



Empowered Worldviews: Assessing the persistence of psychosocial intervention effects in Zambia

Working paper

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Abstract

Evidence on the persistence of psychosocial outcomes of interventions over the medium and long term, and in the face of shocks and stressors, is limited. We examined the extent to which empowerment associated with a psychosocial, faith-based approach, Empowered Worldview (EWV) persisted 3–5 years post-delivery of the intervention in Zambia among smallholder farmers. The EWV intervention in Zambia was delivered as part of THRIVE, an integrated livelihoods programme. We followed a previous study to disaggregate individual-level empowerment associated with EWV into three domains: internal (which relates to ‘power within’), localised (typically participation and access), and structural (e.g. institutional, environmental, and social structures).

To explore the persistence of EWV effects on empowerment, we used mixed methods and longitudinal data collected in 2020 and 2023, which were the midline and endline points of the THRIVE programme. Empirically, we used descriptive and regression analysis to compare internal and localised empowerment levels between the survey rounds (2020 and 2023) across study groups – including groups that received EWV before and after 2020 – and to the control group. We also re-interviewed a subset of EWV participants interviewed in 2020 to understand how empowerment has changed at the individual level over time .

The results show levels of internal empowerment associated with the EWV intervention persisted between the midline and endline surveys, especially when combined with THRIVE livelihood interventions. At the midline, 80.0 per cent of THRIVE with EWV participants were empowered, compared to 82.3 per cent at the endline. In contrast, 72.6 per cent and 73.07 per cent of the control sample participants were empowered at the midline and the endline, respectively. Quantitative results further show that localised empowerment significantly improved between survey rounds among participants who received EWV training and is positively associated with internal empowerment, consistent with literature that suggests localised enablers (supporting social environments) are crucial to sustaining internal empowerment. The qualitative data shows that persistent internal and localised empowerment was observed mostly among households in the non-poor wellbeing category, suggesting that additional interventions are needed to reach the poorest participants. Results also show internal and localised empowerment are positively associated with indicators of household resilience. We conclude the paper with recommendations for programming.

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Abbreviations and acronyms

CPAN	Chronic Poverty advisory Network
EWV	Empowered Worldview
EWVI	EWV Index
FGD	focus group discussion
IDS	Institute of Development Studies
INESOR	Institute of Economic and Social Research
LHI	Life history (re-)interviews
OLS	ordinary least squares
WVI	World Vision International

1. Introduction

Evidence is growing that psychosocial behaviour change interventions, which target negative ‘internal’ attitudes and social behaviours, can be effective in helping support pathways out of poverty (Bossuroy *et al.* 2022; Dalton, Ghosal and Mani 2015; World Bank 2015; Samuel and Stavropoulou 2016; Diwakar *et al.* 2023). Examples of such interventions are increasingly being integrated into economic and social development programmes in low-income countries for their potential to stimulate agency in economic empowerment and psychosocial wellbeing (Bernard *et al.* 2014; Lenhardt *et al.* 2023; Bossuroy *et al.* 2022). However, far too often, impacts are measured in the short term; for example, within 3–6 months after intervention delivery (Bryant *et al.* 2017; Bernard *et al.* 2014) or, in medium term, within three years (Bossuroy *et al.* 2020). There is little and mixed evidence on persistence of outcomes beyond the short term to the medium and long term, and in the face of shocks and stressors.

Some literature has theoretically argued that brief, theory-based psychosocial interventions can generate persistent psychological wellbeing effects, which can even amplify over time (Kenthirajah and Gregory 2015; Cohen and Sherman 2014). However, other studies suggest that positive changes in psychosocial wellbeing, if any, are likely short lived (Haushofer *et al.* 2021; Andrew *et al.* 2018). These studies suggest that positive effects are often too small to be sustained. There are also prevailing perceptions that entrenched internal behaviours may not be effectively addressed by ‘brief, light-touch’ psychological interventions. Fadeouts of impacts within two years are also reportedly common in interventions to improve cognitive and socioemotional skills, and behaviours among children and adolescents in the education sector (Bailey *et al.* 2017).

The primary objective in this paper is to examine whether outcomes associated with a faith-based psychosocial intervention, the Empowered Worldview (EWV), persist in the medium term (defined as between 3–5 years after delivery of the EWV intervention) among smallholder farmers in Zambia. The secondary objectives of the study are to examine factors associated with psychosocial wellbeing (or internal empowerment) and the association of internal empowerment with indicators of household- and individual-level resilience. Resilience is of interest as an important indicator and characteristic of sustained wellbeing capacity.

The EWV intervention was initially delivered to smallholder farmers in Zambia in 2017 and 2018. This study is a follow-up to a survey conducted in July 2020 (Lenhardt *et al.* 2021; 2023).¹ The 2020 survey was conducted at the midline of the THRIVE livelihood improvement programme, of which the EWV intervention was a part. This follow-up study uses data collected from the midline and the endline between late March and mid-April 2023, as well as qualitative field research conducted in 2023 that re-interviewed a subset of individuals interviewed in 2020 at the onset of the pandemic as part of the midline.

Lenhardt *et al.* (2021) found that smallholder farmers targeted in the THRIVE programme with the EWV intervention achieved significantly higher levels of psychological wellbeing – on measures of identity, aspirations, and confidence and hope – compared to participants who were in the same livelihoods programme without the EWV intervention, and compared to a control group, which did not receive THRIVE or EWV. In addition to EWV, the THRIVE programme included interventions to address external constraints, such as formation of savings groups, linkage to agricultural markets and credit, and trainings to improve agricultural productivity.

In this follow-up study, we seek to examine the extent to which the observed positive effects in Lenhardt *et al.* (2021) persisted between the midline and endline surveys. We seek to test the

¹ Lenhardt (2023) is a peer-reviewed journal article paper of the original report, Lenhardt *et al.* (2021).

overarching hypothesis: empowerment of participants associated with the EWV intervention persisted over time after the intervention.

The design and analysis methodology in this study followed that of the mixed-methods cross-sectional study in the midline. The quantitative data collected at the endline is structured into three treatment study groups and a control group. Assignment of participants to the study groups was not random, which means the study's findings are subject to limitations of potential selection bias (due to non-randomisation of who received EWV). Our research design used the implementer's targeting approach and differences among participants in exposure to the interventions to construct the study groups as follows:

- T1: a group of THRIVE programme participants who received the EWV intervention before the midline (i.e. between the 2017 baseline and 2020 midline) and not after.
- T2: a group of THRIVE participants who only received the EWV intervention after the midline (i.e. after the 2020 midline and before the 2023 endline).
- T3: a group of THRIVE participants who did not receive the EWV intervention.
- T4 (control): a group of THRIVE-eligible participants sampled from communities that did not receive either the THRIVE programme or the EWV intervention.

We also collected qualitative data, comprising life history interviews (LHIs) and gender-disaggregated focus group discussions (FGDs). This included re-interviewing a subset of participants who participated in the qualitative interviews at the midline.

Qualitative and quantitative data was concurrently analysed. Empirically, we examined the change in the proportion of participants adequately empowered in study group samples between the two survey rounds and examined associations through regression analysis. In the analysis, we disaggregated empowerment into three dimensions – internal, localised, and structural² – in line with the framework Lenhardt *et al.* (2020) established (Figure 1). We estimated descriptive statistics of measures of these dimensions of empowerment and estimated regression models (logistic and ordinary least squares (OLS) models) to examine differences in levels of the measures of the dimensions of empowerment at the endline. We analysed the qualitative data thematically using a coding framework and process-tracing methods to understand drivers of the persistence of empowerment after the EWV intervention.

The empirical results show levels of internal empowerment among participants in T1 associated with the EWV intervention persisted (i.e. did not decline) between the midline and endline surveys. The results also show that internal empowerment levels (scores) among T2 participants are higher at the endline than at the midline, which reflects the benefits of EWV training in the short term Lenhardt *et al.* (2023) discussed. Both the T1 and T2 groups exhibit relatively higher levels of internal empowerment than T3, and much more than T4 (control).

Specifically, the results show that 80.0 per cent of THRIVE with EWV participants (T1) were empowered in the midline, compared to 82.3 per cent in the endline. However, in the THRIVE sample group that received EWV only after the midline (T2), 73.0 per cent of participants were empowered in the midline, compared to 84.1 per cent in the endline. In the control sample, 72.6 per cent and 73.1 per cent of participants who did not receive EWV were empowered in the midline and the endline, respectively. Therefore, although many people were internally empowered across the

² Internal dimensions include identity, hope, self-esteem and confidence, and aspirations and vision; localised dimensions targeted comprise relationships, agency, and access to opportunities. Structural enablers include institutional factors such as government policies and political systems, community-level social structures including gender and ethnic relations and norms, and environmental factors such as climate change and resource endowments.

groups, the increase in empowerment was largest among households that recently received the EWW intervention.

In the qualitative data from interviews with EWW participants, persistent internal empowerment was observed in the majority of interviews, and was particularly prevalent among households escaping from or remaining out of poverty. Quantitative results further show that localised empowerment is positively associated with internal empowerment, consistent with literature that suggests localised enablers (supporting social environments) are crucial to sustaining internal empowerment (Kenthiraraha and Walton 2015; Bailey *et al.* 2017). Finally, both internal and localised empowerment are associated with a higher probability of resilience, measured through households' ability to recover following negative shocks.

The rest of this paper is structured as follows: section 2 provides an overview of the EWW approach and the conceptual framework developed in the first phase of this study. Section 3 outlines the datasets and methodology used for the mixed-methods analysis. Section 4 presents study results, while section 5 examines this persistence in the context of multiple crises. Section 6 concludes and develops recommendations to improve the persistence of behaviour change programming based on the study findings.

2. Study framework

2.1 Overview of EWW Intervention and pathways of impact

Developed by World Vision International (WVI), a Christian humanitarian organisation, EWW promotes a positive view of self, working with available resources, positive gender relationships, social and cultural norms, and agency as pathways to establish improved livelihoods and contribute to an escape from poverty. The EWW intervention was also developed in part to address fatalism, and negative cultural and social norms (WVI 2018). The approach was initially created as a tool for community mobilisation and sensitisation, but it has been refined into a model to promote self-efficacy and individual-level empowerment. It dovetails with interventions from the positive psychology and behavioural economics literature that seek to influence beliefs, cognitive and socio-emotional behaviours (Lybbert and Wydick 2016), and self-affirmation (Cohen and Sherman 2014). The premise of the model also aligns with literature that shows faith and religion can help people engage with causes and potential solutions of poverty to improve their situation (Rakodi 2012; Molen *et al.* 2020; World Bank 2007).

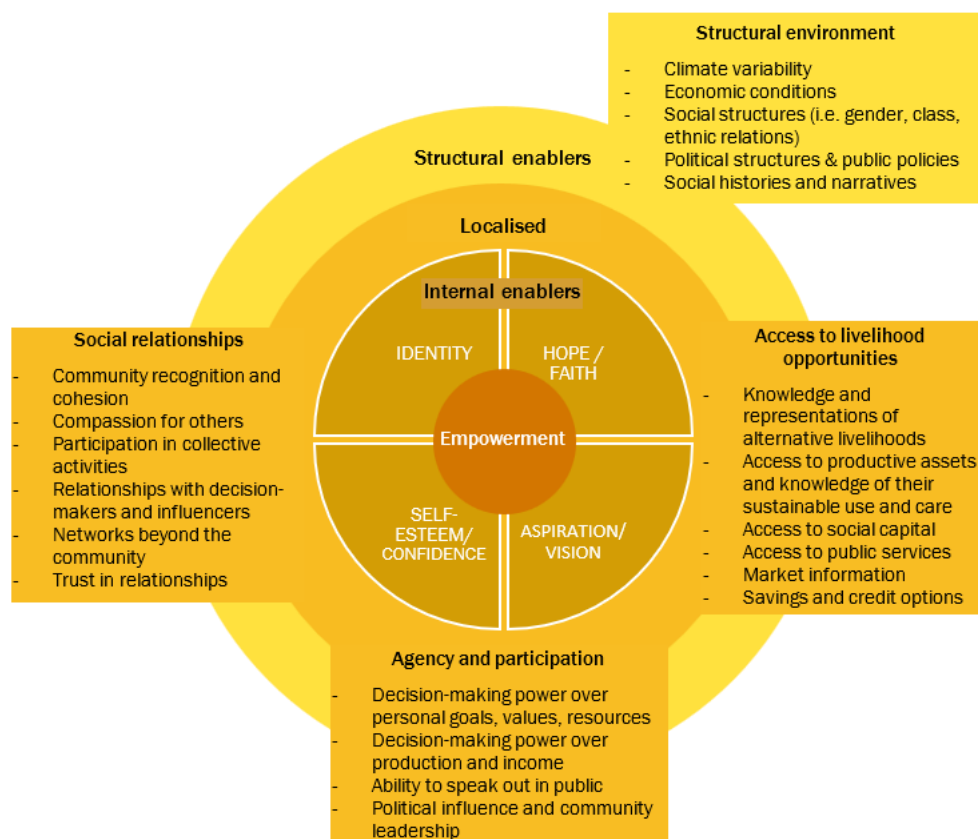
EWW messages are based on and contain references to biblical scripture (WVI 2018). WVI has codified the EWW intervention into a curriculum that covers five core themes: identity, vision, compassion, relationships, and faith (*ibid.*). The focus of each of the five themes is summarised in Box A1 in the annexe. Participants are trained on these themes primarily through workshops delivered by WVI staff, EWW champions or lead farmers; and, in some instances, through community sensitisation events, and follow-up meetings with individuals and households. Project staff provide trainings for target groups and individuals. These trainings may also initially be provided to community 'change agents' or 'champions' (i.e. influential or trusted individuals in a community), who are then expected to cascade knowledge to households and the wider community. The curriculum is typically delivered over 6–12 months, in about four trainings sessions.

