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Community level influence on individual behaviours with respect to bushfire readiness & decision making in the face of immediate threat

Leads

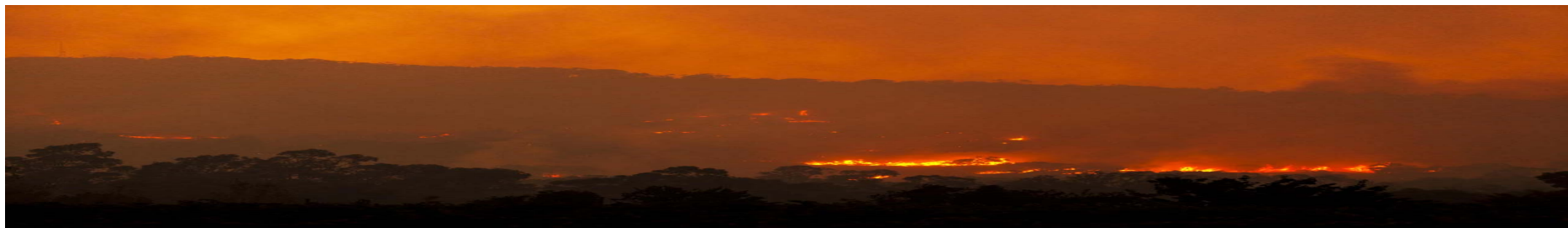
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Research Fellows

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PhDs

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Andrew Chapman



Overall Aim



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- preparedness influenced by both individual & community variables
- community characteristics influence how individuals:
 - interpret hazards
 - perceive risk
 - act
- lack of research → community characteristics & how they interact with people's interpretation



What community level factors contribute to community level differences & influence individual preparedness?



Community: Significance

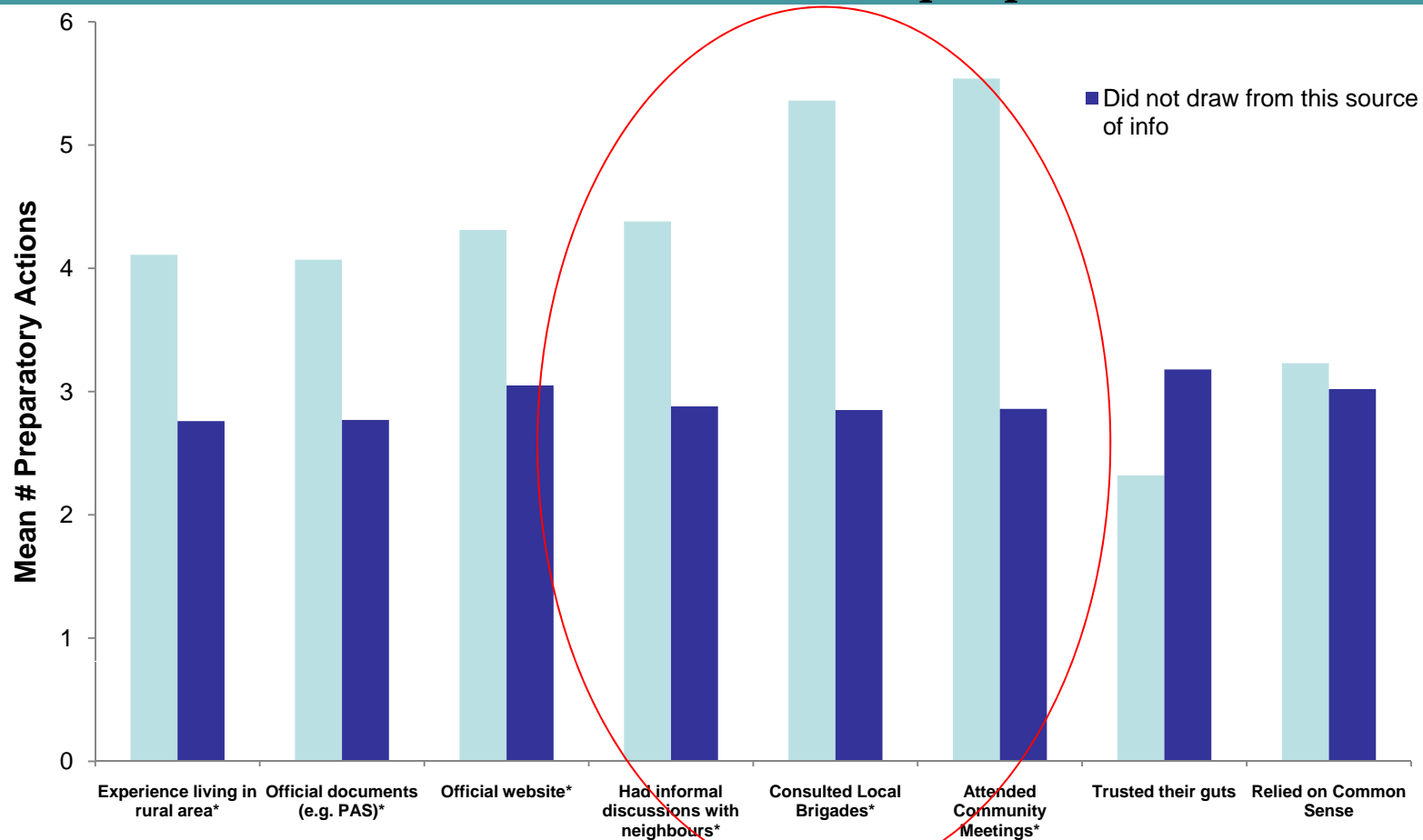
Communities → significant resource for risk management



- influence collective capacity to manage bushfires
- level of people's active involvement in community networks = key predictor of preparedness across different hazards
- community structures are vital for the dissemination of preparedness information

Association between community involvement & people preparing

--> most effective information source people drew on entailed interactions with other people



* = $p < .05$

Community: Differences



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Yet → large differences between bushfire-prone communities regarding level of preparedness & responding

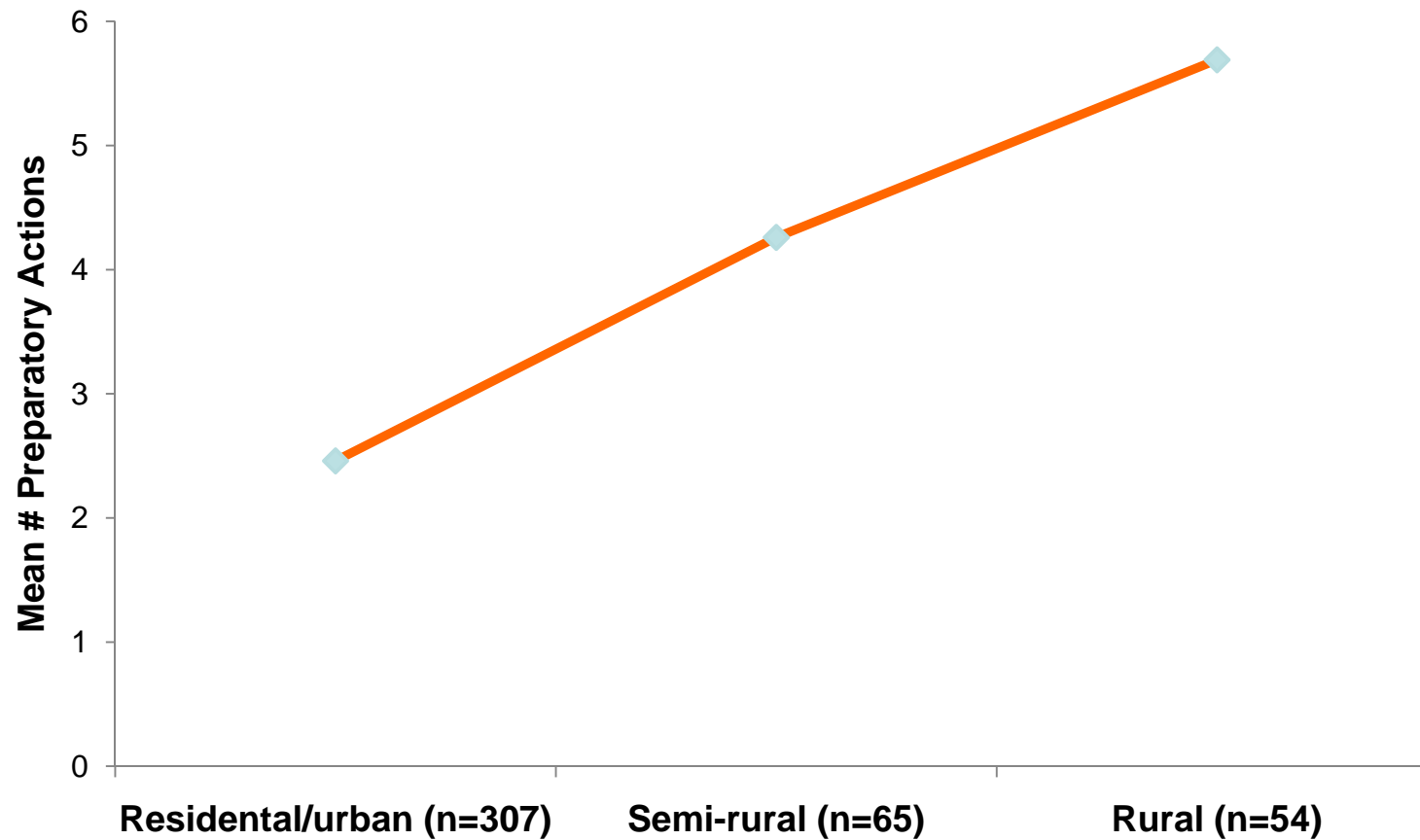


2011 WA bushfire projects → opportunity to compare individual AND community variables across 3 communities that varied from residential to rural





