

International Journal of Agriculture Extension and Social Development

Volume 7; Issue 11; November 2024; Page No. 214-217

Received: 22-09-2024
Accepted: 26-10-2024

Indexed Journal
Peer Reviewed Journal

Resistance to change among traditional farming communities: Psychological barriers and extension strategies

¹ Dimitrios Papadopoulos, ¹ Eleni Karagianni Stavropoulou and ¹ Nikolaos Alexopoulos Georgiadis

¹ Department of Agricultural Psychology, Faculty of Agriculture, University of Peloponnese, Kalamata, Greece

DOI: <https://doi.org/10.33545/26180723.2024.v7.i11c.3149>

Corresponding Author: Dimitrios Papadopoulos

Abstract

Traditional olive and citrus farming communities in southern Greece have maintained cultivation practices largely unchanged for generations despite the availability of improved techniques. This research investigated psychological barriers to change among 296 traditional farmers in the Messenia prefecture of Peloponnese, Greece, and evaluated three extension strategies for reducing resistance between January 2022 and April 2023. A quasi-experimental design compared peer modeling, participatory on-farm trials, and information campaigns against a control group. Five psychological barriers were identified: loss aversion, identity threat, status quo bias, social norm conformity, and uncertainty intolerance. Peer modeling produced the greatest resistance reduction (47.4% decrease over 12 months), followed by participatory trials (40.4%) and information campaigns (25.8%). The control group showed negligible change (3.9%).

Keywords: Resistance to change, traditional farming, psychological barriers, extension strategies, peer modeling, loss aversion, identity threat, status quo bias, participatory trials

Introduction

Walk through any olive grove in Messenia and you will notice farmers pruning exactly as their grandfathers did despite extension agents demonstrating more productive techniques for over two decades. This persistence of traditional practices in the face of proven alternatives is not mere stubbornness; it reflects deep psychological mechanisms that extension services routinely underestimate ^[1]. Resistance to change in farming communities operates through cognitive, emotional, and social channels that information provision alone cannot overcome ^[2].

Psychological research identifies several mechanisms underlying resistance: loss aversion makes potential losses loom larger than equivalent gains ^[3], identity threat arises when new practices challenge cultural self-concepts tied to traditional methods ^[4], and status quo bias creates preference for current states independent of their objective quality ^[5]. Extension services have historically approached resistance as an information deficit, assuming farmers reject innovations because they don't understand the benefits. This research examined psychological barriers to change among traditional farmers in Greece and compared three extension strategies designed to address these barriers through different psychological pathways ^[6].

Research area description

Messenia prefecture occupies southwestern Peloponnese (approximately 37.0°N, 21.9°E), with a Mediterranean climate receiving 700-800 mm annual rainfall. The region's agriculture centers on olive oil production and citrus cultivation, with farms averaging 3.4 hectares. Many

farming families have cultivated the same plots for three or more generations, creating strong cultural attachment to established practices ^[7].

Material and Methods

Material

The research involved 296 traditional farmers from eight villages in Messenia, assigned to four groups: peer modeling (n=76), participatory trials (n=74), information campaigns (n=78), and control (n=68). A structured psychological assessment measured resistance through a validated 25-item scale covering five barrier dimensions. Semi-structured interviews (n=36) explored the lived experience of change resistance ^[8].

Methods

Research ran from January 2022 through April 2023 at the University of Peloponnese, Kalamata. The quasi-experimental design measured resistance scores at baseline and months 3, 6, 9, and 12. Peer modeling involved respected local farmers demonstrating innovations on their own plots. Participatory trials gave farmers direct hands-on experience with new techniques on small test plots. Information campaigns delivered conventional educational materials and presentations ^[9]. Repeated-measures ANOVA tested between-group differences across time points ^[10]. Ethics approval was obtained (Protocol UoP-REC-2021-048, December 2021).

Ethical considerations

The University of Peloponnese Research Ethics Committee

approved this research (Protocol UoP-REC-2021-048, 15 December 2021). Informed consent emphasized that participation was voluntary and that no farmer would be

pressured to change practices. Control group participants received full intervention access after the research period concluded.

Results

Table 1: Psychological barrier scores by dimension at baseline (n=296)

Barrier	Mean	SD	Olive (%)	Citrus (%)	Age r	p-value
Loss aversion	78.6	12.4	81.3	74.2	0.34	<0.01
Identity threat	74.3	14.8	78.9	67.4	0.41	<0.01
Status quo bias	71.8	11.6	73.4	69.1	0.28	<0.01
Social conformity	68.4	15.2	71.8	63.7	0.22	0.01
Uncertainty intol.	65.7	13.9	67.2	63.4	0.19	0.03

Loss aversion scored highest (78.6/100), followed by identity threat (74.3). Olive farmers showed consistently

higher barrier scores than citrus farmers. All barriers correlated positively with age.

