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Exploring prosocial behaviors in times of a pandemic: Individuals' lay perspective versus scientific measurements

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Abstract

Humanitarian crises like the Covid-19 pandemic pose significant challenges to society, prompting scientific debate on whether such situations elicit more prosocial or more selfish behavior. Despite the restrictions imposed by the pandemic, current evidence indicates a continued display of various prosocial behaviors. This research aims to enhance the understanding of what constitutes prosocial behavior from both individuals' lay and scientific perspectives. For this purpose, we analyzed lay perspectives via an open question in a representative survey ($N = 446$) and qualitatively categorized the reported prosocial behaviors inductively with content analysis. The qualitative content analysis revealed three clusters of prosocial behaviors: promoting the welfare of others, health-protective measures, and supporting society. Additionally, we conducted a systematic literature review to identify the scientific perspective view (i.e., focusing on the empirical measurements) on prosocial behaviors studied during the pandemic. Although behaviors promoting the welfare of others (e.g., donations) were the most commonly stud-

ied in the literature review, participants reported more health-protective behavior, such as hand-washing, which was not traditionally considered to be prosocial before the pandemic. The comparison between individuals' lay and scientific perspectives highlighted some prosocial behaviors that warrant future investigation (e.g., supporting the economy, home office).

KEYWORDS
Covid-19 pandemic, prosocial behavior, qualitative analysis, representative survey, systematic literature review

INTRODUCTION

Humanitarian crises represent challenges for our society as they can affect our daily lives in various ways. Being confronted with a crisis can motivate people to become both more selfish as well as more compassionate and more prosocial (Drury et al., 2020; Zaki, 2020). The outbreak of the Covid-19 pandemic affected people worldwide and many people engaged in typical prosocial behaviors such as volunteering, neighborhood help or emotional, material, or psychological support (Mao et al., 2021; Tekin et al., 2021). During this pandemic, however, certain kinds of helping (i.e., those including physical interactions) represented a risk of getting infected and/or infecting someone else with Covid-19. To reduce the spread of the virus, many governments used social restrictions (e.g., lockdown, social distancing, social isolation) and forced people to engage in health preventive behaviors (e.g., wearing masks, washing hands). Previous research investigated various forms of potentially prosocial behaviors during this pandemic by asking participants' engagement to predefined behaviors (e.g., volunteering, social distancing) and examined predictors and consequences of prosocial behaviors (e.g., Aresi et al., 2022; Bodroža & Dinić, 2023; Bowe et al., 2022; Haller et al., 2022; Pfattheicher et al., 2020; Varma et al., 2023). In this unique situation, however, it is unclear which behaviors are still perceived to be prosocial (Rose et al., 2022) as some previously considered prosocial behaviors became forbidden or antisocial (e.g., social gatherings) and whether new forms of prosocial behavior emerged.

In our research, we investigate (1) the lay perspective on prosocial behavior by measuring which behaviors individuals perceive as being prosocial (i.e., behaviors that benefit others more than oneself) and (2) the scientific perspective by conducting a literature review on prosocial behaviors that were scientifically investigated in relation to the pandemic. These two methodological approaches allow us to investigate people's prosocial behaviors during the pandemic (lay perspective) and whether scientific research focused on similar behaviors (scientific perspective). By combining these two methodologies, we aim to provide a comprehensive understanding of the various forms of prosocial behavior during such an unprecedented crisis.

Theoretical background on prosocial behavior

Prosocial behavior is commonly defined as a social or positive act (or at least an intention) that benefits other people more than oneself (Batson, 2012; Dovidio, 1984; Penner et al., 2005; Snyder & Dwyer, 2012); however, the concept is also used more broadly and diversely across disciplines and

fields (Pfattheicher et al., 2022). Accordingly, prosocial acts can also be defined as an enhancement of the physical or psychological well-being of others or as a promotion of the welfare of other people, society, or even nonhuman entities (e.g., animals or nature). Doing something for the benefit of others may be motivated by the intention to positively influence others (intentionalist perspective; e.g., Batson, 2010). From a consequentialist perspective, a prosocial act is associated with costs to the actor and benefits to the recipient (Clavien & Chapuisat, 2013). These trade-offs may be economic or even related to life or fitness consequences (West et al., 2011). Society's approval that the behavior conforms to social expectations can be another dimension of the definition of prosocial behavior (Dovidio, 1984). Prosocial behavior can be categorized into three types: helping, sharing, and comforting, which all aim to reduce negative states of instrumental needs, unmet material desires, and emotional stress (Dunfield, 2014).