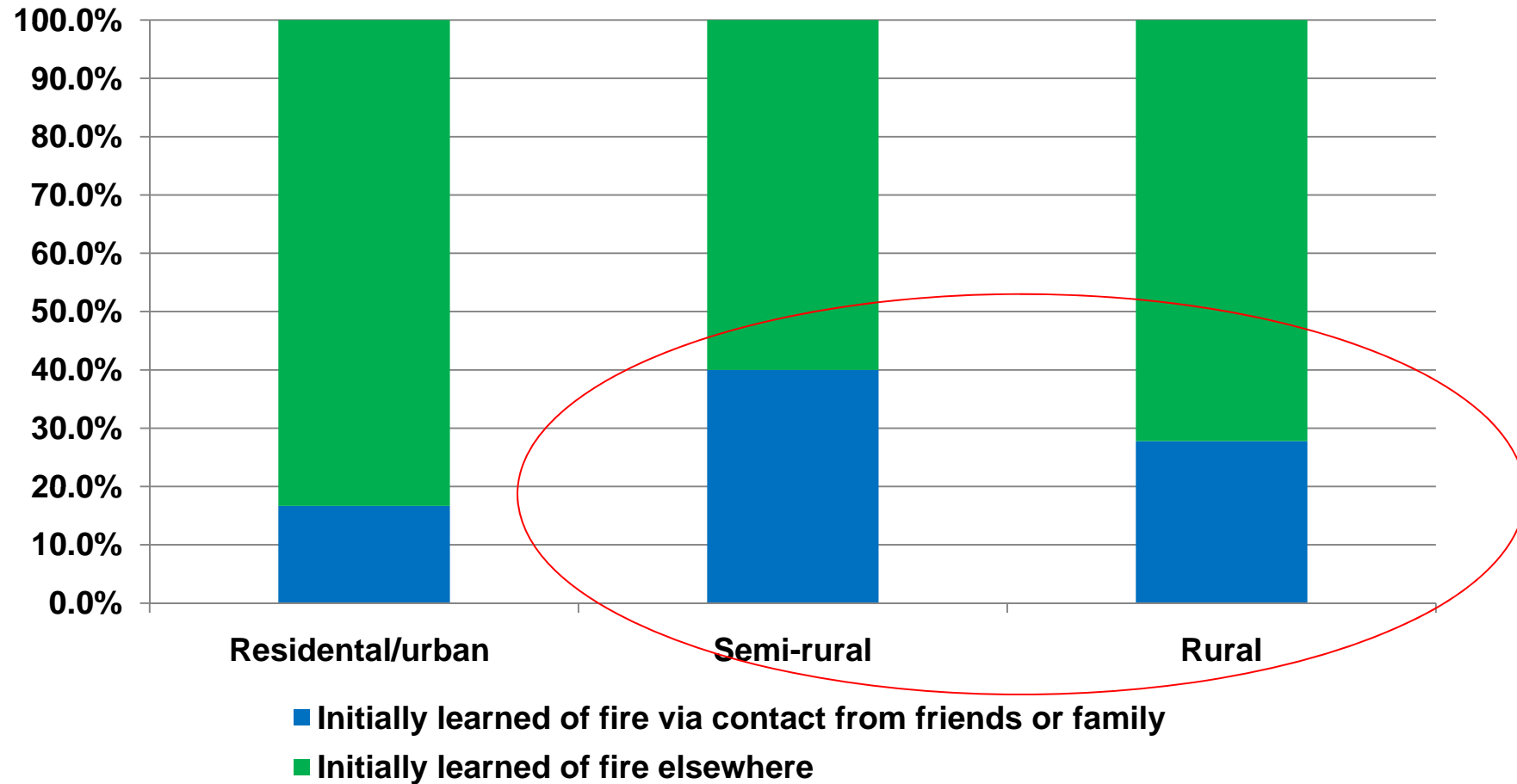
1) large difference between preparatory actions people took in different communities



$F(2, 423) = 93.7, p < .01$

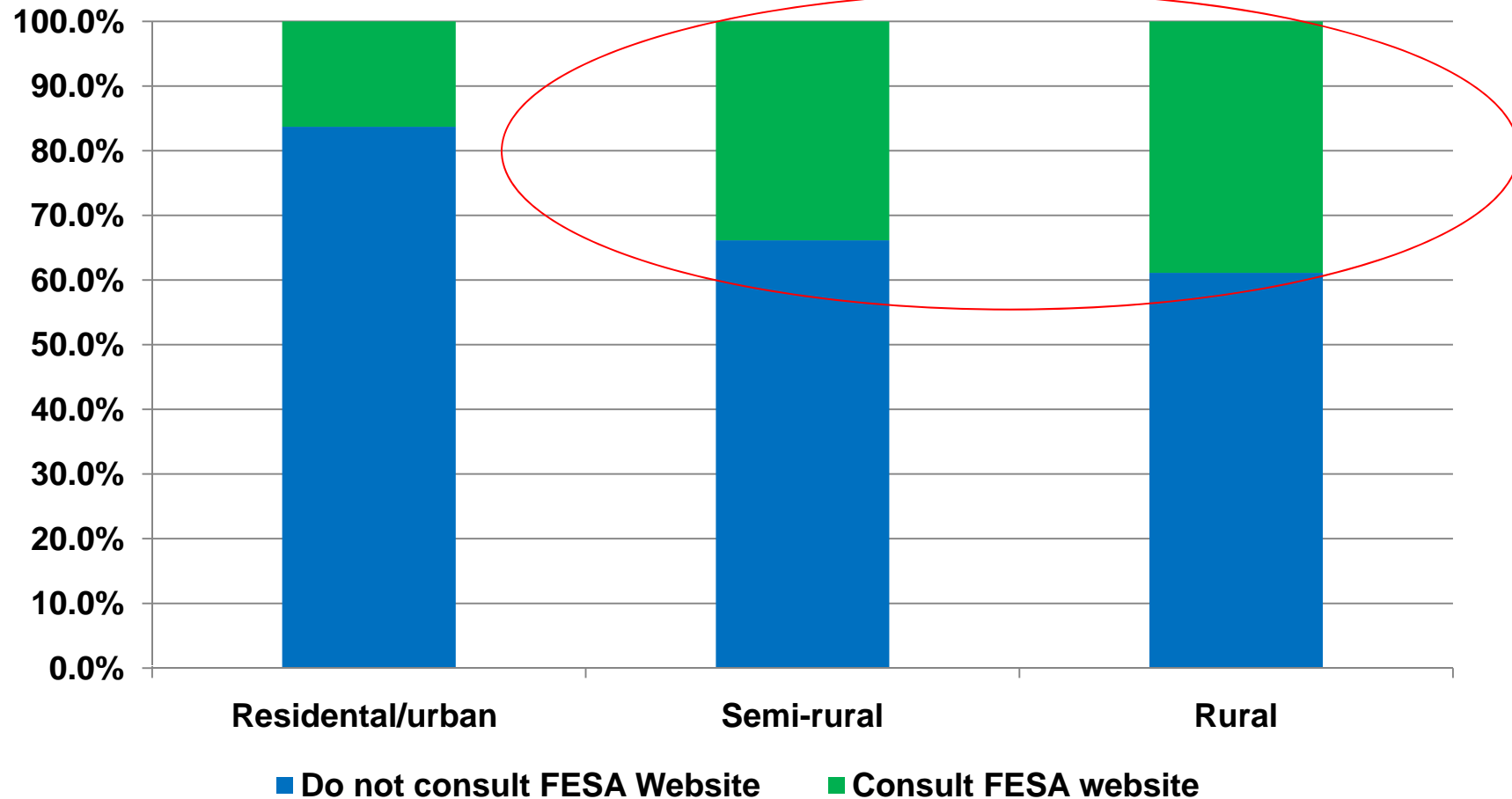


2) difference in the ways in which people learned about the fire





3) Communities differed in terms of proactively monitoring fires danger ratings via the FESA website



Chi-square (df=2) = 20.2, $p < .001$

Understanding Differences



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To really understand the influence of communities in
disaster preparedness



➡ focus on the **interactions** between individuals &
communities

(Shinn & Toohey, 2003)

➡ capture how people's interpretations regarding disasters
is constructed through **social interaction** with their
environment