Conceptually, the central theme and outcome of the EWW curriculum is empowerment. Lenhardt *et al.* (2020)'s review of the EWW curriculum revealed that the 'empowerment' the approach sought to enact dovetailed with definitions and conceptualizations discussed by Malapit *et al.* (2019) and Ibrahim and Alkire (2007). Malapit *et al.* (2019) focuses on women's empowerment and draws on the concept of 'power' articulated initially by Rowlands (1995). This literature differentiates power and, hence, empowerment, into three domains: 'power within' (self-respect, self-efficacy, and

awareness of rights), ‘power to’ (enacting personal goals), and ‘power with’ (acting collectively towards shared interests). We also follow Ibrahim and Alkire (2007)’s discussion of empowerment, which borrows from Rowlands (1995) but also Sen (1985) and Alkire (2005). This literature suggests that empowerment relates to the expansion of one’s agency to exercise choice whereby ‘a person is free to do and achieve whatever goals and values he or she regards as important’ (Sen 1985). It also suggests that empowerment requires certain kinds of agency instrumental to the situation at hand (Alkaire 2005; Ibrahim and Alkaire 2007).

Drawing on these literatures, Lenhardt *et al.* (2021) identifies three levels of potential enablers of an individual’s empowerment that the EWV curriculum usually seeks to positively impact. These include internal enablers, localised enablers, and structural enablers, displayed in Figure 1. The EWV intervention primarily seeks to affect internal empowerment as instrumentally important to the realization of localized and structural enablers and achievement of economic empowerment. However, the curriculum embodies a broader perspective of empowerment including community empowerment, and civic or political empowerment. These shape or determine the overall empowerment that can be achieved at the individual.

Figure 1: EWV conceptual framework of empowerment



Source: Lenhardt et al. (2023) CC BY-NC-ND

The framework in Figure 1 implies that dimensions and subdimensions of empowerment are not mutually exclusive. For example, identity and self-esteem are closely linked as they refer to different aspects of one’s sense of self, while hope and aspirations are both linked to a person’s perceived capacity for change. Faith is part of a person’s personal identity and may serve as the basis of their hope. The framework also suggests that empowerment may not be achieved through internal empowerment alone. Local and structural environments also play a critical role.

2.2 Sustainability framework, religion, and development

This study's hypotheses are informed by theories from the social psychology literature, particularly the field theory model (Kenthiraraha and Walton 2015) and the adaptive outcome model for self-affirmation interventions (Cohen and Sherman 2014). According to these theories, two key and mutually reinforcing characteristics are essential for a social psychology intervention to achieve lasting change: (1) the ability of the intervention to change core beliefs; and (2) the presence of a supporting social context (environment) that can catalyse short-term positive behaviour changes over time. In this regard, the adaptive outcome theory for self-affirmation interventions posits that psychosocial interventions have the potential to ignite a cycle of 'recursion' or positive feedback loops between the self and the social system, which can propel outcomes forward long after the intervention (Cohen and Sherman 2014; Wilson 2011).

Similarly, the field theory model has been used to distinguish types or characteristics of interventions that can generate lasting behaviour changes. It contrasts less complex 'nudge' interventions, which change individuals' decisions and behaviours at a specific time or influence snapshot decisions, with interventions that change core beliefs or aspects of the self. The latter are predicted to generate lasting effects (Cohen and Sherman 2014; Kenthiraraha and Walton 2015) by targeting and changing underlying socio-psychological processes (e.g. a person's identity, esteem, and confidence). These features align with the focus of the EWV approach on identity, faith, and social relationships. The literature suggests that an effective stimulus on such features can enable a process of reinvention within a participant in the short term; for example, to a new or modified identity or self-perception, and support positive behaviour changes to unfold over time in diverse settings.

Both theories imply that the environment matters in propelling effects forward. The supporting environments include social systems or the natural environment, public institutions (e.g. policies), and economic programmes. These theories align with the EWV conceptual model for empowerment (Figure 1) in its emphasis on the need to design interventions that target not only latent behaviours (internal enablers of empowerment), but also localised enablers (e.g. livelihood opportunities, equitable decision-making, access to resources) and structural enablers. However, both the field theory and the adaptive outcome models are less empirically explored (tested) in the field of development practice.

In addition to the field theory and the adaptive outcome models, our study hypotheses also draw on the literature on role of faith-based in development programming, which suggest that religious beliefs can elicit and sustain aspects of individual behaviours important to economic development (Barro and McCleary 2003; Molen *et al.* 2020). Others studies suggest that people's perceptions of wellbeing and growth may already be linked with religion (Rakodi 2019; Rudnycky 2015). Our analysis fits into this interface of faith-based and psychosocial behaviour change interventions to understand the extent to which psychosocial effects associated with EWV have persisted.

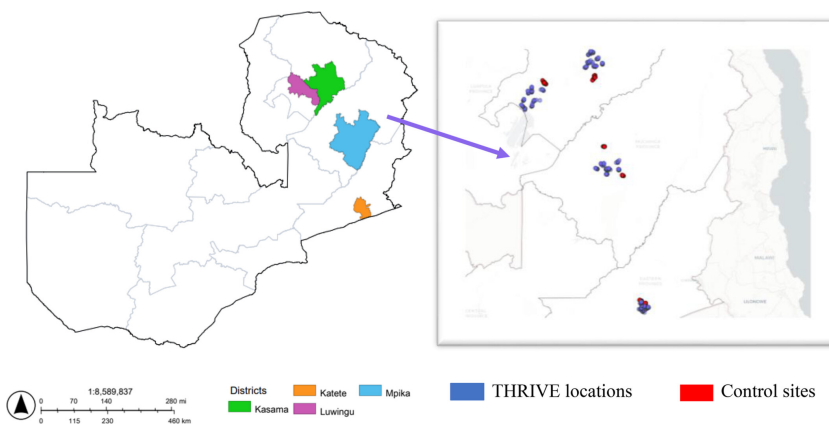
3. Methodology

3.1 Study programme and area

The EWV intervention in the study areas was implemented as part of the THRIVE programme, which seeks to promote self-actions rather than resource transfer as the primary strategy to achieve economic and social empowerment (Tumusiime, Zuniga and Bass 2022). The THRIVE programme's basic activities and outcomes fall into four groups: (1) mindset and behaviour change support using EWV; (2) developing capacities for inclusive financial services, which involves the promotion of savings groups, financial literacy training, and microfinance services; (3) market access and linkage

improvement; and (4) trainings about on-farm and community natural resource management, and climate change-related disaster risk reduction and management.

Figure 2: Geographical location of THRIVE programme study sites



Source: Lenhardt et al. (2023) CC BY-NC-ND

Note: AP = area programme

THRIVE was implemented in four WVI area programmes, an area-based, community-level programming approach. The area programmes are in geographically defined areas, often ranging from sub-county (or zone) to county-level (or municipality) civil administrative areas, where WVI implements child-sponsorship programmes, often over a relatively long period (10–15 years). In addition to child sponsorship, WVI typically implements sectoral interventions (e.g. economic empowerment (THRIVE), education, and water and sanitation) in these areas. The THRIVE programme in Zambia was implemented under the Mpika Area Programme in Mpika district, Buyantanshi Area Programme in Luwingu district, Mwamba Area Programme in Kasama district, and Katete Area Programme and Kawaza Area Programme in Katete district (Figure 2). The THRIVE Zambia programme targeted 15,000 households – predominantly poor small-scale farmers – with the objective of doubling the incomes of individual farmers from US\$1.25 per day or less (comparable to the national poverty line) to US\$2.50 per day. The implementer indicated the THRIVE programme start and end dates were October 2016 to June 2023, respectively, and that EWW trainings started later in 2017 and early 2018 in the study areas.

3.2 Data and methods

3.2.1 Study design and sampling

This study uses a mixed-methods approach, and attempts to follow the design and analytic approach used in the study at midline (Lenhardt *et al.* 2021). In the subsections below, we describe the design and sampling of the quantitative and qualitative data.

Quantitative data

The quantitative component of the study at midline in 2020 was cross-sectional quasi-experimental by design, with three study arms: THRIVE with EWW, THRIVE without EWW, and a control (no THRIVE or EWW). The intention to design the study at endline as a panel between the midline and the endline could not be fully realised. We learnt at the time of designing the endline survey that some of the participants in the midline THRIVE without EWW study group received the EWW training after the midline survey. This reduced the original sample size for the THRIVE without EWW group at endline, though it still remained viable. Another limitation to designing the endline survey as a panel was that some of the control areas (i.e. with no THRIVE or EWW) established at the midline received

THRIVE-related interventions (though not from WVI) after the midline survey. To maintain the THRIVE without EWV and control groups in our study at the endline, 88 new representative participants were recruited into the sample survey at the endline, meaning that we could not treat the sample as a true panel.

The endline sample was structured to include the following study groups:

- T1: a group of THRIVE programme participants who received the EWV intervention before the midline (i.e. between the 2017 baseline and 2020 midline) and not after.
- T2: a group of THRIVE participants who received the EWV intervention after the midline (i.e. after the 2020 midline and before the 2023 endline).
- T3: a group of THRIVE participants who did not receive the EWV intervention.
- T4 (control): a group of THRIVE-eligible participants sampled from communities that did not receive either the THRIVE programme or the EWV intervention.

The sample for the intervention study groups at the midline (which was then followed at the endline) was drawn randomly from a list of 15,000 registered households used for the THRIVE programme. Sampling followed a two-stage cluster random sampling approach. In the first stage, 8–9 clusters (communities) were selected in each area programme using probability proportional to the size sampling method. Villages were considered as clusters, with the size of a cluster being the number of total project participants in that cluster. In the second stage, 25 households were selected randomly from the list of participating households in each of the selected clusters.

The study at the midline analysed 944 participants from the THRIVE participant strata, the effective sample. Of the 944 participants, 152 were either not found or were dropped (due to incomplete responses) for the analysis at the endline.³ This left 792 observations in the THRIVE strata. To augment the sample size (particularly for the T2 and T3 groups), 88 new households of similar profiles (in terms of age, gender of head of household, and household size) were introduced into the survey sample at the endline. Overall, the THRIVE sample strata for the analysis at the endline includes 880 observations (Table 1).

Table 1: Sample size of THRIVE participant strata

Study group	When group received EWV	Sample size
T1	Pre-midline	447
T2	Post-midline	314
T3	Did not receive EWV	119
Total		880

Note: the THRIVE with EWV groups (T1 and T2) are derived based on a question asking participants when they received their first EWV training.

The selection of the control group (T4) at both the midline and endline also followed the two-stage cluster sample design. However, the second stage involved identifying households through a random transect walk process and screening questions to ensure that households with characteristics similar to THRIVE participants were included. In total, 1,140 observations were collected for the control group.

³ Attrition analysis indicates that the dropout is random, so we do not need to correct for attrition.

Participants for the surveys were heads of households or their spouses. Surveys were administered in local languages: ChiBemba and Nyanja (Chewa). The data at the endline was collected between March and April 2023. As at the midline, the endline survey sampling approach was prepared by Technical Assistance to Non-Governmental Organizations (TANGO) International, an independent US-based evaluation firm WVI hired to evaluate the THRIVE programme. The Institute of Economic and Social Research, based at the University of Zambia in Lusaka, undertook collection of the data in 2020 and 2023.

Table 2 shows the sociodemographic characteristics of survey participants. It shows a slightly smaller household size among EWV participants, but higher rates of women-headed households. Probability of poverty is much lower among EWV participants compared to THRIVE participants who did not receive EWV, and also compared to the control group. Finally, ownership of livestock tends to be more prevalent among EWV participants. With the exception of the rates of women-headed households, these are all factors commonly associated with escapes from poverty in rural Zambia (Diwakar *et al.* 2021).

