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## RESEARCH ARTICLE

### Socio-demographic Differences in Prosocial Tendencies Aimed at the LGBTQIA+ Community from a Sample of Slovak Heterosexual Adults

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#### Abstract:

##### Background:

Incidents against gender and sexual orientation minorities have increased significantly in recent months. This discrimination is taking place in a global context, and the Slovak Republic is no exception. However, the increased level of discrimination also creates room for people to get involved in trying to help reduce discrimination while increasing helping and pro-social behaviors towards these minorities in their cultural epicenters. To date, it is unclear and uncertain what role social and demographic characteristics play in this type of behavior toward the LGBTQIA+ community.

##### Objective:

This study analyzed public, digital, and overall prosocial behavior toward the LGBTQIA+ community in an online sample of Slovak heterosexual adults.

##### Methods:

One thousand fourteen ( $N = 1,014$ ) heterosexual participants completed an online questionnaire focused on prosocial behavior towards the LGBTQIA+ community in Slovakia. Prosocial behavior towards the LGBTQIA+ community was determined using the authors' Prosocial Tendencies towards the LGBTQIA+ Community questionnaire. This questionnaire captures public, digital, and overall levels of pro-social tendencies towards the LGBTQIA+ community. Participants also answered basic social and demographic background questions.

##### Results:

People in older adulthood also display more digital and overall prosocial behaviors, but not publicly prosocial. Residence-based differences were identified only in the area of public prosocial behavior in favor of people with urban residence. Differences in the context of personal experience with an LGBTQIA+ person demonstrated that people with a positive experience with an LGBTQIA+ person display significantly more public, digital and overall prosocial behavior compared to people with a negative experience and those with no experience. We also identified inter-sex differences in all areas studied in favour of women.

##### Conclusion:

People differ in their prosocial actions towards the LGBTQIA+ community based on social and demographic characteristics.

**Keywords:** Digital prosocial behavior, Heterosexual adults, LGBTQIA+ community, Public prosocial behavior, Slovak research sample, Socio-demographic differences.

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## 1. INTRODUCTION

Prosocial behavior, or acting for the benefit of others, is a key aspect of human social interaction [1, 2]. It has various positive consequences, including higher psychological well-

being, stronger relationships, and better physical and mental health [3, 4]. Not everyone engages in prosocial behavior to the same extent, and research has attempted to identify factors that influence such individual differences [5]. One line of inquiry has focused on social and demographic characteristics such as gender [6], age [7], and place of residence [8] as potential predictors of prosocial tendencies. In recent years, the growing visibility and acceptance of gender and sexual orientation

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diversity has led to the emergence of a new area of research: the role of this diversity in prosocial behavior. The aim of this study is to contribute to this field by examining differences in various aspects of prosocial behavior among people with different social and demographic characteristics from a population of Slovak heterosexual adults. We examined individual differences in digital and public prosocial behaviors, as well as overall prosocial behavior, towards the LGBTQIA+ community in the context of gender, age, place of residence, and interpersonal experiences related to gender and sexual orientation diversity. These selected baseline sociodemographic variables were chosen because there are no scientific studies in the Slovak Republic that track specific prosocial behaviors towards the LGBTQIA+ community in the context of these variables. Our results shed light on how social and demographic characteristics and experiences related to gender and sexual orientation diversity may be associated with forms of digital, public, and overall prosocial behavior.

Differentiating between public and digital prosocial behaviors is important because they represent distinct forms of prosocial behavior with unique motivations and outcomes. Public prosocial behaviors are actions performed in front of others, often driven by the desire for rewards, approval, or maintaining a positive public image [9]. These behaviors are considered relatively selfishly motivated and low-cost [10]. On the other hand, digital prosocial behaviors refer to acts of kindness, cooperation, and support performed in online or digital environments [11]. These behaviors can include sharing helpful information, offering emotional support, or participating in online communities [12]. One key difference between public and digital prosocial behaviors is the level of visibility and social pressure. Public prosocial behaviors are performed in the presence of others, which can create social pressure and the need to maintain a positive image [9]. In contrast, digital prosocial behaviors can be performed anonymously or with reduced social pressure, allowing individuals to engage in prosocial acts without the fear of judgment or scrutiny [13, 14]. Another difference lies in the nature of the interactions. Public prosocial behaviors often involve face-to-face interactions or physical presence, allowing immediate feedback and emotional responses [11, 12]. Digital prosocial behaviors, on the other hand, occur in virtual spaces and rely on digital communication platforms, such as social media or online communities [11, 15]. These platforms allow individuals to engage in prosocial behaviors on a larger scale, reaching a wider audience and potentially having a greater impact [15].