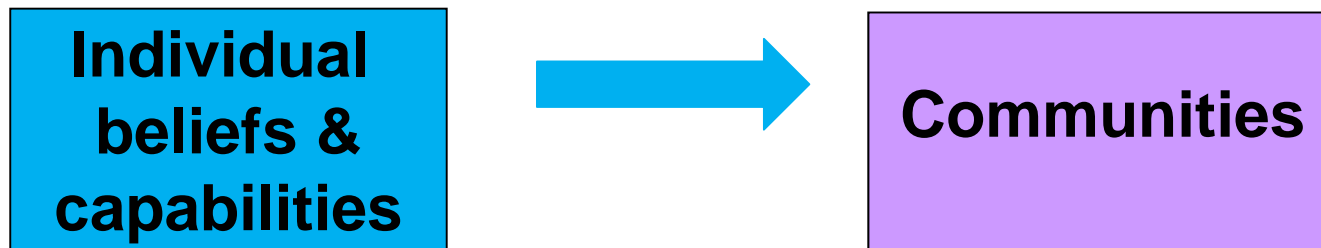
(Paton & McClure, in press)

Interactions: Complex



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People's interpretations & actions regarding disasters are constructed:



Actively & constantly interpret perceived stimuli from the environment while interacting with the environment

Reflective process →

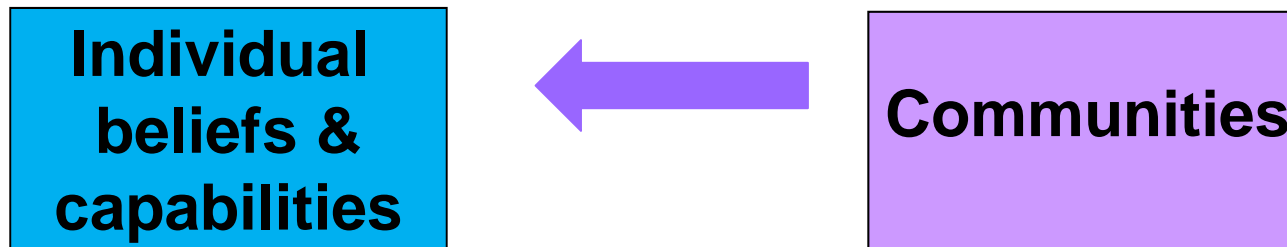
- point out to themselves the various factors influencing certain actions
- assess the suitability of these actions for themselves
- decide what kind of action to take → influence communities

Interactions: Complex



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People's interpretations & actions regarding disasters are contextual:



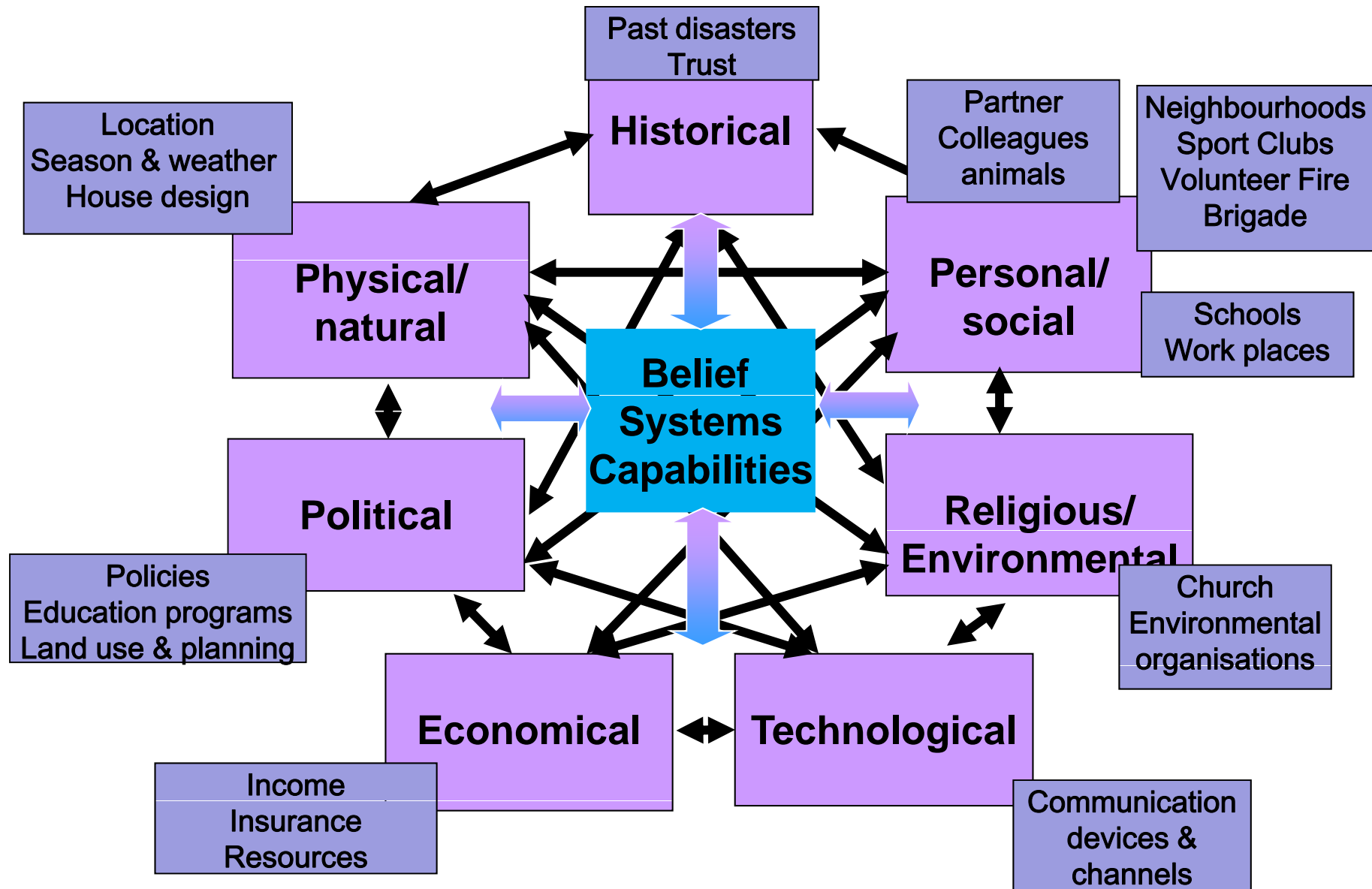
Communities create specific conditions in situations & supply cultural stories that people use to interpret situations

Conditions → facilitate or constrain community member's risk perceptions & ability to deal with bushfires

Interactions: Complex



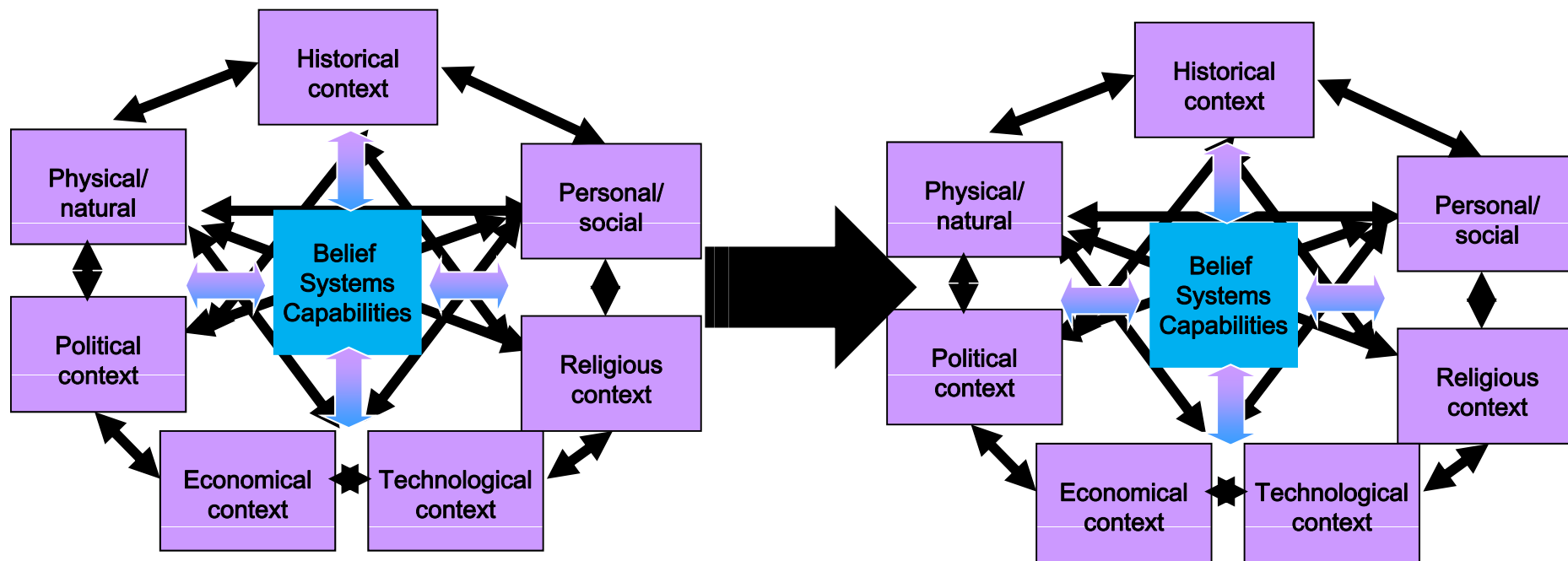
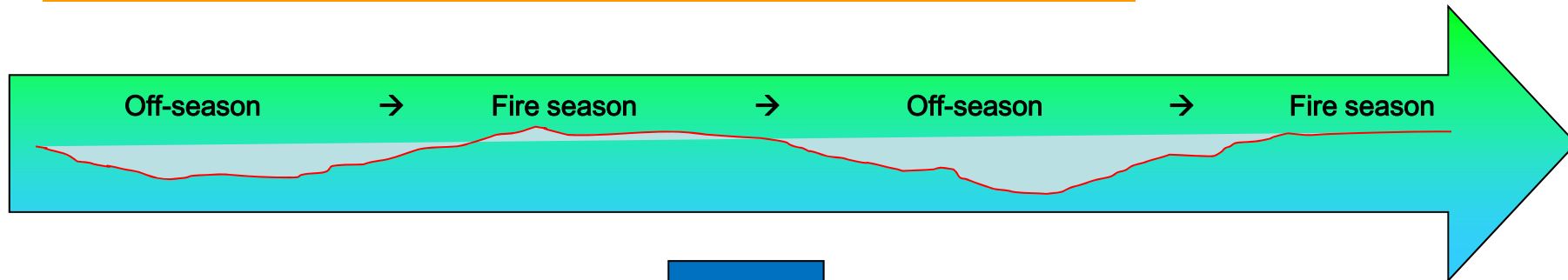
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Interactions: Change over time



