



## Sustaining program effectiveness after implementation: The case of the self-management of well-being group intervention for older adults



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### ABSTRACT

**Objective:** The Self-Management of Well-being (SMW) group intervention for older women was implemented in health and social care. Our aim was to assess whether effects of the SMW intervention were comparable with the original randomized controlled trial (RCT). Furthermore, we investigated threats to effectiveness, such as participant adherence, group reached, and program fidelity.

**Methods:** In the implementation study (IMP) 287 and RCT 142 women participated. We compared scores on self-management ability and well-being of the IMP and RCT. For adherence, drop-out rates and session attendance were compared. Regarding reach, we compared participants' baseline characteristics. Professionals completed questions regarding program fidelity.

**Results:** No significant differences were found on effect outcomes and adherence between IMP and RCT (all  $p \geq 0.135$ ). Intervention effect sizes were equal (0.47–0.59). IMP participants were significantly less lonely and more likely to be married, but had lower well-being. Most professionals followed the protocol, with only minimal deviations.

**Conclusion:** The effectiveness of the SMW group intervention was reproduced after implementation, with similar participant adherence, minimal changes in the group reached, and high program fidelity.

**Practice implications:** The SMW group intervention can be transferred to health and social care without loss of effectiveness. Implementation at a larger scale is warranted.

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### 1. Introduction

The efficacy of interventions is best demonstrated in randomized clinical trials (RCTs) [1], in which the population is clearly defined, protocols are used, professionals are trained, and both participants and professionals are closely monitored [2]. Once efficacy is demonstrated they can be labeled as empirically supported interventions (ESIs). It is certainly for sure a great challenge to transfer ESIs to health care [3] and social work settings while sustaining program effectiveness [4,5]. Effectiveness might be threatened in several ways. First, there is a fair risk that the practice settings may not attract the same type of participants as

the research setting [6]. Second, adherence of participants may be less. Third, program fidelity (also known as integrity), the degree to which the intervention is delivered as intended [7], may be a concern. Several studies showed program fidelity can be a moderator of program effectiveness [8–10], and low program fidelity after implementation can even lead to null results [11]. So, changes in the delineated target population, poor adherence of participants, and lack of program fidelity could reduce the effectiveness of implemented ESIs.

Implementing ESIs in practice settings is often guided by implementation frameworks [12] such as implementation of disease self-management programs [13–16]. Implementation frameworks commonly cover the issue of sustainability, also referred to as continuation [17], maintenance [18], or embedding an ESI at hand [19]. Often financial sustainability is the priority. However, what should matter most is the sustainability of effectiveness [20]. Insight into the sustainability of an ESI's

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effectiveness could be gained through comparison of the original study results of a new intervention with the results of the same intervention after implementation in practice settings. To our knowledge, such comparisons are scarce, especially in the field of social and well-being interventions.

The focus of the current study is on evaluating the effectiveness of the Self-Management of Well-being (SMW) group intervention for older women after implementation in health and social care. A previously performed randomized controlled trial (RCT) demonstrated that self-management abilities and well-being in the intervention group improved, while feelings of social loneliness were reduced, in comparison with women in the control group [21,22]. However, so far it is unknown whether the effectiveness of the implemented SMW group intervention is sustained after implementation in practice settings.

The aim of the current study was to investigate whether the effectiveness of the SMW group intervention after implementation was comparable with the original RCT. Furthermore, we investigated potential threats to its effectiveness. Specifically, we compared differences in terms of participant adherence (drop-out and session attendance), and in terms of the groups reached by the RCT and after implementation. Additionally, we investigated program fidelity after implementation, specifically whether professionals performed the SMW group intervention according to protocol.