Previous research has consistently shown that gender is a significant factor in prosocial behavior towards minorities. Numerous studies have found that women exhibit more prosocial behavior towards minorities than men. These findings are consistent with past research showing that women are more likely than men to engage in prosocial behaviors such as helping and volunteering [16, 17]. Women tend to support policies that benefit marginalized groups in society across a diverse range of policy issues and perspectives [18]. According to Norrander [19], women are more inclined to support policies that aim to expand assistance to various disadvantaged groups in society, which include not only women but also people who

are socially disadvantaged in terms of ethnicity, sexual orientation, and socio-economic status. A study by Eagly *et al.* [20] examined socially compassionate political attitudes between the years 1973 and 1998. Their findings revealed a consistent and significant difference in the context of gender, with women more likely to express support for these socially compassionate attitudes than men. In addition, focused research examining women's long-term political involvement has found a significant correlation in their community characteristics, specifically women's interpersonal relationships [21]. The above findings suggest that women's political behavior to promote social welfare may be driven by their empathy and concern for others and their commitment to improving social conditions.

On top of the effect of gender, age also plays a significant role in prosocial behavior towards minorities, although the role is more ambiguous. The results of previous studies are inconsistent and have shown that prosocial behavior varies in relation to age. A study by Abrams *et al.* [22] found that younger participants were more likely to express prejudice towards minorities than older participants and less likely to behave in a prosocial manner towards them. Researchers suggest that younger individuals may have less experience in social situations, leading to more negative attitudes and behaviors toward minorities. Based on the references available, there is mixed evidence as to whether younger people are less prosocial towards minorities than older people. Studies suggest that older adults may exhibit more prosocial behaviors toward their loved ones and others, including minorities, compared to young adults [23, 24]. Another study focusing on prosocial behavior in the context of the bystander effect shows that older adults may have stronger intentions to intervene in LGBTQIA+ discrimination situations compared to younger adults [25]. In addition, there is evidence that prosocial behavior may be influenced by the relationship between individuals, with adolescents exhibiting more prosocial behavior toward friends than strangers or family members [26].

The topic of prosocial behavior in the context of the individual place of residence has received limited attention in scholarly literature. According to a 2019 report by the Movement Advancement Project [27], individuals who identify as LGBTQIA+ face increased rates of discrimination and lack of systematic support if they live in rural areas in comparison to urban areas. Research findings show that individuals living in rural areas show relatively lower levels of support for legal and policy issues affecting the LGBTQIA+ community. Other research studies [28] also report increased levels of bias against the LGBTQIA+ community among rural populations. An important contribution in the area of residential and geographic disparities in supporting the LGBTQIA+ community was made by [8]. Their analysis found significant disparities in support for the LGBTQIA+ community. It showed that people who live or have moved to urban areas display higher levels of support for the LGBTQIA+ community than people who live in rural areas. One likely explanation is that residents living in urban areas tend to live in places with larger population densities. A larger population leads to a greater likelihood of positive interactions with different groups, which fosters stronger intergroup contact and can potentially lead to greater support

for minority groups and prosocial behavior [8]. However, it is important to note that some rural residents may also be advocates and supporters of the rights of the LGBTQIA+ community [29].

Positive interpersonal experiences with LGBTQIA+ people can have a significant impact on attitudes toward them and their rights [30]. Research suggests that individuals who have positive experiences with LGBTQIA+ people are more supportive of their rights. Studies have found that contact with LGBTQIA+ people leads to more positive evaluations of this group and greater support for pro-LGBTQIA+ policies [31]. In addition, individuals with greater knowledge of and contact with LGBTQIA+ people have more positive attitudes toward them [32]. Furthermore, individuals who grew up in families that supported LGBTQIA+ rights and were involved in activism from a young age are more likely to support LGBTQIA+ rights [33]. Personal contact with LGBTQIA+ people and living in a country with stronger LGBTQIA+ rights have also been found to predict greater support for LGBTQIA+ rights [34]. Research suggests that positive interpersonal experiences with LGBTQIA+ people can lead to greater support for their rights and pro-LGBTQIA+ policies [8, 31, 35]. Contact with individual LGBTQIA+ people has been found to increase positive evaluations of the group and support for pro-LGBTQIA+ policies [31]. Positive intergroup contact at the individual and contextual level is associated with greater support for LGBTQIA+ rights [8]. Personal contact with LGBTQIA+ individuals and living in a country with stronger LGBTQIA+ rights predicts greater support towards this minority group [34].