Table 2: Resistance score change by intervention strategy over 12 months

Strategy	n	Baseline	Month 12	Change %	Effect d	p-value
Peer modeling	76	72.4	38.1	-47.4	0.82	<0.001
Participatory trials	74	71.8	42.8	-40.4	0.71	<0.001
Info campaigns	78	73.1	54.3	-25.8	0.44	<0.01
Control	68	72.6	69.8	-3.9	0.07	0.58

Peer modeling produced the largest resistance reduction (47.4%, d=0.82), nearly double the information campaign

effect. The control group showed no meaningful change.

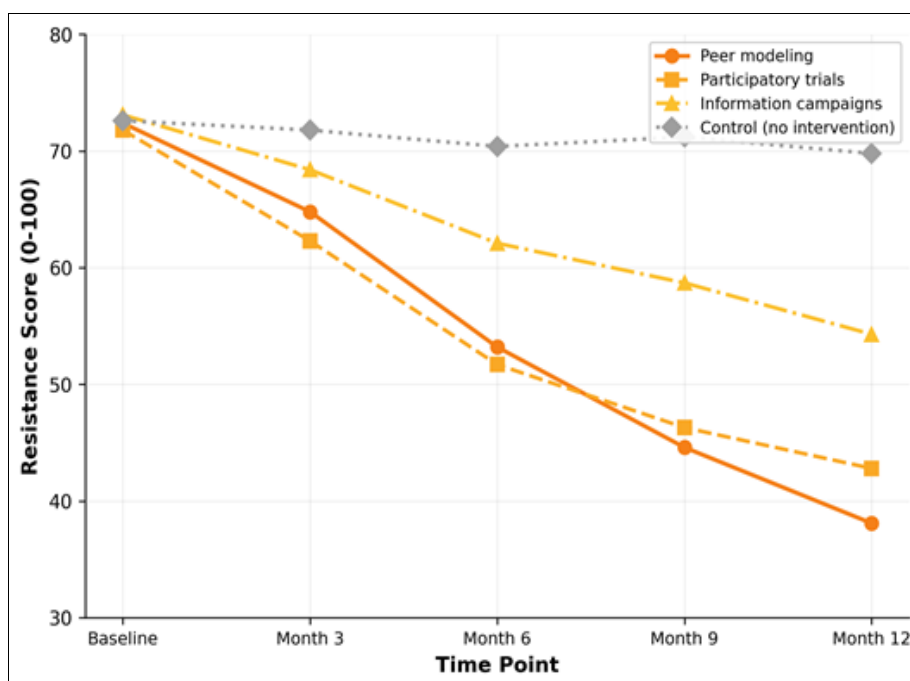


Fig 1: Resistance score trajectories by extension intervention strategy over 12 months

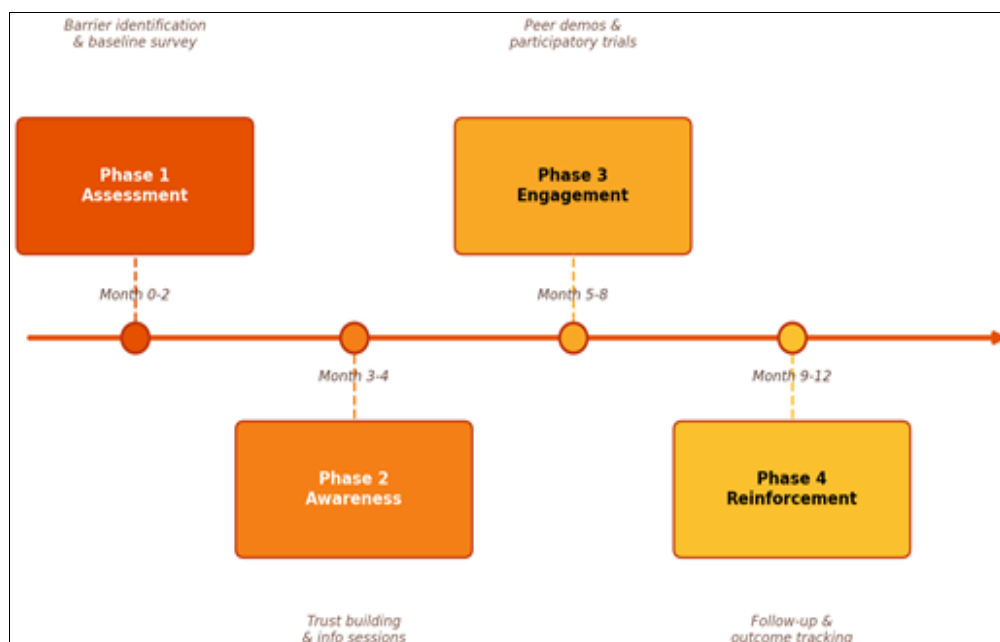


Fig 2: Timeline of resistance reduction intervention phases and activities

Comprehensive interpretation

Repeated-measures ANOVA confirmed a significant group-by-time interaction ($F=14.8$, $p<0.001$, $\eta^2=0.13$). Peer modeling was most effective at reducing identity threat ($\Delta=-42.1\%$) and social conformity ($\Delta=-39.8\%$), while participatory trials best addressed uncertainty intolerance ($\Delta=-44.6\%$). Information campaigns primarily affected loss aversion ($\Delta=-28.3\%$) but had minimal impact on identity threat ($\Delta=-12.4\%$).