Table 2: Comparison of demographic and household characteristics at endline

Variable	Measure in sample	T1: THRIVE participants who received EWV pre-midline	T2: THRIVE participants who received EWV post-midline	T3: THRIVE participants who did not receive EWV	T4: THRIVE-eligible participants who did not receive THRIVE
HH size					
>6 people	Mean	44.30	49.04	40.34	36.58
5 or 6 people	Mean	31.99	27.07	33.61	32.81
4 or fewer people	Mean	23.71	23.89	26.05	30.61
Other demographics					
Female participant	%	59.28	60.83	53.78	54.39
Female head	%	29.08	29.94	17.65	22.02
Age of HH head	Mean	45	43	43	40
Poverty and assets					
Probability of poverty ⁴	%	60.30	62.60	69.49	75.83
Livestock ownership	%	75.96	67.10	55.26	45.75
Total participants		447	314	119	1,140

Note: HH = household.

Qualitative data

The qualitative interviews were designed to generate data on whether and how perceptions of empowerment and poverty changed between June 2020 (midline) and March/April 2023 (endline) and the factors associated with the changes or lack of changes.

Qualitative data collection was carried out in June 2023. The following qualitative methods, which were used at the midline, were adapted for this follow-on study:

- FGDs with men and women, separately, in both cases including participants from a spectrum of wealth categories and in the same rural communities (within Kasama, Katete, and Mpika) as interviewed in 2020. Two FGDs were conducted per district (six in total). FGD participants in the 2020 study established the wealth categories (annexe Table A3) and classification of participants into these categories. In the 2023 surveys, participants were asked to identify changes in definitions of the wellbeing categories since 2020, key factors affecting the

⁴ This is based on the Progress out of Poverty Index scores, developed by Innovations for Poverty Action, where likelihood of poverty is derived from 10 livelihood- and asset-related questions (IPA 2017).

community over the past three years, and perceived levels of empowerment among participants.

- LHIs with a subset of men and women who participated in the 2020 study. Of the study areas, 12 LHIs were conducted in Kasama, five in Katete, and 13 in Mpika, selected to achieve a balance of poverty trajectories and livelihoods, and based on the ability to identify participants for re-interviews. LHIs sought to identify changes in wellbeing over time, with a focus on the past three years since the midline evaluation. It involved open-ended questioning on psychosocial attitudes, and effects of the pandemic and associated crises.

The qualitative data is therefore panel data and builds on insights gained through the 2020 data collection to monitor changes over time. All names have been anonymised in the analysis.

3.2.2 Empirical strategy

Quantitative methods

Our empirical strategy involves hypothesis testing using descriptive statistics and correlation analysis. Descriptively, we first calculate the EWV Index (EWVI) for the endline and midline samples for the study groups, similar to the analysis at the midline. The EWV Index was derived from survey questions measuring the dimensions identity, hope and faith, aspirations and vision, and self-esteem in annexe Table 1A, where:

$$EWVI = \sum (identity, hope, aspirations, self - esteem)$$

Lenhardt *et al.* (2023) argue previously validated measures informed measures of the empowerment dimensions in Table 1A. However, the study showed that the survey items in Table 1A exhibited low reliability based on Cronbach's alpha coefficients using the midline survey data, suggesting that some indicators were not representative of the dimension of empowerment being assessed. We maintain the same measures (survey questions) in the endline survey to compare the data between the 2020 and 2023 surveys. We also follow the criteria Lenhardt *et al.* (2020; 2023) use to judge if an individual is adequately empowered according to the EWVI. Lenhardt *et al.* (2020; 2023) draw on analysis by Malapit *et al.* (2019) that shows individuals with an adequacy score of 75 per cent or higher would be classified as 'adequately empowered' on the specified measures of internal attitudes.

To examine empowerment levels between survey rounds across the study subgroups, we start by investigating the change in the proportion of participants adequately empowered in study group samples or at sub-population level between the two survey rounds. This analysis strategy enables us to test the overarching hypotheses (i.e. whether the empowerment levels observed at the midline persisted over time) by examining whether:

1. The proportion of participants adequately empowered in the THRIVE sample (2023) has not declined since the midline (2020).
2. The THRIVE sample has more people adequately empowered compared to the comparison sample at the endline (relying on endline 2023 data alone).
3. Average EWVI scores for subdimensions and the aggregate EWVI for the THRIVE sample at the endline (2023) is greater or equal to the scores observed at the midline (2020) and differences between the groups.

To further examine changes at individual level, we examined the available panel data for the THRIVE subsample (T1, T2, and T3) to gain insights about changes experienced at the individual level between the survey rounds. This analysis at the individual level was limited to the THRIVE subsample as we lacked panel data for the comparison sample.

To address the second objective of the study (i.e. examining factors associated with internal empowerment and its association with resilience indicators at the endline), we extend our analysis

to a multivariate regression using the endline data. For this, we estimate a logistic model where the response variable y (is adequate empowerment or not,) has two variables, 0 and 1, with a vector of explanatory variables x , such that:

Equation 1

$$P(y = 1|x) = \beta_0 + \beta_1x_{i1} + \dots + \beta_kx_{ik} + \varepsilon_{ik}$$

In the model, the independent or explanatory variables of interest are those that are expected to influence the persistence of EWV intervention outcomes, which include implementation factors such as whether the participant received EWV training (according to their study group); the number of trainings received (or intensity of exposure); delivery channel (e.g. by WVI consultants, EWV champions, lead farmers, or others); and a set of sociodemographic and context variables that are known in the literature to influence resilience and psychosocial wellbeing dynamics among people living near or in poverty. Sociodemographic variables we consider include age, gender, and education of household head, size of household, land and livestock ownership, household shocks, engagement in non-farm activities, and area programme controls). Variables are summarised in Table 3. All models include standard errors clustered at village level.

Table 3: Key dependent and independent variables in regression models

Outcomes	Independent variables of interest	Control variables
<ul style="list-style-type: none"> • Internal EWVI binary (>75% threshold) • Internal EWVI continuous score • Perception of full or partial recovery from negative shock 	<ul style="list-style-type: none"> • Participation in THRIVE • EWV variables <ul style="list-style-type: none"> - Receipt of any EWV training - Number of EWV trainings received - Who delivered EWV training • Localised empowerment variables <ul style="list-style-type: none"> - Localised EWVI (>75% threshold) - Localised dimensions of empowerment: relationships, decision-making, participation, opportunities 	<ul style="list-style-type: none"> • Household head characteristics: age, gender, education • Size of household • Land ownership • Livestock ownership • Engagement in non-farm activities • Presence of shocks • Area programme

For robustness, we estimate a multivariate linear model with an OLS estimator where the response variable y (the internal empowerment score) is a linear function of k independent variables (labelled $x_1 \dots x_k$) where:

Equation 2

$$y_i = \beta_0 + \beta_1x_{i1} + \dots + \beta_kx_{ki} + u_i$$

We focus on the internal empowerment score rather than its binary to make use of the richness of its data, and rely on the same set of variables as Equation 1. Alongside this, narrowing our sample to the treatment groups, we also adopt a fixed-effects model with area and time fixed effects and an OLS estimator in a longitudinal panel design. This model adopts the same set of controls as above, but this time our independent time-varying variable of interest is whether the participant received EWV training for the first time between the midline and endline.

In addition to a focus on understanding correlates of empowerment, we also examine the association of empowerment with resilience, where we rely on the indicator of perception of recovery from negative shocks affecting the household in the year before the survey. The intent of this latter logistic model is to better understand the extent to which the presence of internal empowerment helps mitigate the negative effects of shocks on higher-level wellbeing outcomes. Our explanatory variables are the same as in Equation 1, though we also look at types of shock alongside their presence to understand their relationship with resilience.

Qualitative analysis methods

The analysis of qualitative interviews involved two approaches informed by the type of data that was collected:

- All interview types (LHIs, FGDs, and key informant interviews) were analysed thematically. For example, the gender-disaggregated FGDs were analysed to understand community-level drivers of changes in internal and localised enablers, and how this related to resilience in the study sites. It also examined broader drivers of escapes from and descents into poverty, especially since the period of the EWV intervention's implementation (from 2015 to 2023), and with a focus on the three years preceding the midline evaluation.
- The analysis of the LHIs involved process-tracing methods. It examined the persistence of psychosocial attitudes, as well as the role of persistent empowerment in driving pathways out of poverty amid crises.

Qualitative data was analysed in Nvivo V12. Thematic analysis and process-tracing methods were used to inductively reveal key themes and factors at individual case level. Participants were categorised according to their poverty dynamics before, during, and since EWV training, to observe common pathways among those who remained chronically poor over time, those who escaped from but moved back into poverty (i.e. experienced a transitory escape from poverty), and those who escaped from and remained out of poverty over time (i.e. a sustained escape from poverty). This offered an inductive means of assessing how EWV and THRIVE may have contributed to strengthening household resilience over time.

Qualitative-quantitative data integration

Quantitative and qualitative data were analysed concurrently, with a level of iteration, whereby emerging findings from the quantitative data contributed to further explorations of specific themes in the qualitative data. For example, the significant relationship between internal empowerment and resilience in the quantitative data led to an investigation of its causal mechanisms in the qualitative data. Key correlates and associations between participation in EWV and empowerment were examined in both the qualitative and quantitative data, with the qualitative data providing a deeper understanding of the causal pathways. Together, this revealed findings where there is both a convergence and a deeper understanding of processes that appear to drive the persistence or fadeout of behaviours observed at the midline.

Limitations

There are some limitations to our data and methods of analysis presented above. First, our study groups (T1, T2, T3, and T4 (control)) comprise unbalanced sample sizes (as Table 1 and Table 2 show), with the sample size of T3 being relatively smaller than T1 and the control group. Therefore, tests of differences in outcomes between T1 and T3, or T3 and the control group, may be less reliable. In addition, there is potential selection bias in who received EWV and when they received the training, as well as spillovers between T1 and T2 (thus blurring the line between when learning was shared within communities and when more formal training was actually received) – both of these threaten the validity and generalisability of the findings, especially the comparison of outcomes between T1 and T2. However, we consider the observed outcomes and comparisons between T1 and the control group to be more stable, and to inform the main insights we draw from the study.

Our qualitative re-interviews also attempted to balance a focus on 'sentinel households', capturing an array of empowerment levels and poverty trajectories identified in 2020, with the practical ability to re-identify past participants. If resulting participants are relatively better off (which they often are) compared to the original sample, this would overestimate the EWV intervention's contribution to the observed levels of empowerment and household resilience at the endline. Our use of a range

of socioeconomic controls in the regression models, ability to exploit the panel structure of the data, and multiple triangulation methods mitigate some of the threats in both the qualitative and quantitative findings.

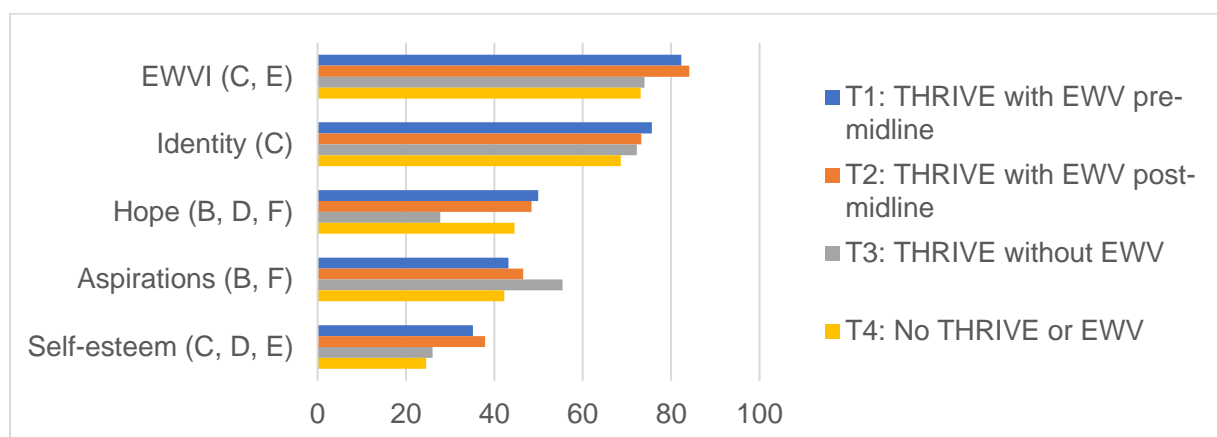
4. Results: Investigating the persistence of internal and localised enablers

4.1 Do internal enablers of empowerment persist over time?

4.1.1 Changes over time in internal enablers

Figure 3 displays the proportion of participants adequately empowered at the endline across the study groups – T1, T2, T3, and T4. The overall EWVI scores show that at the endline, 82.3 per cent of participants who received EWV training before the midline survey (i.e. T1) are adequately empowered, compared to 84.1 per cent of T2 participants who received their training after the midline, and 73.1 per cent among T4 participants. The difference in the proportion of T1 and T2 participants compared to T4 participants who are adequately empowered at the endline is statistically significant. However, the difference in the proportion of T1 and T2 participants adequately empowered at the endline is not statistically significant, suggesting that when participants received EWV training does not matter too much in terms of the intervention’s effects on internal enablers of empowerment.