### 1.1. Present study

The above research findings suggest that social and demographic variables influence prosocial behavior towards minority groups. To date, however, it is unclear to what extent social and demographic variables influence the overall public and digital prosocial behavior towards gender and sexual orientation minorities, both abroad and specifically in the Slovak Republic. The aim of this study was to describe and analyze social and demographic differences in overall, public, and digital prosocial behaviors towards the LGBTQIA+ community in Slovakia using online data collection. Social and demographic measures included variables such as age, gender, experience with an LGBTQIA+ person, and the area of residence from which participants came. Based on the previous empirical findings presented in the introduction, we hypothesized that:

H1 Rural residents will exhibit lower levels of public, digital, and overall prosocial behavior than urban residents.

H2 Men will exhibit lower levels of public, digital, and overall prosocial behavior than women.

H3 Participants who have a positive experience with an LGBTQIA+ person will report higher levels of overall, public, and digital prosocial behavior compared to those with negative or no experience with an LGBTQIA+ person.

In light of the mixed research findings in relation to age, we posed the following research question:

RQ1 Do participants in late adolescence, young adulthood, and middle adulthood differ in overall, public, and digital prosocial behavior?

## 2. MATERIALS AND METHODS

### 2.1. Design and Procedure

Data for this study was collected as part of a project aimed at identifying discriminatory and prosocial tendencies in relation to the LGBTQIA+ population. The data was collected between September 2022 and March 2023 in the form of an online survey available *via* the Google Forms platform. The study was promoted through the authors' personal social networks on various social media platforms (FaceBook, Reddit, Instagram), as well as through websites and organizations that have a high reach to potential respondents (*e.g.*, Zomri.sk). Participation in the research was age limited, however only male and female respondents between the ages of 18 and 64 were eligible to participate in the study. Because few respondents in late adulthood (50 to 64 years) participated in the research, these respondents were excluded from the study. The number of excluded respondents was  $N = 4$ . In this case, we decided to conduct statistical procedures on a set of respondents in the late adolescence, young adulthood, and middle adulthood periods. The participants also had to be from the Slovak Republic. The first part of the online battery contained information about the study and provided contact information for the research team. Participants provided their informed consent or non-consent to participate in the research, and to the processing of their personal data for analysis in the second part of the questionnaire battery. In the informed consent, participants were informed of complete anonymity and that they could leave the study at any time during the course of the questionnaire survey.

### 2.2. Participants

A total of 1,014 heterosexual male and female respondents living in the Slovak Republic participated in the study. Five hundred and thirteen (513) respondents stated their gender as male and their sexual orientation as heterosexual, and five hundred and one (501) respondents stated their gender as female and their sexual orientation as heterosexual. Six hundred twenty-four (624) participants were from urban areas and three hundred and ninety (390) were from rural areas. Participants ranged in age from 18 to 49 years, with a mean age of 27.42 years ( $SD = 7.437$ ). Participants were also surveyed regarding their personal experience with an LGBTQIA+ person. Six hundred one (601) participants reported having a positive experience with an LGBTQIA+ person, 160 participants reported a negative experience, and 253 reported no experience with an LGBTQIA+ person.

The reason why we have chosen the heterosexual population is the absence of any scientific studies on pro-social action towards the LGBTQIA+ community in the Slovak Republic. At the same time, after the tragic events that were carried out in Slovakia towards the LGBTQIA+ community, we were interested in the degree of prosocial tendencies of the primarily heterosexual population.

### 2.3. Measures

#### 2.3.1. Socio-Demographic Data

The section focused on identifying basic social and demographic background characteristics and included questions aimed at identifying age, gender, sexual orientation, education level, residence, and experience with an LGBTQIA+ person in the research sample.

Participants reported their age in numerical form in response to being asked to “State your age”. The minimum age for participation was 18 years and the maximum age was 49 years. Participants were then divided into three main age groups, coded as 18-20 years (1), 21-34 years (2) and 35-49 years (3).

Sex was surveyed through the question, “How would you identify your sex?”. The question inquired about the biological by asking how the participants view themselves biologically. The choices were male and female, coded as follows: male (1), female (2).

