



# Life Insurance: Decision States, Financial Literacy, and the Role of Personal Values

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Life Insurance:

A product we don't want to buy for an event we don't want to think about...



**But the ability to absorb financial shocks is a key part of financial well-being.**



# Why buy life insurance?

Well established theoretical framework for demand:

- Yaari 1965, Fischer 1973, Campbell 1980, Bernheim 1991
  - manage income uncertainty and maximise expected utility of consumption and bequests
- Insurance demand should be predicted:
  - **Positively by** risk aversion, bequest intentions, household formation (having spouse, dependents), human capital
  - **Negatively by** life expectancy, time preference, net assets (including homeownership), age
- Empirical studies support theory plus find relevance of:
  - Demographics and socioeconomics
  - Psychological traits
  - Financial literacy



# But even where most cover is automatic and inexpensive, underinsurance persists.

- Most Australians have default insurance from pension plans:
  - Group insurance provides:
    - **71%** Death sums;
    - **88%** TPD sums;
    - **59%** Income protection sums
- High probability of claims over 40 yr working life:
  - **1 in 4** chance of claiming Income protection
  - **1 in 20** will claim Total & Permanent Disability benefit
  - **1 in 20** will have Death Benefit paid to beneficiary
- **Still, underinsurance:**
  - Median cover meets only 37% of a typical family's needs
  - \$1B annual cost to social security expenditure of underinsurance
  - 80% of people never think about suitability



We take a closer look at the demand for life insurance to better understand low engagement.

- Use a structured survey to study the **decision process** in detail:
  - What explains how consumers move through the stages of deliberation over life insurance?
  - Can we predict who becomes capable of making a choice?
- Test the importance of **financial literacy and personal values** to the stages of insurance choice.



# We take a closer look at the demand for life insurance. We find:

Many people are at the earliest decision stage:

“Pre-Aware” of life insurance

=> Costly for individual financial wellbeing, taxpayer

Can move consumers to higher states by priming

- Financial literacy and experience
- Values (Self-Transcendence, Openness-to-Change)

Values



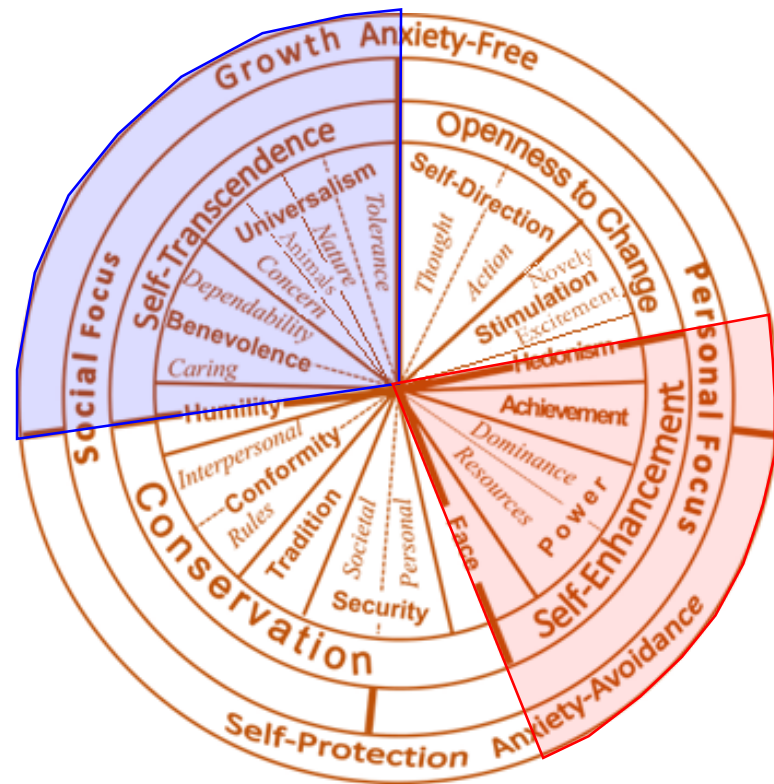
# Basic Human Values are motivational life-goals that transcend situations. (Schwartz)

1. **Benevolence** (Dependability, Caring);
2. **Universalism** (Concern, Animals, Nature, Tolerance);
3. **Self-Direction** (Thought, Action);
4. **Stimulation** (Novelty, Excitement);
5. **Hedonism**;
6. **Achievement**;
7. **Power** (Dominance, Resources);
8. **Security** (Societal; Personal);
9. **Tradition**;
10. **Conformity** (Rules, Interpersonal);



