Journal of Gerontological Social Work

ISSN: (Print) (Online) Journal homepage: www.tandfonline.com/journals/wger20

"Telephone Angels" Against Loneliness: Experimental Evaluation of the Effectiveness of Telephone Partnerships with Older Adults

Adrian Landwehr, Laura Pollack, Svenja Schütt & Elisabeth Kals

To cite this article: Adrian Landwehr, Laura Pollack, Svenja Schütt & Elisabeth Kals (15 Jan 2025): "Telephone Angels" Against Loneliness: Experimental Evaluation of the Effectiveness of Telephone Partnerships with Older Adults, Journal of Gerontological Social Work, DOI: 10.1080/01634372.2025.2450210

To link to this article: https://doi.org/10.1080/01634372.2025.2450210

JOURNAL OF GERONTOLOGICAL SOCIAL WORK
https://doi.org/10.1080/01634372.2025.2450210

Routledge
Taylor & Francis Group

"Telephone Angels" Against Loneliness: Experimental Evaluation of the Effectiveness of Telephone Partnerships with Older Adults

Adrian Landwehr, Laura Pollack, Svenja Schütt, and Elisabeth Kals

Social and Organizational Psychology, University of Eichstätt-Ingolstadt, Eichstätt, Germany

ABSTRACT

Loneliness affects many older adults.As part of the "Telephone Angel" project, telephone partnerships between volunteers and older adults affected by loneliness were designed to counteract experiencing loneliness. Volunteers ($100 \leq N \leq 114$) and older adults who are ($22 \leq N \leq 45$) and who are not ($25 \leq N \leq 71$) part of the project were surveyed twice. Concerning loneliness, telephone partnerships increased the sense of community ($d = .38$). Older adults' life satisfaction increased ($d = .46$) as well. Stigmatization increased between the survey periods for those inside and outside the project ($.21 \leq d \leq .35$)..

ARTICLE HISTORY
Received 1 July 2024
Accepted 3 January 2025

KEYWORDS
Loneliness; older adults; age; volunteering; evaluation

Introduction

Experiencing loneliness is a highly relevant topic in society. In 2023, one in four adults in Germany is affected by feelings of loneliness (Zweites Deutsches Fernsehen , 2023). During the coronavirus pandemic, the number of people affected has risen significantly (Bavarian State Ministry of Health, Care and Prevention, 2023). Accordingly, the issue's relevance is just as topical as the need to create services for those affected. The project "Telephone Angels: Conversations against loneliness for older adults over 60 feeling lonely" builds on this. As part of this project, telephone partnerships are formed between volunteers and older adults. The central aim of these telephone partnerships is the reduction of loneliness on the part of older adults.

The topicality of the issue of loneliness underlines the importance of promoting and developing such a project (Schütt, 2022). Therefore, conducting effectiveness studies is essential to check whether the projects have the desired impact. To date, there is a large gap in research in this area (Bessaha et al., 2020). Following on from this, this study investigated the experience of loneliness and quality of life of older adults with feelings of loneliness, as well as the stigmatization of older adults. The perception and experience of the

CONTACT Adrian Landwehr adrian.landwehr@ku.de University of Eichstätt-Ingolstadt, Ostenstraße 25, Eichstätt, 85072, Germany

volunteers were also included in order to compare perspectives and gain additional information on their engagement in the project.

Experience of loneliness

People experience loneliness when they lack contact and connection with others, whereby the experience is subjective and negative, because social needs are not sufficiently fulfilled (Luhmann, 2021). There is a lack of social and emotional ties, which is normally perceived as supportive and satisfying. Experiencing loneliness can always occur: The duration of the experience varies, and the occurrence can begin both suddenly (e.g. after a traumatic event) and gradually (Perlman & Peplau, 1981). The experience of loneliness varies from person to person, including the threshold at which a person feels lonely. This can depend on individual life circumstances and needs (Neu & Müller, 2020). It is important to distinguish the experience of loneliness from social isolation defined as an objective lack of social relationships leading to negative feelings of conscious and desired aloneness (Luhmann, 2021).

In Germany, the proportion of people with feelings of loneliness varies between 5 and 20 % depending on the study (Bücker, 2021; Luhmann, 2021). Figure 1 shows the results of a long-term study, which reveals that there are no fundamental differences between age groups. It is evident that the pandemic has increased the proportion of people who feel severely affected by loneliness, particularly among younger people. Older adults appear to be the demographic in Germany that has been most affected when considering a longer

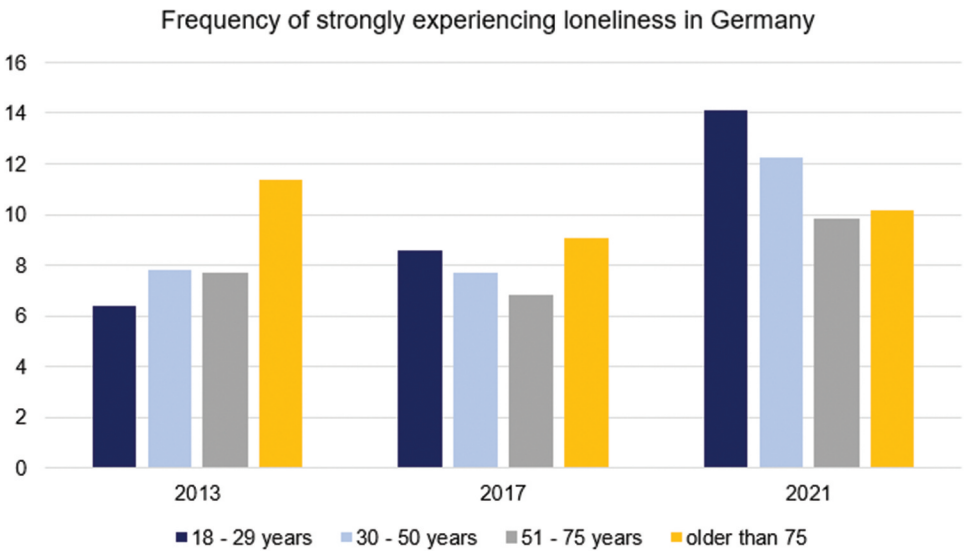

Figure 1. Frequency of experiencing loneliness in Germany in percent (according to socio-economic panel 2021, German Federal Ministry of Family, Seniors, Women, and Youth, 2024, p. 15).

period of time, whereas this group appears to have been comparably unaffected by the pandemic (German Federal Ministry of Family, Seniors, Women, and Youth, 2024). In Germany, the experience of loneliness is not officially recorded, but in individual studies. This leads to a variance in the results, as different criteria and definitions are used (Bavarian State Ministry of Health, Care, Prevention, 2023).