Participants’ sexual orientation was ascertained through the question “How would you identify your sexual orientation?” with participants given a choice of two options, coded as follows: heterosexual male (1), heterosexual female (2).

Participants’ area of residence was identified by the item “What area do you come from?”, with participants given two options, coded as urban (1) and rural (2).

The final question was identifying experiences with an LGBTQIA+ person/people. Participants were given three options. If participants had more experiences with this population cohort, they were instructed to recall the experience that left the strongest emotional mark on them and to choose one of the options based on that experience. The individual options were coded as follows: Yes, it was a positive experience (1), Yes, it was a negative experience (2), No, I had no experience (3).

#### 2.3.2. Prosocial Tendencies towards the LGBTQIA+ Community

Prosocial behaviors towards the LGBTQIA+ community were measured using a 12-item author questionnaire (Lenghart and Čerešník, 2022). This questionnaire captures the extent of prosocial tendencies in two main areas. The first area is public prosocial behavior, which is defined by six items (“I support LGBTQIA+ artists who publicly embrace their LGBTQIA+ - I buy their songs, I go to their concerts, gallery shows, *etc.*”; “If I have the opportunity to support the adoption of children for same-sex couples, I will”; “I would provide moral support to my LGBT friend who is going through a difficult time (*e.g.*, coming out, transitioning, *etc.*)”; “I would experience my LGBT friend's shared joy in being able to be himself/herself/themselves (*e.g.*, post-transition; coming out with his/her/they sexual orientation or gender identity, *etc.*)”; “I would publicly support/endorse the rights of LGBT people (*e.g.*, at Rainbow Pride)”; “I would/do stand up for an LGBTQIA+ person if they were being publicly discriminated”). The second area is digital prosocial behavior, which is defined by six items (“I actively support the rights of

LGBTQIA+ people on social media”; “I help fight discrimination against LGBTQIA+ people through social networking.”; “I act immediately when I see someone questioning and bullying LGBTQIA+ people on social media.”; “I always write something positive when I see a rude comment about LGBTQIA+ people in a social media status.”; “I respond with relevant information to myths about LGBTQIA+ people on social media.”; “I speak positively about LGBTQIA+ people in comments on social media to prevent discrimination.”). The third and final area is the overall level of prosocial tendencies, obtained by aggregating the first and second areas. The overall level of internal consistency for the questionnaire is  $\alpha = .90$ . The internal consistency of the public prosocial behavior ( $\alpha = .85$ ) and digital prosocial behavior ( $\alpha = .88$ ) subscales were satisfactory. Further psychometric characteristics of the scale are being published.

Using a 5-point Likert scale, participants rate the frequency with which they perform, or would perform in a hypothetical situation, each of the activities and actions listed in the questionnaire survey. The rating scale ranges from (1) never to (4) almost always.

### 2.4. Data Analysis

Before the actual analyses were performed, a normality test was performed. The test showed that the data were not normally distributed and therefore, we decided to use primarily non-parametric statistical tests. Inferential statistics and non-parametric statistical methods, Kruskal-Wallis H-test and Mann-Whitney U-test, were used for data analysis in JASP 0.16.4.0 statistical software. Spearman's Rho correlation coefficient was used to establish the relationships between variables. Cohen's  $d$  was used in detecting the strength of the effect for between-group differences. For differences between three or more groups, we used the strength of the effect defined by eta squared ( $\eta^2$ ).

## 3. RESULTS

### 3.1. Correlates of Prosocial Tendencies towards the LGBTQIA+ Community

The age group of participants was significantly (albeit weakly) correlated with digital prosocial behavior ( $r_s = .106$ ;  $p < .001$ ), but not with public prosocial behavior ( $r_s = -.038$ ;  $p = .226$ ) or overall prosocial behavior ( $r_s = .039$ ;  $p = .220$ ). Gender appeared to be weakly but statistically significantly related to public prosocial behavior ( $r_s = .208$ ;  $p < .001$ ), digital prosocial behavior ( $r_s = .175$ ;  $p < .001$ ), and overall prosocial behavior ( $r_s = .207$ ;  $p < .001$ ). Strong, negative correlations were identified between experience with an LGBTQIA+ person and digital prosocial behavior ( $r_s = -.364$ ;  $p < .001$ ), public prosocial behavior ( $r_s = -.386$ ;  $p < .001$ ), and overall prosocial behavior ( $r_s = -.424$ ;  $p < .001$ ). Significant relationships were identified only between place of residence and public prosocial behavior ( $r_s = -.069$ ;  $p = .028$ ), but not between digital prosocial behavior ( $r_s = .020$ ;  $p = .521$ ) and overall prosocial behavior ( $r_s = -.042$ ;  $p = .180$ ).