# Basic values can aggregate to higher orders.

- **Self-Transcendence**
  - Benevolence
  - Universalism
- **Self-Enhancement**
  - Achievement
  - Power



# Basic values can aggregate to higher orders.

- **Openness to Change**
  - Self direction
  - Stimulation
- **Conservation**
  - Security
  - Tradition
  - Conformity





# Hypotheses: Personal values will influence engagement with insurance decisions.

People with higher **Self-Transcendence** (lower self-enhancement)

- H1: will be more willing to purchase life insurance to benefit others and will advance to higher decision states.

People with higher **Conservation** (lower openness to change)

- H2: will be more likely to be in higher decision states due to the importance they put on security.

People with higher **Openness to Change** (lower Conservation)

- H2a/H3: will be less likely to be in the lowest decision state due to the importance they place on Self-Direction.

# Measurement and Estimation

Module administered to 18-54 year olds of existing  
The Values Project panel



See <https://www.thevaluesproject.com/>



# Example of an item from the values collection survey.

Of these, which are the **most important** and **least important** to you as guiding principles in your life?

**Most Important**

**Least Important**

- |                       |  |                       |
|-----------------------|--|-----------------------|
| <input type="radio"/> | Living in a safe and stable society  | <input type="radio"/> |
| <input type="radio"/> | Caring and seeking justice for everyone, especially the weak and vulnerable in society | <input type="radio"/> |
| <input type="radio"/> | Taking advantage of every opportunity to enjoy life's pleasures                        | <input type="radio"/> |
| <input type="radio"/> | Helping and caring for the wellbeing of those who are close                            | <input type="radio"/> |
| <input type="radio"/> | Having the authority to get others to do what you want                                 | <input type="radio"/> |



# Individual values scores are calculated from most-least choices.

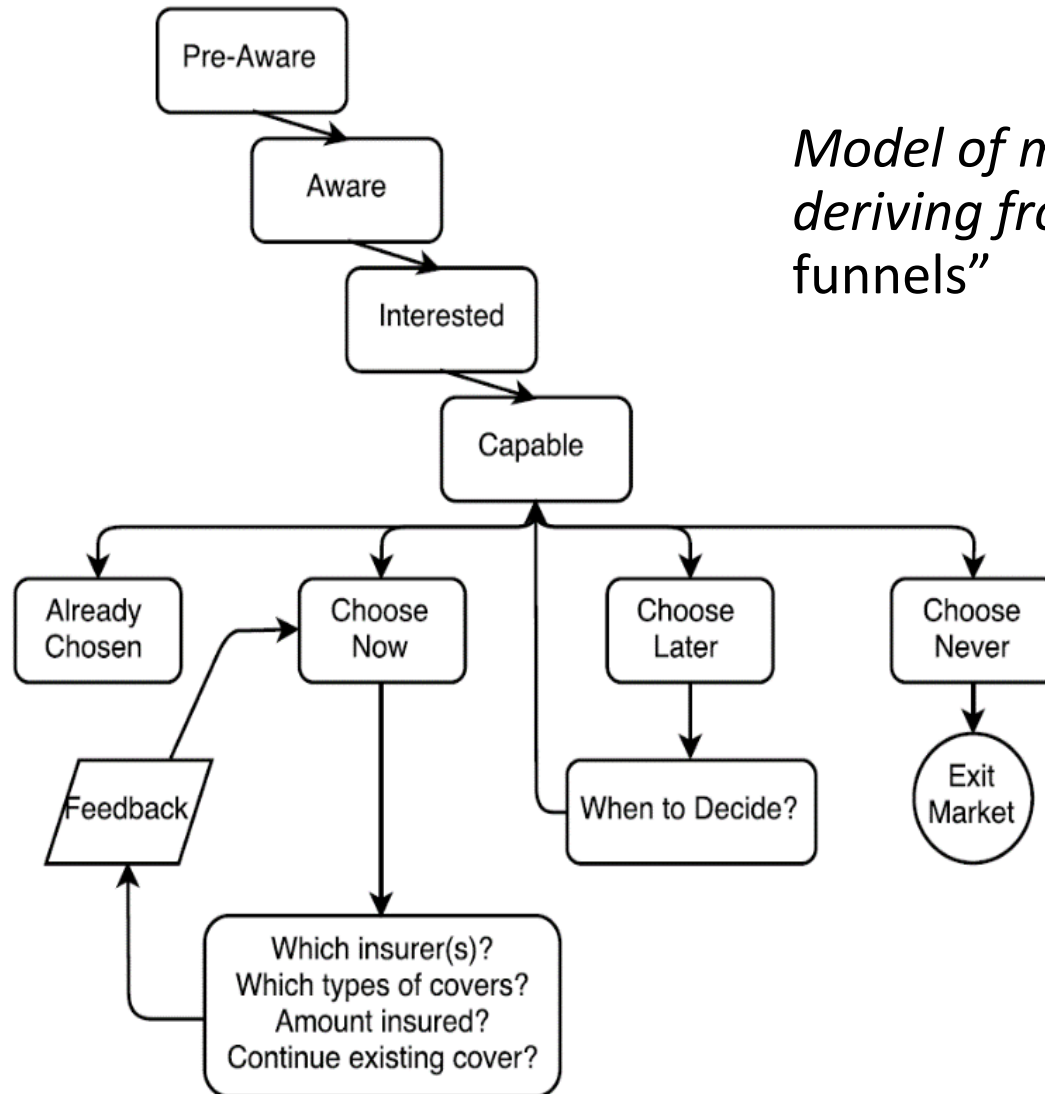
1. Respondents select most/least important value from 21 value sets where each value appears 5 times.
2. Relative importance = (Most count – Least count)/5
3. Higher order values average over scores for component basic values
4. Difference higher order values before estimation.