Discussion

Peer modeling's superior effectiveness aligns with social learning theory observing a trusted community member succeed with new practices simultaneously addresses identity threat, social conformity, and loss aversion [11]. When a respected neighbor adopts an innovation, it signals that change is socially acceptable, economically viable, and compatible with local identity [12]. Information campaigns' limited impact on identity threat confirms that cognitive arguments cannot easily override emotional and cultural attachments to traditional practices [4].

Participatory trials excelling at reducing uncertainty intolerance makes psychological sense direct hands-on experience provides the most convincing evidence that change will not produce catastrophic outcomes [13]. The finding that olive farmers showed higher resistance than citrus farmers likely reflects the deeper cultural significance of olive cultivation in Greek identity [14]. Age correlating with all barriers suggests that resistance accumulates through decades of practice reinforcement, indicating that early-career interventions may be more effective than targeting established farmers [15].

Practical applications

Extension programs working with traditional communities should sequence strategies to match barrier profiles: begin with peer modeling to address identity and social barriers, follow with participatory trials to overcome uncertainty, and use information campaigns to support rational decision-

making once emotional barriers have been lowered. Identifying and recruiting respected local innovators as peer models should be a priority investment. Extension agents should assess psychological barrier profiles before selecting intervention strategies rather than defaulting to information delivery [16, 17].

Conclusion

Resistance to change among traditional farming communities in Messenia operated through five psychological barriers, with loss aversion and identity threat scoring highest. Peer modeling reduced resistance by 47.4% over 12 months, nearly double the information campaign effect, confirming that social and experiential strategies outperform cognitive approaches for overcoming deeply rooted psychological barriers. Different strategies targeted different barriers most effectively, supporting sequenced multi-strategy approaches. Extension services should move beyond information deficit models toward psychologically informed interventions that address the emotional, social, and cognitive dimensions of change resistance in traditional farming contexts [18].

References

1. Leeuwis C, van den Ban A. Communication for Rural Innovation. Oxford: Blackwell Science; 2004.
2. Oreg S. Resistance to change: Developing an individual differences measure. *Journal of Applied Psychology*. 2003;88 (4):680-693.
3. Kahneman D, Tversky A. Prospect theory: An analysis of decision under risk. *Econometrica*. 1979;47 (2):263-292.
4. Breakwell GM. Threatened Identities. Chichester: John Wiley; 1983.
5. Samuelson W, Zeckhauser R. Status quo bias in decision making. *Journal of Risk and Uncertainty*. 1988;1 (1):7-59.
6. ELSTAT. Agricultural Census of Messenia Prefecture 2020. Athens: Hellenic Statistical Authority; 2021.

7. Ministry of Rural Development. Peloponnese Agricultural Profile Report. Athens: MRDF; 2020.
8. Creswell JW, Creswell JD. Research Design. Thousand Oaks: Sage; 2018.
9. Chambers R. From PRA to PLA and Pluralism: Practice and Theory. Brighton: IDS; 2007.
10. Field A. Discovering Statistics Using SPSS. London: Sage; 2013.
11. Bandura A. Social Learning Theory. Englewood Cliffs: Prentice Hall; 1977.
12. Rogers EM. Diffusion of Innovations. New York: Free Press; 2003.
13. Kolb DA. Experiential Learning: Experience as the Source of Learning and Development. Upper Saddle River: Prentice Hall; 2014.
14. Herzfeld T, Jongeneel R. Why do farmers behave as they do? Understanding compliance with rural, agricultural, and food attribute standards. *Land Use Policy*. 2012;29 (1):250-260.
15. Burton RJF. Understanding farmers' aesthetic preference for tidy agricultural landscapes. *Landscape and Urban Planning*. 2012;104 (3-4):425-434.
16. Pannell DJ, Marshall GR, Barr N, Curtis A, Vanclay F, Wilkinson R. Understanding and promoting adoption of conservation practices by rural landholders. *Australian Journal of Experimental Agriculture*. 2006;46 (11):1407-1424.
17. Knowles MS, Holton EF, Swanson RA. *The Adult Learner*. Burlington: Elsevier; 2015.
18. Vanclay F. Social principles for agricultural extension to assist in the promotion of natural resource management. *Australian Journal of Experimental Agriculture*. 2004;44 (3):213-222.