### 3.2. Social and Demographic Differences in Prosocial Tendencies

The Mann-Whitney U-test showed a statistically significant difference in the context of the participants' area of residence and public prosocial behavior. People from urban areas show higher levels of public prosocial behavior toward the LGBTQIA+ community compared to people from rural areas  $U(1014) = 131495.500, p = .03, d = .13$ . Differences were not observed for either digital prosocial behavior  $U(1014) = 118783.500, p = .521, d = .04$  and overall prosocial behavior  $U(1014) = 127765.000, p = .179, d = .08$ .

Statistically significant gender differences were identified across all forms of prosocial tendencies. The women in our dataset show higher rates of digital prosocial behavior  $U(1014) = 102642.500, p < .001, d = .35$ , public prosocial behavior  $U(1014) = 97728.500, p < .001, d = .42$ , and overall prosocial behavior  $U(1014) = 97780.000, p < .001, d = .42$  when compared to men.

Kruskal-Wallis H-test comparing prosocial tendencies in the context of personal experience showed statistically significant differences between groups in digital prosocial behavior  $H(2, 1014) = 214.055, p < .001, \eta^2 = .21$ , public prosocial behavior  $H(2, 1014) = 331.256, p < .001, \eta^2 = .32$ , as well as in overall prosocial behavior toward the LGBTQIA+ community  $H(2, 1014) = 347.752, p < .001, \eta^2 = .34$ . Using Dunn's Post-Hoc comparison, we investigated individual differences between the groups. In the context of digital prosocial behavior, people who had a positive experience with an LGBTQIA+ person reported higher levels of digital prosocial behavior compared to people with a negative experience ( $p < .001$ ) and even compared to people with no experience ( $p < .001$ ). We also discovered that people with no experience showed higher levels of digital prosocial behavior compared to those with negative experience ( $p < .001$ ).

In terms of public prosocial behavior, people with a

positive experience report higher levels of public prosocial behavior than people with a negative experience ( $p < .001$ ), and even compared to people with no LGBTQIA+ experience ( $p < .001$ ). People with no experience reported higher levels of public prosocial behavior than people with negative LGBTQIA+ experience ( $p < .001$ ).

The final question was the differences in overall prosocial behavior. People with positive experiences reported higher levels of public prosocial behavior than both people with negative experiences ( $p < .001$ ) and people with no LGBTQIA+ experience ( $p < .001$ ). People with no experience reported higher levels of public prosocial behavior than people with negative LGBTQIA+ experience ( $p < .001$ ).

Age differences were demonstrated in two of the three study areas. Age groups differed on digital prosocial behavior  $H(2, 1014) = 16.722, p < .001, \eta^2 = .01$ . At the borderline of statistical significance, differences in overall prosocial behavior toward the LGBTQIA+ community were identified between age groups  $H(2, 1014) = 5.870, p = .053, \eta^2 = .004$ . No differences between the study groups were identified in the public prosocial behavior domain  $H(2, 1014) = 4.035, p = .133, \eta^2 = .002$ . Dunn's Post-Hoc comparison showed that participants in late adolescence displayed higher levels of digital prosocial behavior compared to participants in middle adulthood ( $p < .001$ ) but not compared to participants in young adulthood ( $p = .803$ ). It was also identified that participants in middle adulthood displayed higher levels of digital prosocial behavior compared to participants in young adulthood ( $p < .001$ ). Differences in overall prosocial behavior were identified only between participants in young adulthood and middle adulthood. Participants in middle adulthood reported higher levels of overall prosocial behavior toward the LGBTQIA+ community compared to participants in young adulthood ( $p = .017$ ).

We report all mean scores, standard deviations, number of respondents and percentages in Table 1.