*Outcome is number between -1 and 1 with zero mid point where positive scores show more important values and negative scores less important.*

$$\text{ST-SE} = (\text{Benevolence} + \text{Universalism}) / 2 - (\text{Achievement} + \text{Power}) / 2$$

# Decision States model

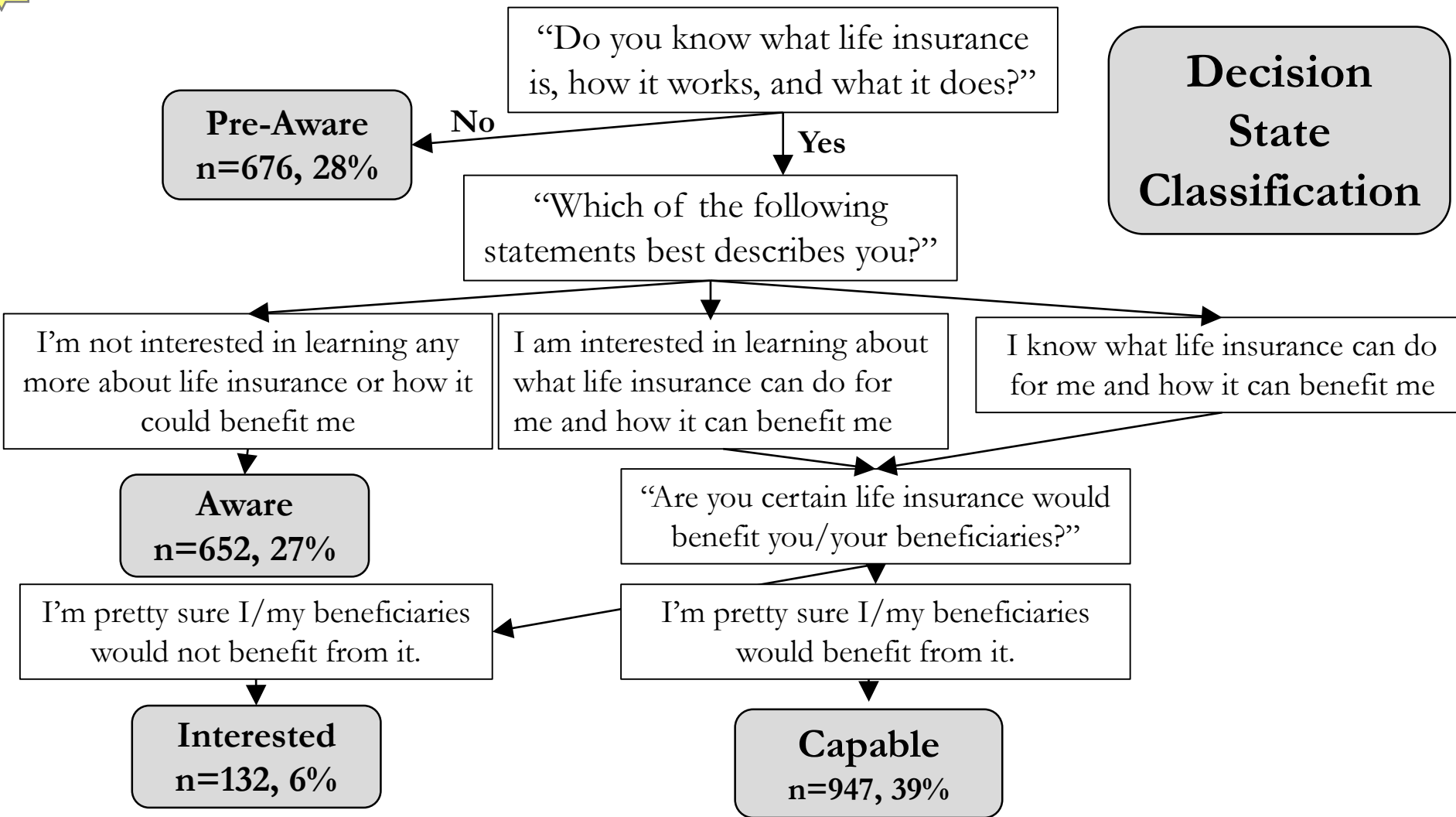
# Decision States Model breaks the insurance purchase decision into stages.