## 2. Methods

### 2.1. Design and sample

The current study was part of a larger implementation study (IMP) [23]. During that study, 48 professionals from 18 different health (home health care and retirement homes) and social care organizations were trained to deliver the SMW group intervention to their clients. Between November 2010 and November 2013, thirty-nine SMW group interventions were delivered to 287 participants by 32 trained professionals. For the RCT [21], 142 women were recruited in 2004 and were randomly assigned to either the intervention condition (IRCT,  $n = 63$  in six groups) or the control condition (CRCT,  $n = 79$ ). The medical ethical review committee of the University Medical Center Groningen evaluated and approved both studies and indicated they were not subject to the Medical Research Involving Human Subjects Act.

### 2.2. Procedure

We performed the RCT and the IMP separately. Mirroring the order in which they were conducted, we describe the procedure of the RCT first and that of the IMP second. For the RCT, potential participants were recruited through advertisements in local newspapers in two regions of the Netherlands. The advertisements asked community-dwelling women aged 55 and older who were living alone to contact the researchers by phone if they would like to “give their life more luster or gleam”. After the first telephone contact, women received a letter containing a flyer with more information about the intervention, the study and four self-diagnostic questions, and an informed consent form. The four self-diagnostic questions asked whether a woman: 1) missed having people around them; 2) would like to have more friends; 2) was engaged in only a few leisure activities; or 4) had trouble initiating activities. Women were told by covering text that when one or more of these questions were answered with “yes”, the intervention would probably be helpful [21]. Being single was an inclusion criterion. Women who signed and returned the informed consent were asked to complete the baseline assessment (T0). Subsequently, they were randomly allocated to the intervention or

control group. For women assigned to the intervention, the second assessment (T1) was post-intervention, six weeks after T0. Participation of the control group involved only completion of the questionnaires at T0 and T1.

For the IMP, health and social care organizations recruited participants in various active and passive ways, including personal persuasion, open informational workshops, flyers in public places, and advertisements in local newspapers. Phrasing used in these recruitment methods was similar to that used in the RCT. After a woman signed up individually, she received an intake with a professional who checked for contraindications for participation. Contraindications included illiteracy, deep mourning, severe depression, severe divorce issues, severe physical impairments, unresolved trauma, or inability to function in a group. Contrary to the RCT, being single was not an inclusion criterion. Women who participated completed the T0 in two parts. One questionnaire was completed at the start of the first intervention session and included questions assessing demographic variables, self-management ability and well-being. A second questionnaire was completed at home after the first session and included questions assessing general health and loneliness. T1 was completed at the end of the final intervention session, six weeks after T0. The flow of participants in both studies is illustrated in Fig. 1. Finally, to evaluate program fidelity, the 32 trained professionals who carried out the SMW group interventions were asked to complete a questionnaire to assess whether they performed the intervention according to protocol. This occurred at the conclusion of the IMP in 2014.

### 2.3. Intervention

In both studies the SMW group intervention was similar. The intervention is based on SMW theory. SMW theory specifies six core self-management abilities assumed to be important for managing one's physical and social resources in such a way that physical and social well-being are achieved and maintained, and that losses in physical and social resources are managed optimally [24,25]. The SMW group intervention consisted of six one-week interval group sessions of 2½ hours with about ten participants. During the sessions the six self-management abilities identified by SMW theory [24,25] were addressed. These abilities include: 1) taking initiatives; 2) being self-efficacious; 3) investing; 4) having a positive outlook; 5) ensuring multi-functionality in resources; and 6) ensuring variety in resources. Additionally, participants were taught to apply these abilities to the five dimensions of well-being, as also specified in SMW theory. These dimensions of well-being are derived from five basic human physical and social needs, and include needs for comfort and stimulation (physical needs), as well as needs for affection, behavioral confirmation, and status (social needs). All participants received a workbook with summaries of the sessions and homework exercises. Homework exercises were designed to let participants list their resources on the five domains of well-being as well as list changes in resources they preferred to make. Homework exercises were also designed to help participants practice applying the six self-management abilities to the five domains of well-being. For example, a homework exercise involved keeping a diary of positive daily events to practice the self-management ability “having a positive outlook”. More details about the SMW group intervention can be found elsewhere [21].

