



# Aspects of formal volunteering that contribute to favourable psychological outcomes in older adults

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## Abstract

Although there is a large body of evidence documenting the benefits of engagement in formal volunteering among older people, research assessing the specific aspects of the volunteering experience that are associated with these benefits is limited. Accordingly, the objective of this study was to (i) examine the aspects of volunteering that predict improvements or declines in older people's psychological outcomes over time and (ii) assess the extent to which demographic characteristics and time spent engaging in informal volunteering moderate the relationship between aspects of volunteering and potential outcomes. At Time 1, non-volunteering Australian older adults completed measures assessing their subjective well-being, eudemonic well-being, and psychological resources and were asked to commence volunteering. At Time 2 (six months later), participants completed the same measures and reported on their volunteering experiences. Among the 108 older adults who provided usable data at both time points (average age = 69.86 years, 64% women), the degree to which participants felt overwhelmed by their volunteer work significantly predicted declines in subjective well-being and psychological resources. The perceived importance of the cause for which participants reported volunteering and the perceived meaningfulness of the specific activities undertaken predicted improvements in these outcomes. Volunteering roles for older adults that (i) are not considered overwhelming, (ii) fulfil their desire to volunteer for a cause about which they are genuinely concerned, and (iii) involve activities perceived to be meaningful are likely to produce the favourable psychological outcomes.

**Keywords** Formal volunteering · Subjective well-being · Eudemonic well-being · Psychological resources · Older adults

## Introduction

The rapid ageing of populations around the world presents a significant public health challenge (World Health Organization 2015). Encouraging engagement in activities that involve social participation and adoption of meaningful social roles has been proposed as a likely effective approach

to fostering active and healthy ageing (Beard et al. 2016). Formal volunteering, defined as work that is non-compulsory, unpaid, and unrelated to family obligations (Carson 1999; Cnaan and Amroffell 1994), constitutes one such activity that has the potential to improve health outcomes and facilitate the ongoing contribution of older adults to the community and economy (Gonzales et al. 2015; World

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Health Organization 2015). Promoting this form of activity can thus assist in achieving both individual- and societal-level benefits (Gonzales et al. 2015).

Participation in volunteering by older adults has been associated with numerous favourable psychological outcomes including higher levels of subjective well-being (e.g. greater psychological well-being and fewer depressive symptoms), enhanced eudemonic well-being (e.g. higher levels of personal growth and purpose in life), and greater psychological resources (e.g. greater self-esteem, self-efficacy, and social provisions) (Borgonovi 2008; Brown et al. 2012; Cho et al. 2018; Fiorillo and Nappo 2017; Greenfield and Marks 2004; Han and Hong 2013; Haski-Leventhal 2009; Heo et al. 2017; Krägeloh and Shepherd 2015; Lum and Lightfoot 2005; Morrow-Howell et al. 2009; Müller 2014; Musick and Wilson 2003; Pilkington et al. 2012; Tomioka et al. 2017; Van Willigen 2000). Despite the large body of evidence documenting potential benefits, research assessing the specific aspects of the volunteering experience that are important to psychological outcomes for older adults is limited, making it unclear which characteristics of volunteer positions are associated with optimal outcomes.

Among the few studies conducted to date, several factors have been identified. This research suggests that older volunteers who feel appreciated for their volunteer work and believe their efforts contribute to the well-being of others are more likely than those who do not feel this way to experience greater subjective well-being (operationalised in these studies as positive mental health and lower levels of depression) (Jongenelis and Pettigrew 2020; McMunn et al. 2009; Tang et al. 2010; Wahrendorf et al. 2006). The number of hours spent volunteering has also been found to be associated with subjective well-being, with previous research indicating that participation in approximately 2–3 h of volunteering per week is associated with favourable psychological well-being and fewer depressive symptoms, while volunteering above and below this threshold is associated with lower levels of subjective well-being (Morrow-Howell et al. 2003; Windsor et al. 2008). This curvilinear relationship suggests that higher levels of involvement may be experienced as overwhelming and cause role strain among volunteers, resulting in detrimental outcomes (Musick et al. 1999). However, research assessing the association between the degree to which a volunteer role is perceived as overwhelming and subjective well-being in older adults is lacking.