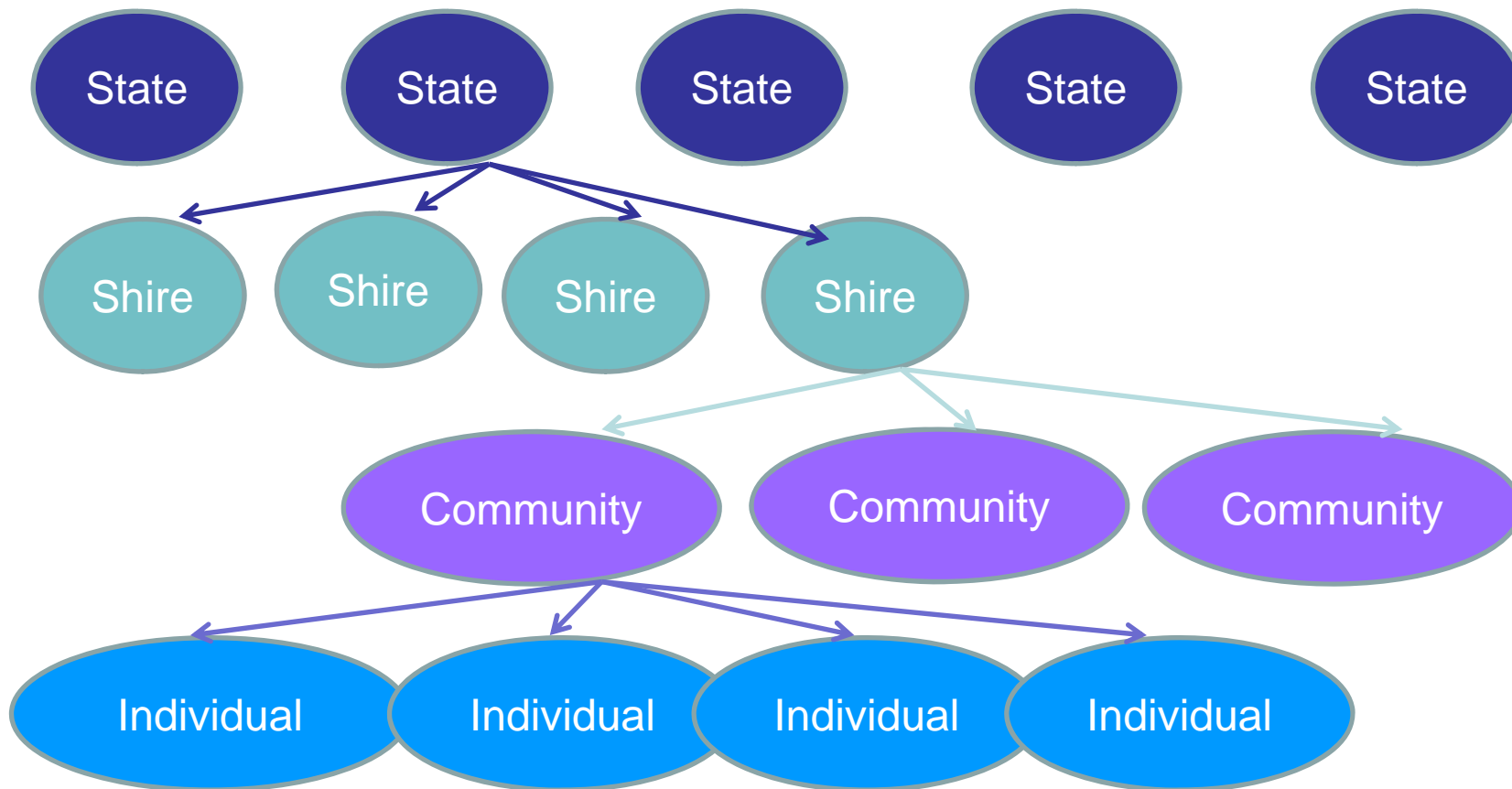
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Interactions: Multi-level



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Deciding/Acting/Preparation



Data shows community differences

Communities differences

- ▶ due to interactions between individual & communities
 - ▶ change over time
 - ▶ at multiple levels



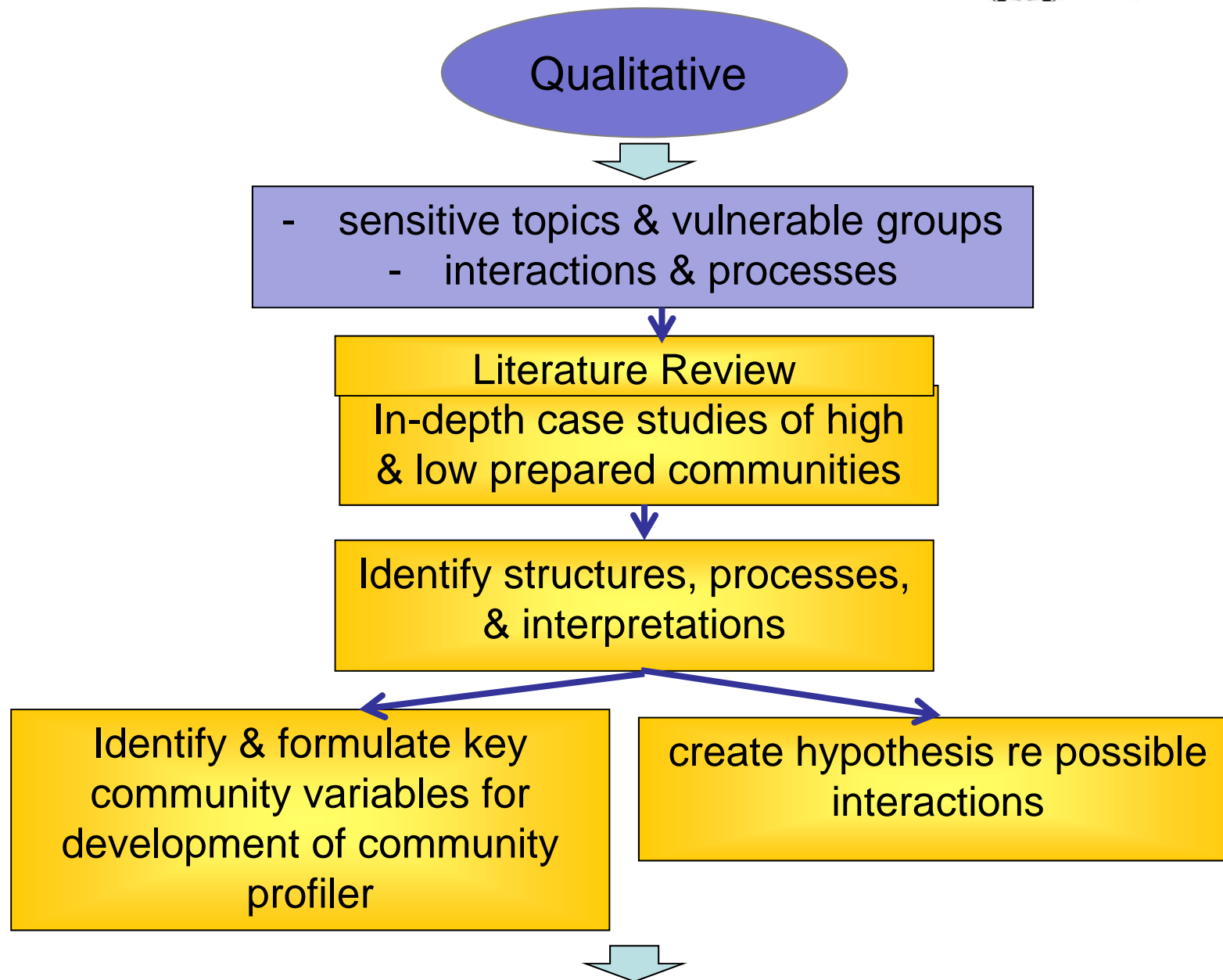
What specific community variables influence the development of individual belief systems & capabilities that facilitate preparing & responding?

