.0849*	0.0050	0.0251	-0.0584*							
(10) East	0.0735*	-0.0282	0.0489*	-0.0050	-0.0400*	0.0598*	-0.1401*	0.0332*	0.0736*						
(11) Migration	0.0898*	0.0446*	0.0232	0.0123	0.0643*	0.0025	0.1035*	0.0330*	0.0602*	0.0052					
(12) Moral	0.1673*	0.1114*	-0.0614*	0.0319*	-0.0066	0.1471*	0.0230	-0.0892*	0.0466*	-0.0217	0.2514*				
(13) Trust	0.0870*	0.0337*	-0.0199	-0.0322*	-0.0124	0.0894*	-0.0968*	0.0278	0.0414*	-0.0298*	0.0586*	0.1287*			
(15) Meeting friends	0.1670*	0.1199*	-0.0366*	0.0532*	0.0351*	0.0597*	-0.0246	-0.0781*	-0.0324*	-0.0562*	0.1227*	0.1304*	0.1398*		
(15) Membership	0.0537*	0.0490*	0.0105	0.0521*	0.0626*	0.0590*	-0.0276	-0.0066	-0.0291*	-0.1723*	0.0883*	0.1039*	0.1053*	0.1031*	0.2624*
(16) Church															

Own calculations. Pairwise correlations (Pearson), two-tailed significance test. * p < 0.05.

Table A5
Different Receivers and Different Types of Help (Separate Logistic Regressions – Logit Coefficients).

	Friends and Neighbors vs.			Member			Anonym			Money			Child Care		Emotional
	Family	Member	Member	Member	Member	Member	Member	Member	Member	Member	Member	Member	Member	Member	
<i>Socio-economic position</i>															
Highest Educational level attained: Max. compulsory (ref.)	0.175	0.002	0.002	0.002	0.002	0.002	-0.301	-0.301	-0.137	-0.137	-0.137	-0.137	-0.137	0.378**	
Max. Secondary Level	-0.032	-0.213	-0.213	-0.213	-0.213	-0.213	-0.162	-0.162	0.149	0.149	0.149	0.149	0.149	0.475**	
Max. A-Levels	0.167	-0.061	-0.061	-0.061	-0.061	-0.061	-0.254	-0.254	-0.002	-0.002	-0.002	-0.241	-0.241	0.451**	
Tertiary	0.276	0.163	0.163	0.163	0.163	0.163	0.458	0.458	-0.076	-0.076	-0.076	0.089	0.089	-0.258	
Household income: <900 EUR															
900–1499 EUR (ref.)	0.587***	-0.096	-0.096	-0.096	-0.096	-0.096	0.286	0.286	-0.052	-0.052	-0.052	0.223	0.223	-0.251	
1500–3999 EUR	0.838**	-0.419	-0.419	-0.419	-0.419	-0.419	0.300	0.300	0.020	0.020	0.020	0.203	0.203	-0.053	
4000–6000 EUR	0.550	0.201	0.201	0.201	0.201	0.201	0.647	0.647	0.104	0.104	0.104	-0.135	-0.135	-0.217	
>6000 EUR															
<i>Control variables</i>															
Age group: 18–34 years (ref.)															
35–50 years	-0.650**	-0.137	-0.137	-0.137	-0.137	-0.137	-0.344	-0.344	-0.348	-0.348	-0.348	-0.548**	-0.548**	0.019	
51–64 years	-0.953***	-0.272	-0.272	-0.272	-0.272	-0.272	-0.415*	-0.415*	-0.470*	-0.470*	-0.470*	-0.710***	-0.710***	-0.166	
65 years or older	-1.523***	-0.366	-0.366	-0.366	-0.366	-0.366	-0.983**	-0.983**	-0.683*	-0.683*	-0.683*	-0.735*	-0.735*	-0.189	
Female	0.115	0.122	0.122	0.122	0.122	0.122	-0.138	-0.138	-0.345*	-0.345*	-0.345*	0.032	0.032	0.602***	
Partnered	0.466***	0.466***	0.466***	0.466***	0.466***	0.466***	-0.018	-0.018	-0.131	-0.131	-0.131	0.014	0.014	0.079	
Has children	0.309*	0.181	0.181	0.181	0.181	0.181	0.056	0.056	0.093	0.093	0.093	0.509**	0.509**	0.088	
Urban area	0.227	0.071	0.071	0.071	0.071	0.071	0.294*	0.294*	0.341**	0.341**	0.341**	-0.036	-0.036	0.208*	
Migration background	0.577	0.204	0.204	0.204	0.204	0.204	-0.015	-0.015	0.715**	0.715**	0.715**	-0.072	-0.072	-0.005	
Former GDR	-0.075	-0.062	-0.062	-0.062	-0.062	-0.062	0.089	0.089	-0.316	-0.316	-0.316	0.020	0.020	0.163	

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Table A5 (continued)