During the COVID-19 pandemic, the requirements for physical distancing from other people, the restrictions on leisure activities and the increased reliance on technological means of communication led to an increased risk of experiencing loneliness (Banerjee, 2020; Bu et al., 2020; Ettman et al., 2020). The restrictions not only reduced the quantity but also the quality of social relationships (Bücker & Horstmann, 2021). Accordingly, the number of people in Germany who feel lonely has risen sharply. In 2020, for example, almost half of the respondents in a survey stated that they felt lonelier than before the pandemic (Berger et al., 2021). There was also a gender effect during the pandemic, as 21% of women compared to 11% of men reported feeling very lonely (Bavarian State Ministry of Health, Care and Prevention, 2023). The increased incidence of loneliness during the pandemic meant that loneliness was discussed more frequently, which may have temporarily reduced stigmatization. However, according to Willberg (2023), stigmatization nevertheless persists.

In addition to social risk factors such as the COVID-19 pandemic, there are more risk factors for experiencing loneliness. Social risk factors include critical life events such as moving out of the parental home (Luhmann, 2018), unemployment or poverty (Eyerund & Orth, 2019) and low social support, e.g. for people living alone or single parents (Eyerund & Orth, 2019). There are also individual risk factors for experiencing loneliness. These include introversion, as it often goes hand in hand with a low level of sociability as well as education and various illnesses that restrict social life in line with the associated restrictions in everyday life and thus promote the experience of loneliness (Eyerund & Orth, 2019).

The relevance of the topic of loneliness increases by the associated risks. Experiencing loneliness is associated with numerous diseases, such as cardiovascular diseases (Hakulinen et al., 2018) and dementia (Salinas et al., 2022) as well as different mental disorders (Hawkley & Cacioppo, 2010). Also, experiencing loneliness can lead to suicidal thoughts, although the direct influence on the actual suicide rate is not clear (Bavarian State Ministry of Health, Care and Prevention, 2023). Finally, the risk of death is 26% higher in people with feelings of loneliness than in people without such feelings (Holt-Lunstad et al., 2015).

Age is another individual risk factor. The experience of loneliness was already increasing throughout a lifetime before the pandemic (Eyerund & Orth, 2019) and older adults were even more affected by loneliness because

of the COVID-19 pandemic than before (Bücker et al., 2020). People in care facilities were not taken into account here, although they are generally strongly affected by the experience of loneliness (Plattner et al., 2022). The reasons for the increased impact of old age include the loss of partners and friends, a lack of social contacts, mobility restrictions, poverty in old age and various social risk factors associated with old age (Eyerund & Orth, 2019).

Due to such risks and the generally large number of people affected, which has increased again in recent years, there are already various measures in place to counteract the experience of loneliness. There are unmediated measures like social support services, such as voluntary group services, which are aimed both at people with feelings of loneliness and at the people who care for them. Mediate measures exist, which include raising awareness and providing information, for example with specialist conferences that are open to different people (Bavarian State Ministry of Health and Care, 2023). Such approaches can help to reduce the stigmatization of loneliness, especially among people who rarely experience such feelings themselves, which in turn can facilitate access to such measures in the long term. There are protective factors that may be relevant for all people: Maintaining a social network (Hawkley et al., 2008), attachment to home (Lee et al., 2012), and participation in society, such as volunteering, at all ages (Schütt, 2022).

In the context of these and other measures, evidence on the effectiveness of such approaches in reducing the experience of loneliness is important in order to be able to develop them appropriately. There is a major knowledge gap in research in this area: To date, there are no longitudinal or experimental evaluations that prove the effectiveness of comparable measures (Bessaha et al., 2020; Masi et al., 2011). In the following, we describe the evaluation of the effectiveness of a project that can contribute to reducing feelings of loneliness below.

Quality of life and loneliness

Beyond the experience of loneliness, the quality of life of older adults has been negatively affected during the COVID-19 Pandemic, too (Kasar & Karaman, 2021). Other studies also found a significant relationship between all captured facets of quality of life and loneliness experienced by older adults (Arslantaş et al., 2015; Gerino et al., 2017). Therefore, these two constructs are connected and both of special importance during the time of the COVID-19 pandemic.

The relation between quality of life and loneliness is of special relevance for older adults, as it seems to be the strongest for this group (Beridze et al., 2020). The importance of the relationship is highlighted by the fact that mental health of older adults is related to both experiences of loneliness and quality of life (Gerino et al., 2017). Soósová (2016) also found an impact of different critical health

conditions on the quality of life and showed the significance of social contacts for the experience of life quality.

Stigmatization of loneliness

In a recent study, Barreto et al. (2022) found stigmatization to be a current issue for people experiencing loneliness. Inherently, stigmatization is very unpleasant for those affected because society suggests to them that they deviate from the norm in a negative way (Pescosolido & Martin, 2015). The stigmatization of loneliness is particularly critical because it leads to shame among those affected (Barreto et al., 2022), making it difficult for them to admit their loneliness (Willberg, 2023) and, rather strengthens the intention to conceal it (Barreto et al., 2022). Subsequently, people experiencing loneliness struggle to seek and accept help because of the stigmatization.

Phone-based interventions

Phone-based interventions represent a promising approach to addressing mental health-related challenges. A review by Bigland and Johnston (2020) analyzed 32 such interventions, finding consistent overall support for their effectiveness across various health-related outcomes. Similarly, another review identified evidence supporting the effectiveness of telephone interventions for a range of mental disorders (Leach & Christensen, 2006). These interventions have demonstrated considerable potential, with highly suggestive evidence indicating improvements in psychological symptoms and quality of life (Goldberg et al., 2022). Moreover, Rengasamy and Sparks (2019) compared the effectiveness of single versus multiple phone calls with suicidal patients, clearly favoring a series of supportive calls over a single contact.

Overall, phone-based interventions appear to be broadly beneficial for individuals with mental health disorders, showing positive effects on key outcomes (Menon et al., 2017). Debates persist regarding the robustness of the evidence. Some researchers contend that while current syntheses indicate promise, further research is necessary to delineate the effectiveness of specific intervention types and underlying mechanisms (Jacobson et al., 2022). In line with these discussions, this study aims to address two critical gaps: the scarcity of empirical evidence on interventions targeting loneliness and the lack of research on phone-based interventions in mental health more broadly.