How do variables interact with each other?

State, Shire & Community: Regulations, Policies, Resources



Research Design: Mixed Methods & Longitudinal





Quantitative

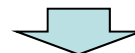
testing variables & RS with
large populations

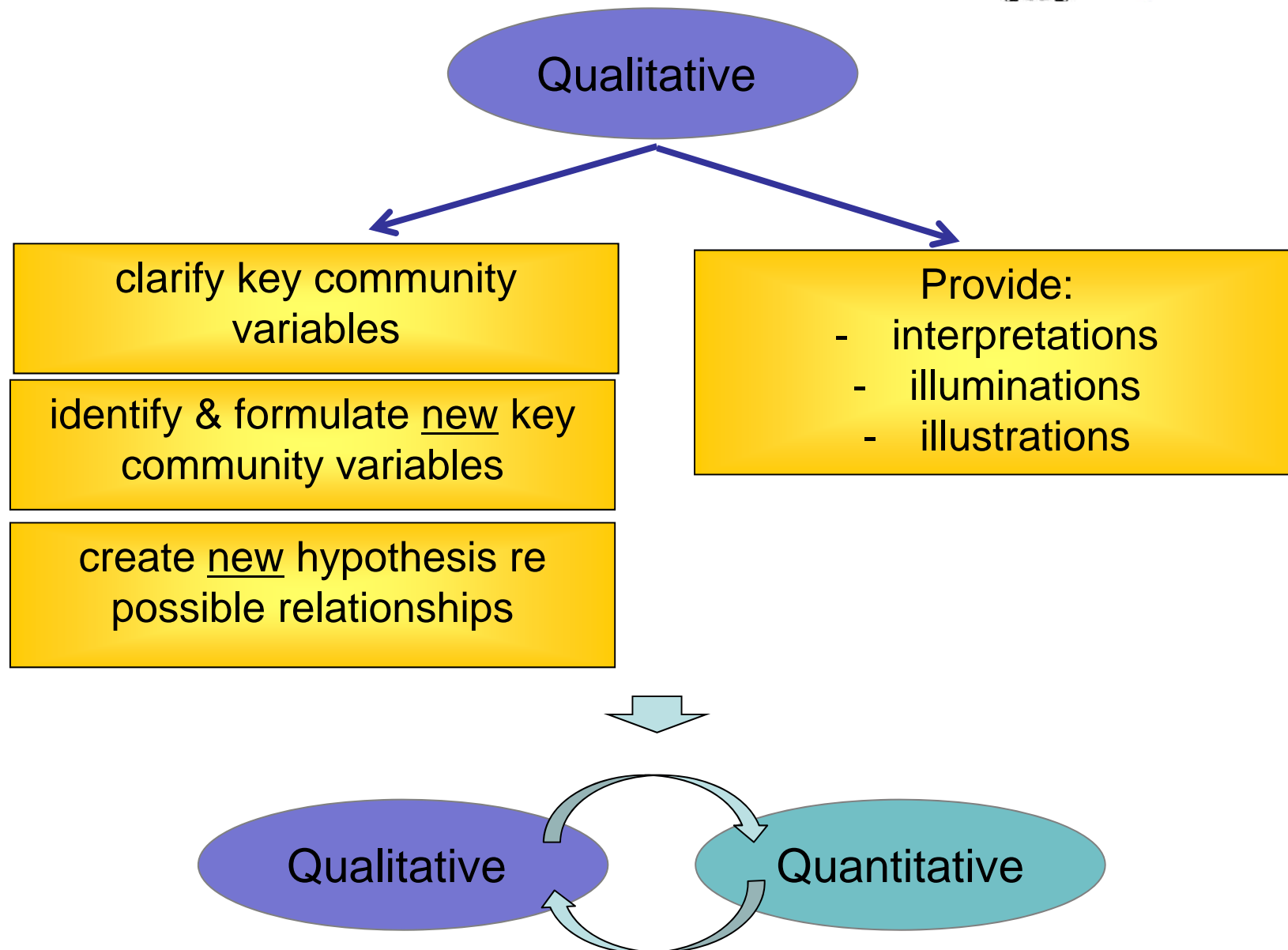
Design survey & distribute it to
many communities

test key community variables &
relationships

identify causal relationships
between key concepts

assess degree to which key
concepts influence individual
prep

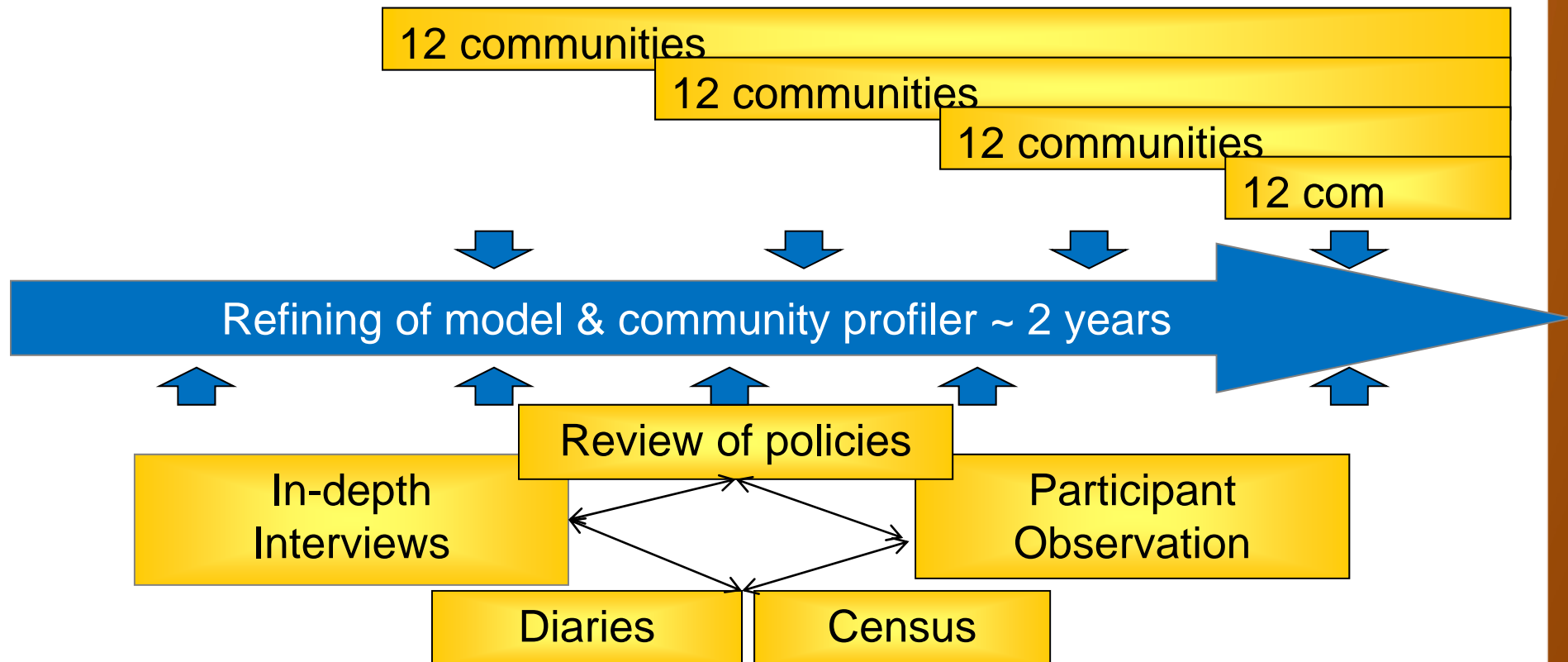






Top-down Quantitative: testing community differences over time

Nov 11 (f) - July 12 (m/off) Oct 12 (b/f) Feb 13 (m/f)



June 2011 → WA

March 2012 → other states

Bottom-up Qualitative: identifying, clarifying & interpreting

Outcomes of the Project

Community Profiler

- key community variables that cause greatest differences between communities → predictor of individual preparedness