	Friends and Neighbors vs.			Practical vs.		Child Care	Emotional
	Family			Money			
	Member	Anonym		Money			
Full-time employed (ref.)							
Part-time employed	-0.105	0.159	-0.165	-0.386	0.111	-0.088	
Retired	-0.240	-0.341	0.016	-0.020	-0.013	-0.148	
Unemployed	-0.675*	-0.341	-0.834	0.914**	0.206	0.213	
Economically inactive	0.024	-0.199	-0.121	-0.612**	0.141	-0.044	
Health	0.042	-0.017	-0.000	-0.060	0.084	-0.155**	
<i>Attitudes</i>							
Moral obligation to help	-0.052	0.094	0.162***	0.143**	-0.083	0.118***	
Generalized trust	0.027	0.071*	-0.000	0.022	-0.002	0.029	
<i>Networks</i>							
Meeting family/friends: Less than monthly (ref.)							
At least monthly	0.242	-0.227	0.016	-0.143	0.262	-0.072	
At least weekly	0.111	-0.206	0.007	-0.036	0.501**	0.124	
Not member in association: (ref.)							
One	0.210	0.447*	0.573***	0.028	0.197	0.147	
Two	0.149	1.118***	1.006***	-0.164	0.367	0.058	
Frequency of going to church	-0.197*	0.935***	0.369***	0.214*	0.305**	0.196*	
COVID-19 cases/100 000	0.001	-0.001	0.000	0.000	-0.002*	0.001*	
Constant	1.392**	-3.565***	-2.819***	-1.998***	-1.833***	-0.884*	
n	2192	1534	1566	1985	1983	2139	

Table A6

	Normal Probit vs. Heckman Probit Models.			Heckman Probit		Heckman Probit New vs. vs. All others
	Family vs. Non-family			Money vs. Non-money		
	Normal Probit	Heckman Probit		Money vs. Non-money	Money vs. All others	
<i>Socio-economic position</i>						
Highest Education: Max. compulsory (ref.)						
Max. Secondary Level	0.093	0.102	-0.100	-0.101	0.063	0.084
Max. A-Levels	-0.039	-0.037	0.021	0.011	0.157	0.171
Tertiary	0.026	0.066	-0.024	-0.023	0.275**	0.286**
HH income: <900 EUR	0.151	0.116	-0.045	-0.047	0.061	0.017
900–1499 EUR (ref.)						
1500–3999 EUR	0.340***	0.303**	-0.026	-0.027	0.106	0.090
4000–6000 EUR	0.508***	0.442**	0.008	0.007	0.087	0.061
>6000 EUR	0.353*	0.279	0.059	0.052	-0.026	0.006
Age group: 18–34 years (ref.)						
35–50 years	-0.279**	-0.252*	-0.197	-0.198*	-0.226*	-0.196*
51–64 years	-0.381***	-0.339**	-0.250*	-0.247*	-0.195*	-0.167
65 years or older	-0.747***	-0.612***	-0.418*	-0.411*	-0.630***	-0.477***
Female	0.052	0.039	0.185*	-0.191**	0.085	0.052
Partnered	0.248***	0.221**	-0.049	-0.050	-0.020	-0.029
Has children	0.188*	0.151*	0.037	0.037	0.101	0.079
Urban area	-0.120	-0.108	0.164*	0.171*	0.041	0.047
Migration background	0.259	0.270	0.420***	0.414**	0.019	0.019
Former GDR	-0.089	-0.130	-0.159	-0.163*	-0.262**	-0.185**
Full-time employed (ref.)						
Part-time employed	-0.024	-0.030	-0.206	-0.210*	0.172*	0.148
Retired	-0.125	-0.117	-0.020	-0.026	0.231*	0.231*

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Table A6 (continued)

	Normal Probit Family vs. Non-family	Heckman Probit Family vs. All others	Normal Probit Money vs. Non-money	Heckman Probit Money vs. All others	Normal Probit New vs. Old	Heckman Probit New vs. All others
Unemployed	-0.322	-0.236	0.365	0.360	-0.206	-0.128
Economically inactive	0.027	0.063	-0.338**	-0.338**	-0.166	-0.111
Health	0.016	0.024	-0.030	-0.026	0.098**	0.088**
Moral obligation	-0.014	-0.039	0.081***	0.085*	0.001	-0.025
Church frequency	-0.094	-0.107*	0.109*	0.105	0.150**	0.128*
Variables used in stage 1 (help = yes) in Heckman models						
Generalized trust	0.013	yes	0.009	yes	0.013	yes
Meeting family/friends: Less than monthly (ref.)		yes		yes		yes
At least monthly	0.177*	yes	-0.045	yes	0.080	yes
At least weekly	0.118	yes	0.007	yes	-0.008	yes
Not member in association: (ref.)		yes		yes		yes
One	0.119	yes	0.017	yes	0.172*	yes
Two	-0.002	yes	-0.108	yes	0.206*	yes
Incidence rate	-0.001	yes	0.000	yes	-0.002	yes
Constant	0.750*	1.261**	-1.251***	-1.228*	-1.218***	-0.766
R-Squared	0.08		0.05		0.05	
Rho		-0.407		0.009		-0.436
N	2250	4521	2263	4521	2242	4521

Legend: Heckman Probit models. Different samples: only helpers (normal Probit) vs. all (including non-helpers; Heckman Probit). Bold coefficients indicate differences in significance resp. non-significance between levels. LR Test in all cases non-significant. Stage 1 not displayed for reasons of space.

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