In terms of eudemonic well-being and psychological resources, evidence indicates that older adult volunteers who receive adequate training and support from the organisation for which they volunteer derive greater personal benefit in the form of self-esteem, personal growth, and socialisation from their volunteer work relative to those who do not receive adequate training and support (Morrow-Howell

et al. 2009; Tang et al. 2010). These findings support the proposition that organisational support may be particularly important to older adults for whom certain accommodations may need to be made given (i) the implications of the ageing process on social and physical capabilities (McBride 2007) and/or (ii) the multiple caregiving responsibilities they may hold (e.g. grandchildren, elderly relatives, spouses, friends, and neighbours) that impact their capacity to volunteer (Pettigrew et al. 2018; Tang et al. 2010).

There are several notable gaps in the literature. First, most prior studies examining the relationship between aspects of volunteering and volunteering outcomes are cross-sectional in nature, thus making it difficult to establish causality. Second, there are other aspects of the volunteering experience that are likely to influence various psychological outcomes that do not appear to have been examined to date, including (i) the extent to which the volunteer work undertaken is perceived to be meaningful and rewarding, (ii) whether the volunteer work is conducted for a cause the volunteer believes to be important, and (iii) the extent to which participation in volunteering permits new learning experiences and the use of knowledge and skills that otherwise go unpractised.

In terms of (i) and (ii), according to socioemotional selectivity theory, as the end of life approaches and people become increasingly aware that their time is limited, greater importance is placed on the pursuit of meaningful goals and activities from which satisfaction and emotional well-being can be derived, such as contributing to the needs of others (Carstensen et al. 1999; Windsor et al. 2008). As a means by which older adults can pursue meaningful goals and activities, often in the context of social interactions and assisting others (Tang et al. 2010; Windsor et al. 2008), it is not surprising that volunteering has been found to be associated with higher levels of subjective and eudemonic well-being and greater psychological resources. It stands to reason, however, that the extent to which engagement in volunteering increases these outcomes likely depends on how the work is perceived (i.e. meaningful, rewarding, and conducted for a cause important to the volunteer). This proposition, while consistent with socioemotional selectivity theory, does not appear to have been examined empirically.

Also lacking is an examination of the extent to which engagement in a volunteer activity that permits new learning experiences and the utilisation of skills is associated with psychological outcomes. Previous research indicates that older adults are motivated to volunteer as it allows them to engage in activities that promote ongoing learning and put their existing skills to use (Narushima 2005), suggesting that participation in such activities has the potential to favourably influence eudemonic well-being (especially personal growth). Empirical exploration of this proposition is needed to determine whether volunteer positions for older adults

should be characterised by ongoing learning opportunities and challenges to the greatest extent possible.

Finally, previous research suggests that engagement in volunteering may benefit some individuals more than others, with evidence indicating that those with lower levels of education may benefit most from participating in this activity (Morrow-Howell et al. 2009). Assessing whether demographic characteristics also moderate the relationship between certain aspects of volunteering and psychological outcomes can assist in determining whether some forms of volunteering could be especially beneficial for specific groups of seniors. However, such research is limited, with just two studies located. In the first study, hours of volunteering per week was associated with a greater decrease in subjective well-being (operationalised as a greater increase in negative affect) among those without partners and with higher levels of education relative to those who were partnered and with lower levels of education (Windsor et al. 2008). In the second study, gender, age, education, and living arrangement did not moderate the relationship between various aspects of volunteering (e.g. the degree to which volunteers believed they receive adequate appreciation from others for their volunteer work) and various indicators of psychological health (e.g. depression) (Jongenelis and Pettigrew 2020).

Although findings from this prior work suggest that most aspects of the volunteering experience may not be differentially associated with psychological outcomes among certain demographic groups, this research was limited by the few aspects examined (in the case of Windsor et al. 2008) and cross-sectional design (in the case of Jongenelis and Pettigrew 2020). Furthermore, of particular interest is the degree to which engagement in informal volunteering moderates the relationship between aspects of the volunteering experience and psychological health; however, this variable has not been examined in prior work. Informal volunteering is defined as the provision of unpaid assistance to those residing within the same household or to friends and family residing in other households (Lee and Brudney 2012). Previous research among older adults suggests that members of this population segment often juggle multiple informal volunteering roles such as providing care to grandchildren, children, spouses, older relatives, friends, and neighbours (Pettigrew et al. 2018). Despite this, older adults occupying caregiving roles have been found to benefit more from participation in formal volunteering than those who do not have a caregiving role, which has been attributed to formal volunteering providing older adults with an avenue to receive benefits that may not be available in their caregiving roles (Rozario et al. 2004). Exploring which aspects of the volunteering experience are important to the psychological health of those with informal volunteering obligations will

assist in identifying volunteer roles that are likely to benefit members of this population sub-segment.