Prosocial behavior is often displayed in everyday situations (e.g., helping the neighbor by babysitting, donating money to a street beggar), but it is even more important in times of emergency, crisis, or disaster. During emergencies and times of crises, it is often questioned whether people still engage in prosocial behaviors or whether they become more selfish (Zaki, 2020). However, a distinction needs to be made between global emergencies, in which people indirectly witness a disaster but do not directly experience its negative consequences (although they may be confronted with its secondary effects), and disasters in which people are not only observers, but directly experience situations that may affect or threaten their lives (family, friends, or property). The willingness to help people in crisis at a distance varies depending on the characteristics of the crisis as well as the characteristics of the potential helpers (Shi et al., 2020). Emergency contexts such as the cause of the problem (natural vs. human-caused; Zagefka et al., 2011) or the timeline (discrete vs. continuous; Small, 2010) can affect people's motivation to act prosocially.

When people are directly affected by a disaster, there is much evidence for prosocial acts (Drury et al., 2009; Rodriguez et al., 2006). For example, in the aftermath of Hurricane Katrina, it was shown that different groupings helped in dealing with the various challenges for affected people and acted overwhelmingly prosocial despite the negative reporting in the media (Rodriguez et al., 2006). Additionally, people showed more prosocial behavior when they lived in a more devastated area (after the Wenchuan earthquake) than when they lived in a less devastated area (farther from the epicenter of the earthquake), suggesting that physical proximity is important in generating and directing prosocial acts (Rao et al., 2011). However, it was also shown that physical distance can change the way how prosocial behavior is shown (Kawawaki, 2023). After the Great East Japan Earthquake, the probability of volunteering is higher with a decreased distance from the disaster area, while the probability of monetary donations increases with a larger distance.

Research suggests that social factors, such as a shared social identity and social norms, are important predictors for prosocial behavior when experiencing disasters directly (Drury, 2018; Drury et al., 2016; Drury et al., 2019). A shared social identity (also through experiencing an emergency together) can increase prosocial behavior (i.e., solidarity; Drury et al., 2009). After the 2010 Chile earthquake, for example, people united under a common identity which increased helping motivations and disaster-related helping (Drury et al., 2016; Maki et al., 2019). In general, experiencing disasters (i.e., natural hazards) is related to mobilization of social support and an increase in community belongingness (Kaniasty, 2020). More generally, experiencing negative life events (e.g., war, catastrophes) has the potential to increase prosocial behavior (Vollhardt, 2009; Zaki, 2020), but at the same time, it could decrease people's willingness to help others (Vardy & Atkinson, 2019).

The Covid-19 pandemic was a crisis that spread very quickly across most of the world and directly affected many people. At the beginning of the pandemic, little was known about the virus

except that it was highly contagious and that even minimal contact with infected people (sick or not yet sick) could infect others. To slow the spread of the virus and reduce the number of fatalities, many governments imposed coercive restrictions and "lockdowns" in their countries, such as limiting social contact, forcing people to work from home, quarantining infected people, and closing businesses, shops, and schools. Given these circumstances, the urge to help others in need was strong at the beginning of the pandemic, but at the same time, people had to be careful not to become infected themselves.

The possibility of engaging in prosocial behaviors during the COVID-19 pandemic had to be adapted, as some restrictions interrupted typical actions (Rose et al., 2022). For example, physical distancing and mask-wearing interrupted physical touch and the use of facial cues to comfort people in emotional stress; also, providing instrumental assistance had to be changed to financial assistance to help others. Prosocial behaviors that required face-to-face interactions had to be adapted, and many activities moved online. For example, thousands of mutual aid groups were created on Facebook to provide practical, emotional, and informational support (Ntontis et al., 2022).

