

Effectiveness of a behaviour change energy efficiency programme



UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA



EnviroPsych Research



sanedi
South African National Energy
Development Institute

Overview

- Background
- Problem Statement
- Research methodology
 - Phase 1
 - Phase 2
 - Phase 3
- Findings
- Recommendations



Background

- Greenhouse gas emissions
- South African context
- Electrification programme
- Low quality coal to generate electricity
- Problems with supply
- Price increases

Behaviour change strategies

- Previous interventions in EU and USA
- Antecedent strategies
 - Commitment (personal or public)
 - Goal setting (ambitious or ease to achieve)
 - Information based strategies:
 - Workshops
 - Tailored information
 - Prompts
 - Modeling
 - Participation projects



Strategies - consequent

- Consequent strategies
 - Feedback (Daily, weekly, monthly, comparative)
 - Rewards
 - Penalties



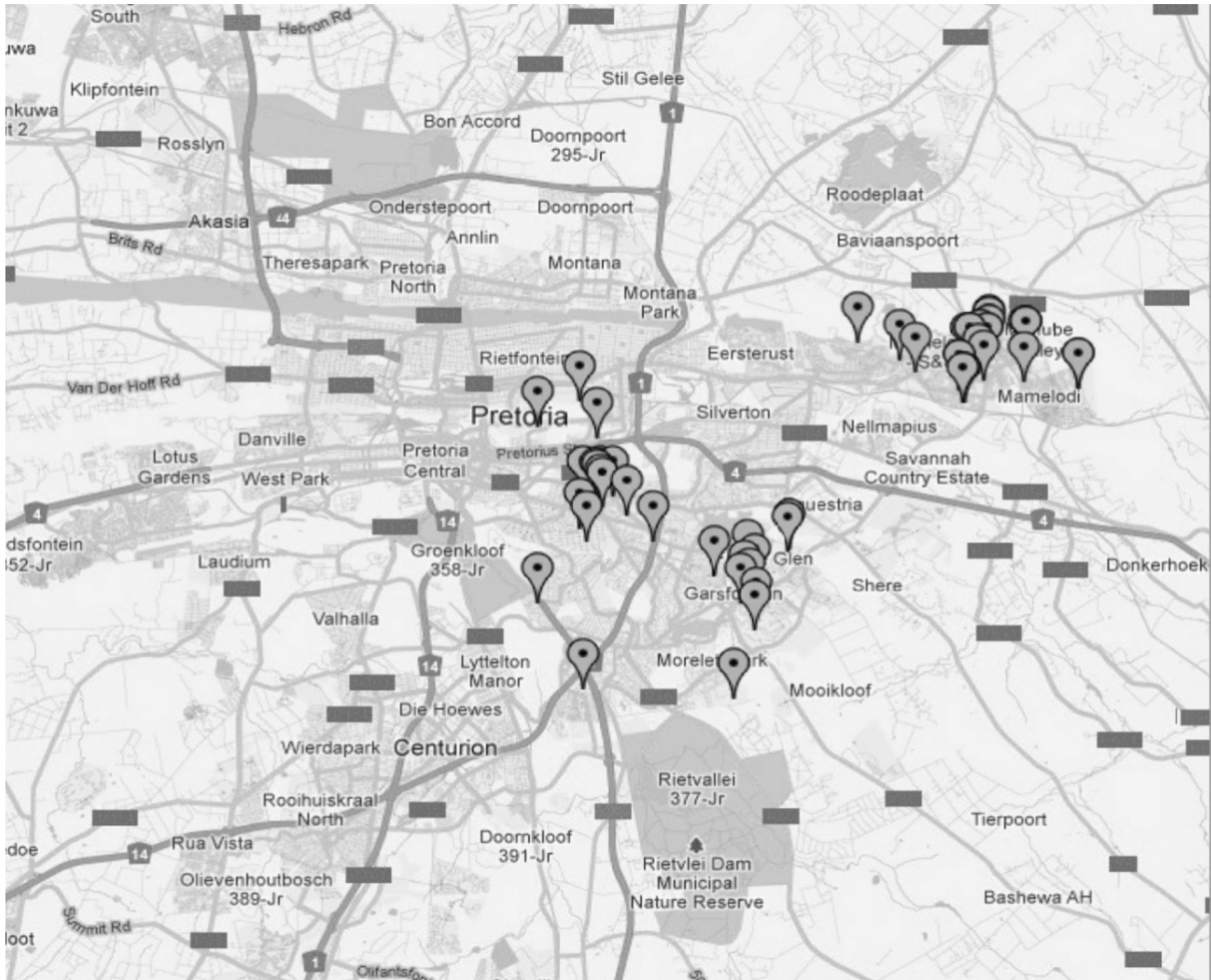
Problem statement

- In light of the currently problems in South Africa (since 2008)
- Limited documented use of behaviour change as a strategy to change behaviour in South Africa
- Availability of research on best practice behaviour change strategies
- Applied in South African contexts across various LSM levels