## Present study

The present study sought to extend the substantial body of previous research documenting the positive outcomes associated with volunteering by identifying aspects of formal volunteering that predict improvements or declines in three types of psychological health outcomes: subjective well-being, eudemonic well-being, and psychological resources. This quasi-experimental, exploratory study involved assessing these outcomes at baseline among a group of non-volunteers and re-assessing six months after the commencement of volunteering. The 6-month duration of this study was informed by prior research examining the outcomes associated with participation in the Experience Corps program, with favourable changes observed 4–8 months after volunteering initiation (Carlson et al. 2008; Fried et al. 2004; Tan et al. 2006). Exploratory analyses were also conducted to assess whether demographic characteristics and time spent engaging in informal volunteering moderate the relationship between volunteering experiences and the assessed outcomes.

## Method

### Sample and recruitment

As part of a larger study examining healthy ageing in older adults (Jongenelis et al. 2019; Pettigrew et al. 2019), a sample of seniors from Perth, Western Australia, was recruited via radio and newspaper advertisements, notices placed at community and senior citizen centres, and flyers distributed at seniors' events. To be eligible for the study, participants had to be aged 60+ years, fully retired, and mobile enough to attend two on-campus health assessments. They also must not have engaged in formal volunteering (defined to participants as work activities that are non-compulsory, unpaid, and unrelated to family obligations as per Carson (1999) and Cnaan and Amroffell (1994)) in the previous 12 months. Ethical approval to conduct the study was received from a university Human Research Ethics Committee. All participants provided written informed consent.

Upon recruitment, participants were informed that the study aimed to examine the health and well-being of Australian seniors and would involve participation in formal volunteering between their first (T1) and second (T2) health and well-being assessments that were scheduled six months apart. Participants could choose any form of formal volunteering of interest and were assisted to identify suitable

positions by a research associate using an online volunteering resource. This resulted in a wide range of volunteering activities being undertaken, including planting trees, transporting the elderly to medical appointments, reading to school children, and working in charity shops. It was not possible to include a control group comprising those who did not volunteer because this group would lack data relating to the independent variables (described below).

Of the 148 participants who attended both assessments, eight commenced paid employment between T1 and T2 and were therefore excluded from analyses as working status may have confounded the results. A further 32 participants did not commence volunteering between T1 and T2 and thus were unable to provide the information of interest to the present study. The final sample comprised 108 older adults (average age = 69.86 years,  $SD = 5.81$ ), of whom 64% were women and 27% held a tertiary qualification. Those who volunteered between T1 and T2 were younger than those who did not ( $t(134) = -2.06, p = 0.041, d = -0.45$ ). No differences by gender, educational attainment, or physical health were observed between those who were and were not compliant with the volunteering requirement.

## Measures and procedure

### Outcome variables

The outcome measures described below were administered at T1 and T2 to allow comparisons over time. The surveys containing the measures were completed either in hard copy or online, depending on the preference of the participants.

**Subjective well-being** Two scales were administered to assess subjective well-being: the 20-item Centre for Epidemiological Studies Depression Scale (CESD; Radloff 1977) and the 14-item Warwick–Edinburgh Mental Well-Being Scale (WEMWBS; Tennant et al. 2007). For the CESD, participants responded to items such as “I was bothered by things that usually don’t bother me” on a scale of 0 (*rarely or none of the time*) to 3 (*most or all of the time*). For the WEMWBS, participants responded to items such as “I’ve been feeling relaxed” on a scale of 1 (*none of the time*) to 5 (*all of the time*). Scores on each of these scales were summed and total scores on the CESD were reverse scored. A grand mean of scores from the CESD and WEMWBS was then calculated to create a “subjective well-being” variable for analyses.