### 2.4. Training of professionals

In the IMP the SMW group intervention was carried out by two trained professionals, referred to as ‘teachers’. The professionals had to be female, employed in a formal health or social organization, and have experience or interest with group

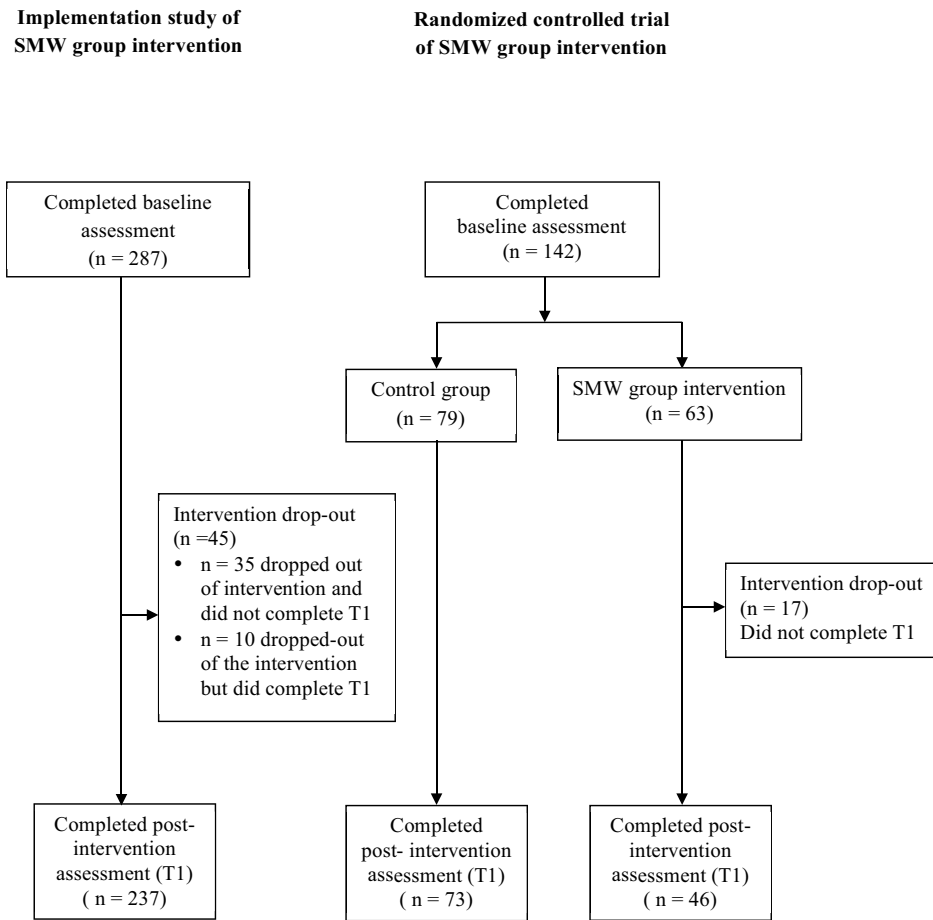


Fig. 1. Participant flow diagram.

interventions. The professionals received 2<sup>1</sup>/<sub>2</sub> days of training by two qualified SMW-trainers, according to a detailed trainers protocol. During the training, professionals were taught SMW theory and the skills required to supervise the SMW group intervention by means of role play, feedback, and practical exercises. Furthermore, the professionals were taught how to work with the teachers' protocol and the workbook for participants. The importance of working according to protocol was emphasized. Making changes to the teachers' protocol was strongly discouraged. In the RCT, one female member of the research team and one trained volunteer social worker carried out the SMW group interventions.

### 2.5. Instruments

In both the IMP and the RCT the same instruments were used. The demographic variables age, education and marital status, were collected using a self-report questionnaire.