*Model of market evolution,  
deriving from “consumer  
funnels”*

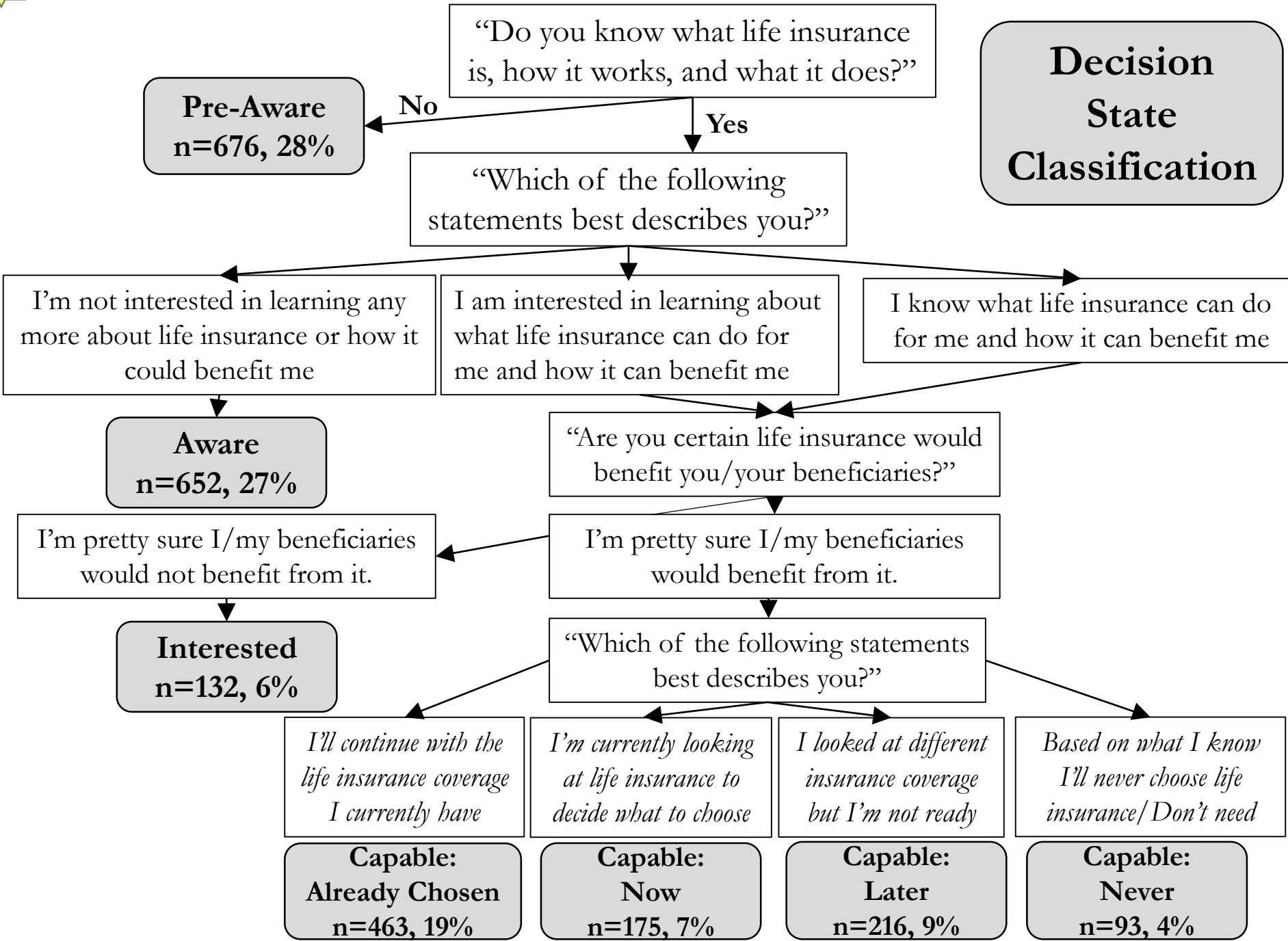
**Role of variables  
(e.g. financial  
literacy) may be  
lost if we focus  
on one state**