Scientific evaluation of the "Telephone Angel" project

This paper presents the study in which the "Telephone Angels" project was evaluated in terms of its intended effectiveness. "Telephone Angels: Conversations against loneliness for older adults over 60 with feelings of loneliness" is a project by Retla e.V.[1] Retla e.V. is a nonprofit organization that promotes a fulfilling and self-determined life for older adults by reducing experienced loneliness. The project was launched after the start of the lock-downs during the COVID-19 pandemic to counteract the increased barriers to interpersonal contact.

The central component of the project is a telephone partnership between an older adult and a volunteer, which is formed based on certain criteria and involves regular contact. People who feel lonely and people who would like to volunteer contact Retla e.V. and provide some personal details for a matching process. By April 2023, over 1,500 volunteers had registered, over half of whom had successfully taken up a telephone partnership.

With the set-up and support of telephone partnerships, the project is characterized by a low-threshold and at the same time economical approach to the experience of loneliness. It therefore has great potential to be a model project and to be scaled up, which in turn reinforces the importance of evaluating its effectiveness.

One part of the "Telephone Angels" project is the scientific evaluation to examine the effectiveness of the telephone partnerships and the volunteering structures within the project. The central goals of the project are to reduce the experience of loneliness and improve the quality of life of older adults. As outlined above, these two constructs have a strong relationship and therefore, both are highly relevant in the context of the "Telephone Angel" project. Stigmatization associated with loneliness is considered as it is a current issue related to loneliness. Also, it is a special challenge to this project as the target group is highly affected by the stigmatization, which can be a threshold for the older adults to accept the help offered by the project. To foster the understanding of the telephone partnerships, the development of relationships is considered as well. Accordingly, we examine the following research questions and related hypotheses:

1. To what extent do the telephone partnerships help to reduce the older adults' experience of loneliness?

H1a: Telephone partnerships increase the older adults' sense of community and social participation.

[1]See https://retla.org and https://retla.org/telefon-engel/for more information.

H1b: From the volunteers' point of view, the sense of community and social participation of older adults is increased by telephone partnerships.

H1c: The volunteers report an improvement in the older adults' feelings of loneliness in interviews.

2. To what extent do telephone partnerships help to improve the quality of life of older adults?

H2: Telephone partnerships increase the older adults' sense of purpose and life satisfaction.

3. To what extent do older adults and volunteers perceive a stigmatization of older adults?

H3a: Older adults and volunteers do not perceive any change in the stigmatization of older adults because of telephone partnerships.

H3b: Older adults perceive a higher stigmatization of older adults than the volunteers.

4. How do telephone partnerships succeed in building relationships?

Design of the study

To answer these research questions, we chose an experimental study design. A questionnaire survey was conducted at two different points in time. In both surveys, the baseline and the follow-up survey, we collected data from an experimental group and a control group. The control group consisted of older adults who were not enrolled in the project (non-registered older adults), while the experimental group comprised older adults who were part of the project (registered older adults). Those in the experimental group were again viewed from two perspectives: Their own and that of the volunteers`. The two questionnaire surveys were followed by qualitative interviews with volunteers from the project. The design of the study is shown in Figure 2.

Methodology

The questionnaire was created in three different versions so that it could be tailored to older adults with and without telephone partnerships and volunteers. In all three adaptions, the structure was parallel. There were scales on the sense of community (De Jong Gierveld & Van Tilburg, 2006), social participation (Vogel et al., 2017), sense of purpose (Schnell & Becker, 2007), life

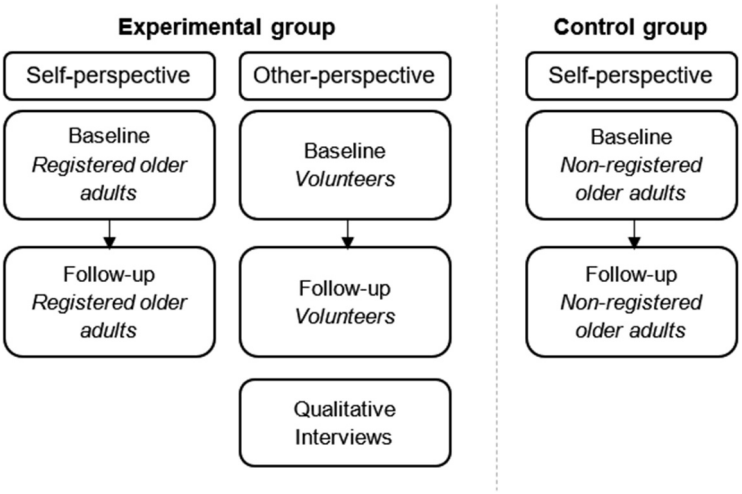

Figure 2. Design of the scientific evaluation of the "Telephone Angels".

satisfaction (Glaesmer et al., 2011), presence, and perception of stigmatization (Eichhorn et al., 2015). These six scales add up to 18 items. The ones on the sense of community and social participation scales, which together reflect the experience of loneliness, were formulated positively. This procedure was chosen due to the assumed stigmatization of the experience of loneliness in order to prevent a bias toward low levels of loneliness. All items were answered on a four-point scale.[2] The scales used are based on existing and validated scales and were only revised to improve the fit of the content. Table A1 in the Appendix provides an overview of the composition, theoretical basis including citation of the scale, and quality of the variables as calculated by the factor and reliability analyses.

The survey of older adults who were registered in the project was conducted by telephone by Retla e.V. employees. Non-registered older adults were surveyed partly by telephone and partly in person. In both cases, employees of the organization noted the answers in the questionnaire. The volunteers completed the questionnaire online. As assigning respondents to pairs would have jeopardized their anonymity, volunteers and registered older adults were surveyed regardless of whether the other person in their partnership also took part in the survey. This means that comparisons in perception are only meaningful within the entire sample and not at the pair level. The dates of the quantitative surveys were six to eight weeks apart.

To answer the fourth research questions, which deals with the success of relationship building in telephone partnerships, and to get further information

[2]The questionnaire was in German, as the survey was conducted in Germany. The answers could be given on a four-point scale (1 = not true, 2 = rather not true, 3 = rather true, 4 = true).

on the experienced loneliness of older adults, qualitative interviews were conducted with volunteers. An interview guide was designed, based on which semi-standardized interviews were carried out.

The procedure in this study was approved by the responsible ethics committee of the university (number 175–2024). Subjects were adequately informed about the purpose and procedure of the study before and after the study.