*Self-management ability* was measured using the second version of the Self-Management Ability Scale (SMAS-30) consisting of 30 items using 5 and 6 point Likert scales [26,27]. The SMAS-30 includes six subscales corresponding to six self-management abilities: taking initiative, investment behavior, self-efficacy, variety, multi-functionality and positive frame of mind. A total score is also calculated and is transformed to range from 0 to 100. Higher scores indicate better self-management ability. The psychometric properties of the scale are good [26,27] and

Cronbach's alphas in the IMP and the RCT were 0.90 and 0.91, respectively.

*Well-being* was assessed using the short version of the Social Production Function Index Level Scale (SPF-ILs) [28]. The SPF-ILs consists of 5 subscales assessing five domains of well-being (i.e., comfort, stimulation, affection, behavioral confirmation and status). Each subscale consists of 3 items, each using a 4-point Likert scale. A total score is also calculated and ranges from 0 to 45. Higher scores indicate greater well-being. Cronbach's alphas in the IMP and the RCT were 0.82 and 0.84, respectively.

*Loneliness* was assessed using the short version of the Loneliness scale of De Jong Gierveld [29,30]. It consists of 6 items using a 5-point Likert scale. Total scores range from 0 to 6 with higher scores indicating greater loneliness. Total scores  $\geq 2$  on the Loneliness scale are considered to indicate loneliness. Cronbach's alphas in the IMP and the RCT were 0.78 and 0.79, respectively.

*General health* and a *change in general health* were assessed using two items from the Health Survey Short Form-36 (SF36): 1) In general, would you say your health is: Excellent (1) to Poor (5); and 2) Compared to one year ago, how would you rate your health in general now?: Excellent (1) to Poor (5). The Dutch language version of the SF-36 has been shown to be a reliable and valid instrument in both general and chronic disease populations [31].

Drop-out and session attendance of participants were viewed as indicators of participant *adherence*. Two types of *drop-out* were distinguished. Participants who dropped out of the SMW group intervention, irrespective of whether they completed

**Table 1**

Mean scores at baseline and post-intervention for the IMP, IRCT and CRCT conditions.

Condition		IMP	IRCT	CRCT
SMAS	N	203	43	67
	T0 (mean ± sd)	53.3 ± 10.3	49.5 ± 10.8	53.6 ± 8.6
	T1 (mean ± sd)	59.0 ± 10.9	54.1 ± 9.8	53.1 ± 8.9
	effect size	0.54	0.45	−0.06
SPF-ILs	N	199	43	63
	T0 (mean ± sd)	18.9 ± 5.6	19.9 ± 5.4	20.7 ± 4.9
	T1 (mean ± sd)	21.3 ± 5.6	22.0 ± 5.1	20.4 ± 5.2
	effect size	0.43	0.41	−0.06

CRCT: control condition of the randomized controlled trial, IMP: implementation study; IRCT: intervention condition of the randomized controlled trial, SMAS: Self-Management Ability Scale, SPF-ILs: Social Production Function Index Level scale, T0: baseline assessment, T1: post-intervention assessment.

Footnote: In the RCT one item from the SMAS was different from the second version of the SMAS. In the IMP the item “Are you good at something? [Bent u ergens goed in?] was used, while in the RCT the item “Can you see your own qualities? [Lukt het u eigen kwaliteiten te zien?] was used.

questionnaires, were categorized as “intervention drop-out”. Participants who did not complete the post-intervention assessment were categorized as “research drop-out”, irrespective of whether they completed the SMW intervention. The teachers of the intervention kept a record of the *session attendance* of participants.