Figure 3: Internal empowerment at endline (2023) (%)

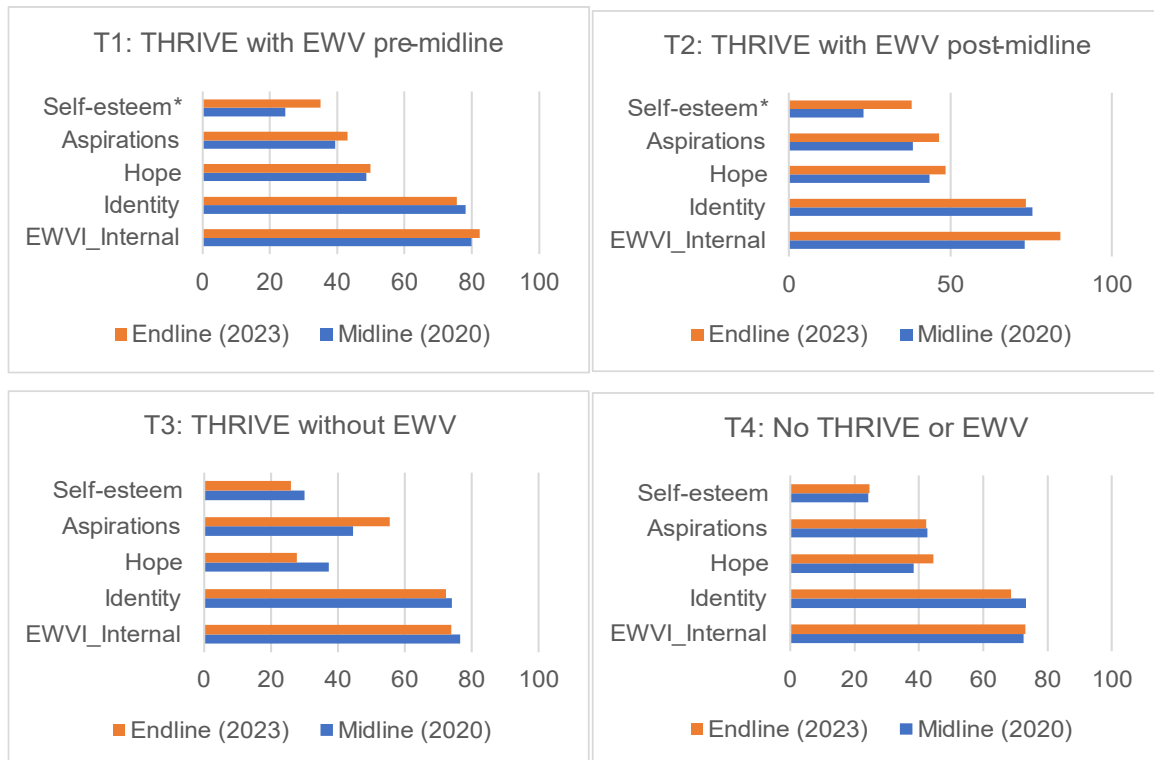


Notes: letters in parentheses in the left-hand column refer to the statistically significant difference in means, all at conventional levels, between study groups: A = T2 vs T1 (no examples of this are found); B = T3 vs T1; C = T4 vs T1; D = T3 vs T2; E = T4 vs T2; and F = T4 vs T3. See annexe Table A4 for more details.

Figure 3 also presents the endline EWVI results disaggregated into individual dimensions: identity, hope and faith, aspiration and vision, and self-esteem. Disaggregation reveals that a larger share of participants is adequately empowered in the identity dimension (representing the importance of personal values, life satisfaction, and social behaviours) across the study groups, whereas internal empowerment is lowest in the self-esteem dimension (representing the perceived ability to accomplish things or influence decisions). Even so, Figure 3 also shows THRIVE subsamples that received EWV (T1 and T2) have more participants who are adequately empowered in the hope and self-esteem dimensions, but are less empowered in the aspirations dimension compared to THRIVE participants who did not receive EWV training. Together, these results indicate that the EWV combination with THRIVE has been particularly important in strengthening specific components of internal empowerment related to participants’ perceived abilities (self-esteem) and motivations (hope).

Results of changes in internal empowerment between the midline (2020) and endline (2023) show there is no decline in the proportion of participants adequately empowered across any of the study groups (THRIVE or comparison) (Figure 4). When disaggregated by dimension, between survey rounds across groups, changes are only statistically significant in the self-esteem dimension among EWV participants. The results suggest empowerment levels observed at the midline have remained relatively stable among the study population in Zambia, except for positive change in participants' self-esteem as noted above.

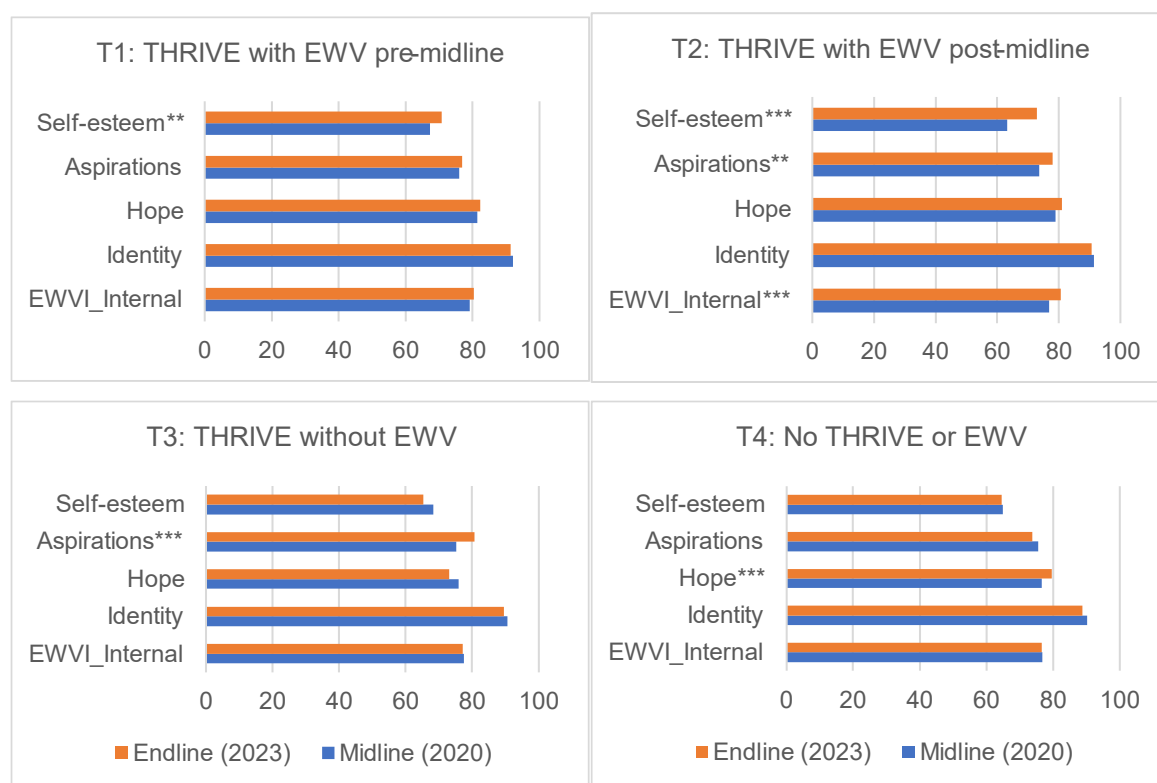
Figure 4: Changes in shares of participants empowered from 2020 to 2023 across study groups (%)



Note: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

The mean empowerment scores between the midline and endline are also relatively constant, except among the T2 group, which received EWV after the midline survey (Figure 5). Among this group, there is a marginal but statistically significant increase in the EWVI mean empowerment scores, from 76.8 to 80.7, and a statistically significant increase in the mean score in the self-esteem and aspirations dimensions. The observed increase in empowerment among T2 participants between the midline and endline is consistent with the findings Lenhardt *et al.* (2023) discuss about the benefits of EWV training in the short term. There is also an increase in the self-esteem dimension score among participants who received the EWV training before the midline, reinforcing the findings noted above in terms of the adequacy thresholds being above 75 per cent.

Figure 5: Changes in average empowerment scores from 2020 to 2023 across the study groups (%)



Note: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

The qualitative data also points to evidence of persistent internal enablers. However, this is commonly observed among households that had escaped poverty by the midline or endline. Among the chronically poor qualitative participants in 2020, nine have moved to non-poor categories by 2023 (Table 4). In addition, the majority (13) of the 18 households that had escaped or remained out of poverty by 2023 tend to express improvements in their internal empowerment, while the remaining five typically show no change in their empowered worldviews.

Table 4: Poverty trajectories between phase 1 and phase 2

Trajectory up to 2020 and no. of LHIs in 2020	No. of LHIs subsequently in 2023
PPP – 19	Poor – 10; Non-poor – 9
PNP – 3	P – 2; N – 1
PNN – 7	P – 0; N – 7
NPN – 1	P – 0; N – 1

Note: P = poor; N = non-poor; 2020 refers to the midline (phase 1) and 2023 refers to endline (phase 2). All households in the qualitative data received EWV and THRIVE.

Based on the above, the qualitative data may lead some to question the high level of empowerment in all groups shown in the quantitative data. It does so by highlighting continued constraints in terms of the instrumental role of empowerment in contributing to participants' wellbeing. At the same time, the majority of interviews point to the salience of certain components of internal empowerment among EWV participants. We therefore next provide examples of how this internal empowerment appears to manifest at the endline and over time, drawing on the qualitative data.

4.1.2 Perceived changes in internal enablers among participants

Self-esteem

The biggest change in internal empowerment noted above in the quantitative data is observed in the self-esteem dimension. In the qualitative data, a mindset of self-esteem or confidence in the life histories is often observed where participants were able to recognise previous achievements supported by EWV and THRIVE and learn from them. For example, Edward identified available networks he planned to draw on to improve the returns on his farming through expanded markets:

This success in farming, albeit modest, fuels my confidence and optimism for the future. I see it as a stepping stone toward greater achievements and a manifestation of potential growth... One of my current priorities is finishing the construction of my houses and toilet. These aren't just buildings; they symbolize my commitment to providing a stable and comfortable living environment for my family. My focus on improving my agricultural activities also reflects a broader goal: enhancing my self-sufficiency and contributing positively to my community... Even though there were moments when life seemed to be in decline, these goals and the efforts I am putting towards achieving them are evidence of my resilience and growth. (Edward – PPP/PN)

The desire to take steps to improve living conditions (through EWV, strengthening the confidence and measured risk-taking of participants) even amid setbacks, and to expand livelihoods (following THRIVE's focus on livelihood diversification), is regularly observed among households escaping poverty. In the case of Everest, it also instilled in him the confidence to recognise potential in others and so contribute to bringing others along with him on productive pathways out of poverty:

With what I have achieved so far, people are able to learn from ideas and effort they put towards my work, this is mainly because I am able to identify or recognize potential in things and people around me. I am very confident that I will manage to realize enough capital for the business that I want to start a shop. (Everest – PPP/PN)

Aspirations

People's aspirations also persist over time. This is often observed through households making direct plans to improve agricultural production, expand or diversify business activities (e.g. into commercial agriculture, processing, and trading) to create a more secure household income stream, or to invest their income in improving living conditions; for example, by building a house or adding improved sanitation facilities. Underpinning these aspirations is a focus on setting goals and targets, as learnt through EWV training:

I am doing very well with my farming activities but I feel I am not yet where I want to be. I will be able to improve my farming to commercial with the help of the cooperative that I am in. (Flora – PPP/PN)

I feel having goals and working very hard helped me a lot. When I did not plan for my activities I did not know that I was making progress or not. This time am able to see if I was making process. (Lucy – PNN/NN)

As noted above, some EWV participants also made efforts for others to escape from poverty with them. For example, Jacob (PNN/NN)'s aspirations to help his siblings join the farming industry and support vulnerable children and their families demonstrate his desire to make a positive impact on those around him.