**Table 1. Means and standard deviations for prosocial tendencies in the context of socio-demographic variables.**

Variables			Public Prosocial Behavior		Digital Prosocial Behavior		Overall Prosocial Behavior	
	n	%	M	SD	M	SD	M	SD
Residence	-	-	-	-	-	-	-	-
Urban	624	61.5	16.60	4.873	10.89	4.258	27.50	8.152
Rural	390	38.5	15.90	5.046	10.95	4.054	26.85	8.139
Gender	-	-	-	-	-	-	-	-
Male	513	50.5	15.28	5.113	10.26	4.003	25.52	8.189
Female	501	49.5	17.40	4.537	11.58	4.253	28.99	7.885
Experience w. LGBTQIA+	-	-	-	-	-	-	-	-
Yes, positive	601	59.2	18.36	3.951	12.38	4.496	30.74	7.518
Yes, negative	160	15.8	9.96	3.012	7.63	1.967	17.60	4.302
No experience	253	25.0	15.53	4.406	9.51	2.380	25.05	5.671
Age Group	-	-	-	-	-	-	-	-
18-20	184	18.1	16.91	4.871	10.48	3.733	27.40	7.505
21-34	640	63.2	16.17	4.897	10.67	4.074	26.85	8.092
35-49	190	18.7	16.31	5.180	12.15	4.696	28.46	9.167

#### 4. DISCUSSION

In recent months, a series of discriminatory actions targeting gender and sexual orientation minorities have taken place both in Slovakia and globally. This global discrimination, which can result in tragic events such as those that have taken place in Slovakia, can lead to a series of prosocial or altruistic actions aimed at improving the well-being of gender and sexual orientation minorities. However, these prosocial and altruistic actions may vary depending on the social and demographic characteristics of a given country. Based on these ideas, we decided to conduct a study to learn more about the differences in the context of social and demographic characteristics in prosocial behaviors and tendencies toward the LGBTQIA+ community in a cohort of Slovak adults.

When discussing the issue of LGBTQIA+ rights, it is widely acknowledged that urban areas tend to have a higher prevalence of individuals who identify as part of the LGBTQIA+ community [36]. From our research dataset, the only difference we identified was in the area of public prosocial behavior, with no significant differences in digital and overall prosocial behavior. The reason why participants from urban areas show higher levels of public prosocial behavior may be related to the heterogeneity of the environment. This environmental heterogeneity can increase contact with different groups of people and create a ground for greater empathy and pro-social behavior towards minorities. For instance, a study published in the *Journal of Applied Social Psychology* found that urban residents were more likely to behave prosocially toward a black experimenter than rural residents. The authors suggest that this difference may be due to greater exposure to diversity in urban areas, which may lead to greater sensitivity to the experiences of members of minority groups [37]. Urban areas have been identified as places characterized by openness and tolerance towards the LGBTQIA+ community. This aspect makes urban locations attractive to individuals who prefer the availability of an environment in which being openly a member of the LGBTQIA+ community does not result in social ostracism or discrimination. Urban environments that offer a welcoming and inclusive atmosphere for the LGBTQIA+ community may influence those who disagree with equal rights to leave these locations. A possible explanation for the differences in support of LGBTQIA+ rights between urban and rural areas is the manifestation of geographic clusters of people who share similar views on the issue [8].

From a gender perspective, we found that women exhibit higher levels of prosocial behavior, both public and overall, towards LGBTQIA+ people. Neurobiological research conducted by Soutschek *et al.* [38] found that sex differences in helping behaviors between men and women are related to the dopaminergic system. They found that the dopaminergic reward system is more sensitive to helping behaviors and shared rewards in women. In men, this system was more sensitive to selfish rewards. In contrast, some studies have found no significant differences between men and women in terms of overall prosocial behavior [39, 40]. Gender differences in prosocial behavior on the Internet have also been investigated. Although some studies suggest that women may

exhibit more helping and supportive behavior online than men, the findings are not consistent across different studies. One study found that women exhibit higher levels of prosocial online behaviors, such as online emotional support and activism, especially at younger and older ages [41]. Another study found that women were more likely than men to make supportive or encouraging comments in online communication [42].

According to research, personal contact with LGBTQIA+ people can lead to more positive evaluations of this group and greater support for pro-LGBTQIA+ public policies [31], which is also supported by the results of our study. Studies have shown that personal contact with an outgroup, such as LGBTQIA+ people, reduces prejudice against that group [34]. Face-to-face contact has also been a better predictor of prosocial behavior directed at individual outgroup members [43]. However, the quality of the contact matters, as poor-quality contact with an LGBTQIA+ identifying person could have a limited impact on the overall attitudes of conservative people towards the LGBTQIA+ community [44]. Interpersonal contact with gender and sexual orientation minorities, as well as community exposure to LGBT people, is associated with more favorable views towards them [45]. Attitudes toward LGBTQIA+ persons generally grow more positive with greater interaction and familiarity [46]. Finally, there are strategies that can promote social change as opposed to just positive attitudes. These include increasing the types of contact that promote social change, secondary transmission of the effects of contact, imagined contact, indirect forms of contact, and positive media representations of LGBTQIA+ persons.