*Program fidelity* was assessed by a set of five questions assessing whether professionals worked according to the teachers protocol: 1) To what extent were you able to follow the protocol strictly? 2) To what extent were you able to perform the core activities, focused on the six self-management abilities of well-being, exactly as described? 3) To what extent were you able to perform the supplementary activities, the communication exercises, exactly as described? 4) Did you sometimes deviate from the prescribed six sessions? and 5) Did you sometimes deviate from the prescribed one-week interval between the sessions? The first three questions used a six-point Likert scale ranging from “Fully” to “Not at all”. The

latter two questions were answered with “Yes” or “No”, and teachers were asked to describe any deviations.

## 2.6. Analyses

To investigate whether the effects of the SMW group intervention on participants' well-being and self-management ability were similar in both the IMP and the RCT, separate ANCOVAs were performed and between group effect sizes calculated. In the two ANCOVAs, SMAS and SPF-ILs at T1 were dependent variables, the three conditions (IMP, IRCT and CRCT) were fixed factors, and baseline values of SMAS and SPF-ILs were covariates. Baseline factors that differed significantly between the two studies were also entered as covariates. Effect sizes, Cohen's *d*, were calculated by  $\text{mean T1} - \text{mean T0} / \text{sd}_{\text{pooled}}$ , where  $\text{sd}_{\text{pooled}} = \sqrt{[(\text{sd T1}^2 + \text{sd T0}^2) / 2]}$  for the intervention and the control groups [32]. Controlled effect sizes were calculated by subtracting the effect size of the control group from the effect size of the intervention groups. Controlled effects sizes of  $\leq 0.2$  were considered small, around 0.5 as medium and  $\geq 0.8$  as large [32]. To assess participant adherence, intervention drop-out, research drop-out, and session attendance in the two intervention conditions (IMP and RCT) were compared using chi-square.

To investigate whether similar target groups were reached in the IMP and RCT, baseline differences in participants' age, marital status, SF36 general health, SF36 change in general health, SMAS, SPF-ILs and loneliness were compared using *t*-tests or chi-square tests. Descriptive statistics were used to assess program fidelity.

## 3. Results

### 3.1. Description of the sample

At baseline the mean age of participants was 65 years, i.e., 66 years in the IMP and 64 years in the RCT. All participants were female. In the IMP 50 participants were research drop-outs (i.e., did not return the post-intervention questionnaire), leaving post-intervention data available for 237 participants. Due to missing

**Table 2**

ANCOVA Comparisons of the effects at T1 among the IMP, IRCT and CRCT conditions.

Overall effect on SMAS		F	<i>p</i> -value
Dependent variables			
Marital status		0.603	0.438
T0 SMAS		147	<0.001
T0 Loneliness		8.57	0.004
T0 SPF-ILs		1.14	0.288
Condition		15.5	<0.001
Pairwise comparisons	Mean difference SMAS	<i>p</i> -value	95% confidence interval
IMP–IRCT	1.75	0.486	−1.29–4.77
IMP–CRCT	5.86	<0.001	3.34–8.40
IRCT–CRCT	4.11	0.011	0.745–7.47
Overall effect on SPF-ILs		F	<i>p</i> -value
Dependent variables			
Marital status		0.855	0.356
T0 Loneliness		11.7	0.001
T0 SPF-ILs		228	<0.001
Condition		7.37	0.001
Pairwise comparisons	Mean difference SPF-ILs	<i>p</i> -value	95% confidence interval
IMP–IRCT	−0.459	1.00	−1.98–1.06
IMP–CRCT	1.88	0.002	0.568–3.19
IRCT–CRCT	2.34	0.004	0.607–4.07

CRCT: control condition of the randomized controlled trial, IMP: implementation study, IRCT: intervention condition of the randomized controlled trial, SMAS: Self-Management Ability Scale, SPF-ILs: Social Production Function Index Level scale, T0: baseline assessment.