Description of the sample

The volunteers surveyed in the questionnaire study ranged in age from 23 to 82 years with an average of $M = 58.92$ years. $N = 114$ volunteers were surveyed at the first survey time and $N = 100$ at the second. The older adults registered in the project, were $N = 45$ people at the first and $N = 22$ people at the second survey time with an age range of 54 to 90 years and an average age of $M = 73.20$ years. In the control group, $N = 71$ older adults[3] were interviewed in the baseline and $N = 25$ older adults in the follow-up survey, with an age range of 60 to 104 years ($M = 74.89$ years). In all samples, more than half (between 58.3 % and 88.1 %) of the respondents stated that they were female. An overview of the respondents, divided into target groups and the different survey dates, can be found in Table 1. The sample size for the qualitative interviews was $N = 17$.

Description of the telephone partnerships

More than half of both the volunteers (53%) and the older adults (55%) stated that they spoke on the phone once a week. According to the volunteers, the duration of the phone calls was between 30 and 60 minutes in 63% of cases. The older adults reported an average duration of $M = 49$ minutes at the first survey point and $M = 46$ minutes at the second. Both groups reported high levels of satisfaction with the telephone partnerships at both times ($3.34 \leq M \leq 3.73$). The

Table 1. Distribution of respondents in target groups and survey dates.

Time of survey	Sample	Sample size
Baseline	Volunteers	114
	Registered older adults	45
	Non-registered older adults	71
Follow-up[1]	Volunteers	100
	Registered older adults	22
	Non-registered older adults	25

[1]In the case of older adults, only people who were surveyed for the first time were surveyed a second time. For volunteers, the follow-up survey also includes people who did not take part in the baseline survey.

[3]The older adults in this group had no contact with the project and were selected at random.

volunteers had been in a telephone partnership for an average of $M = 15$ months in the baseline survey and $M = 21$ months in the follow-up survey. Among the older adults, the duration changed from $M = 12$ months to $M = 10$ months.

Results on the experience of loneliness

The first research question addresses the extent to which the telephone partnerships reduce the older adults' experience of loneliness. In the comparison between the first and second survey, the reported sense of community of the registered older adults increased ($d = .38$), while there was no significant difference between the responses regarding social participation (see Figure 3). Since only one of these components was increased, H1a could only be partially confirmed.

When comparing the information provided by older adults in the project and in the control group using Mann-Whitney-U tests, there were no significant differences in social participation at both survey times. However, the registered older adults had a significantly lower sense of community at the first survey time point than the those who were not registered in the project ($z = 3.33^{**}$; $r = .31$). This difference was no longer evident in the second survey. There also was an external rating of the older adults' experience of loneliness by the volunteers. From their perspective, neither the sense of community nor the social participation increased between the survey dates. According to hypothesis H1b, from the volunteers' point of view, the sense of community and social participation of the older adults should have been increased by telephone partnerships. Therefore, H1b was falsified.

The interviews with the volunteers are another source of information and a form of external rating. 22 statements were made indicating that the older adults' sense of loneliness had been reduced. Respectively, H1c was verified.

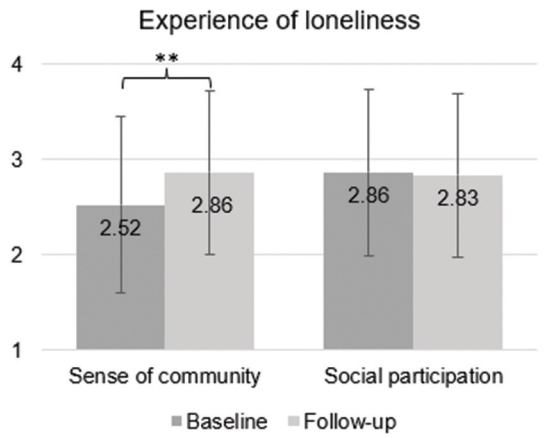

Figure 3. Experience of loneliness of older adults. *Remarks*. ** $p < .01$ two-sided. The figure applies to registered older adults.

Three main reasons for this change were identified: First, the older adults were able to share their honest attitudes during the phone calls without fear of being rejected by their remaining contacts. Second, the volunteers accompany the older adults at a time when help is most needed. This is especially valuable because they do not want to burden their contacts. Third, the regular phone calls provide a constant that is missing in other relationships.

Results on the quality of life

Another central aspect of the evaluation regards to quality of life. As it can be seen in Figure 4, between the first and second survey dates, there was no change in the sense of purpose among the older adults in the project, but an increase in life satisfaction from $M = 2.52$ to $M = 2.83$ with a medium effect ($d = .46$). Consequently, H2 was partially verified. The hypothesis assumes an improvement in the quality of life of older adults in two components (sense of purpose and life satisfaction).

When the responses of registered and non-registered older adults are compared, there were differences in both facets of quality of life in the baseline survey: The sense of purpose ($z = 1.70^{*}$; $r = .16$) and life satisfaction ($z = 3.17^{**}$; $r = .30$) are significantly higher in the control group. There is no group difference in the experience of purpose in the follow-up survey is no group difference, although life satisfaction is still higher in the control group ($z = 2.04^{*}$; $r = .30$).

Results on the stigmatization of older adults

Next, the stigmatization of older adults, which is covered by the third research question, is considered. When looking at the information provided by older adults registered in the project in the first and second survey, significant differences can

Figure 4. Quality of life of older adults. *Remarks*. ** $p < .01$ two-sided. The figure applies to registered older adults.

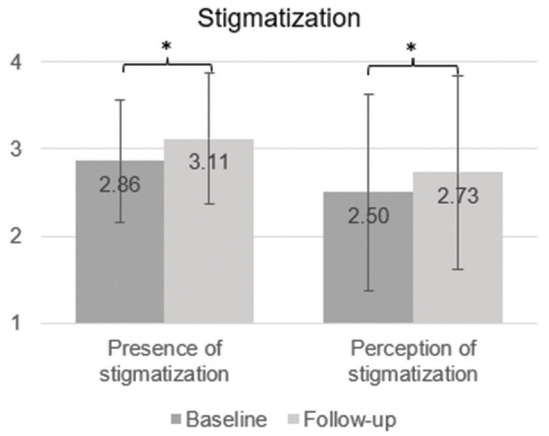

Figure 5. Stigmatization of older adults. *Remarks*. *.01 < p < .05 two-sided. The figure applies to registered older adults.

be identified. As depicted in Figure 5, both the presence (d = .35) and the perception (d = .21) of stigmatization increased between the surveys.

There were no differences between the experimental and control groups at either time point. Also, there is no difference between the information provided by the volunteers at the two survey times. Consequently, H3a could only be partially confirmed, as no change was assumed from all perspectives as a result of the telephone partnerships.