Nonetheless, despite this risk and the corresponding challenges of volunteering (Irandoost et al., 2022), people did engage in prosocial behavior during the first wave of the pandemic (Aresi et al., 2022; Haller et al., 2022; Mao et al., 2021; Tekin et al., 2021). The research focused on the predictors (e.g., Bodroža & Dinić, 2023; Cho et al., 2022; Galang et al., 2021; Pfattheicher et al., 2020; Politi et al., 2021; Rudert & Janke, 2022; Ścigała et al., 2021; Stevenson et al., 2021; Zagefka, 2022) and consequences of prosocial behavior (e.g., Bowe et al., 2022; Espinosa et al., 2022; Haller et al., 2022; Inagaki et al., 2022; Pan et al., 2023; Varma et al., 2023) during the pandemic while measuring predefined prosocial behaviors (e.g., with questionnaires and attitude scales).

However, research systematically exploring the various types of prosocial behaviors that people could have engaged in during the pandemic is rare. A qualitative exploration of prosocial stories collected from social media and the news ($N = 104$ worldwide) showed that three types of support could be identified: material, social/emotional, and psychological/well-being support (Tekin et al., 2021). Similar findings were reported in another qualitative work that examined prosocial behaviors toward infected people (Shukla et al., 2022). Although fear, moral dilemma, and empathy seem to be dominant themes when considering prosocial behaviors toward infected people, also prosocial intentions such as material and verbal support were reported, as well as a new form of prosocial behavior: informing the authority of an infected individual. Hence, the facets of prosocial behavior in times of crisis include traditional prosocial behaviors, but new forms of prosocial behaviors might also emerge.

The present research

In our research project, we aim to gain a better understanding of what constitutes prosocial behavior during the Covid-19 pandemic from a lay perspective as well as from a scientific perspective. To examine the lay perspective on prosocial behaviors (Part I), we used survey data collected from a representative sample of the Austrian population ($N = 446$) during the first wave of the COVID-19 pandemic (April 2020). Participants were asked to report their prosocial behaviors since the lockdown in an open question. These open responses were inductively coded based on content analysis, resulting in 11 categories of prosocial behaviors. This qualitative analysis should provide an overview of which behaviors people perceive and report to be prosocial during a pandemic. To examine the scientific view (Part II), we conducted a systematic literature review of empirical studies that investigated prosocial behaviors during the pandemic and coded the used measures

according to the categories of Part I. By comparing these findings, we will show whether there are discrepancies between the prosocial behaviors people report and the prosocial behaviors scientific research measured during the pandemic.

PART I: LAY PERSPECTIVE USING SURVEY DATA

Method

Participants

We used a nationally representative sample of 446 Austrian citizens stratified by age, gender, and province, recruited by a market research agency (M_{age} = 46.0, SD = 14.3); 49.8% female, 50.0% male, 0.2% diverse). We conducted this study online during the first wave of the COVID-19 pandemic in Austria (from April 1 to 6, 2020). The survey was part of a larger research project investigating the impact of the COVID-19 pandemic in Austria, and we analyzed only the data relevant to the current research question. For the complete questionnaire (translated from German), see https://osf.io/j69y7/?view_only=75c1ce85428f48dbb2ab5d6eb09f67b8.[1] We received formal ethical approval from the Vienna University of Economics and Business. The project followed all APA ethical guidelines for the protection of human research participants as outlined in the 1964 Declaration of Helsinki. To ensure high data quality, the survey included an attention check ("I am a person, who since the beginning of the restrictions pays full attention to this study. Please mark "Strongly agree""), and participants who failed this attention check were not allowed to complete the study and were excluded.

Procedure and measures

Participants gave informed consent and reported demographic data (e.g., age, gender, province of Austria). We used an open-ended question to investigate people's prosocial behaviors (all questions and responses were originally presented in German and translated for this manuscript). First, to ensure that all participants understand the concept of prosocial behaviors, we provided a short definition from the scientific literature (adapted from Alessandri et al., 2009; Twenge et al., 2007): "Prosocial behavior is defined as voluntary behavior intended to benefit another rather than oneself, motivated by empathy or concern for the other rather than self-motivation for self-gratification and self-interest and thus describes donations, volunteering, sharing, and commitment for social purposes." Then, with an open question, participants were asked to report all prosocial behaviors they have shown since the lockdown (i.e., "When you think of the time since the exit restrictions began in Austria, in which prosocial behaviors have you engaged (if you have not been engaged in any, then please write "None" in the field)?". Additional measures after this question are part of the larger research project but not analyzed within this manuscript. At the end of the survey, participants were thanked and debriefed.