Hope

The majority of participants note increased hope deriving from the EWV training and again typically linked to religious faith. This hope persisted during crises, providing a sense of intangible support,

acting to further their psychological empowerment in the face of adversity and enabling individuals to overcome crises. Examples of this hope in the face of adversity are noted below, where there is a clear sense of having already experienced hardships in the past and learning to recover from them and rebuild assets and livelihoods:

I did not lose hope during Covid, I continued with my projects and managed to keep it active even when things were not allowing. (Flora – PPP/PN)

The mindset change has been the best. I am able to see things in a different way than I did before the training... The EWV trainings have really impacted me in that in the beginning it used to be easy to get defeated mentally when we do not harvest as expected due to poor rain patterns, but this time around we are able to pick up and move forward. We also learnt to identify the things we can use that are within us to improve our livelihood and reduce dependency on others. (Chase – PPP/PN)

Identity

Many EWV and THRIVE participants are perceived as valued members of the community for their knowledge and support in enabling household wellbeing. The experiences of Ruth and Everest provide examples. For example, Ruth knows her value and purpose: she sees herself as a provider. Even after she separated from her husband (in 2022), she quickly found ways to provide for her children:

When I [had] just left my husband, life was a bit hard, I had to start from scratch. I got a few things including some crops that we had harvested with my husband... Towards the end of the year, I started a small business of buying and selling avocados and bananas for survival... I have focused myself in improving my life and that of my children. I have no plans of remarrying; I have a responsibility of raising my children. (Ruth – PPP by 2020, PP by 2023, but rising)

Everest also communicated his persistent sense of identity within the community:

I feel recognized by people in the community, these days they come to ask for help from me on a number of things. They ask me how I manage to run my vegetable garden and the methods I use. In the past this never used to happen. (Everest – PPP/PN)

In several cases, a persistent sense of identity is maintained through continued reliance on religious principles used in the training, as the example from Albert illustrates:

The illness of my two daughters has been a big challenge for me. There were times when I felt God was far from me. But... I knew that God loved me to give me these children and so I had to work hard for them... I feel the realization of God's love [through EWV] helped me a lot... I became very active in the cooperative committee. I was a very hardworking person and one who can achieve all my goals. I interacted with different farmers and agricultural experts that came to teach us about agriculture. People trusted me [to] be one of the executive members of the co-operative and other different positions in the community, like being chairperson of the water point committee. (Albert – PPP/PN)

Combinations

Many participants escaping from poverty also signal the importance of combinations of aspirations, hope, and faith in their pathways out of poverty. These elements are strongly present in individuals' narratives as well as their plans, supported typically by diversified livelihoods as a means of risk mitigation.

I expect to make K5,000 [approx. US\$204] from my garden if the water challenge will not reoccur, but in case it does, I am very sure I will harvest something from my tomatoes, which

have already started bearing fruits. I cannot stop gardening even when I incur losses because I have a vision. I also learnt to accept the situation as it is and, moreover, every business has a loss, so things might not go well now but someday I can have a bumper harvest. (Chase – PPP/PN)

The qualitative data reveals evidence of positive feedback loops. It suggests that it is not only the training that contributes to long-term changes in internal empowerment, but also people observing results from their actions which becomes self-reinforcing. For example, it may be easier to have faith if basic needs have been supported. Reinforcements are also observed between people’s perceived self-value (e.g. the identity examples above) and the affirmation they derive from others in the social system (e.g. within their household, from neighbours, or within the community), which in turn contribute to pathways out of poverty.

Similarly, Everest’s example suggests that the change in his confidence was part of a virtuous cycle that went beyond him and his household to support poverty escapes among those within the wider community. These results thus build on the adaptive outcome theory to suggest positive feedback loops in individual empowerment have the potential to generate long-term outcomes, not only in terms of contributing to persistent internal empowerment, but also in nurturing sustained pathways out of poverty for the self and wider community.

4.2 Factors associated with internal empowerment at the endline

We estimate two regression model specifications – the logit and OLS – to examine the association between the observed internal empowerment and exposure to EWV, the time when the exposure occurred, and household social and demographic characteristics. The logit regression results show that participation in EWV training is positively associated with being adequately empowered on the internal empowerment dimension (Table 5, model 1) and on its underlying empowerment score relative to the control group (Table 5, model 2). This is true regardless of whether EWV training is received before or after the midline. However, the probability of being adequately empowered is marginally higher among T2 households that received the intervention after the midline, where it is associated with an 11 percentage point increase in the probability of empowerment, compared to an 8 percentage point increase among participants who received EWV before the midline survey.

We also make stronger use of the panel structure of the THRIVE sample data and adopt a fixed-effects model with area and time fixed effects and an OLS estimator (Table 5, model 3) to gain insights into variations in effects over time within individuals. Results indicate that participants who received EWV training between the midline and endline experienced an increase in their empowerment score by close to two units. Together, these results reaffirm the findings above that the role of EWV training on participant empowerment is strongest when the training was more recently received. This suggests in turn that while effects do persist as noted earlier, the size of these effects may wane over time.

Table 5: Average marginal effects of EWV participation on internal empowerment scores

Outcome (y): Variables	Endline sample, logit model (1) y=EWVI>75%=1, 0 otherwise)		Endline sample, linear OLS regression (2) y=EWVI score		Midline and endline treatment sample, fixed effects (3) y=EWVI score	
	AME	SE	AME	SE	AME	SE
Any EWV training					0.0197**	(0.0097)
Study group (ref.=T4)						
T3: THRIVE without EWV	0.0138	(0.0458)	0.0081	(0.0133)	N/A	N/A
T2: THRIVE with EWV post-midline	0.1071***	(0.0289)	0.0373***	(0.0087)	N/A	N/A

T1: THRIVE with EWW pre-midline	0.0831***	(0.0259)	0.0314***	(0.0072)	N/A	N/A
Household size (ref.=more than 6)						
5 or 6	-0.0036	(0.0236)	-0.0039	(0.0070)	0.0035	(0.0110)
4 or less	-0.0378	(0.0234)	-0.0183**	(0.0075)	-0.0114	(0.0127)
Household head's age	-0.0019***	(0.0007)	-0.0007***	(0.0002)	-0.0006	(0.0005)
Household head is female	-0.0303	(0.0222)	-0.0106	(0.0070)	0.0023	(0.0140)
Household head completed primary school	0.0380**	(0.0182)	0.0252***	(0.0062)	0.0123	(0.0112)
Household head completed secondary school	0.0518	(0.0410)	0.0273**	(0.0128)	0.0308	(0.0219)
Household head owns land	0.0087	(0.0769)	0.0164	(0.0217)	0.0725**	(0.0296)
Household head owns livestock	0.0508**	(0.0203)	0.0164***	(0.0059)	0.0203*	(0.0107)
Household has non-farm income	-0.0230	(0.0341)	-0.0107	(0.0134)	-0.0164	(0.0213)
Household experienced shock at endline	-0.0146	(0.0373)	-0.0061	(0.0103)	N/A	N/A
Area fixed effects	Yes		Yes		Yes	
Time fixed effects	N/A		N/A		Yes	
Observations	1,943		1,943		1,607 (869 groups)	
Model stats	Wald chi2(17)=76.70		F(17, 95)=9.43		F(13, 725)=2.63	
	Prob.>chi2=0.0000		Prob.>F=0.0000		Prob.>F=0.0013	

Notes: AME = average marginal effects; SE= standard error; *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

We also consider how EWW implementation quality might affect the probability of its effects persisting. Quality is assessed by examining the association of empowerment with level (intensity) of exposure to EWW and who directly delivered the EWW intervention to recipients. The intensity of EWW training measured in terms of its number of sessions is associated with a higher probability of internal empowerment (Table A5, model 1).

There is no significant relationship between who delivers the training (e.g. whether it is EWW champions or lead farmers, relative to WVI consultants) and the probability of empowerment (Table A5, model 2), suggesting that other factors may be more important in driving internal empowerment. Such factors may include younger age of household heads, household heads completing at least primary education, and livestock ownership, as observed through the significance of these variables in Table 5.

Qualitative data reveals that participants in wellbeing level 3 (see annexe Table A3 for wellbeing categories) appear to benefit most from the EWW trainings. Characteristically, members of this group often own or have access to basic resources, are often slightly younger and have at least completed primary education, which when combined with EWW training enables them to more effectively exercise agency to become upwardly mobile. Those who have sustained their escape from poverty in our small qualitative sample, typically those in wellbeing levels 4 and 5, were also often able to benefit from the EWW intervention to maintain their escapes from poverty; the common means of doing this observed in the qualitative interviews is typically through further learning, related for example to aspirations and underpinned by sounder financial literacy and planning.

Participants in wellbeing level 1 (all within the category of chronic poverty) often lack labour capacity, while those in wellbeing level 2 (also typically found among chronically poor participants) lack adequate assets and financial resources:

The programme is very good and the lesson on using available resources is good, but it did not work much for some people because there are limited resources in this area. If they can come up with a loan program for those that do not have anywhere to start from [that could] be good. (Sarah – PPP/PP)

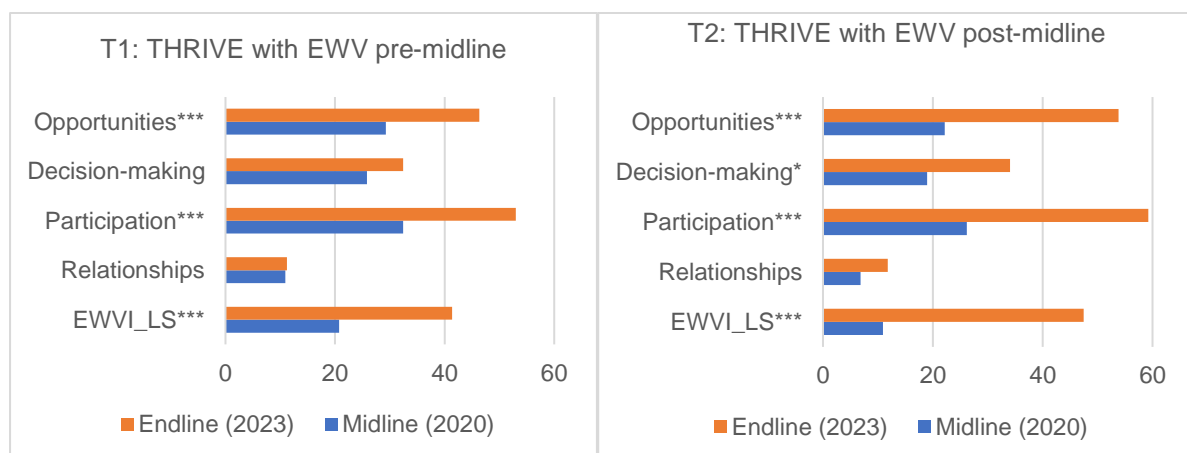
The lack of financial resources means that several level 2 participants in the qualitative sample are sometimes overextended, experimenting in ways that ultimately heighten their risk without an adequate degree of resource-based support. These results suggest that interventions that change underlying social-psychological processes ought to be accompanied by external support. This is in line with other literature that also acknowledges the importance of these forms of external support alongside psychosocial support (e.g. Haushofer, Mudida and Shapiro 2020; Samuels and Stavropoulou 2016; Tumusiime *et al.* 2022). In the Zambian context, this would mean that participants should be social cash transfer recipients, Food Security Pack Programme recipients, and/or benefit from savings and credit groups (Diwakar and Bwalya 2021).

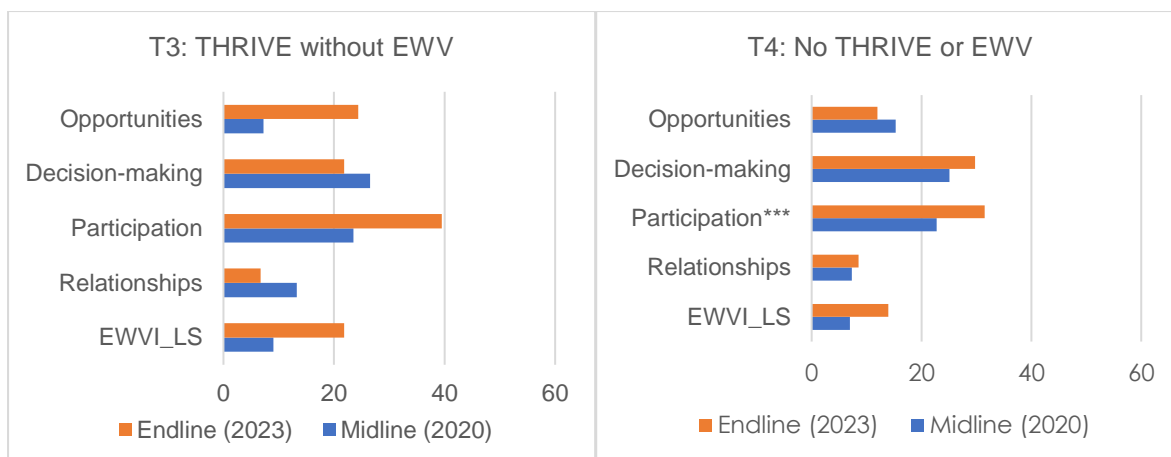
4.3 Localised empowerment between survey rounds

Our theoretical framework predicts that access to resources and enabling social environments are critical indicators and drivers of persistent internal empowerment. We examine this by investigating changes in localised empowerment (e.g. based on participants’ opportunities, decision-making, participation in collective activities, and relationships) between the survey rounds and differences across the study groups.