The older adults as a whole group gave significantly higher values for the presence of their stigmatization in the first survey than the volunteers (z = 3.25**). Whereas the perception of stigmatization in both groups did not differ at the time of the first survey. In the follow-up, both the presence (z = 3.12**) and the perception (z = 2.36**) of stigmatization were higher among the older adults than among the volunteers. Respectively, H3b was verified because, as assumed, older adults perceive a higher level of stigmatization as those affected than the volunteers.

An overview of hypotheses H1a to H3b and the respective results can be found in Table 2.

Results on the building of the relationship

The next thematic focus of the interviews deals with the content of research question number four, namely relationship building in telephone partnerships. We identified indicators for the success of a relationship building: The older adults open up and trust the volunteers, tell private details, compliment the volunteers, they laugh together, and both are looking forward to the calls.

Table 2. Overview of hypotheses and the respective results.

Hypotheses		Results
H1a	Telephone partnerships increase the older adults' sense of community and social participation.	Confirmed for sense of community, rejected for social participation (see above for more details)
H1b	From the volunteers' point of view, the sense of community and social participation of older adults is increased by the telephone partnerships.	Rejected
H1c	The volunteers report an improvement in the older adults' feelings of loneliness in interviews.	Confirmed
H2	Telephone partnerships increase the older adults' sense of purpose and life satisfaction.	Confirmed for life satisfaction, rejected for sense of purpose
H3a	Older adults and volunteers do not perceive any change in the stigmatization of older adults because of the telephone partnerships.	Confirmed for volunteers, rejected for older adults (see above for more details)
H3b	Older adults perceive a higher stigmatization of older adults than the volunteers.	Confirmed

There is one key finding, on which there was broad agreement: Regular phone calls at fixed times are conducive to building a good relationship. Three barriers to successful relationship building were repeatedly mentioned: Difficult and one-way communication, lack of depth, and (serious) older adult issues like the death of the spouse or severe illnesses. There were different views on what promotes an intimate relationship. Questions about the added value of face-to-face meetings, video calls or various messenger services are answered differently and essentially reflect the individuality of relationships. There were also different statements about how long it takes for a relationship to reach an intimate or familiar level.

Summary and discussion

Loneliness affects people of all ages, with increasing age being a particular risk factor for experiencing loneliness (Eyerund & Orth, 2019). As a result of the coronavirus pandemic, the number of older adults affected by loneliness has risen (Berger et al., 2021). The "Telephone Angels" project addresses this by establishing telephone partnerships between volunteers and older adults feeling lonely. The available data from a longitudinal quantitative survey and interviews confirm the effectiveness of this measure to reduce experiences of loneliness.

In more detail, registered older adults, enrolled in the project, reported an increase in their sense of community and the volunteers confirmed this in the interviews. Even though we did not find evidence that loneliness could be improved in all facets, we still assume an overall positive effect on the experience of loneliness among older adults in telephone partnerships.

The control group consists of older adults who are not registered for "Telephone Angels." Accordingly, it can generally be assumed that this group is on average less affected by feelings of loneliness than those who are

registered in the project. In this respect, the fact that a difference in the sense of community was found at the first survey time and none at the second is the expected and hypothesis compliant (H1a) result. It confirms the effectiveness of the telephone partnerships in terms of the sense of community. An in-depth analysis using data from older adults registered in the project from the baseline survey showed that those without a partnership ($M = 1.97$) have a lower sense of community than older adults with partnerships ($M = 2.63$).

Regarding the quality of life of older adults, there are also positive results in terms of the project's effectiveness: A clear increase was shown for the life satisfaction facet in particular, which we attribute to the effect of the telephone partnerships.

These positive results are made more significant by the fact that significant correlations of the sense of community and social participation were found with the facets of quality of life ($.50^{**} \leq r \leq .58^{**}$). This can be interpreted to mean that an improvement or deterioration in one of these domains can be accompanied by an improvement or deterioration in the other domain. On the one hand, this interplay can be considered with regard to explanations of certain conditions. On the other hand, it should also be considered when developing interventions.

Older adults inside and outside the project reported an increase in their stigmatization and loneliness between the two survey dates, while the volunteers reported no change. The increase in both groups of older adults can be interpreted in such a way that it is not due to participation in the project but to external circumstances. Although the confrontation with the topic within the project and the survey could also play a reinforcing role here. Assuming that, the question arises why the volunteers did not indicate any increase of the stigmatization as they were faced with the topic as well. Therefore, external circumstances are likely to be the main reason behind the data. Still, the confrontation can have a larger impact on those affected by the stigmatization.

An additional finding are the significant negative correlations between stigmatization of older adults with social participation ($r = -.42^{**}$) and sense of community ($r = -.51^{**}$) as well as sense of purpose ($r = -.46^{**}$) and life satisfaction ($r = -.38^{**}$). These correlations indicate that the reduction of stigmatization can play a role in reducing the experience of loneliness and increasing quality of life. Based on this assumption, the causality of these correlations should be tested in the next step. Beyond this scientific task, these findings point on the potential impact that stigmatization has on the older adults being concerned. Consequently, beyond measures with a direct effect on the experience of loneliness and life quality, stigmatization must be recognized as a crucial issue and corresponding measures need to be implemented.

Relationship building is the subject of the fourth research question. The central result here is the individuality of relationships, which fits in

with previous findings (Höwler, 2018). Consideration and appreciation of the individuality of those involved as well as open communication about individual needs are very important. This also means that flexibility is required from both people in the telephone partnerships. Regular telephone calls turned out to be generally advisable. The results of research question number four can be interpreted positively in terms of the effectiveness of the project: The diverse responses reflect that many volunteers have recognized and can name individual wishes and needs.

Looking at the results of the evaluation as a whole, a great deal of knowledge has been gained in addition to the positive picture of the project's effectiveness. Older adults can expect not only a reduction in loneliness, but also an improvement in their quality of life through telephone partnership. They themselves report several advantages of such partnerships compared to other contacts: For example, such open and honest contact can provide a constant just when it is missing elsewhere. Stigmatization has a key role here as it is linked to other aspects discussed, which underlines its importance. It is linked to the experience of loneliness and quality of life. The finding that it is influenced by factors outside the project points to the need for measures against stigmatization that extend far beyond the project. Regarding the relationship building in the telephone partnerships, we found that to be very individual, while the volunteers appear to handle it well.

Limitations of the study

The sample size in many analyses is smaller than desirable from a statistical point of view. To address this issue, we used non-parametric test procedures where needed. The size of the samples must be taken into account when making general statements and inferences.