Universal Preparedness Measure

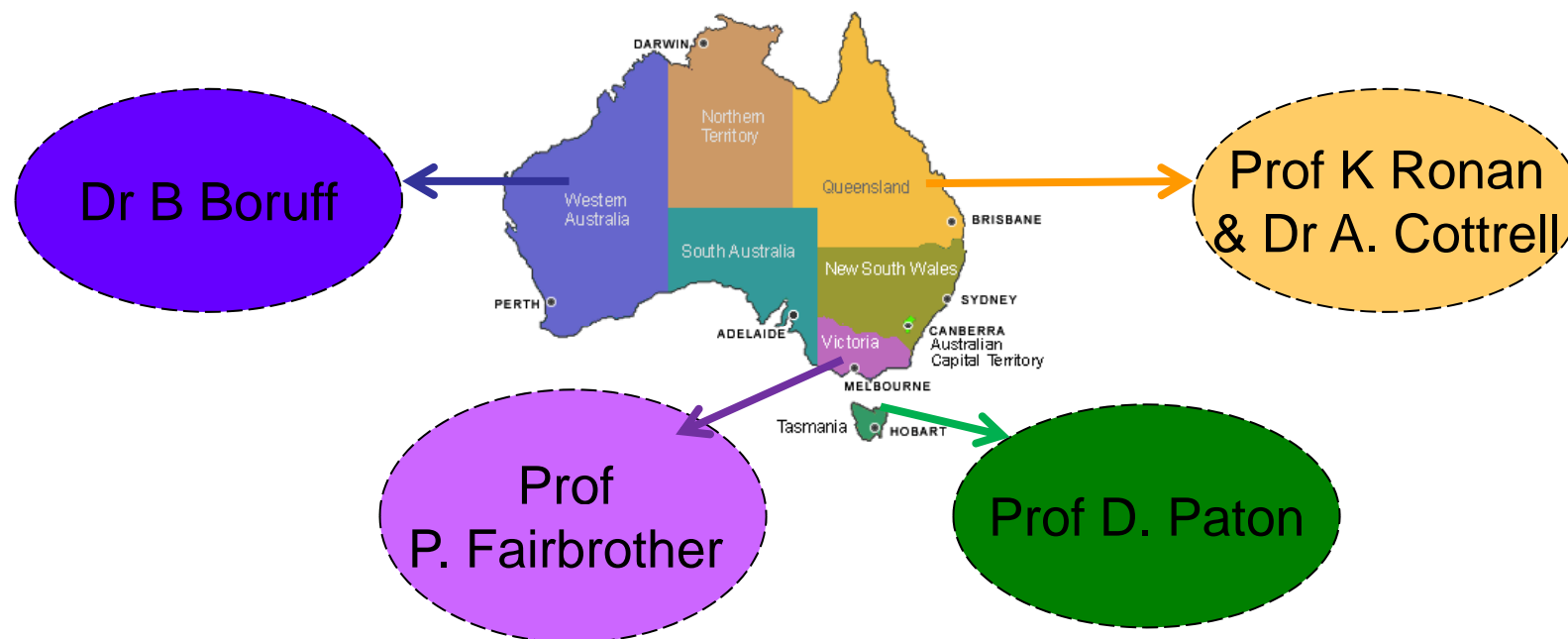
- no well-accepted measure
- limited & focus on individual preparedness
- involving both levels:
 - Community
 - Individual

Template for Intervention



Community Selection Criteria

- high & low community preparedness in disaster prone areas (as assessed by fire or emergency authorities) → need assistance identifying these communities
- 4 different states: Which ones? Funding?



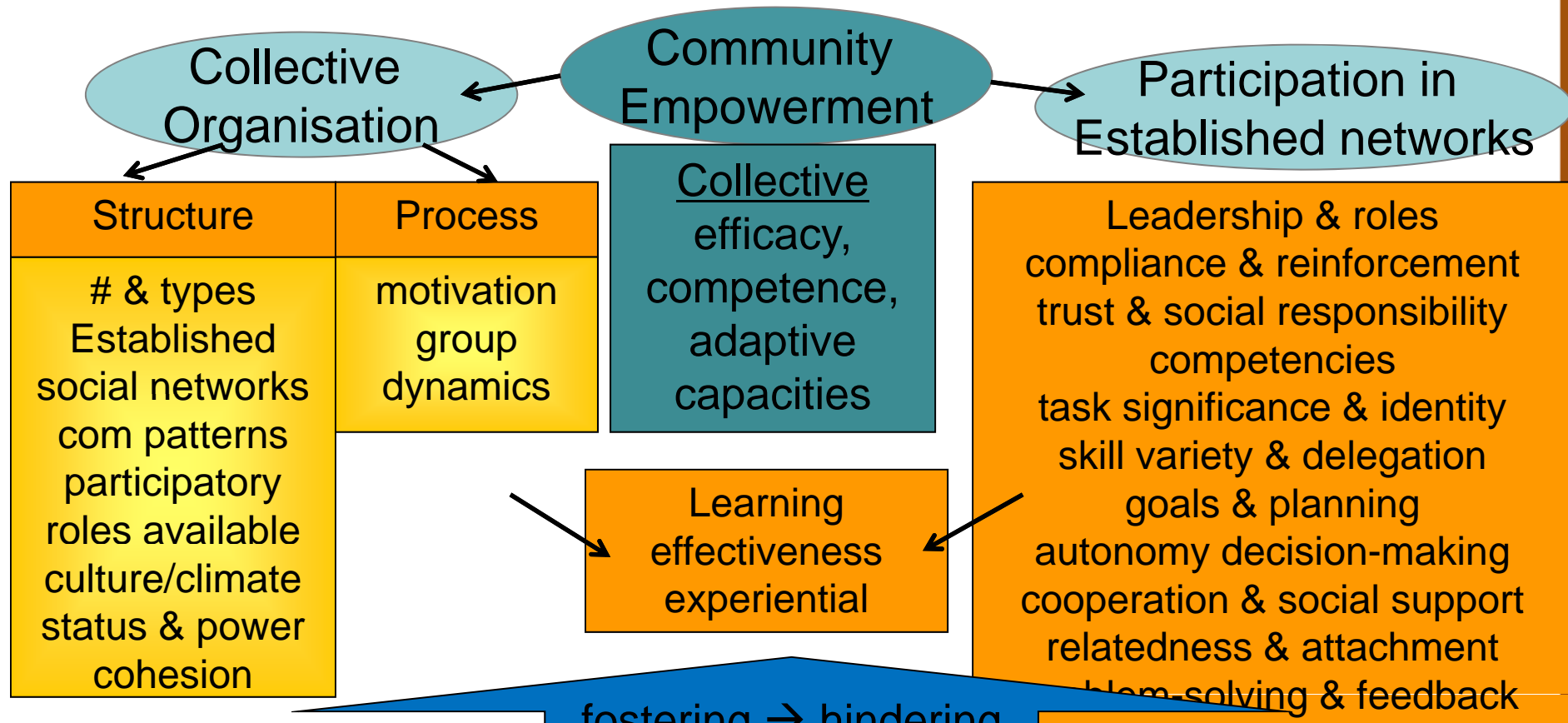


Short-term Plans

- finishing literature review regarding community differences → writing-up as paper
- facilitating research cooperation with Peter Fairbrother's group
- discussion with FESA & Damien regarding selection of communities & organising interviews with Shire CEOs
- creating interview guide for interviews with Shire CEOs
- analysing WA Fire Project data regarding community differences
- developing community preparedness measure
- organising case studies in other states

Shires

Regulations - resources – demographic & physical make-up – size – location – risk – history – life styles– well-being/health – quality of life