**Table 3**  
Drop-out rates and session attendance for the IMP and the IRCT.

Condition Outcome		IMP	IRCT	p-value
Drop-out n (%)	Intervention	45 (16%)	17 (27%)	0.033
	Research	50 (17%)	17 (27%)	0.081
	Intervention and/or research	60 (21%)	17 (27%)	0.292
Attendance n (%)	Mean number of sessions	4.9 ± 1.5	4.6 ± 1.6	0.153
	Four or more sessions	164 (85%)	46 (77%)	0.135

IMP: implementation study; IRCT: intervention condition of the randomized controlled trial.

data for some items, data from fewer participants were available for some analyses (see Fig. 1 and Tables). Of the 32 teachers, 29 completed the questions regarding program fidelity.

### 3.2. Were the effects of the SMW group intervention in the IMP on participants' well-being and self-management ability comparable with the RCT?

Results of the ANCOVAs showed no significant differences between the IMP and the RCT on SMAS and SPF-ILs scores at T1. All controlled effects were medium in size. The controlled effect size was 0.59 in the IMP and 0.50 in the RCT on the SMAS and 0.49 in the IMP and 0.47 in the RCT on the SPF-ILs. The mean scores of the three conditions (IMP, IRCT and CRCT) and effect sizes are described in Table 1, and the results of the ANCOVAs in Table 2.

### 3.3. Were drop-out rates and session attendance in the IMP comparable with the RCT?

In the IMP fewer participants dropped out than in the IRCT condition, although the difference was only significant for intervention drop-out and not for research drop-out. There was no significant difference between the IMP and the IRCT on either the mean number of attended sessions or the number of women attending four or more sessions (see Table 3).

**Table 4**  
Differences between IMP and RCT participants at baseline.

	IMP Mean ± sd (n) (min-max)	% (n)	RCT Mean ± sd (n) (min-max)	% (n)	p-value
Marital status					< 0.001
	Married or cohabiting	32% (89)		0	
	Divorced	29% (80)		46% (65)	
	Widowed	30% (84)		36% (50)	
	Other <sup>a</sup>	9% (24)		18% (25)	
	Unknown	(10)		(2)	
Education					< 0.001
	lower education	29% (71)		21% (29)	
	secondary vocational	58% (140)		39% (55)	
	(pre) university	13% (31)		40% (56)	
	unknown	(45)		(2)	
Age	66 ± 9.1 (287) (44–92)		64 ± 7.4 (142) (52–80)		0.066
<b>SMAS total score</b>	<b>52.8 ± 10.7 (272)</b> <b>(15–86)</b>		<b>51.4 ± 11.1 (142)</b> <b>(8–81)</b>	<b>1.2</b>	<b>0.220</b>
<b>SPF-ILs total score</b>	<b>18.9 ± 5.5 (261)</b> (3–35)		<b>20.4 ± 5.8 (133)</b> (2–32)	<b>–2.5</b>	<b>0.013</b>
Loneliness	3.9 ± 1.9 (243) (0–6)		4.3 ± 1.9 (142) (0–6)	<b>–2.2</b>	<b>0.028</b>
SF-36 general health	3.36 ± 0.78 (246) (1–5)		3.19 ± 0.92 (142) (1–5)	1.9	0.058
SF-36 general health change	2.95 ± 0.89 (246) (1–5)		3.05 ± 0.90 (142) (1–5)	<b>–1.1</b>	<b>0.278</b>

Notes: IMP: implementation study; RCT: randomized controlled trial, sd: standard deviation, SF-36: Health Survey Short Form-36, SMAS: Self-Management Ability Scale, SPF-ILs: Social Production Function Index Level scale.

<sup>a</sup> For example, never married or a LAT (living apart together) relationship.

In the IMP not all teachers monitored intervention attendance. The attendance lists were completed for 26 (of the 39) interventions groups involving 193 participants. Therefore, we repeated the analyses comparing the IMP and IRCT with regard to drop-out with participants with known session attendance. For this subset of IMP participants, intervention drop-out was 20% ( $p = 0.221$ ), research drop-out was 18% ( $p = 0.106$ ) and intervention and/or research drop-out was 23% ( $p = 0.498$ ). These results show the drop-out rates in the IMP were lower, but not significantly so, compared to the IRCT.