[1] The complete research project assessed longitudinal data during three time points. For this paper we only focus on the first time point (T1) to analyze unbiased responses as later responses (T2, T3) could have been influenced by previous measurements. This research was not preregistered. Data will be made available upon reasonable request from the corresponding author.

Coding of open responses

To examine the prosocial behaviors participants reported during the COVID-19 pandemic, responses to the open-ended question were coded according to qualitative content analysis (Mayring, 2004). Participants were allowed to describe as many behaviors as they wished. The minimum number of words that participants wrote was one, and the maximum number of words that participants wrote was 90. All responses were categorized into a system of 11 categories by two independent coders. These categories were formulated and defined inductively (from the data). An interrater reliability analysis using the Kappa statistic was conducted to determine consistency between coders, resulting in an interrater reliability of Kappa = .961, indicating an almost perfect agreement (Landis & Koch, 1977). After calculating the interrater reliability, a few discrepancies were discussed and corrected.

Results

In total, 272 participants reported different prosocial behaviors, while 174 participants answered this question regarding their prosocial behaviors with "none," indicating that they did not engage in any prosocial behaviors the last time (or gave inappropriate or invalid responses). The open-ended responses of the 272 participants were categorized into 11 categories (see Table 1 for an overview and example quotations), while most participants reported more than one behavior (resulting in 466 coded behaviors). The most often mentioned category "*Private Support*" includes running errands for (older) acquaintances, risk group members, and family members, as well as supporting acquaintances, for example, with childcare and tutoring. As the category "*Staying at Home*" indicates, this category includes statements by participants arguing that they behaved prosocially by staying at home. The category "*Distance & Hygiene*" included prosocial activities such as keeping physical distance, disinfection, and other hygiene measures. The category "*Reduction of Social Contacts*" includes the avoidance of social interactions and contact with friends and family. Statements such as donations (both monetary and factual), signing petitions, donating blood, and voluntary activities are summarized under the category "*Donations & Volunteering*." The category "*Communication*" includes prosocial behavior in the form of information exchange, encouragement, and social assistance. The category "*Change in Purchasing Behavior*" includes statements such as reducing the frequency of purchases, maintaining certain purchasing times, and avoiding/rejecting panic purchases (e.g., stockpiling). Some participants indicated that their prosocial behavior consisted of the measures prescribed by the government (category: "*Accepting Public Policy Measures*"). In the context of work, the categories "*System Maintenance Activity*" and "*Home-office & E-learning*" are distinguished. *System Maintenance Activity* refers to work that cannot be done from home and/or is part of system-sustaining activities such as (voluntary) willingness to work more so that others can stay at home. The category *Home-office & E-learning* includes work from home as well as teaching students and pupils through online media. The category "*Supporting the Economy*" represents local shopping and avoiding online shopping from abroad.

In the next step, these categories were combined into clusters based on the goals of help: (1) promoting the welfare of others (i.e., private support, donations & volunteering, communication), (2) taking health-protective measures to reduce the risk of infecting oneself and others (i.e., staying at home, distancing & hygiene, reducing social contacts, home-office & e-learning), and (3) support-

TABLE 1 Overview of frequencies and percentages of each category within the clusters of prosocial behavior.

Cluster	Category	Examples of quotations	Frequency	Percentage (%)
Promoting the welfare of others	Private support	"Shopping for elderly neighbours, trips to the pharmacy," "Neighbourhood assistance"	112	25.1
	Donations & volunteering	"I have donated to organisations," "Donations, petitions"	40	9.0
	Communication	"Made more phone calls," "We make phone calls to single older acquaintances to entertain, comfort, and inform them."	28	6.3
Health-protective measures	Staying at home	"Did not go out," "Leaving the house less often"	86	19.3
	Distance & hygiene	"Disinfect hands," "Keep a distance of 1–2 metres"	70	15.7
	Reduction of social contacts	"Social contacts reduced," "any personal contacts avoided"	53	11.9
	Home-office & E-learning	"Distance Teaching," "Working from home"	9	2.0
Supporting society	Change of purchasing behavior	"Shop only when necessary", "No longer go shopping as a family, but I go alone"	26	5.8
	Acceptance of public policy measures	"I follow the government's guidelines to protect others," "I stick pretty much exactly to the restrictions"	19	4.3
	System maintenance activity	"Working at the post office," "Work in the healthcare sector"	17	3.8
	Supporting the economy	"Regional businesses supported," "No online shopping from Germany or anywhere else"	6	1.3