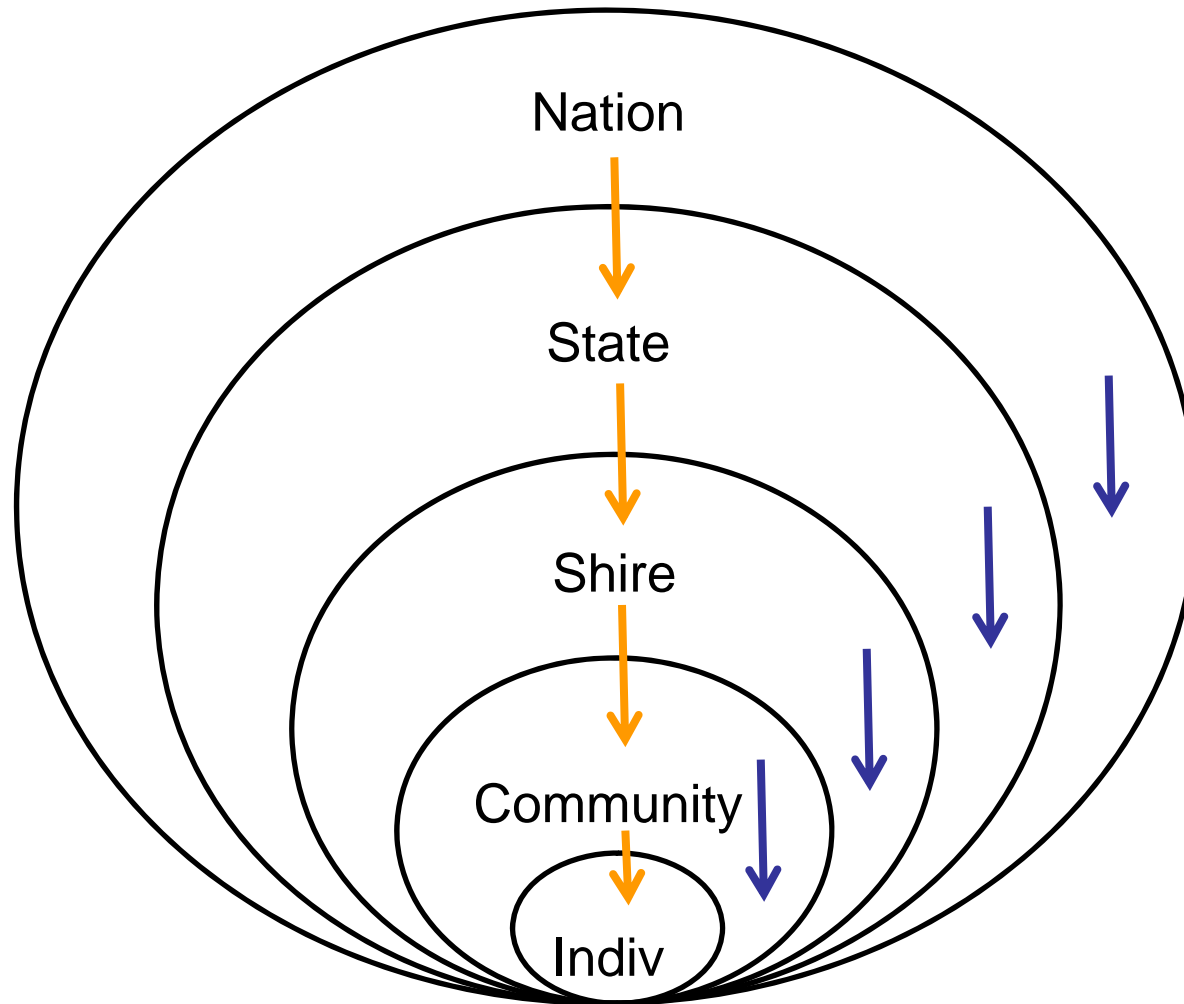
fostering → hindering

Can do

Reason To

Energised To

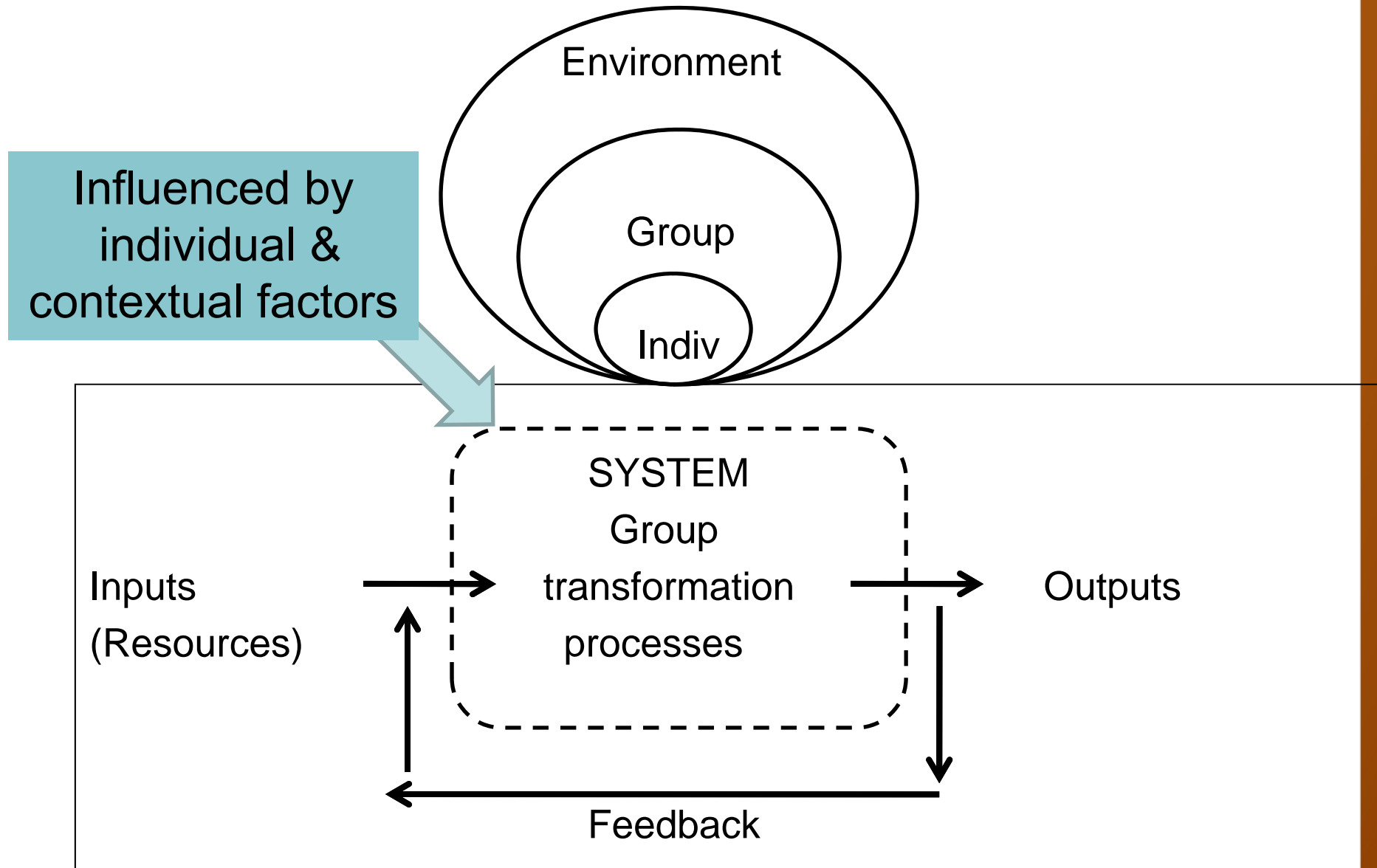
Individual Proactive Actions → Preparation