Another aspect that can be addressed looking at this research is that the control group could also have consisted of people who are registered in the project but not yet part of a telephone partnership. This would have made the comparison even better since the subjects would all have been registered in the project and the only difference would have been the existence of a telephone partnership. This consideration was rejected for ethical reasons: In order to be implemented, the older adults in the control group would have had to wait for a referral for a telephone partnership for the duration between the first and second survey.

A further limitation is that the quality of life of the older adults was not assessed from the perspective of the volunteers in the questionnaire. For the purpose of the project, the volunteers answered the relevant items in relation to themselves. At both points in time, they stated that they had a very high level of life satisfaction, which did not change between the surveys.

Implications for future research

The empirical evidence obtained for the overall success of the project represents an important step toward addressing the current gap in longitudinal and experimental evaluations of interventions targeting loneliness, particularly those delivered via telephone (Bessaha et al., 2020; Masi et al., 2011). These findings should serve as a foundation for further evaluation of similar projects. It is crucial to deepen our understanding of the mechanisms within such interventions that are most critical to their success and how these mechanisms interact. As our understanding evolves, the development of additional effective interventions will become increasingly feasible. In this sense, the scientific community bears a responsibility to address socially relevant and significant issues.

The findings on stigmatization and its connections with other constructs underscore the central importance of this concept. Accordingly, further research should specifically focus on how stigmatization can be addressed and mitigated both at the individual level (considering those affected) and at the societal level.

Practical implications

We aim to address the stigmatization of older adults and loneliness beyond the realm of research, too: It is closely linked to quality of life and experiences of loneliness and can pose a significant barrier to the acceptance of support services (Barreto et al., 2022). We therefore advocate for understanding public education about loneliness as a collective responsibility.

Further practical implications have been derived: Training for all volunteers at the start of their involvement is essential. This training should provide a realistic understanding of the role, teach key skills for conducting specific conversations, and address typical challenges in advance. Additionally, it should include guidance on how and where to access ongoing support, such as supervision, during their engagement in telephone partnerships.

Reaching older adults experiencing loneliness is both a central and challenging aspect of the initiative. In the short term, finding suitable communication channels for initial contact is critical. In the long term, efforts should focus on increasing awareness of the issue, reducing stigmatization, and thereby facilitating access to such programs.

Once contact has been established and participants have joined the project, the compatibility between the older adult and the volunteer plays a key role in the positive impact of a telephone partnership. Creating simple profiles for both volunteers and older adults can streamline the matching process. Following this, relationships develop individually, with respondents agreeing that regular contact is beneficial for fostering these connections.

Conclusion

The evaluation provided empirical evidence for the general success of the "Telephone Angels" project. This was not only an initial contribution to closing the research gap that was addressed. It is also encouraging news to build on, particularly in view of the high number of people affected by loneliness (Zweites Deutsches Fernsehen , 2023). The reduction of experiences of loneliness, which is the projects' focus, can be achieved by telephone partnerships. The stigmatization of older adults and loneliness is important because it is linked to quality of life and the experience of loneliness and can also be a major obstacle to accepting offers of help. The findings on stigmatization also point to an important implication: Public education on the topic of loneliness, as exemplified here, should be seen as a task for society as a whole.

Acknowledgments

We would like to express our gratitude to Retla e.V. The collaboration with Judith Prem, Karin Georgi, Christine von Preyss, Julia Albrecht, Thomas Koenen and Jan von Hofacker was always characterized by appreciation and constructive communication. At the same time, it was clear at all times that the scientific evaluation of the project had to be open-ended and independent. We were also supported in this at every stage of the collaboration.

Disclosure statement

No potential conflict of interest was reported by the author(s).

Funding

This work was supported by the Bavarian State Ministry of Health, Care, and Prevention.

References

Arslantaş, H., Adana, F., Ergin, F. A., Kayar, D., & Gülçin, A. C. A. R. (2015). Loneliness in elderly people, associated factors and its correlation with quality of life: A field study from Western Turkey. *Iranian Journal of Public Health*, *44*(1), 43.

Banerjee, D. (2020). The impact of Covid-19 pandemic on elderly mental health. *International Journal of Geriatric Psychiatry*, *35*(12), 1466–1467. https://doi.org/10.1002/gps.5320

Barreto, M., Van Breen, J., Victor, C., Hammond, C., Eccles, A., Richins, M. T., & Qualter, P. (2022). Exploring the nature and variation of the stigma associated with loneliness. *Journal of Social & Personal Relationships*, *39*(9), 2658–2679. https://doi.org/10.1177/02654075221087190

Bavarian State Ministry of Health, Care and Prevention. (2023). *Wenn Einsamkeit krank macht: Bericht zu den gesundheitlichen Folgen von Einsamkeit in Bayern [Brochure]*. Bayrisches Staatsministerium.

Berger, K., Riedel-Heller, S., Pabst, A., Rietschel, M., Richter, D., Lieb, W., Hermes, A., Becher, H., Obi, N., Günther, K., Ahrens, W., Castell, S., Kemmling, Y., Karch, A., Legath, N., Schmidt, B., Emmel, C., Kuß, O. … Meinke-Franze, C. (2021). Loneliness during the first wave of the SARS-CoV-2 pandemic—results of the German National Cohort (NAKO). *Bundesgesundheitsblatt*, *64*(9), 1157–1164. https://doi.org/10.1007/s00103-021-03393-y

Beridze, G., Ayala, A., Ribeiro, O., Fernández-Mayoralas, G., Rodríguez-Blázquez, C., Rodríguez-Rodríguez, V., Rojo-Pérez, F., Forjaz, M. J., & Calderón-Larrañaga, A. (2020). Are loneliness and social isolation associated with quality of life in older adults? Insights from Northern and Southern Europe. *International Journal of Environmental Research and Public Health*, *17*(22), 8637. https://doi.org/10.3390/ijerph17228637

Bessaha, M. L., Sabbath, E. L., Morris, Z., Malik, S., Scheinfeld, L., & Saragossi, J. (2020). A systematic review of loneliness interventions among non-elderly adults. *Clinical Social Work Journal*, *48*(1), 110–125. https://doi.org/10.1007/s10615-019-00724-0

Bigland, K., & Johnston, M. (2020). *Telephone delivery of health behaviour change interventions: A systematic review*. https://doi.org/10.31234/osf.io/he4x7

Bu, F., Steptoe, A., & Fancourt, D. (2020). *Loneliness during lockdown: Trajectories and predictors during the COVID-19 pandemic in 35, 712 adults in the UK*. MedRxiv. https://doi.org/10.1101/2020.05.29.20116657