Note: Percentages were calculated by dividing the absolute number from the total number of participants. As one participant often mentioned several prosocial behaviors in more than one category, neither the frequencies equal to the number of participants nor the percentages sum up to 100%. Examples of quotations were translated from German.

ing society (i.e., changing purchasing behavior, system maintenance activity, acceptance of public policy measures, supporting the economy). Health-protection measures were the most frequently mentioned prosocial behavior ($n = 218$), followed by promoting the welfare of others ($n = 180$) and supporting society ($n = 68$).

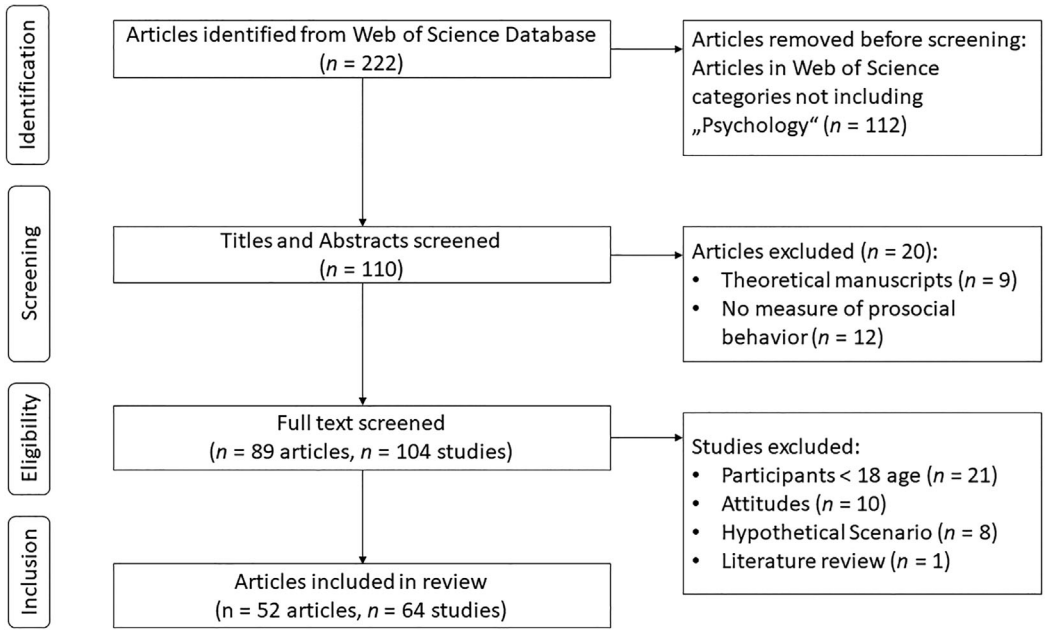

FIGURE 1 Flow Diagram illustrating the identification of studies for the systematic literature review.

PART II: SCIENTIFIC PERSPECTIVE USING A SYSTEMATIC LITERATURE REVIEW

Method

Search strategy and screening

The literature review was conducted according to the PRISMA guidelines (Moher et al., 2009), see Figure 1. Using the Web of Science database, we gathered articles using the keywords "prosocial behavior" along with "corona," "covid," or "pandemic" either part of the titles, abstracts, or keywords that were published between 2019 and 2022, resulting in 222 articles. We included only articles from the Web of Science categories that included "psychology" resulting in 110 articles. The abstracts and titles of these 110 articles were screened to determine whether the articles presented empirical data and whether they included a measure of prosocial behavior. Thus, theoretical articles ($n = 9$) as well as those lacking any measurement of prosocial behavior ($n = 12$) were excluded, leaving 89 articles for full-text review.