# Decision State Classification



**Pre-Aware**  
n=676, 28%

“Do you know what life insurance is, how it works, and what it does?”

No Yes

“Which of the following statements best describes you?”

I’m not interested in learning any more about life insurance or how it could benefit me

I am interested in learning about what life insurance can do for me and how it can benefit me

I know what life insurance can do for me and how it can benefit me

**Aware**  
n=652, 27%

“Are you certain life insurance would benefit you/your beneficiaries?”

I’m pretty sure I/my beneficiaries would not benefit from it.

I’m pretty sure I/my beneficiaries would benefit from it.

**Interested**  
n=132, 6%

“Which of the following statements best describes you?”

*I’ll continue with the life insurance coverage I currently have*

*I’m currently looking at life insurance to decide what to choose*

*I looked at different insurance coverage but I’m not ready*

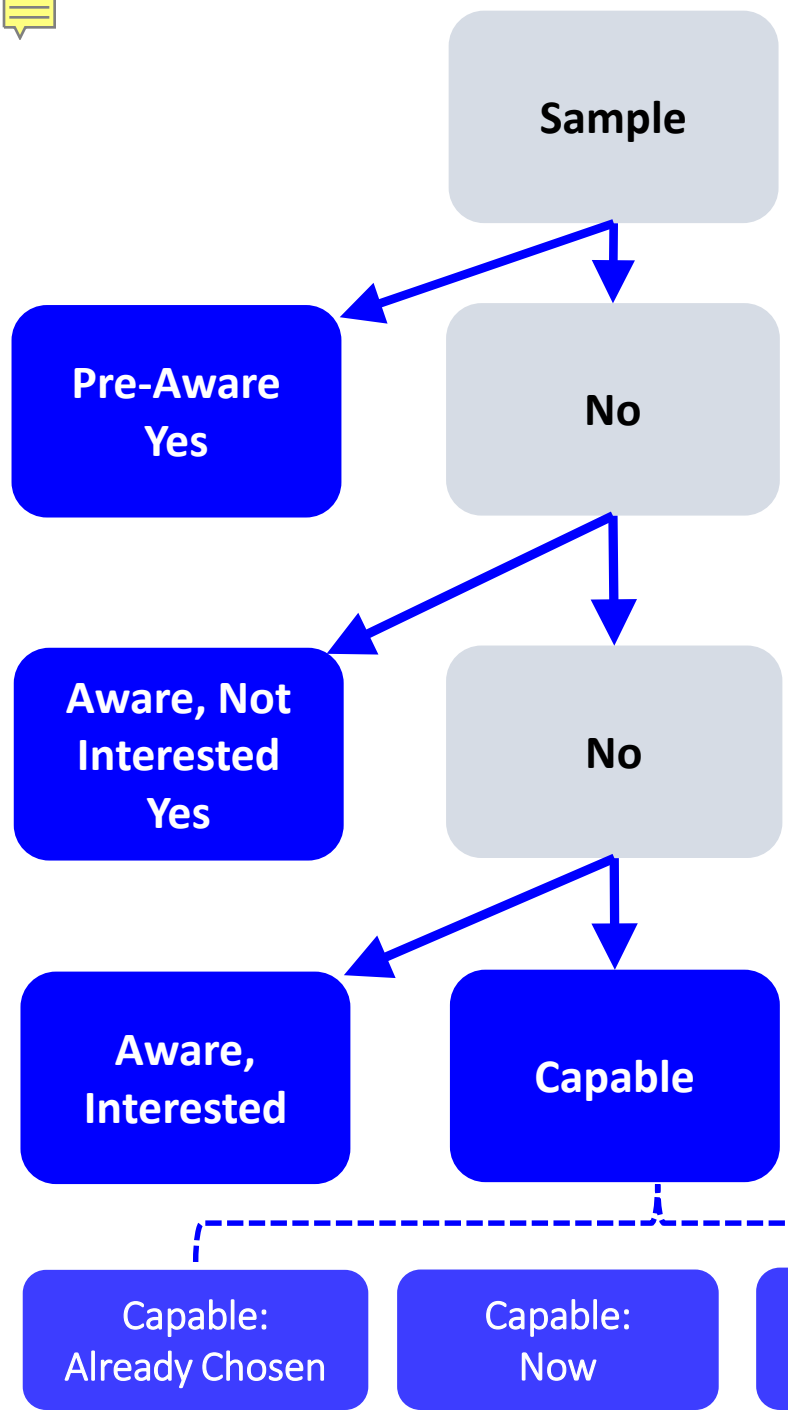
*Based on what I know I’ll never choose life insurance/Don’t need*