**Eudemonic well-being** The 14-item Personal Growth and Purpose in Life subscales of Ryff’s Psychological Well-being Scale (Ryff 1989) were used to measure eudemonic well-being (as per previous research: Serrat et al. 2017). Participants responded to items such as “I have the sense

that I have developed a lot as a person over time” and “I enjoy making plans for the future and working to make them a reality” on a scale of 1 (*strongly disagree*) to 6 (*strongly agree*). Scores on these subscales were summed, and a grand mean was calculated to create a “eudemonic well-being” variable for analyses.

**Psychological resources** As per previous research (Brown et al. 2012), “psychological resources” was operationalised as self-esteem, self-efficacy, and social provisions. Self-esteem was assessed using the 10-item Rosenberg Self-Esteem Scale (Rosenberg 1965). Participants responded to items such as “I feel that I have a number of good qualities” on a scale of 0 (*strongly disagree*) to 3 (*strongly agree*). Self-efficacy was assessed using the 10-item General Self-Efficacy Scale (Schwarzer and Jerusalem 1995), with participants responding to items such as “Thanks to my resourcefulness, I know how to handle unforeseen situations” on a scale of 1 (*not at all true*) to 4 (*exactly true*). Finally, the 24-item Social Provisions Scale (Cutrona and Russell 1987) was used to assess social provisions. Participants responded to items such as “There is a trustworthy person I could turn to for advice if I were having problems” on a scale of 1 (*strongly disagree*) to 4 (*strongly agree*). Scores on each of these scales were summed, and a grand mean was calculated to create a “psychological resources” variable for analyses.

### Independent variables

The following aspects of participants’ volunteering experience were assessed at T2: perceived degree of support received from the organisation for which they volunteered; perceived contribution to others and the community; the degree to which the volunteer role allowed them to learn new, or utilise existing, skills; feeling appreciated by others for their volunteer work; perceived importance of the cause for which they volunteered; the extent to which the volunteer work involved engagement in meaningful activities; feeling overwhelmed by the volunteer work; and time spent engaging in the volunteer role. Unless otherwise indicated, responses to items were made on a scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*), with a ‘not applicable’ response option (treated as missing) also available. Where multiple items were used to assess a construct (i.e. perceived degree of support, perceived contribution, learning and/or utilisation of skills, perceived importance of cause, and engagement in meaningful activities), the grand mean of all items was used in analyses. Unless otherwise indicated, the items described below were adapted from previous research (Clary et al. 1998; McMunn et al. 2009; Morrow-Howell et al. 2009; Nickell 1998).

The degree of support received from the organisation for which participants reported volunteering was measured

with two items: “I feel I received adequate training” and “I feel I received adequate support” (Spearman-Brown coefficient = 0.91). Perceived contribution was also measured with two items: “I have contributed to the well-being of another person (or persons)” and “As a volunteer, I have contributed to my community” (Spearman-Brown coefficient = 0.79). Learning and/or utilisation of skills was assessed with five items (e.g. “Volunteering let me learn things through direct hands-on experience”; Cronbach’s  $\alpha$  = 0.88).

The degree to which participants felt appreciated by others for their volunteer work was assessed using a single item: “Considering all the efforts that I invest into my volunteer work, I receive adequate appreciation from others”. Responses were made on a scale of 1 (*strongly agree*) to 5 (*strongly disagree*) and reverse-scored for analysis purposes. Two items were used to assess perceived importance of the cause for which participants volunteered: “I was genuinely concerned about the particular group or cause I was serving” and “I did something for a cause that is important to me” (Spearman-Brown coefficient = 0.72). The extent to which the volunteer work involved meaningful activities was also assessed with two items: “To what extent has volunteering enabled you to be involved in meaningful activities?” and “How rewarded do you feel by your volunteering?” (response options: 1 = *not at all* to 4 = *a great deal*; Spearman–Brown coefficient = 0.72).

Feeling overwhelmed by the volunteer work was assessed with a single item developed by the authors: “How overwhelmed do you feel by the amount of volunteering you do?”. Responses were made on a scale of 1 (*not at all*) to 4 (*a great deal*). Finally, time spent engaging in volunteer work was assessed using a single item with an open-ended response option: “Over the last 6 months, how many hours of volunteering have you engaged in per week (on average)?” (item developed by the authors).