Study selection

Studies were considered eligible for inclusion in the review if they met the following criteria: (1) participants aged 18 and older; (2) the study was published in a peer-reviewed journal; (3) the study was published in English; (4) the outcome variable was an empirical measure of prosocial behavior. Studies were excluded if prosociality was measured only by attitudes or hypothetical scenarios rather than by observable prosocial behaviors that people might have engaged in during

TABLE 2 Summary of categories and frequencies in the literature review.

Goals of help	Coded category	Number of studies
Promoting of welfare of others	Private support	19
	Donations & volunteering	40
	Communication	15
Health-protection measures	Staying at home	8
	Distance & hygiene	15
	Reduction of social contacts	16
	Home-office & E-learning	1
Supporting society	Change of purchasing behavior	4
	Acceptance of public policy measures	7
	System maintenance activity	0
	Supporting the economy	0

Note: As one study often measured several prosocial behaviors in more than one category, the number of studies does not sum up to 64.

the pandemic. After excluding studies that did not meet these criteria, 64 studies remained for analysis regarding the empirical measurement of prosocial behavior.

Data analysis

The remaining studies were analyzed and coded according to the 11 categories derived from the survey study reported in Part I. Two independent coders categorized the prosocial measures (interrater reliability = .81) and discrepancies regarding the categories were resolved through deliberative discussion. Details of the coding of each article are provided in the Supporting Information and summarized in Table 2. The scientific literature often used multiple measures within and across these 11 categories but focused primarily on the welfare of others (n = 74; donations & volunteering, social support & communication). Health protection measures were also examined (n = 40), while the support of society (n = 11) was not investigated often. There were even some categories (i.e., System Maintenance Activity, Supporting the Economy), for which we did not find a single study in our literature review (however, it is still possible that they exist outside the scope of this review).

GENERAL DISCUSSION

The outbreak of the Covid-19 pandemic had a significant impact on people's lives including their ability and willingness to engage in prosocial behaviors. The aim of the current manuscript is to explore the nature of prosocial behavior during a pandemic. To this end, we use two methodological approaches. First, to understand what prosocial behaviors people engaged in during the pandemic and during specific periods of societal lockdown, we asked a representative sample an open-ended question about what behaviors they engaged in and inductively coded their responses. Second, to capture the scientific perspective, we conducted a systematic literature review on measures of prosocial behavior during the pandemic. By combining these two methodologies, we

aim to provide a holistic understanding of the various forms of prosocial behavior during this unprecedented crisis.

Our analysis of the layperson perspective using qualitative content analysis revealed that most people continued to engage in prosocial behaviors during the pandemic, while not all these behaviors would be considered to be prosocial absent the circumstances of the pandemic. We identified three clusters of categories of prosocial behaviors that people engaged in during the pandemic: (1) promoting the welfare of others through private support of family members, donations, or volunteering, and communication; (2) health protection measures such as hygiene and disinfection, distancing, or staying home; and (3) supporting society which included changing purchasing behavior, system maintenance activities, or accepting public policy measures. Many people engaged in "traditional" prosocial behaviors that promote the welfare of others, but the most frequently mentioned cluster related to health-protective measures, which included behaviors directly related to the pandemic that benefit people themselves but also others. For example, hand-washing, staying at home, or working in home-office are behaviors that would not have been considered prosocial before the pandemic, but were intended to stop the spread of the virus and thus benefit others from becoming infected. Hence, our study indicated that people perceive such health-protection measures as behaviors that benefit others more than oneself (as we gave them this definition of prosocial behaviors) and this result contributes to previous research that sometimes questioned (e.g., Seitz et al., 2020) or assumed that health-protective behaviors represent actual prosocial behaviors (e.g., Bodroža & Dinić, 2023; Pfattheicher et al., 2020). The third cluster of societal support has been mentioned only a few times, but it is important to note that people who work in system maintenance jobs perceive the practice of their profession as a prosocial act in times of a pandemic.