Mixed method research methodology

- Multi-phased combined experimental and ex post facto research design was used.
- Aim: to explore the effect of LSM, on energy efficiency through behaviour change intervention
- Phase 1: Select volunteer sample, LSM scores, random allocation to experimental groups 1 and 2. Collection of baseline data, demographics and household inventory.
- Might hold pro-environmental attitudes already



Pre-existing characteristic (Living standard)		Investigation period				
		Random assignment to experimental groups Continuous observations for all households throughout				
Group 1	LSM 6-9 (n=13)	Exp 1(n=9)	Obs	Obs	Obs	Obs
				Interview	Intervention 1	
		Exp 2 (n=4)	Obs	Obs	Obs	Obs
					Intervention 2	
Group 2	LSM 10 (n=23)	Exp 1 (n=10)	Obs	Obs	Obs	Obs
				Interview	Intervention 1	
		Exp 2 (n=13)	Obs	Obs	Obs	Obs
					Intervention 2	

Phase 2

- Data collection in different groups
- Interviews in experimental group 1
- Instructions on using the installed E2 efergy meter
- Measurement for a further 14 days.



Intervention Exp Groups 1 & 2

- Consent
- Interview
- Functionality
- Feedback and data logging
- Walk through
- Tailored advice
- Commitment
- Encouragement
- Removal

- Consent
- -
- Functionality
- Feedback and data logging
- -
- -
- -
- -
- Removal