## Moderating variables

Participants were asked to report their gender, age, and highest level of education. To assess informal volunteering, participants were asked to report the average number of hours they spent per week engaging in each of the following activities for friends, neighbours, or relatives: (i) providing transportation, (ii) shopping and/or running errands, (iii) helping with home duties (e.g. gardening, cleaning, cooking), (iv) providing childcare without pay, and (v) other. For engagement in informal volunteering, responses were made on 9-point scales ranging from < 1 h to 22+ hours, with a ‘not applicable’ option provided (allocated a score of 0). Scores across all informal volunteering activities were summed to produce a total score.

## Statistical analysis

Initial data checks indicated that all variables were normally distributed. Results from a confirmatory factor analysis conducted to assess the appropriateness of combining the psychological measures into the three factors of subjective well-being, eudemonic well-being, and psychological resources indicated that this three-factor model provided an excellent fit to the data:  $\chi^2(11) = 14.26$ ,  $p = 0.219$ , CFI = 0.99, TLI = 0.98, RMSEA = 0.05 (90% CI = 0.00, 0.12), SRMR = 0.03.

Paired-samples *t*-tests were used to determine differences between T1 and T2 on the dependent variables of interest. A series of hierarchical regression analyses was conducted to determine aspects of the volunteering experience that predicted improvements or declines in each of the outcome variables over time. In all regression analyses, the T1 score of the dependent variable under investigation was entered at Step 1, the aspect of the volunteering experience under investigation was entered at Step 2, and the T2 score of the

**Table 1** Descriptive statistics for the independent and dependent study variables

Independent variables	T1 M (SD)	T2 M (SD)	Scale range	Dependent variables	T1 M (SD)	T2 M (SD)	Scale range
Organisational support	n/a	3.95 (0.79)	1–5	<b>Eudemonic well-being</b>	<b>67.31 (10.14)</b>	<b>70.05*** (8.90)</b>	T1: 34.00–84.00 T2: 46.50–84.00
Perceived contribution	n/a	3.99 (0.68)	1–5	Subjective well-being	53.91 (6.88)	54.83 (6.38)	T1: 34.00–84.00 T2: 46.50–84.00
Perceived importance of cause	n/a	3.64 (0.79)	1–5	<b>Psychological resources</b>	<b>45.49 (4.97)</b>	<b>46.90*** (5.73)</b>	T1: 32.33–54.00 T2: 26.00–61.50
Learning/utilisation of skills	n/a	3.70 (0.79)	1–5				
Feeling appreciated	n/a	4.06 (0.85)	1–5				
Meaningful/rewarding	n/a	2.73 (0.87)	1–4				
Feeling overwhelmed	n/a	1.40 (0.77)	1–4				
Time commitment (hrs p/w)	n/a	3.01 (2.47)	open				

Significant results presented in bold

\*\*\* $p < .001$

**Table 2** Inter-correlations between the independent variables

	1	2	3	4	5	6	7	8
1. Organisational support	–	.53***	.25**	.45***	.54***	.44***	–.11	.12
2. Perceived contribution		–	.57***	.68***	.48***	.68***	.14	.26**
3. Perceived importance of cause			–	.55***	.27**	.54***	.11	.08
4. Learning/utilisation of skills				–	.41***	.65***	.17	.18
5. Feeling appreciated					–	.55***	–.10	.24*
6. Meaningful/rewarding						–	.09	.30**
7. Feeling overwhelmed							–	.19
8. Time commitment (hrs p/w)								–

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$

dependent variable was entered as the criterion. A power calculation was performed in G\*Power to determine the minimum sample size required to detect a medium effect (0.15). Minimum power was set at 0.80 and significance was set at  $p < 0.05$ . The minimum sample size required for the hierarchical regression analyses was 68. Analyses were therefore sufficiently powered based on these assumptions.

The PROCESS macro in SPSS (Hayes 2017) was used to determine whether the variables of gender, age, level of education, or engagement in informal volunteering moderated the relationship between each of the tested aspects of the volunteering experience and each of the outcomes. A Bonferroni-adjusted alpha level of 0.0014 was used to control for the family-wise error rate.