**Capable:  
Already Chosen**  
n=463, 19%

**Capable:  
Now**  
n=175, 7%

**Capable:  
Later**  
n=216, 9%

**Capable:  
Never**  
n=93, 4%



- Ordered Logit 4/7 Decision States
- *Fails Brant parallel lines assumption*
- Multinomial Logit of 4/7 States
- *Does not reject IIA (Small-Hsiao)*
- Sequential logit
  - Separate estimation of logits on sub-groups of respondents

Aware vs Pre-Aware

Interested vs Aware, Pre-Aware

Capable vs Interested, Aware, Pre-Aware

# Results



# Marginal Effects: Having dependents and a job is linked to a higher decision state.

Marginal Effects	Pre-Aware 0.2969	Aware 0.2804	Interested 0.0560	Capable 0.3667	
Female	-0.0126 (0.0257)	-0.0282 (0.0264)	0.0056 (0.0126)	0.0352 (0.0259)	<b>Gender, Age not-significant</b>
Age	-0.0004 (0.0013)	0.0014 (0.0014)	0.0000 (0.0007)	-0.0011 (0.0014)	
Relationship(base: <b>Married</b> )					
Partnered, not married	0.0115 (0.0275)	-0.0437 (0.0285)	0.0280* (0.0152)	-0.0832*** (0.0289)	<b>Relationship, household significant</b>
Separated, Widowed	-0.0093 (0.0449)	-0.0145 (0.0459)	-0.0007 (0.0211)	0.0244 (0.0517)	
Single	0.0014 (0.0296)	-0.0486 (0.0315)	0.0295* (0.0169)	-0.0786** (0.0321)	
Dependents					
Degree	-0.0014 (0.0093)	-0.0191** (0.0087)	0.0010 (0.0046)	0.0195** (0.0088)	<b>Education not-significant</b>
Work (base: Employee)					
Self Employed	-0.0175 (0.0401)	0.0805* (0.0428)	0.0145 (0.0225)	-0.0776** (0.0390)	<b>Employment significant</b>
Not Employed	-0.0324 (0.0246)	0.0814*** (0.0263)	-0.0101 (0.0128)	-0.0390 (0.0268)	