### 3.4. Were participants in the IMP comparable to participants in the RCT at baseline?

There was a significant difference in educational level and marital status between the two study samples at baseline (see Table 4). The difference in marital status was expected as being single was an inclusion criterion in the RCT but not in the IMP.

Women in the IMP had significantly lower well-being, but were less lonely, compared to women in the RCT (see Table 4). Using the cut-off score for being lonely [29,30], results showed 86% of the women in the IMP were lonely compared to 91% in the RCT. This difference was, however, not significant ( $p = 0.162$ ).

### 3.5. Did the professionals in the IMP deliver the SMW intervention according to the teachers' protocol?

Most of the professionals indicated they 1) were able to follow the teachers protocol (fully:  $n = 10$ ; for the most part:  $n = 18$ ; reasonably:  $n = 1$ ; slightly:  $n = 0$ ; hardly:  $n = 0$ ; not at all:  $n = 0$ ); 2) were able to perform the core activities (fully:  $n = 16$ ; for the most part:  $n = 13$ ); and 3) were able to perform the supplementary activities (fully:  $n = 9$ ; for the most part:  $n = 18$ ; reasonably:  $n = 2$ ). Reasons for not following the protocol exactly were participant-related. For example, some teachers reported participants needed more time and explanation than foreseen and prescribed. Two professionals deviated regarding the number of sessions, and 18 professionals deviated regarding the prescribed one-week interval



between the sessions due to holidays or foreseen absence of participants.

#### 4. Discussion and conclusion

##### 4.1. Discussion

This is the first study to demonstrate that the SMW group intervention is equally effective when implemented in health and social care settings compared to the original research setting. Moreover, potential threats to sustaining the effectiveness of the SMW intervention were largely minimized, demonstrated by small differences between the IMP and RCT in the reached group, comparable participant adherence, and high program fidelity. These findings show valid transfer of the SMW group intervention to practice settings is possible without loss of effectiveness.

Regarding the *effectiveness* of the implemented SMW group intervention, we found its effects on self-management ability and well-being were medium in size and not significantly different from those in the RCT. These findings add to previous findings from two other RCTs using the SMW intervention in which effect sizes were small to medium [33–35]. Not only was effectiveness in the IMP comparable to that in the RCT, but drop-out rates and session attendance, indicating similar participant adherence, were also comparable. As demonstrated in previous research [6], the fact that we monitored intervention implementation may have contributed to the effectiveness of the intervention. However, we would expect this influence to be present in both studies. Overall, professionals in the health and social care settings were able to deliver the SMW group intervention with effectiveness similar to that realized in the earlier RCT.

To our knowledge research investigating the sustainability of the effectiveness of well-being interventions is lacking, although some studies focused on the transfer from research to practice settings of physical health-related interventions, such as disability prevention for older adults and diabetes self-management programs [36–38]. These studies showed transfer is feasible, with similar or smaller effects in replication studies compared to the original trials. Our study showed the SMW intervention – a well-being intervention – can be transferred to practice settings without effect size reduction. This knowledge is of major importance for practice settings in deciding whether or not to adopt, implement and continue with well-being interventions.

Regarding the *reached* group, women in the IMP had lower well-being scores but were less lonely than those in the RCT. Yet, though women in the IMP were less lonely on average, the percentage of women meeting criterion for being lonely was high in both studies (86% IMP and 92% RCT) and not significantly different. Furthermore, participants in the IMP had a lower level of education and were more often married or cohabitating. No significant differences were found between the two studies for age, self-management ability, self-reported general health or change in general health. Thus, the health and social care organizations that were involved in the IMP seem to have reached a slightly different target group in comparison to the original RCT. These minimal changes did not influence the effectiveness of the SMW group intervention, however.