## Results

Descriptive statistics for the independent and dependent study variables are presented in Table 1. Inter-correlations between the independent variables are presented in Table 2. Participants' scores at T1 were favourable across all outcomes under investigation. Despite the high baseline scores, significant improvements between T1 and T2 were observed for eudemonic well-being ( $t(107) = 3.84$ ,  $p < 0.001$ ,  $d = 0.37$ ) and psychological resources ( $t(107) = 3.48$ ,  $p < 0.001$ ,  $d = 0.34$ ). A non-significant trend towards improvement in participants' subjective well-being was observed ( $t(107) = 1.82$ ,  $p = 0.072$ ,  $d = 0.18$ ).

### Volunteering-related predictors of psychological outcomes

Unstandardised and standardised parameter estimates from the regression analyses conducted to determine the aspects of the volunteering experience that were associated with improvements or declines in subjective well-being, eudemonic well-being, and psychological resources over time are presented in Table 3. Two of the assessed volunteering-related predictors were found to be associated with changes

in subjective well-being, none predicted changes in eudemonic well-being, and three predicted changes in psychological resources.

The degree to which participants felt overwhelmed by their volunteer work was found to predict significant declines in both subjective well-being ( $\beta = -0.16$ ,  $p = 0.025$ ) and psychological resources ( $\beta = -0.24$ ,  $p < 0.001$ ) over time. Perceived importance of the cause for which participants volunteered significantly predicted improvements in both subjective well-being ( $\beta = 0.17$ ,  $p = 0.018$ ) and psychological resources ( $\beta = 0.16$ ,  $p = 0.034$ ) over time. The degree to which the volunteer work involved activities perceived to be meaningful and rewarding significantly predicted improvements in psychological resources over time ( $\beta = 0.15$ ,  $p = 0.040$ ).

### Moderation analyses

Gender was found to significantly moderate the relationship between the degree to which participants felt they received adequate appreciation for their volunteer work and subjective well-being ( $B = 4.04$ ,  $SE = 1.04$ ,  $p < 0.002$ , 95% CI = 1.99, 6.10). Post hoc analyses indicated that this relationship was significant in both men and women; however, the nature of the relationship differed. Among men, greater appreciation was associated with greater reductions in subjective well-being ( $B = -2.70$ ,  $SE = 0.86$ ,  $p = 0.002$ , 95% CI = -4.40, 1.00), whereas for women, greater appreciation was associated with greater increases in subjective well-being ( $B = 1.34$ ,  $SE = 0.64$ ,  $p = 0.039$ , 95% CI = 0.07, 2.61). Age, level of education, and level of engagement in informal volunteering were not found to moderate any of the relationships between the independent and dependent variables.

**Table 3** Regression analyses assessing the association between aspects of volunteering and the assessed psychological outcomes

Independent variable	Subjective well-being				Eudemonic well-being				Psychological resources			
	B	β	p	95% CI for B	B (SE)	β	p	95% CI for B	B (SE)	β	p	95% CI for B
	Feeling overwhelmed	<b>-1.31 (0.57)</b>	<b>-.16</b>	<b>.025</b>	<b>-2.45, -0.17</b>	1.17 (0.79)	.10	.144	-0.41, 2.74	<b>-1.81 (0.49)</b>	<b>-.24</b>	<b>&lt;.001</b>
Perceived importance of cause	<b>1.39 (0.58)</b>	<b>.17</b>	<b>.018</b>	<b>0.25, 2.54</b>	0.89 (0.81)	.08	.272	-0.71, 2.50	<b>1.11 (0.52)</b>	<b>.16</b>	<b>.034</b>	<b>0.84, 2.14</b>
Meaningful/rewarding	0.53 (0.55)	.07	.333	-0.55, 1.62	1.36 (0.77)	.13	.080	-0.17, 2.89	<b>0.98 (0.47)</b>	<b>.15</b>	<b>.040</b>	<b>0.05, 1.91</b>
Learning/utilisation of skills	0.89 (0.59)	.11	.132	-0.27, 2.05	1.32 (0.82)	.12	.109	-0.30, 2.93	0.49 (0.52)	.07	.341	-0.53, 1.52
Perceived contribution	0.67 (0.69)	.07	.333	-0.70, 2.04	0.01 (0.98)	.00	.990	-1.93, 1.95	0.67 (0.61)	.08	.275	-0.54, 1.87
Commitment (hrs p/w linear)	-0.07 (0.19)	-.03	.703	-0.46, -0.31	0.17 (0.26)	.05	.509	-0.34, 0.69	0.03 (0.15)	.01	.838	-0.26, 0.32
Commitment (hrs p/w curvilinear)	0.03 (0.06)	.13	.579	-0.08, 0.15	-0.04 (0.08)	-.11	.654	-0.19, 0.12	-0.02 (0.04)	-.12	.579	-0.11, 0.06
Appreciation	-0.07 (-0.57)	-.01	.910	-1.19, 1.07	0.45 (0.75)	.04	.548	-1.04, 1.94	0.71 (0.48)	.11	.138	-0.23, 1.65
Organisational support	0.19 (0.55)	.02	.724	-0.89, 1.28	0.95 (0.82)	.08	.249	-0.68, 2.58	0.68 (0.53)	.10	.203	-0.38, 1.74