It was also identified that older adults exhibited higher levels of digital and overall prosocial behavior, dominating across most areas examined. Based on the available research, there is some evidence to suggest that middle-aged (middle adulthood) adults may exhibit more prosocial behavior toward minorities than people in late adolescence and young adulthood, but this finding is not consistent across studies. For instance, one study found that older adults tend to exhibit more prosocial behavior than younger adults [23]. As people get older, they tend to become more aware of social problems and better understand the experiences of marginalized groups. This heightened awareness may create space for greater empathy towards these groups and a desire to engage in pro-social behavior towards them. Studies have shown that older adults are more likely to engage in volunteer work and charitable activities, especially for marginalized groups [47]. In addition, older adults are more accepting of diversity and less likely to hold prejudice against minority groups [48]. Overall, evidence suggests that as people age, they may become more empathetic toward minority groups and more likely to engage in prosocial behavior toward them [49, 50].

#### 5. LIMITATIONS OF THE STUDY

Despite the significant addition to research knowledge that the present study has brought, it is important to note that it had several limitations. One limitation is that this study has focused primarily only on demographic and social factors that may be potential predictors of the types of prosocial tendencies in

question. Further research should focus on both social and demographic factors but in cooperation with other psychological (e.g., attachment, empathy) or contextual variables (e.g., political orientation or cost of effort). Future research should also focus on variables tied directly to gender (e.g., masculinity, femininity, androgyny, or indifference).

The second limitation is the persistence of this type of behavior. It is not clear how long this type of behavior in relation to gender and sexual orientation minorities would persevere. In recent months, a series of tragic events against the LGBTQIA+ community have occurred in Slovakia [51, 52] (Bačová, 2022; Števkov, 2022). These tragic events may have contributed to increased levels of prosocial behavior, but this is not necessarily a stable phenomenon. In this case, a series of longitudinal research studies would need to be conducted to confirm the results of our study, especially in the context of demographic indicators.

Thirdly, despite the high representation of the heterosexual population (N = 1014), the frequency of participants across socio-demographic characteristics fluctuated considerably. Examples include a high prevalence of participants in the young adulthood group (N = 640) and a smaller representation of participants in late adolescence (n = 184) and middle adulthood (n = 190). The same cases were also identified in the place of residence variable, which was strongly dominated by participants from urban areas (n = 624) compared to participants from rural areas (n = 390). Future research could also examine psychological dispositions in concert with social and demographic characteristics. In the present study, only selected social and demographic variables were considered, whereas their interactions with psychological variables could make a more profound and nuanced understanding. Nonetheless, our insights can serve as a meaningful foundation upon which future research can investigate prosocial behaviors and tendencies in other major cities and regions around the world.

## CONCLUSION

Prosocial tendencies towards gender and sexual orientation minorities, as well as discriminatory ones, need to be examined from a global perspective. This study provided the first bit of information in a context where empirical data are still lacking. Slovakia is a country where the law still systematically limits the rights of gender and sexual orientation minorities. In this context, it is important to focus on the positive aspects of cultural and social settings that significantly influence both the discriminatory and prosocial tendencies of their participants. Despite its limitations, this study has produced valuable data on differences in prosocial tendencies in the context of basic social and demographic characteristics in Slovakia.

## ETHICS APPROVAL AND CONSENT TO PARTICIPATE

We did not seek ethics committee approval to conduct this study.

## HUMAN AND ANIMAL RIGHTS

All procedures conducted in the study were guided by the

ethical standards of the 1964 Declaration of Helsinki and its subsequent amendments.

## CONSENT FOR PUBLICATION

Participation was voluntary and anonymous. Participants completed informed consent as part of the study before they were given access to the questionnaire battery. They could withdraw from the study at any time.

## STANDARDS OF REPORTING

COREQ guidelines were followed.

## AVAILABILITY OF DATA AND MATERIALS

The data and supportive information are available within the article.

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## CONFLICT OF INTEREST

The authors declare no conflict of interest, financial or otherwise.

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