Model 1: Systems Theory

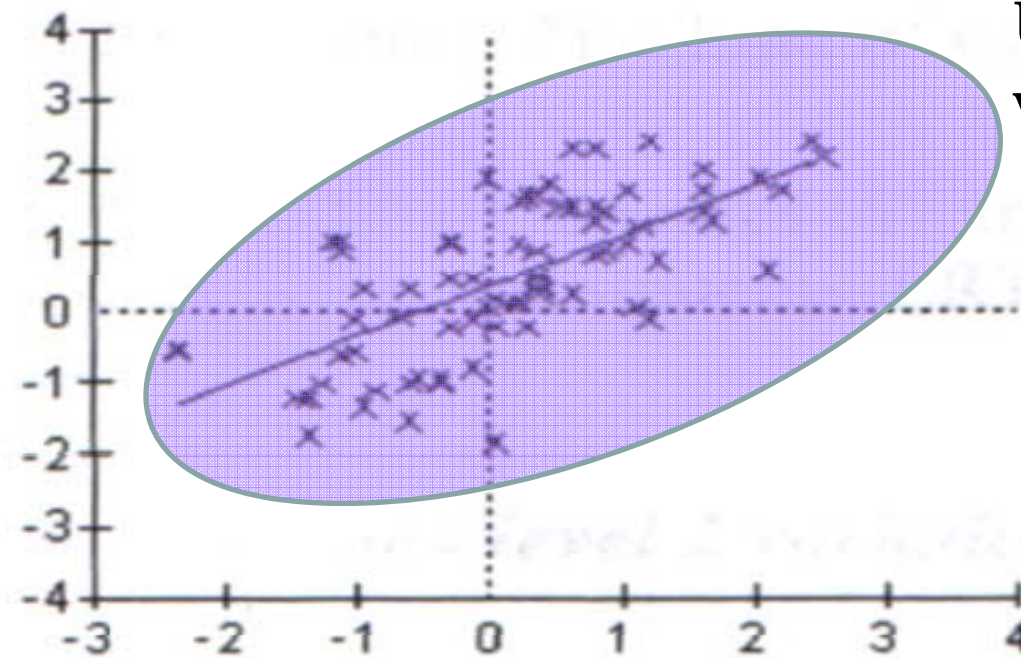


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OLS Regression Model

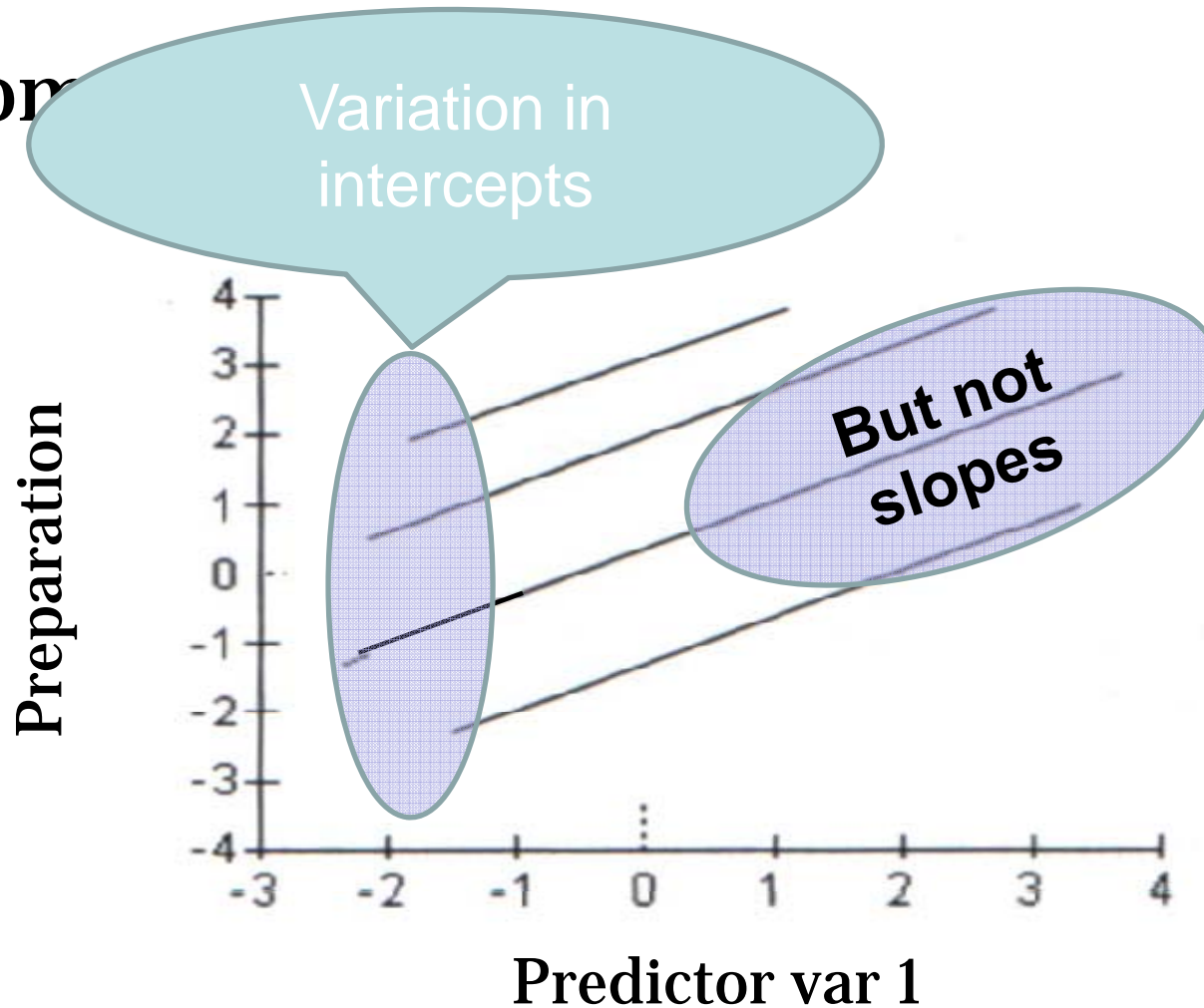


Unexplained
variation

Level one variation

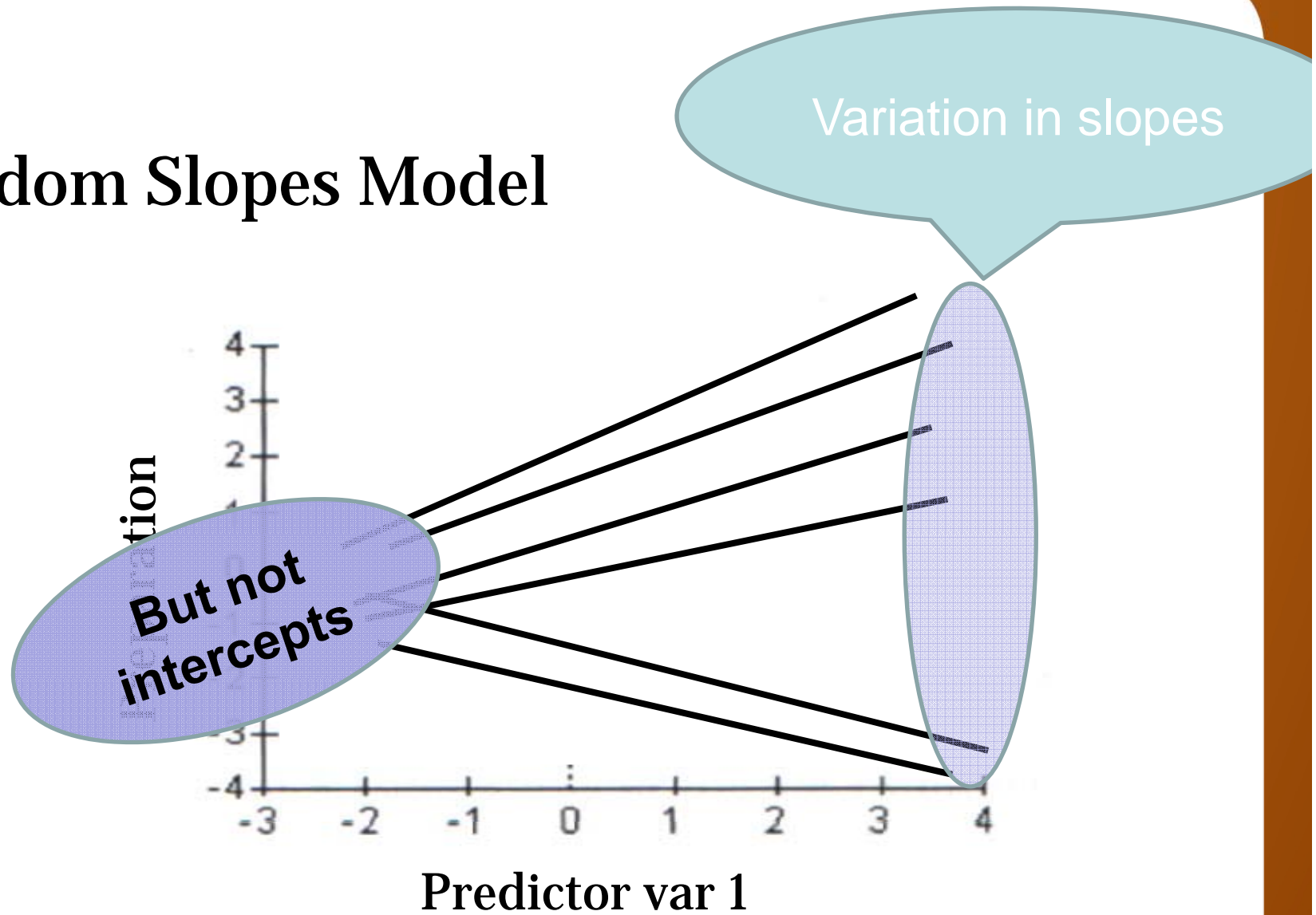


Random



Community variation with respect to preparation linked to a predictor variable

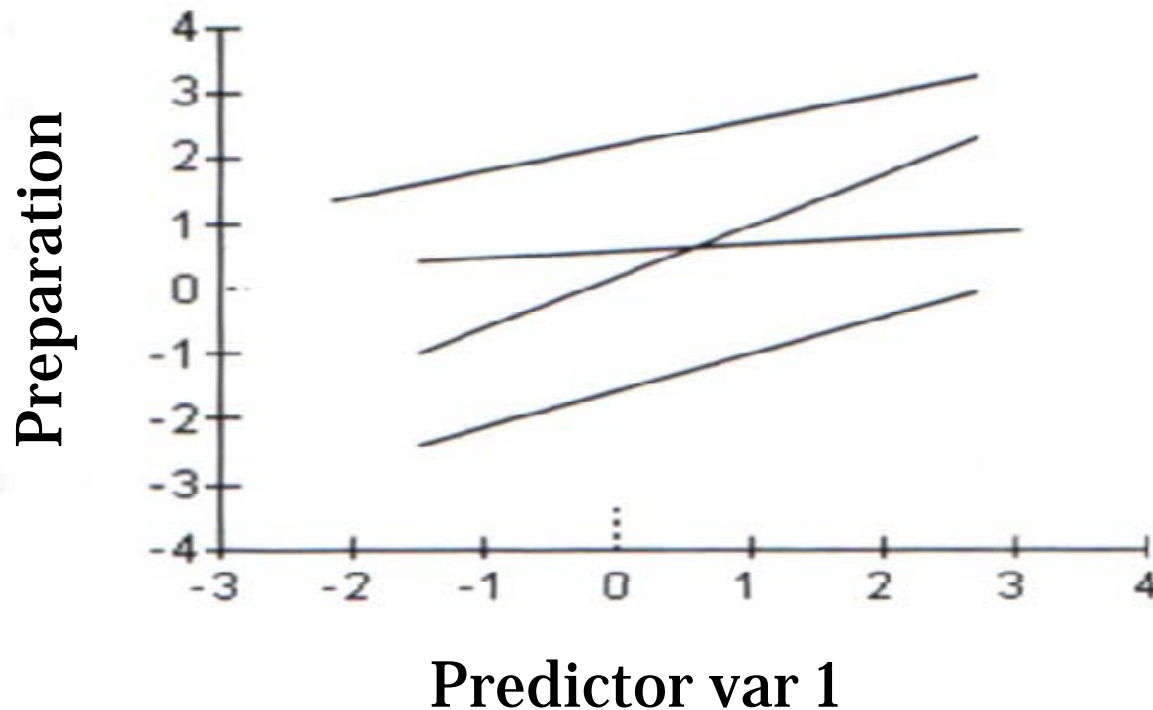
Random Slopes Model



Community variation with respect to preparation linked to a predictor variable



Random Slopes and Intercepts Model



Community variation with respect to preparation linked to a predictor variable