Significant results presented in bold. Step 1 controlling for T1 score of the dependent variable under investigation is not presented

## Discussion

The present study aimed to (i) identify aspects of the volunteering experience that predict improvements or declines in subjective well-being, eudemonic well-being, and psychological resources over time and (ii) determine whether some aspects of volunteering could be especially beneficial for specific groups of seniors. This study was conducted in older adults due to volunteering having the potential to foster healthy ageing and facilitate the ongoing contribution of older adults to society (Gonzales et al. 2015; World Health Organization 2015).

The degree to which participants felt overwhelmed by their volunteer work significantly predicted declines in the psychological outcomes of subjective well-being and psychological resources. Given time spent engaging in volunteering did not significantly predict changes in these outcomes, the findings suggest that among those who have recently commenced volunteering, the number of hours in which they engage in this activity may be less important than their feelings of being overwhelmed. This indicates that rather than providing recommendations on the amount of time new volunteers should spend participating in volunteer work, efforts should focus instead on ensuring new recruits feel comfortable with their role to minimise the potential for role strain.

Consistent with socioemotional selectivity theory (Carstensen et al. 1999; Windsor et al. 2008), the perceived importance of the cause for which participants reported volunteering and the perceived meaningfulness of the specific activities undertaken were found to predict improvements in both subjective well-being and psychological resources over time. These results suggest that volunteering positions affording older adults the opportunity to work for a cause they deem important and fulfil their desire to participate in meaningful activities have the potential to improve outcomes across multiple psychological domains.

The remaining aspects of volunteering assessed in the present study did not predict changes in any of the three outcomes. This stands in contrast to previous research finding that volunteers who receive adequate support from the organisation for which they volunteer and believe their efforts contribute to the well-being of others derive greater benefit from their volunteering relative to those who do not (Jongenelis and Pettigrew 2020; McMunn et al. 2009; Morrow-Howell et al. 2009; Tang et al. 2010; Wahrendorf et al. 2006). Support for the proposition that psychological outcomes are favourably influenced by the degree to which voluntary work permits new learning experiences and the utilisation of skills was also not found. It is possible that the 6-month study period was too short for these aspects of the volunteering experience to have a demonstrable effect on

psychological health, especially given participants provided anecdotal evidence indicating that their commencement of volunteering was often delayed as they searched and applied for suitable volunteer work. Given the findings relating to these other aspects were in the expected direction, a longer follow-up period may be needed to better assess effects.

Just one moderating effect was observed, indicating that outcomes were largely consistent across demographic groups and levels of informal volunteering engagement. However, it is notable that among women, greater appreciation for one's voluntary work significantly predicted improvements in subjective well-being, suggesting that this aspect of volunteering may be particularly important to members of this subgroup. Ensuring their contributions are explicitly recognised (e.g. by celebrating volunteer service milestones: Jensen and McKeage 2015) may constitute a means by which engagement in volunteering can improve psychological outcomes among women. Also of note is the lack of moderating effects associated with age. Socioemotional selectivity theory posits that greater importance is placed on the pursuit of meaningful goals and activities as people age, suggesting that a stronger relationship between well-being and the aspects of volunteering relating to meaningfulness could have been expected among the oldest members of the sample relative to their younger counterparts. The lack of such an outcome may indicate that these differences are most observable when comparing younger and older adults, rather than within the older adult age group. Further research testing the hypotheses of socioemotional selectivity theory as they relate to volunteering among both younger and older adults could provide greater insights into this phenomenon.