The results (Figure 6) show how localised empowerment has changed between the midline (2020) and endline (2023) across the study groups. There is a large and statistically significant increase in the proportion of participants experiencing localised empowerment between survey rounds for the THRIVE with EWV groups (T1 and T2), by much more than the THRIVE only or comparison groups. At the endline, 41.4 per cent of participants who have received THRIVE with EWV pre-midline (T1) experience localised empowerment, compared to 20.8 per cent at the midline. The proportion of participants exhibiting localised empowerment also increases more than four-fold among participants who received EWV training after the midline (T2). In contrast, the share of those experiencing localised empowerment increases by smaller, non-statistically significant margins in the THRIVE with no EWV and control groups.

Figure 6: Changes in localised enablers (by EWV and THRIVE programme participation) (%)



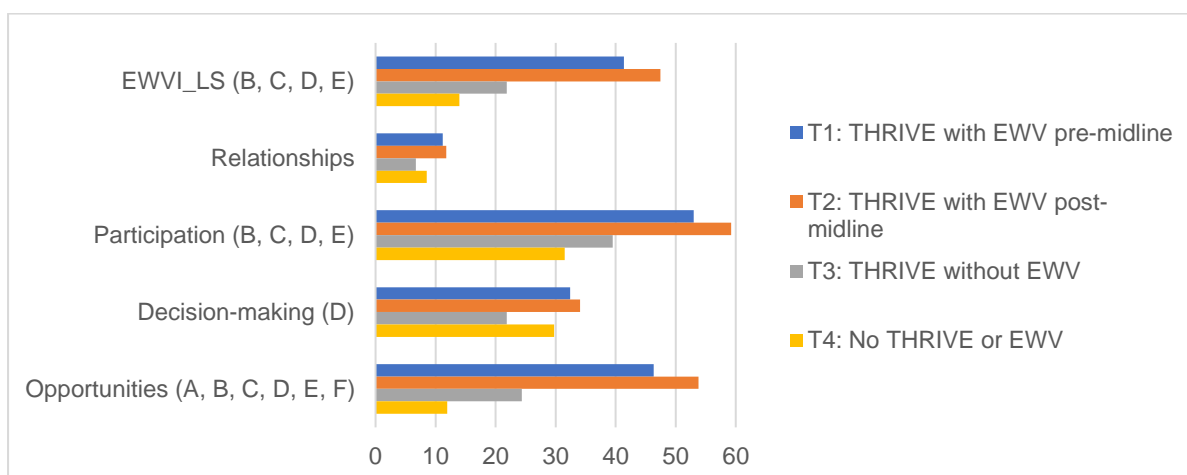


Note: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

When the localised empowerment domain is disaggregated, we find the largest increase in participants reporting empowerment is in the participation element. The largest increase of those empowered in the participation subdomain is among the group that received EWW, and within this, those who received EWW after the midline. In addition, there are statistically more participants in 2023 who are optimistic about available opportunities among EWW recipients compared to the proportions at the midline. These opportunities include access to savings and credit services, perceived ability to obtain a loan if needed, and engagement in financial self-help groups.

Analysis of endline data (Figure 7) shows that the proportion of those experiencing localised empowerment is much higher in the T1 and T2 samples (i.e. the groups that received EWW training before and after the midline, respectively) compared to T3 (i.e. the group that received THRIVE but no EWW) or the control group (T4). These differences are statistically significant. Specifically, 47.5 per cent of T2 participants and 41.4 per cent of T1 participants experience localised empowerment at the endline. However, only 21.9 per cent of THRIVE participants who did not receive EWW training (T3) report experiencing localised empowerment; and just 14.0 per cent of the control group (T4) is categorised as adequately empowered. Within the index, the greatest differences are again observed in the participation and opportunities dimensions.

Figure 7: Localised empowerment at endline (2023) (%)



Notes: letters in parentheses in the left-hand column refer to the statistically significant difference in means, all at conventional levels, between study groups: A = T2 vs T1; B = T3 vs T1; C = T4 vs T1; D = T3 vs T2; E = T4 vs T2; and F = T4 vs T3. See annexe Table A4 for more details.

The regression results show the availability of these localised enablers correlates with a higher probability of being internally empowered (Table 6). Results in Table 6 show empowerment on all localised dimensions is also associated with a higher probability of being adequately empowered on the internal empowerment dimension (Table 6, column 1). When the dimensions are disaggregated, the results show that indicators related to social relationships and participation in collective activities are consistently associated with a strong and positive relationship with individual empowerment (Table 6, column 4). Within this, for example, the ability to rely on community members in times of emergencies has a positive association with internal empowerment (Table 6, column 2).

These are conditions that many households found themselves experiencing during the preceding three years of crises including the Covid-19 pandemic. Similarly, participation indicators also are positively associated with empowerment, again reflecting the importance of social networks outside the household in contributing to participants' internal empowerment. Finally, most indicators related to women's agency and participation in decision-making are also associated with a higher probability of individual empowerment (Table 6, column 3).

These findings appear consistent with the theory that suggests positive perception of localised enablers (or supporting environment) can create positive feedback with internal empowerment. It is worth stressing, though, that our empirical results on the variables are not a causal analysis, but indicate likely two-way directionality, where localised enablers affect internal empowerment and vice versa.

Table 6: Average marginal effects of localised enablers on internal empowerment at endline

Outcome = EWVI (internal) adequacy Variables	Independent variables of interest									
	Localised enabler dimensions (1)		Relationships (2)		Decision-making (3)		Participation (4)		Opportunities (5)	
	Coef.	SE	Coef.	SE	Coef.	SE	Coef.	SE	Coef.	SE
Relationships	0.1366***	(0.0351)								
Decision-making	0.0620***	(0.0218)								
Participation	0.0698***	(0.0198)								
Opportunities	0.0567***	(0.0194)								
Trust in neighbours			0.0486***	(0.0161)						
Emergency support			0.0662***	(0.0188)						
Rich/poor interactions			0.0796***	(0.0269)						
Decisions – household expenses					-0.0333	(0.0235)				
Decisions – crop income					0.1040***	(0.0263)				
Equal access					0.0663***	(0.0215)				
Interactions re. econ. Activity							0.0453**	(0.0181)		
Interactions re. food/drink							0.0476**	(0.0198)		
Church/religious service							0.0166	(0.0240)		
Loan									0.0252	(0.0195)
Self-help group									0.0303	(0.0218)
Training on savings/credit									0.0255	(0.0214)
EWV study groups	Yes		Yes		Yes		Yes		Yes	
Household controls	Yes		Yes		Yes		Yes		Yes	
Area controls	Yes		Yes		Yes		Yes		Yes	
Observations	2,691		2,611		2,685		2,477		2,641	
Wald chi2(16)	181.03		144.3		152.67		120.07		123.7	
Prob>chi2	0.0000		0.0000		0.0000		0.0000		0.0000	

Notes: AME = average marginal effects; SE = standard error; *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. See annexe Table A2 for variable definitions relating to localised enablers.

Similarly, the qualitative data reveals supporting livelihoods resources that appear to underpin observed internal empowerment at the endline. These include improved access to improved farm inputs (fertilisers) and financial literacy. Alongside are various dimensions directly deriving from EWW training and related to internal or localised enablers, such as a focus on longer-term planning and improving access to local resources. Other themes that emerge from the qualitative data are listed below:

- Knowing how to plan and set targets and evaluate farming outputs (hope, aspirations) – This played a significant role in Edward’s internal empowerment, despite a series of negative shocks in 2020 and 2021 (Box 1).
- Knowing how to identify things that can improve livelihoods and reduce dependency (aspirations, access to opportunities).
- Learning how to believe in oneself (identity, self-esteem).
- Being willing to learn and to use locally available resources (access to livelihood opportunities, agency, and decision-making) – At the same time, one interviewee suggested strengthening the collaborative element in livelihood interventions through a stronger focus on farmer groups to help mediate access to markets:

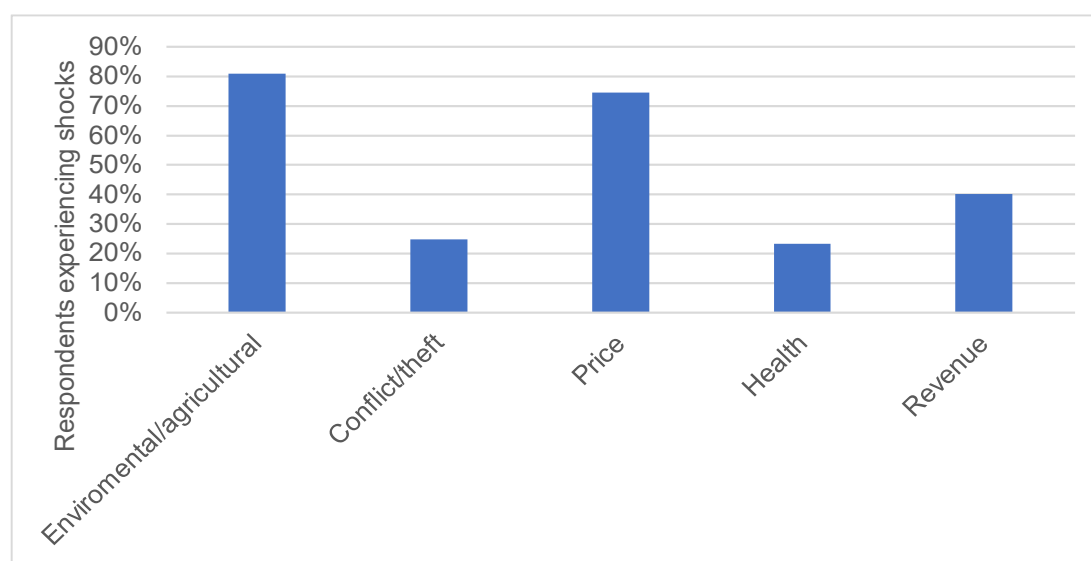
I would advise the EWW program directors consider strengthen[ing] farmers groups, so that farmers can find [a] market for their produce without much struggle. The concept of bringing farmers together to [sell] their products in bulk is a good one but in our community such ideas have not [been] actualized. (Betty – PNN/NN)

- Getting to know other people and exchanging information; being able to join social groups and build healthy relationships in communities (relationships, participation in collective activities).
- Knowing how to access social programmes, especially the Farmer Input Subsidy Programme (social relationships, access to livelihood opportunities).

5. EWW, poverty, and resilience to shocks

Resilience is a high-level goal for psychosocial interventions seeking to contribute to ending extreme poverty. Several shocks affected the three study areas between 2020 and 2022. Participants were specifically asked about major shocks experienced in the 12 months preceding the endline survey. Results indicate that around four in five households reportedly experienced environmental or weather-related and agricultural shocks (e.g. too much rain or floods; too little rain or drought; livestock or crop disease; soil erosion), while a slightly smaller share experienced commodity price shocks (Figure 8). Focus groups, key informants, and insights from LHIs also drew attention to shocks related to climate change (drought and pests) and Covid-19. Local lockdowns affected businesses and agricultural trade. Such shocks and stressors can drive economic vulnerability, hopelessness, and a decline in an individual’s sense of empowerment at both internal and localised levels.

Figure 8: Types of shocks reported in 12 months preceding endline survey



Source: analysis of THRIVE endline survey (2023)

Next, we examine the relationship between shock exposure, the EWV intervention, empowerment, and households' perception of recovery (as an indicator of resilience). Results show that households that received EWV training pre-midline (T1) or were adequately empowered (internal or localised) are more likely to report that they either partially or fully recovered from major shocks experienced in the year preceding the survey (Table 7, columns 1 and 2). This is true when controlling for the number of shocks (Table 7, column 1), as well as the type of shock (Table 7, column 2). This is important and distinct from the results above, which suggest that the more recent the training, the higher the probability of empowerment. This result instead points to the importance of a longer period of time having elapsed since training when aiming to safeguard household resilience in the face of negative shocks. This might suggest that a longer time since EWV training and participant empowerment helps households to prepare for or absorb the negative effects of shocks experienced without major disruptions to households' livelihoods.