The literature review of scientific studies that examined prosocial behavior during the pandemic showed that promoting the welfare of others was measured most (e.g., Alvis et al., 2023; Pan et al., 2023; Politi et al., 2021; Wakefield et al., 2022), followed by health-protection measures (e.g., Kokkoris & Kamleitner, 2020; Mariss et al., 2022) and support for society. It is important to note that most studies used multiple measures within and across these categories to explore the complexity of prosociality at this particular time (e.g., Kislyakov & Shmeleva, 2021; Lemay Jr et al., 2021; Simić et al., 2022). Comparing the findings of the qualitative study with the literature review shows that several categories that were frequently mentioned by the representative sample were not as frequently explored scientifically. For example, the three most prominent categories according to the survey data (i.e., private support, staying at home, and distance and hygiene) were scientifically examined only a few times. Similarly, the categories in the cluster to support society were not studied often according to our literature review. These disparities underline the need for further research to comprehensively understand the determinants and consequences of these specific prosocial behaviors. Additionally, investigating potential relationships between these behaviors and other measures could provide valuable insights, contributing to a more nuanced understanding of prosociality during times of crisis.

Limitations

Our investigation of the lay perspective focused on various specific types of prosocial behavior. The qualitative study investigating altruistic stories included not only the type of support but also the characteristics of the actors and beneficiaries as well as the reasons for prosocial behavior (Tekin et al., 2021). Although our findings extend their work by examining prosocial behaviors

reported directly by a representative sample of individuals, focusing on behaviors that benefit others more than themselves, learning more about the background of these behaviors could be an interesting avenue for future research, especially for those behaviors that became prosocial during the pandemic.

Furthermore, it needs to be considered that the inductive coding of the responses resulted in categories at different abstraction levels, which sometimes did not fit the scientific literature review. For example, we differentiated between staying at home and the acceptance of public policy measures although it could be argued that staying at home is one way of accepting the measures. Also, we used clear definitions of behaviors such as physical distancing (i.e., keeping a 2 m distance to other people) versus social distancing (i.e., avoidance of social interactions), which sometimes were mixed in the scientific literature.

A potential limitation of this literature review is the criterion used for inclusion, which focused solely on papers that directly mentioned "prosocial behavior" in the title, abstract, or keywords. This approach might have overlooked research exploring specific prosocial measures and behaviors that were not explicitly labeled as prosocial. For example, research that aimed to investigate peoples' tendency to stay at home may not have used the term "prosocial behavior" as this behavior primarily benefits people themselves. Nonetheless, our literature review provides insight into what measures have been used to examine prosocial behavior, but not how much research has been conducted on each prosocial behavior within our categories.

Implications

With this research, we were able to uncover some additional prosocial behaviors (e.g., handwashing, distancing, home office, supporting the economy) that people engaged in during the pandemic that have received little attention in the scientific literature so far. Investigating these prosocial behaviors is important in at least three ways: (1) Making people aware that these (sometimes ambiguous) behaviors also benefit others and are therefore considered prosocial could increase compliance rates and people's willingness to engage in such behaviors. Similarly, highlighting the benefits of pro-environmental behavior for humans has been shown to motivate pro-environmental behavior more than illustrating the consequences for nature (Klein et al., 2022). (2) Acting prosocially can also have positive consequences for the actor, and therefore emphasizing that these behaviors are prosocial could also have positive consequences for peoples' wellbeing (Espinosa et al., 2022; Haller et al., 2022; Pan et al., 2023), improve positive affect (Varma et al., 2023), and lead to greater social satisfaction (Sin et al., 2021) and less loneliness (Inagaki et al., 2022), all of which are important to master the challenge of the pandemic. (3) To cope with future pandemics, it can be necessary to develop interventions that increase prosocial behavior (van Bavel et al., 2020), which could benefit from a better understanding of which behaviors are perceived to be prosocial in times of crises.

In sum, our research provides a comprehensive understanding of prosocial behaviors during the COVID-19 pandemic by comparing the lay perspective of individuals with the scientific perspective found in empirical studies. This study uniquely bridges the gap between what people report doing to help others during the pandemic and how these behaviors are measured in the scientific literature. By using both survey data and a systematic literature review, our research offers novel insights into the forms of prosocial behaviors that emerged in response to the pandemic and highlights potential discrepancies and alignments between public actions and scientific research.

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CONFLICT OF INTEREST STATEMENT

The authors have no competing interests to declare that are relevant to the content of this article.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author, JK, upon reasonable request.

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SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

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