## Implications

The results of the present study suggest that for formal volunteering to be used effectively as an intervention to improve psychological health, older adults should be assisted in planning their volunteering activities to ensure outcomes are optimised. It appears optimal outcomes are most likely to occur if potential volunteers are matched with organisations or placed in volunteer roles that fulfil their desire to work for a cause that is important to them and involve activities they perceive to be meaningful. Meeting with potential volunteers to gather information about their values and what they desire from their participation in volunteering may help organisations find suitable roles and create positive volunteering experiences for older adults. Informing potential volunteers of the meaningful nature of the specific volunteering role and providing new and existing volunteers with updates detailing the positive outcomes of their involvement may produce favourable outcomes. Results also indicate that volunteers should not be allocated roles they find burdensome. Ensuring older adults feel comfortable with their level of

involvement in a volunteer role may constitute a means of attracting larger numbers of older adults into volunteering and retaining existing volunteers.

## Limitations and strengths

The present study had several limitations. First, the sample size obtained precluded the use of structural equation modelling, a statistical technique that would have allowed for covariation across aspects of volunteering to be taken into account and direct comparison between aspects to determine the relative importance of each. Ideally, future research could involve larger sample sizes to permit the use of more sophisticated analysis methods. Second, as participants had to be sufficiently mobile to attend two on-campus assessments to be eligible for the study, the sample comprised relatively healthy seniors, thus reducing the generalisability of the results. Participants were also from the same geographical location (Perth, Western Australia), and research is thus needed to assess whether the findings apply in other cultural contexts. Third, 28 participants did not volunteer between T1 and T2 and were therefore excluded from the present study. It is possible that non-compliance was due to participants' dissatisfaction with their experiences in securing and applying for a volunteer position, with previous research suggesting that the red tape associated with commencing volunteering (e.g. obtaining criminal record checks and references) may be a deterrent to participation (The Commission on the Future of Volunteering 2008). The results of the present study may therefore primarily reflect the situations of those who had more positive volunteering experiences.

Finally, although participants were asked to report on the type of volunteering in which they engaged, this aspect of the volunteering experience could not be explored due to substantial variation in responses across the sample that resulted in a lack of statistical power. Studies assessing the association between type of volunteering and volunteering outcomes have produced mixed results, suggesting this aspect of the volunteering experience warrants further examination (Morrow-Howell et al. 2003; Van Willigen 2000). Experimental research conducted in a larger sample is needed to elucidate the effect of volunteering type on psychological outcomes.

These limitations should be weighed against the strengths of the study, which included the assessment of a comprehensive set of independent and dependent variables. In addition, this study surveyed non-volunteers who commenced volunteering after being encouraged to do so, thus making it possible to attribute outcomes to the commencement of volunteering and overcoming the reciprocity issues inherent in studies involving existing volunteers. Such a design also reflects a possible real-world scenario where volunteering could be encouraged among non-volunteering older adults



as a means of improving their health and well-being (Pettigrew et al. 2019).

## Conclusions

The present study extends previous research documenting the outcomes associated with engagement in formal volunteering among older adults by assessing specific aspects of the volunteering experience that may influence psychological outcomes in this population segment. Older adults who commenced volunteering reported larger improvements in their subjective well-being and psychological resources when their volunteering (i) was not considered overwhelming, (ii) fulfilled their desire to work for a cause about which they are genuinely concerned, and (iii) involved activities perceived to be meaningful. Placing older adult volunteers in roles that are characterised by these aspects is thus likely to increase the likelihood that favourable psychological outcomes will be experienced. Although outcomes were largely consistent across demographic groups and informal volunteering engagement, suggesting that targeted approaches that match particular groups to volunteering positions with specific characteristics are not needed, the subjective well-being of women may be enhanced by explicitly appreciating their volunteer efforts.

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**Availability of data and material** Data are unavailable as participants did not consent to their data being shared with researchers external to the author team.

## Declarations

**Conflict of interest** The authors declare that they have no conflicts of interest.

**Ethical approval** All procedures were in accordance with the ethical standards of the institutional and/or national research committee and

with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

**Informed consent** Informed consent was obtained from all participants included in the study.

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