Table 7: Average marginal effects of EWV training on partial or full recovery following shocks

Variables	Independent variable of interest:			
	A: Number of shocks (1)		C: Type of shock (2)	
	Coef.	SE	Coef.	SE
Outcome: partial or full recovery following negative shocks				
Internal empowerment (EWVI_Internal)	0.0593***	(0.0227)	0.0563**	(0.0230)
Localised empowerment (EWVI_Localised)	0.1108***	(0.0314)	0.1092***	(0.0313)
Study group (ref.=T4 control)				
T3: THRIVE without EWV	-0.0259	(0.0439)	-0.0341	(0.0443)
T2: THRIVE with EWV post-midline	0.0424	(0.0283)	0.0398	(0.0290)
T1: THRIVE with EWV pre-midline	0.0839***	(0.0219)	0.0820***	(0.0218)
Household size (ref.=more than 6)				
5 or 6	-0.0145	(0.0234)	-0.0147	(0.0233)
4 or less	-0.0050	(0.0249)	-0.0049	(0.0246)
Household head's age	-0.0013**	(0.0007)	-0.0014**	(0.0007)
Household head is female	-0.0110	(0.0209)	-0.0174	(0.0213)
Household head completed primary school	0.0433*	(0.0222)	0.0413*	(0.0223)
Household head completed secondary school	0.1224**	(0.0547)	0.1205**	(0.0543)
Household head owns land (agricultural/non-agricultural)	0.0647	(0.0497)	0.0508	(0.0506)
Household head owns livestock	0.0530***	(0.0185)	0.0522***	(0.0185)
Household head has non-farm income	-0.0785***	(0.0262)	0.0788***	(0.0264)

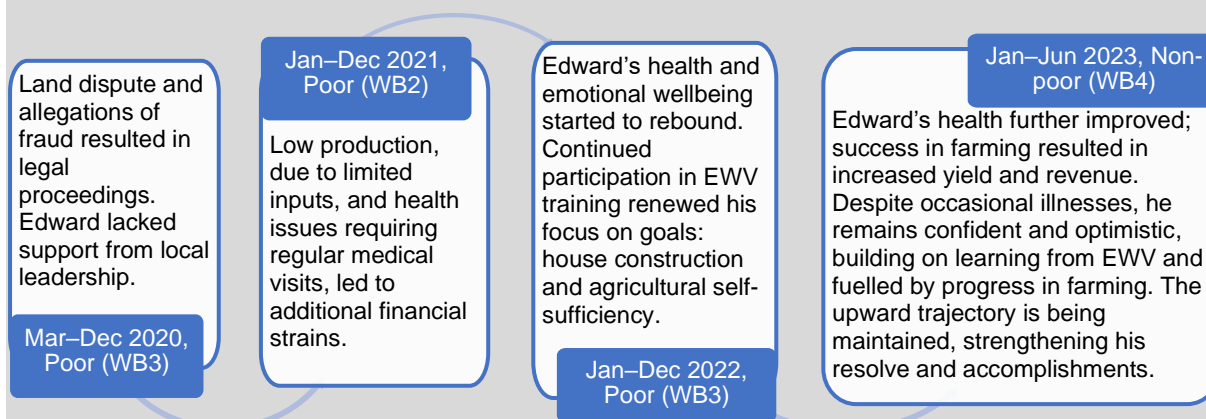
Number of shock types	-0.0373***	(0.0097)		
Enviro./agricultural shock	N/A	N/A	-0.0489*	(0.0278)
Conflict/theft shock	N/A	N/A	-0.0087	(0.0194)
Price shock	N/A	N/A	-0.0357	(0.0228)
Health shock	N/A	N/A	-0.0180	(0.0200)
			-	
Revenue shock	N/A	N/A	0.0670***	(0.0233)
Area controls		Yes		Yes
Observations	1,502		1,481	
Wald chi2(16)	125.26		142.87	
Prob>chi2	0.0000		0.0000	

Note: AME = average marginal effects; SE = standard error; *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Resilience also appears to be supported by social relationships, collaborative spousal relationships, engagement in savings groups, and persistent empowerment through EWW, with evidence of synergies between internal and localised enablers being maintained even during crises. Box 1 and Box 2 provide examples of these combinations.

Box 1: Localised enablers combine with hope and aspirations to maintain resilience to crises

Edward shares financial responsibilities with his wife to cover the costs of farming supplies, spending on household needs including food, and saving and investing proceeds together into livestock development. He has experienced a series of shocks over the past three years, which has lowered his resilience and contributed to his temporary impoverishment over the period illustrated below.



Despite these challenges, compared to his earlier interview in 2020, there has been a strong upward rise in Edward's sense of hope and wellbeing. In 2020, reflecting on the EWW training, Edward noted: *'My mind has developed a little and I now can understand some business ideas that I never knew of and I am trying to modernize the farming methods and mindset.'* In 2023, however, following more recent EWW and THRIVE trainings, the sustained combination of his rising internal (e.g. hope and aspirations) and localised enablers are palpable:

I see [this success in farming] as a stepping stone toward greater achievements... With faith in divine providence and a commitment to hard work and continuous learning, I look forward to harvesting even more... The dream of finding additional financial resources is not just a distant aspiration; it's a goal I'm actively working towards... In life, we often face challenges that seem insurmountable, but with faith to uplift us and a vision to guide us, we can conquer anything. I'm living proof of that... (Edward – PPP/PN)

This persistent empowerment from EWW was combined with support Edward received through THRIVE (e.g. through access to and participation in savings groups), which helped further strengthen his social relationships and collective activities. These are important localised enablers that combined with the support he received through EWW to maintain Edward's resilience amid adversity.

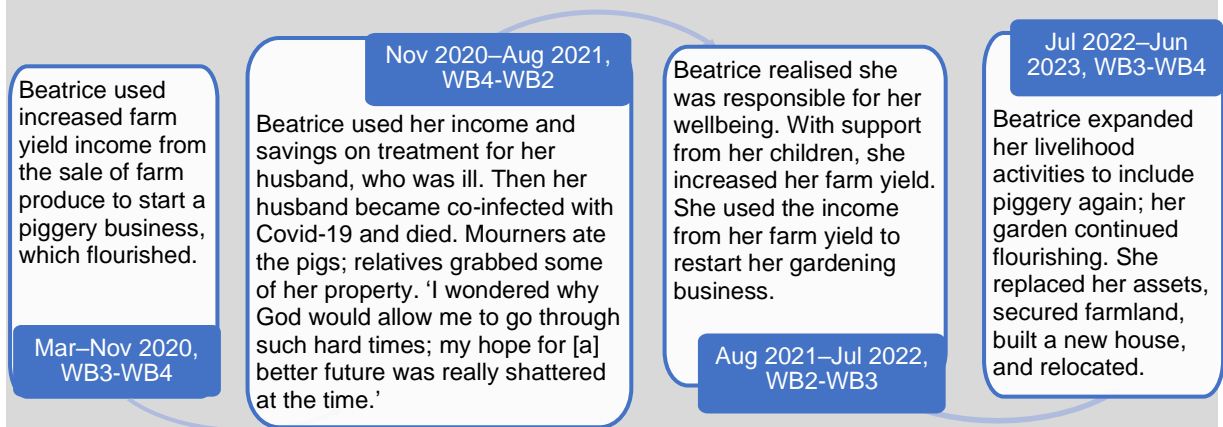
EWV training and the internal empowerment it strengthened also uniquely helped women sustain or recover their wellbeing following crises. For example, Beatrice’s internal empowerment was sustained amid crises due to EWV teachings, while her localised empowerment was also strengthened through programmatic support and engagement in savings groups (Box 2). Together, they enabled her to improve her economic wellbeing amid repeated shocks and stressors.

In other cases, too, women’s ability to maintain their wellbeing amid Covid-19 and intersecting crises was often attributed in part to WVI’s emphasis, through EWV with THRIVE, on collaboration among farmers for better market access and on encouraging participants to explore financial aid, such as loans or other programmatic support, to improve farming activities. Again, access to these resources is observed to be an important part of strengthening the social systems or relationships that can contribute to individuals’ persistent internal empowerment, even amid crises.

Box 2: Confidence to resist gender norms and become upwardly mobile with programme support

Beatrice’s confidence in her abilities played a vital role in her recovery. Despite losing her spouse and facing property disputes during the Covid-19 pandemic period, she continued to make strategic business decisions that allowed her to rebuild her life successfully. It was her self-confidence, encouraged by EWV training, that pushed her to resist adverse gender norms by fighting against her in-laws, rebuilding her business, and moving into a new home. She notes:

I lost faith and hope when I lost my husband, it felt like it was the end of the road for me. [To] make it worse, my in-laws grabbed our property. The EWV training helped me renew my strength and faith... The EWV lessons on being independent is what helped a lot, I came to a realization that I was responsible for myself, no one else but me was going to help me... My advice to my fellow women is that let us always change from a mind-set of dependency on spouses. Let us value education and engage in various livelihood activities, utilizing resources around us. I had lost all hope in life but I told myself to be strong and not lose confidence in myself. I have always had faith in myself for I believed that I would do it on my own.



At the same time, she was supported by the localised enablers developed through THRIVE with EWV. Namely, Beatrice was part of a savings group that she borrowed from when necessary, while she also benefitted from government support via the Farmer Input Subsidy Programme, as well as enjoying free education and free health care, excluding medications from private pharmacies.

At the same time, around two-thirds of households do not manage to escape from poverty over the period according to the qualitative data. Moreover, in the quantitative data, the probability of poverty remains high across samples, albeit lower among EWV participants. Together, these results point to the need for caution. While the mixed-methods evidence largely points to strengthened resilience among EWV participants that is further supported through THRIVE, the landscape of

repeated shocks and lasting stressors continues to exert pressures that may also prompt the erosion of resilience, especially among poorer households, as noted in section 4.2.

6. Conclusion and recommendations

Psychosocial interventions designed to target negative ‘internal’ attitudes and promote individual-level empowerment can have long-term benefits by generating positive attitudes and support for pathways out of poverty and resilience. Previous studies have found evidence of effectiveness in the short to medium term, generally when measurements were done no more than three years after the psychosocial intervention ended.

In this study, we investigated whether WVI’s faith-based EwV approach is effective at producing persistent effects of empowerment, defined by the persistence of positive internal attitudes, and perceptions of the availability of and access to local economic and social systems and resources, 3–5 years after intervention delivery. To do so, we used mixed methods to compare levels of empowerment estimated in 2020 and 2023. The survey in 2020 was conducted at the midline of the THRIVE livelihood improvement programme of which the EwV intervention was part. The survey in 2023 was conducted at the endline. In this study, we also investigated the association of empowerment through EwV with resilience at the endline using the 2023 data.

We found evidence that the empowerment of participants associated with the EwV intervention at the midline persisted at the endline. This was more so for localised enablers.

In addition to comparing survey rounds, we examined empowerment levels across four study subgroups, which were established based on the natural targeting of the EwV and THRIVE interventions. The four study groups comprised:

- T1: a group of THRIVE programme participants who received the EwV intervention before the midline.
- T2: a group of THRIVE participants who received the EwV intervention after the midline.
- T3: a group of THRIVE participants who did not receive the EwV intervention.
- T4 (control): a group of THRIVE-eligible participants sampled from communities that did not receive the THRIVE programme or EwV intervention.

Empirically, we examined the change in the proportion of participants adequately empowered in study group samples or at the sub-population level between the two survey rounds. Our study findings are summarised in four hypotheses.

Hypothesis 1: The internal empowerment of participants associated with the EwV intervention persisted over time. Comparing internal empowerment between the midline (2020) and endline (2023) reveals that there was no decline in the proportion of participants adequately empowered across any of the groups (THRIVE or control). In addition, the THRIVE sample has more people adequately empowered compared to the control sample at the endline, with differences between the sample proportions being statistically significant. Average scores for the EwVI are higher at the endline, especially for participants who received EwV training more recently. By dimension, there is a significant increase in self-esteem among EwV participants over time. In the qualitative data, persistent or increased internal empowerment was also observed in the majority of interviews, and was particularly prevalent among relatively non-poor households. Our results thus suggest that the EwV intervention appears to have produced persistent internal empowerment, at least in the medium term. The benefits observed by Lenhardt *et al.* (2020; 2023) in the short to medium term were also observed in this study, considering the higher levels of internal empowerment observed among participants who had more recently received EwV training after the midline survey in 2020.

Qualitative results furthermore point to the presence of positive self-feedback, where people observe the results of their actions (supported by EwV training), which becomes self-reinforcing.

The impact of the EWV intervention on internal empowerment appears to be particularly important among households that were moderately poor, and also for those who sustained their escapes from poverty who were able to improve their knowledge and confidence in specific areas, including willpower to act to improve their livelihoods, and their access to tools and skills such as financial planning. Very poor households often lacked basic resources that can enable them to benefit from psychosocial empowerment or see this empowerment persist over time.