Bücker, S. (2021). *Einsamkeit - Erkennen, evaluieren und entschlossen entgegentreten (Schriftliche Stellungnahme für die öffentliche Anhörung BT-Drs. 19/25249)*. Deutscher Bundestag, Ausschuss für Familie, Senioren, Frauen und Jugend. https://www.bundestag.de/resource/blob/833538/3db278c99cb6df3362456fefbb6d84aa/19-13-135dneu-data.pdf

Bücker, S., & Horstmann, K. T. (2021). Loneliness and social isolation during the COVID-19 pandemic: A systematic review enriched with empirical evidence from a large-scale diary study. *European Psychologist*, *26*(4), 272–284. https://doi.org/10.1027/1016-9040/a000453

Bücker, S., Horstmann, K. T., Krasko, S., Terwiel, S., Kaiser, T., & Luhmann, M. (2020). Changes in daily loneliness for German residents during the first four weeks of the COVID-19 pandemic. *Social Science & Medicine*, *265*, 113541. https://doi.org/10.1016/j.socscimed.2020.113541

De Jong Gierveld, J., & Van Tilburg, T. (2006). A 6-item scale for overall, emotional, and social loneliness: Confirmatory tests on survey data. *Research on Aging*, *28*(5), 582–598. https://doi.org/10.1177/0164027506289723

Eichhorn, S., Mehnert, A., & Stephan, M. (2015). Die deutsche Version der Social Impact Scale (SIS-D) - Pilottestung eines Instrumentes zur Messung des Stigmatisierungserlebens an einer Stichprobe von Krebspatienten. *PPmP-Psychotherapie - Psychosomatik - Medizinische Psychologie*, *65*(5), 183–190. https://doi.org/10.1055/s-0034-1398523

Ettman, C. K., Abdalla, S. M., Cohen, G. H., Sampson, L., Vivier, P. M., & Galea, S. (2020). Prevalence of depression symptoms in US adults before and during the COVID-19 pandemic. *JAMA Network Open*, *3*(9), e2019686. https://doi.org/10.1001/jamanetworkopen.2020.19686

Eyerund, T., & Orth, A. K. (2019). *Einsamkeit in Deutschland: Aktuelle Entwicklung und soziodemographische Zusammenhänge* (*IW-Report 22/2019*). Institut der deutschen Wirtschaft. https://www.econstor.eu/bitstream/10419/198005/1/1667352865.pdf

Gerino, E., Rollè, L., Sechi, C., & Brustia, P. (2017). Loneliness, resilience, mental health, and quality of life in old age: A structural equation model. *Frontiers in Psychology*, *8*, 2003. https://doi.org/10.3389/fpsyg.2017.02003

German Federal Ministry of Family, Seniors, Women, and Youth. (2024). *Einsamkeitsbarometer, 2024: Langzeitentwicklung von Einsamkeit in Deutschland: Statistischer Anhang*. https://www.bmfsfj.de/resource/blob/240530/202a23f5f7578717543cf43711621f35/einsamkeitsbarometer-2024-statistischer-anhang-data.pdf

Glaesmer, H., Grande, G., Braehler, E., & Roth, M. (2011). The German version of the satisfaction with life scale (SWLS). *European Journal of Psychological Assessment*, *27*(2), 127–132. https://doi.org/10.1027/1015-5759/a000058

Goldberg, S. B., Lam, S. U., Simonsson, O., Torous, J., Sun, S., & O'Dea, B. (2022). Mobile phone-based interventions for mental health: A systematic meta-review of 14 meta-analyses of randomized controlled trials. *PLOS Digital Health*, *1*(1), e0000002. https://doi.org/10.1371/journal.pdig.0000002

Hakulinen, C., Pulkki-Råback, L., Virtanen, M., Jokela, M., Kivimäki, M., & Elovainio, M. (2018). Social isolation and loneliness as risk factors for myocardial infarction, stroke and mortality: UK biobank cohort study of 479 054 men and women. *Heart*, *104*(18), 1536–1542. https://doi.org/10.1136/heartjnl-2017-312663

Hawkley, L. C., & Cacioppo, J. T. (2010). Loneliness matters: A theoretical and empirical review of consequences and mechanisms. *Annals of Behavioral Medicine*, *40*(2), 218–227. https://doi.org/10.1007/s12160-010-9210-8

Hawkley, L. C., Hughes, M. E., Waite, L. J., Masi, C. M., Thisted, R. A., & Cacioppo, J. T. (2008). From social structural factors to perceptions of relationship quality and loneliness: The Chicago health, aging, and social relations study. *Journals of Gerontology, Series B: Psychological Sciences & Social Sciences*, *63*(6), S375–S384. https://doi.org/10.1093/geronb/63.6.s375

Holt-Lunstad, J., Smith, T. B., Baker, M., Harris, T., & Stephenson, D. (2015). Loneliness and social isolation as risk factors for mortality: A meta analytic review. *Perspectives on Psychological Science*, *10*(2), 227–237. https://doi.org/10.1177/1745691614568352

Höwler, E. (2018). Beziehungsgestaltung zwischen Pflegenden und Personen mit Demenz. *Pflegezeitschrift*, *71*(11), 39–42. https://doi.org/10.1007/s41906-018-0765-5

Jacobson, N. C., Areán, P., Schueller, S. M., & Laranjo, L. (2022). Mobile phone–based interventions for mental health show promise of effectiveness, but what does the evidence tell us about what needs to come next? *PLOS Digital Health*, *1*(11), e0000126. https://doi.org/10.1371/journal.pdig.0000126

Kasar, K. S., & Karaman, E. (2021). Life in lockdown: Social isolation, loneliness and quality of life in the elderly during the COVID-19 pandemic: A scoping review. *Geriatric Nursing*, *42*(5), 1222–1229. https://doi.org/10.1016/j.gerinurse.2021.03.010

Leach, L. S., & Christensen, H. (2006). A systematic review of telephone-based interventions for mental disorders. *Journal of Telemedicine and Telecare*, *12*(3), 122–129. https://doi.org/10.1258/135763306776738558

Lee, K., Herrera, C. L. R., Lee, S., & Nakamura, Y. (2012). Seeking "a place where one belongs": Elderly Korean immigrant women using day care services in Japan. *Journal of Transcultural Nursing*, *23*(4), 351–358. https://doi.org/10.1177/1043659612441027

Luhmann, M. (2018). Einsamkeit - (Nicht nur) ein Problem des hohen Alters. In T. Hax-Schoppenhorst (Ed.), *Das Einsamkeitsbuch: Wie Gesundheitsberufe einsame Menschen verstehen, unterstützen und integrieren können* (pp. 68–75). Hogrefe.