The small differences in reach, between the IMP and RCT may be explained in several ways. First, the RCT included only single women, which may imply they were lonelier on average. In support of this explanation, an additional analysis in which baseline loneliness scores were compared in the two studies after excluding married women showed no significant differences between the IMP and RCT. Second, the health and social care organizations in the IMP reached women in more and different ways than was done in the RCT. For example, teachers in the IMP

also recruited participants by direct client contact, and advertisements. Although the text of recruiting materials were similar in both studies, the RCT advertisement did state the SMW intervention was the object of study. Therefore, some women in the RCT might have participated for reasons of contributing to scientific research, rather than for their own benefit. The somewhat higher level of education in the RCT participants, as compared to the IMP, may support this explanation.

Program fidelity was high in this study, i.e. the majority of teachers carried out the SMW intervention according to protocol. This finding indicates the demonstrated effects on self-management and well-being are likely to be attributable to the SMW intervention. Although program fidelity, that is, the degree to which the intervention is delivered as intended [7], is important for optimizing implementation, it has been largely under-investigated [39]. We took several actions to enhance program fidelity including training the professionals and using detailed protocols, as suggested by Dane and Schneider [40]. Furthermore, in both the RCT and IMP intervention sessions were performed in meeting rooms of practice settings. These actions contributed to the similarity of intervention delivery. Despite these actions there might have been a few differences between the RCT and the IMP that could have impacted the delivery of the intervention. For example, the teachers of the RCT were a researcher and a volunteer social worker whereas the teachers of the IMP were professional social workers with less experience delivering the intervention. However, the fact that we did not find differences in effectiveness of the SMW intervention between both studies suggests these small differences were negligible.

This study had several limitations. Post-intervention data from some participants were missing and about a third of the attendance lists were not provided by the professionals delivering the SMW group intervention in the IMP. This might have influenced results but perhaps not substantially, because drop-out rates were comparable in both studies irrespective of whether attendance lists were kept. Furthermore, we assessed program fidelity by self-report measure which may be subject to information bias. Future research should consider alternative methods for assessing program fidelity, such as recording of intervention sessions or use of independent assessors.

Finally, it is important to note reach and program fidelity are not the only factors influencing the sustainability of an intervention in practice settings. Successful implementation depends on a number of actions of involved stakeholders as well as on characteristics of interventions, settings and strategies [12,41,42]. Future research should respect this complexity and include these various factors when implementing an intervention in practice settings.

##### 4.2. Conclusion

This implementation study showed transfer of the SMW group intervention from a research setting to practice settings can be performed without loss of effectiveness. Although the health and social care organizations participating in the implementation study reached a slightly different group of participants, adherence of participants in the intervention study was similar to that of the original RCT and the effectiveness of the SMW intervention was not compromised. High program fidelity, enhanced by several actions such as training the professionals and using detailed protocols, indicates demonstrated effects are likely to be attributable to the SMW intervention.

##### 4.3. Practice implications

We demonstrated professionals from various health and social care organizations can provide the SMW group intervention with

effectiveness similar to that in the original RCT. As a result, implementation of this intervention on a larger scale is warranted. Given the aging population in the Netherlands [43] and Dutch policy appealing to people's self-management ability when facing physical, social and psychological challenges [44], the SMW intervention could promote older individuals' positive health and well-being and be a valuable contribution to these societal issues.

### Conflict of interest

Nardi Steverink is director of the SMW intervention Program, which was developed at the University Medical Center Groningen (UMCG) and the University of Groningen. The UMCG holds the rights of the intervention and has the right to distribute licenses to third parties, from which the UMCG receives royalties. The other authors declare they have no conflicts of interest.

### Footnote

In previous publications, the SWM group intervention was also referred to as the GRIP&GLEAM (G&G) intervention [23] or the "Giving life more LUSTRE" intervention [21]. We now speak of SMW interventions to indicate they are based on the Self-Management of Well-being (SMW) theory [24,25,34].

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