Hypothesis 2: The quality of the EWV implementation influenced the probability of persistent EWV psychosocial wellbeing outcomes. Quality was assessed by examining the association of empowerment with the level (intensity) of exposure to EWV and the type of people who directly delivered the EWV intervention to recipients. The intensity – in terms of the number – of trainings was associated with a higher probability of empowerment. In particular, households receiving three or more trainings were associated with an empowerment score that was higher than households that only received one training. Moreover, receiving four trainings had the largest effect size.

Hypothesis 3: Localised enablers, including livelihood interventions delivered as part of THRIVE, contributed to persistent psychosocial wellbeing outcomes induced through EWV. Localised enablers, especially in relation to perceptions of improved access to livelihood opportunities (e.g. participation in savings groups and decision-making), increased between the survey rounds. The qualitative data suggested that it was often combinations of people’s social relationships, access to livelihood opportunities and collaborative decision-making that helped people’s hope and faith persist, and helped them to maintain their confidence to plan and achieve change.

Hypothesis 4: The EWV intervention and the internal empowerment it nurtured in turn strengthened household resilience to shocks and stressors. The past three years have been marked by the Covid-19 pandemic and intersecting crises, including food and fuel price inflation, climate-related shocks, and a range of idiosyncratic shocks and stressors, including ill health and adverse gender norms. Both internal and localised empowerment were observed to be associated with a higher probability that individuals were able to recover from major shocks. Again, it was typically a combination of localised enablers supporting internal empowerment that combined with THRIVE livelihood interventions and household diversification to enable households to escape from and remain out of poverty over time.

At the same time, our study design and resulting data and analysis suffered from certain limitations, namely unequal sample sizes across groups and potential selection bias in who received EWV training and when. This threatens the validity and generalisability of our findings, and limits our ability to explicitly attribute causality through our modelling. Nonetheless, at least two of our study groups (T1 and T4) are sufficiently powered and inform the main insights we draw from this study. The range of independent variables of interest, different regression models, and data triangulation all support the hypotheses presented above. It would be worth investigating the consistency of the observed levels of persistence of potential effects of EWV interventions in other countries.

Based on the study findings, we draw the following recommendations:

- Among the poorest households (in wellbeing levels 1 and 2), the programme faces the biggest challenges in fostering persistent internal empowerment. It is among these households that additional interventions are needed. This might include increasing the number of EWV trainings and connecting poorer participants to financial aid or a graduation-style programme that helps people build assets and resources to better implement EWV ideas. Given the multifaceted challenges this group faces, longer-term training and monitoring of their situation would also be important.
- Among households living in moderate poverty and those that can improve their wellbeing over time and ability to escape from or remain out of poverty, ensuring repeated trainings would also be beneficial. Indeed, receiving at least three trainings was associated with

stronger empowerment (relative to just one training), while the qualitative data shows that more regular training enabled households to make the most of their learning and continue to apply its teachings to build their internal empowerment and resilience.

- Combinations of support within EWW and with THRIVE are critical. As the conceptual models suggest, there is a positive feedback loop between self-affirmation (and other dimensions of internal empowerment) and support from the social system exemplified through localised enablers. Supporting just the internal empowerment of individuals is inadequate; it is here that THRIVE has instrumental importance in strengthening households' access to livelihood opportunities, alongside EWW's strengthening of social relationships and collective activities. Even so, further work to improve access to inclusive markets and collective access to markets for poor farmers could help strengthen the social system to contribute to the twin goals of sustained poverty escapes and persistent empowerment.
- Some vulnerable women, including those who were divorced, separated, or widowed, also experienced persistent empowerment and sustained escapes from poverty. The EWW training instilled a sense of agency that enabled some women to resist adverse gender norms and escape from poverty through support targeted at their localised and internal enablers. A stronger gender-sensitive approach in future trainings could help the poorest women more consistently participate in these upward trajectories of change.

Annexe

Box A1: EWV curriculum themes

The focus and objectives for each of the five EWV themes are summarised below:

- **Identity:** All are created in the image of God and therefore intended to be co-creators. Field training manuals and demonstration activities are expected to help people find value in their own identity and realise their creative freedom.
- **Vision:** All people, especially poor people, should experience life in all its fullness, as God intended. In addition to affirming what is good in the community, EWV requires participants to create a vision for their future for themselves and their families. The aim is to help participants to always work towards a goal and to inspire hard work.
- **Compassion:** Selflessly loving people, as Jesus loved those in society who were often marginalised. This flows from the realisation that there will always be people in communities who for various reasons, such as age or lack of labour capacity, cannot change their poverty situation by themselves. Such people will need to benefit from the compassion of others.
- **Relationships:** This emphasises Jesus' relational approach, which gave people a sense of dignity and opened up opportunities to address their deepest needs. Training manuals cover topics such as nurturing family, gender equality and community social relationships, and being good stewards of God's world. Relationships are expected to foster support and linkages to improved wellbeing. Working together in savings groups and cooperatives are examples of relationships that are often promoted for the mutual benefits they can provide.
- **Faith:** Participants are challenged to unpack 'faith in action' and take steps into 'uncharted waters' to achieve the desired goal of economic empowerment. Under this theme, training manuals cover topics such as entrepreneurship using a biblical lens, the power of faith in business, and seeing abundance in locally available resources for one's own economic growth. The topics covered also highlight the importance of individuals working faithfully (diligently), and having a strong conviction that they will achieve what they set out to achieve by believing in what they are doing.

Table A1: Internal enablers – dimensions, indicators, and specific survey questions

Dimension	Indicator	Survey question/ level of agreement
Self-esteem/ confidence	Perceived ability to accomplish things	In the past year, I have avoided taking a risk to start my own business because I'm fearful of failing.
	Perceived ability to accomplish things	I am confident I will achieve my financial goals in life, even with the available resources.
	Propensity to influence decisions	I can mostly determine what will happen in my life. My life is determined by my own actions.
Hope/faith	Motivation for positive change	How important are dreams and hopes for the future of your family (including extended family) to you in how you live your life today?
	Perceived pathway to achieve goals	It is not always wise for me to plan too far ahead because many things turn out to be a matter of good or bad fortune.
	Level of optimism	Are you hopeful about your children's future?
Identity	Significance of personal and moral values	How important are personal values and moral standards to you in how you live your life today?
	Significance of social behaviour	How important is your social behaviour, such as the way you act when meeting people?
	Life satisfaction	Do you agree or disagree with the following statement about your wellbeing today? On the whole, I'm satisfied with my life
Aspiration/ vision	Advising others on decisions	People in my community ask for my advice on important decisions in their life or for the community.
	Aspirations for others	As I escape from poverty, I make efforts for others to escape with me
	Willingness to move for opportunities	Are you willing to move somewhere else to improve your life?

Source: Lenhardt et al. (2023)

Table A2: Localised enablers – dimensions, indicators, and specific survey questions

Dimension	Variable	Survey question
Access to livelihood opportunities	Training	Have you or anyone in your household received trainings on savings and credit in the past?
	Loan	Could your household obtain a loan if needed?

	Self-help group	Are you a member of a financial self-help group?
Agency and decision-making	Equal access	Males and females should have equal access to social, economic, and political resources and opportunities.
	Decisions – household expenses	Who usually makes decisions on major household expenditures (such as bicycles, land, vehicles)?
	Decisions – crop income	Who usually makes decisions on the use of income generated from cash crop sales?
Social relationships	Emergency support	If you suddenly faced a long-term emergency (such as the death of a breadwinner or harvest failure), how many people beyond your immediate household could you turn to who would be willing to assist you?
	Rich/poor interaction	How often in the past month have you spoken to a person much richer/poorer than you?
	Trust in neighbours	I trust my neighbours to look after my house if I am away.
Participation in collective activities	Collaborative economic activities	During the past week, have you engaged in any economic activities with members of other communities?
	Interacting for food/drink	How many times in the past month have you gotten together with people to have food or drinks, either in their home or in a public place?
	Church/religious service	How many times in the past month have you attended a church or other religious service?

Source: Lenhardt et al. (2023)

Table A3: Community-defined livelihood characteristics by wellbeing level

Wellbeing level	Characteristics at the midline (2020)	Changes by the endline (2023)
1: Poorest of the poor	Depend on others for basic needs; eat once a day; live in mud/thatched house; no assets	Regularly sleep on empty stomach; main target of government social protection
2: Very poor	Less than three meals a day and low nutrition; live in mud/thatched house; few assets; no resources to fund children's education; no access to credit	Most of the time do piecework to buy food; provide at least one meal a day; grow crops for subsistence; some government assistance
3. Poor	Three meals a day with higher nutrition; children received primary education; iron sheet/thatched houses; some assets; some access to credit	Lack resources; grow crops on small scale (sometimes beyond subsistence); provide at least 1–2 meals a day but also sleep on empty stomachs approx. once a week

4. Non-poor	Eat more than three meals a day; high nutrition; children educated; cement houses; own assets	Receive fertiliser so can grow maize; may be in formal employment with limited income; access to credit
5. Rich/resilient	None in the community	Eat more than three nutritious meals a day; send remittances; benefit from Farmer Input Subsidy Programme
6. Very rich	None in the community	Generally none in the community

Source: summarised from FGDs.

Table A4: Pairwise comparison of means at endline using Tukey's HSD test

Study group	Internal enablers	Contrast	Localised enablers	Contrast
T2 vs T1	EWVI_internal	0.0175	EWVI_localised	0.0607
T3 vs T1		-0.0838		-0.1954***
T4 vs T1		-0.0926***		-0.2744***
T3 vs T2		-0.1013		-0.2560***
T4 vs T2		-0.1101***		-0.3350***
T4 vs T3		-0.0088		-0.0790
T2 vs T1	Identity	-0.0237	Relationships	0.0060
T3 vs T1		-0.0335		-0.0446
T4 vs T1		-0.0702**		-0.0268
T3 vs T2		-0.0098		-0.0506
T4 vs T2		-0.0465		-0.0327
T4 vs T3		-0.0367		0.0179
T2 vs T1	Hope	-0.0148	Participation	0.0622
T3 vs T1		-0.2216***		-0.1352**
T4 vs T1		-0.0533		-0.2150***
T3 vs T2		-0.2068***		-0.1974***
T4 vs T2		-0.0385		-0.2772***
T4 vs T3		0.1683***		-0.0798
T2 vs T1	Aspirations	0.0332	Decision-making	0.0164
T3 vs T1		0.1229*		-0.1059
T4 vs T1		-0.0090		-0.0270
T3 vs T2		0.0897		-0.1223*
T4 vs T2		-0.0422		-0.0434
T4 vs T3		-0.1318**		0.0789
T2 vs T1	Self-esteem	0.0278	Opportunities	0.0751*
T3 vs T1		-0.0907		-0.2194***
T4 vs T1		-0.1056***		-0.3435***
T3 vs T2		-0.1185*		-0.2945***
T4 vs T2		-0.1334***		-0.4186***
T4 vs T3		-0.0149		-0.1241***

Table A5: Average marginal effects of EWV modalities on internal empowerment scores at endline, linear regression

Outcome: internal EWVI score Variables	Indep. var. of interest: no. of trainings (1)		Indep. var. of interest: who delivered training (2)	
	AME	SE	AME	SE
Number of EWV trainings (ref.=1)				
2	0.0156	(0.0107)		
3	0.0187*	(0.0097)		
4	0.0460***	(0.0118)		
5	0.0389***	(0.0120)		
6+	0.0290**	(0.0117)		
Who delivered training (ref.=EWV consultant)				
EWV champion			0.0017	(0.0117)
Lead farmer			-0.0153	(0.0170)
Other			0.0001	(0.0146)
THRIVE participation	-0.0155	(0.0147)	-0.0109	(0.0155)
Household size (ref.=more than 6)				

5 or 6	0.0034	(0.0073)	0.0062	(0.0101)
4 or less	-0.0147*	(0.0079)	-0.0295***	(0.0094)
Household head's age	-0.0004	(0.0003)	-0.0005	(0.0003)
Household head is female	-0.0191**	(0.0078)	0.0153*	(0.0088)
Household head completed primary school	0.0150**	(0.0062)	0.0241***	(0.0089)
Household head completed secondary school	0.0275**	(0.0105)	0.0425***	(0.0132)
Household head owns land	0.0611*	(0.0358)	0.0962**	(0.0427)
Household head owns livestock	0.0129*	(0.0076)	0.0058	(0.0086)
Household has non-farm income	0.0072	(0.0201)	0.0004	(0.0192)
Household experienced shock at endline	-0.0045	(0.0140)	-0.0082	(0.0175)
Area fixed effects	Yes		Yes	
Time fixed effects	N/A		N/A	
Observations	1,109		716	
Model stats	F(20, 64)=8.39		F(18, 65)=3.69	
	Prob.>chi2=0.0000		Prob.>F=0.0001	

Notes: AME = average marginal effect; SE = standard error; *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$; second model focuses on participants receiving EWV training (given that the variable of interest is specific to those in this subset).

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