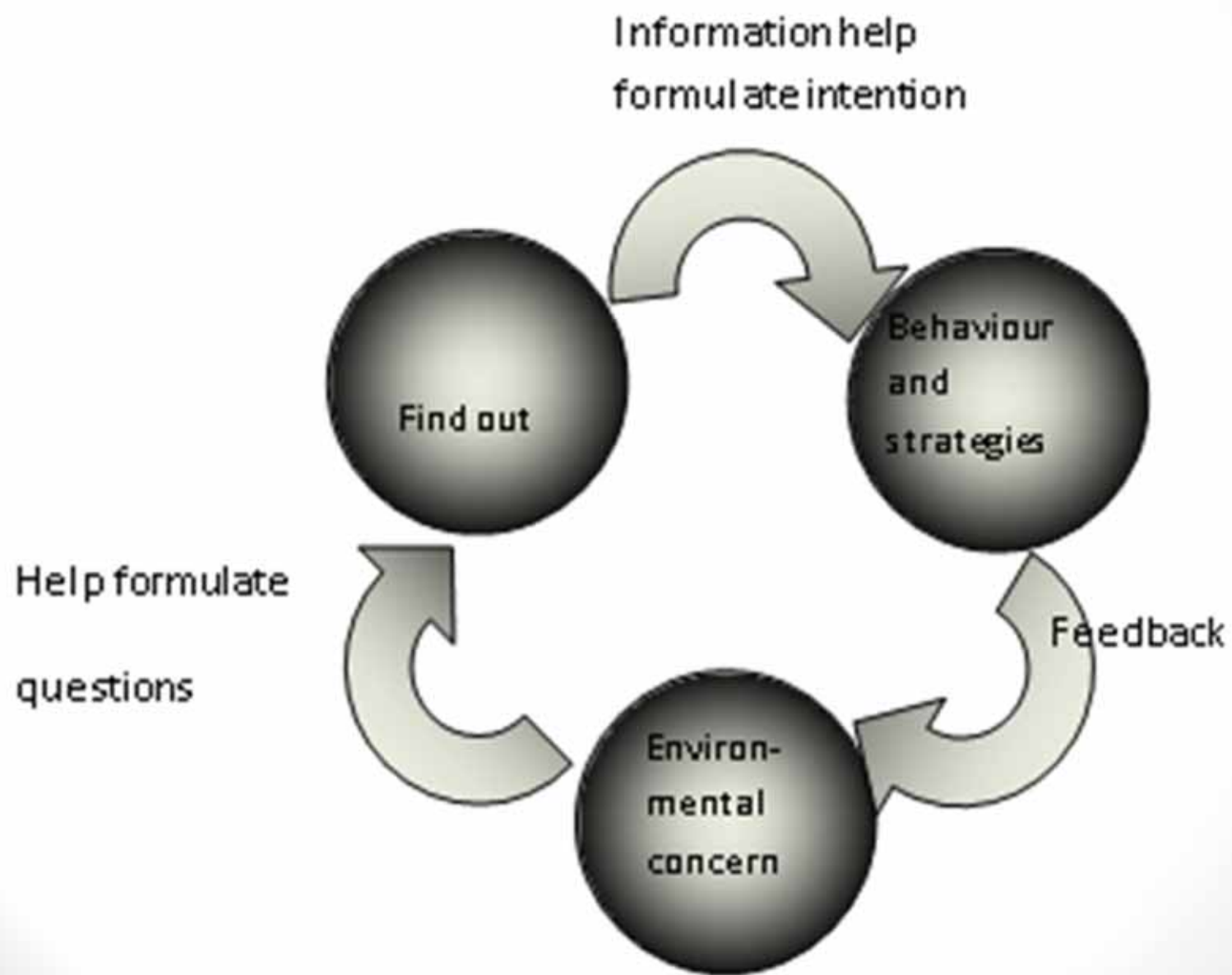
Phase 3

- Focus groups
- Groups were held 6 months after the completion of measurement in houses
- Explore the longer term effect of the intervention on the reasoning of the participants



Qualitative findings

- Qualitative results from both the interview and the focus groups.
- Qualitative findings:
- Themes:
 - **Lack of feedback**
 - Folk knowledge
 - Need for guidance and discussions with accurate information
 - Impact of gender roles



Quantitative findings

Pre-existing characteristic (Living standard)	Experimental Groups	Average savings
LSM 6-9 (n=13)	LSM 6-9 Exp 1 (n=9)	9%
	LSM 6-9 Exp 2 (n=4)	-7.5%
LSM 10 (n=23)	LSM 10 Exp 1 (n=10)	6%
	LSM 10 Exp 2 (n=13)	-8.5%

Exp Group1
= 7.5%

Exp Group2
= -8%

Recommendations

- No difference in ability to save between different LSM groups
- Feedback
 - Sustained effort
 - Instant results
 - Social norm by means of comparison
- Guidance and discussions
- Re-define energy efficiency behaviours
 - Routine changes
 - Long term interventions
- Sensitivity for gender roles, cover both technical and routine changes.

Dr. Mathilda du Preez

Consultant and owner:
EnviroPsych Research (Pty) Ltd

Phone: 083 657 7007

E-mail:

mathildadupreez@enviropsychresearch.co.za