Luhmann, M. (2021). *Einsamkeit - Erkennen, evaluieren und entschlossen entgegentreten (Schriftliche Stellungnahme zur öffentlichen Anhörung am 19.04. 2021)*. Deutscher Bundestag, Ausschuss für Familie, Senioren, Frauen und Jugend. https://www.bundestag.de/resource/blob/833358/0924ddceb95ab55db40277813ac84d12/19-13-135b-data.pdf

Masi, C. M., Chen, H. Y., Hawkley, L. C., & Cacioppo, J. T. (2011). A meta-analysis of interventions to reduce loneliness. *Personality and Social Psychology Review*, *15*(3), 219–266. https://doi.org/10.1177/1088868310377394

Menon, V., Rajan, T. M., & Sarkar, S. (2017). Psychotherapeutic applications of mobile phone-based technologies: A systematic review of current research and trends. *Indian Journal of Psychological Medicine*, *39*(1), 4–11. https://doi.org/10.4103/0253-7176.198956

Neu, C., & Müller, F. (2020). *Einsamkeit: Gutachten für den Sozialverband Deutschland*. Brochure. https://www.sovd.de/fileadmin/bundesverband/pdf/broschueren/gesundheit/Gutachten-Einsamkeit-sovd.pdf

Perlman, D., & Peplau, L. A. (1981). Toward a social psychology of loneliness. In R. Gilmour & S. Duck (Eds.), *Personal relationships: 3. Relationships in disorder* (pp. 31–56). Academic Press.

Pescosolido, B. A., & Martin, J. K. (2015). The stigma complex. *Annual Review of Sociology*, *41* (1), 87–116. https://doi.org/10.1146/annurev-soc-071312-145702

Plattner, L., Brandstötter, C., & Paal, P. (2022). Loneliness in nursing homes—experience and measures for amelioration. *Zeitschrift für Gerontologie und Geriatrie*, *55*(1), 5–10. https://doi.org/10.1007/s00391-021-01881-z

Rengasamy, M., & Sparks, G. (2019). Reduction of postdischarge suicidal behavior among adolescents through a telephone-based intervention. *Psychiatric Services*, *70*(7), 545–552. https://doi.org/10.1176/appi.ps.201800421

Salinas, J., Beiser, A. S., Samra, J. K., O'Donnell, A., DeCarli, C. S., Gonzales, M. M., Aparicio, H. J., & Seshadri, S. (2022). Association of loneliness with 10-year dementia risk and early markers of vulnerability for neurocognitive decline. *Neurology*, *98*(13), e1337–e1348. https://doi.org/10.1212/WNL.0000000000200039

Schnell, T., & Becker, P. (2007). Sources of meaning and meaning in life questionnaire. *Journal of Positive Psychology*. https://doi.org/10.1037/t03408-000

Schütt, S. C. (2022). *Generationenübergreifender Austausch in der Freiwilligenarbeit und in der Erwerbsarbeit: Eine multimethodale psychologische Analyse*. Nomos.

Soósová, M. S. (2016). Determinants of quality of life in the elderly. *Central European Journal of Nursing & Midwifery*, *7*(3), 484–493. https://doi.org/10.15452/CEJNM.2016.07.0019

Vogel, C., Hagen, C., Simonson, J., & Tesch-Römer, C. (2017). *Freiwilliges Engagement und öffentliche gemeinschaftliche Aktivität*. Springer Fachmedien.

Willberg, H.-A. (2023). *Einsamkeit und Vereinsamung: Ein interdisziplinärer Überblick mit Impulsen für Praxis und Politik*. Springer. https://doi.org/10.1007/978-3-662-67162-7

Zweites Deutsches Fernsehen. (2023, November 7). *Umfrage: Jeder vierte Deutsche fühlt sich einsam*. ZDFheute. https://www.zdf.de/nachrichten/ratgeber/einsamkeit-deutschland-umfrage-100.html

Appendix

Table A1. Overview of the variables and items used (translated from German) with their reliability (Cronbach's alpha) and theoretical base.

Variable	Sample	Items	Reliability[1] T1	Reliability[1] T2	Theoretical Base
Sense of Community	Volunteers	My telephone partner has enough people to help with problems. My telephone partner knows many people that they can rely on. My telephone partner feels closely connected to enough people.	.93	.94	De Jong Gierveld and Van Tilburg (2006)
	Registered older adults	I have enough people to help me with problems. I know a lot of people I can rely on. I feel closely connected to enough people.	.91	.88	
	Non-registered older adults		.80	.88	
Social Participation	Volunteers	My telephone partner is actively involved in civic or cultural life (e.g. she/he volunteers or participates in cultural events). My telephone partner is actively involved in social life (e.g. regular activities with family, friends or in a community). My telephone partner is actively involved in political life (e.g. participates in elections or is a member of a political party).	.79	.77	Vogel et al. (2017)
	Registered older adults	I am actively involved in civic or cultural life (e.g. I volunteer or participate in cultural events). I am actively involved in social life (e.g. I regularly do things with my family, friends or in a community). I am actively involved in political life (e.g. I participate in elections or am a member of a political party).	.70	.62	
	Non-registered older adults		.71	.50	
Sense of Purpose	Volunteers	I experience my life as meaningful.	.65[2]	.74[2]	Schnell and Becker (2007)
	Registered older adults	I have a fulfilled life.	.80[2]	.81[2]	
	Non-registered older adults		.63[2]	.82[2]	
Life Satisfaction	Volunteers	I am satisfied with my life.	.83	.86	Glaesmer et al. (2011)
	Registered older adults	I have achieved a lot of what I want for my life. My life largely meets my expectations.	.83	.68	
	Non-registered older adults		.76	.64	
Presence of Stigmatization	Volunteers	Older adults often feel superfluous.	.75	.80	Own formulation
	Registered older adults	Older adults are rejected because of their age. Older adults are taken less seriously by others.	.56	.67	
	Non-registered older adults		.59	.70	

(*Continued*)

Table A1. (Continued).

Variable	Sample	Items	Reliability[1] T1	Reliability[1] T2	Theoretical Base
Perception of Stigmatization	Volunteers	I notice that others often turn away from older adults.	.56[2]	.67[2]	Eichhorn et al. (2015)
	Registered older adults	I perceive that older adults are discriminated against because of their age.	.66[2]	.78[2]	
	Non-registered older adults		.56[2]	.62[2]	

Reliability measures the accuracy of the variable and assumes values between 0 and 1. The higher the reliability, the more the items measure the same construct. Values from .70 are considered satisfactory, from .80 as good.
As the variable consists of only two items, the correlation that is statistically highly significant is indicated.