# Holding financial assets, future focus and bequest motive predict a higher state.

## Marginal Effects

	Pre-Aware 0.2969	Aware 0.2804	Interested 0.0560	Capable 0.3667	
<b>Financial Assets (base: None)</b>					
< \$50,000	<b>-0.0578**</b> (0.0242)	<b>-0.0610**</b> (0.0251)	0.0053 (0.0120)	<b>0.1135***</b> (0.0254)	<b>Only Financial Assets significant</b>
> \$50,000	<b>-0.0564*</b> (0.0341)	<b>-0.0865**</b> (0.0343)	0.0374* (0.0208)	<b>0.1055***</b> (0.0358)	
Investment Property	-0.0326 (0.0323)	0.0628* (0.0349)	-0.0007 (0.0165)	-0.0295 (0.0330)	
Investment Loan	0.0558 (0.0398)	-0.0172 (0.0396)	0.0002 (0.0197)	-0.0388 (0.0379)	
<b>Home Status (base: No Home Asset)</b>					
Home, No Mortgage	-0.0126 (0.0354)	0.0278 (0.0368)	0.0092 (0.0201)	-0.0243 (0.0368)	<b>Future perspective,</b>
Home, Mortgage	-0.0030 (0.0264)	0.0417 (0.0268)	-0.0153 (0.0131)	-0.0234 (0.0269)	
Risk tolerance	0.0057 (0.0087)	-0.0079 (0.0088)	0.0027 (0.0043)	-0.0004 (0.0090)	
Future Time Perspective	<b>-0.0241**</b> (0.0097)	-0.0135 (0.0098)	<b>0.0083*</b> (0.0050)	<b>0.0293***</b> (0.0101)	<b>Bequest significant</b>
Financial Literacy	<b>-0.0555***</b> (0.0160)	0.0252* (0.0132)	0.0063 (0.0063)	<b>0.0240*</b> (0.0126)	
Misunderstand Coverage	<b>0.1110***</b> (0.0214)	-0.0039 (0.0224)	-0.0034 (0.0115)	<b>-0.1037***</b> (0.0230)	
Bequest Preference	<b>-0.0146***</b> (0.0039)	-0.0016 (0.0038)	-0.0004 (0.0019)	<b>0.0166***</b> (0.0039)	
Satisfaction Health	-0.0048 (0.0120)	0.0026 (0.0113)	-0.0093 (0.0057)	0.0115 (0.0118)	

Subjects with higher financial literacy, who have made a decision or who understand the product in higher state.

	Pre-Aware 0.2969	Aware 0.2804	Interested 0.0560	Capable 0.3667
Have Life Coverage	<b>-0.0936***</b> (0.0266)	<b>-0.1228***</b> (0.0270)	-0.0195 (0.0131)	<b>0.2359***</b> (0.0313)
Misunderstand Coverage	<b>0.1110***</b> (0.0214)	-0.0039 (0.0224)	-0.0034 (0.0115)	<b>-0.1037***</b> (0.0230)
Financial Literacy	<b>-0.0555***</b> (0.0160)	<b>0.0252*</b> (0.0132)	0.0063 (0.0063)	<b>0.0240*</b> (0.0126)

Test of misunderstanding: What types of cover do you think are usually included in a standard life insurance policy?  
*(Trauma, Income Protection, or Don't know selected. Other options Life, Total and Permanent Disability)*

Subjects with higher financial literacy are likely to have made decision to purchase (or accept default) cover.

	Pre-Aware	Aware	Interested	Capable: Chosen	Capable: Now	Capable: Later	Capable: Never
<b>Misunderstand Coverage</b>	0.2969 0.1065*** (0.0220)	0.2804 0.0020 (0.0225)	0.0560 -0.0051 (0.0114)	0.1780 -0.0761*** (0.0181)	0.0602 -0.0093 (0.0117)	0.0869 -0.0056 (0.0141)	0.0416 -0.0128 (0.0104)
<b>Financial Literacy</b>	-0.0524*** (0.0116)	0.0237* (0.0123)	0.0062 (0.0063)	0.0317*** (0.0101)	-0.0166** (0.0065)	0.0107 (0.0081)	0.0007 (0.0058)

*I'll continue with the life insurance coverage I currently have*

**Capable:  
Already Chosen**  
n=463, 18%

*I'm currently looking at life insurance to decide what to choose*

**Capable:  
Now**  
n=175, 6%

*I looked at different insurance coverage but I'm not ready*

**Capable:  
Later**  
n=216, 9%

*Based on what I know I'll never choose life insurance/ Don't need*

**Capable:  
Never**  
n=93, 4%

Those with lower financial literacy not homogenous group.  
Includes: 1) unaware of product; 2) aware, looking;  
3) those capable, with purchase imminent but not complete





## Marginal Effects: Personal Values matter to progress

	<b>Pre-Aware</b> <b>0.2969</b>	<b>Aware</b> <b>0.2804</b>	<b>Interested</b> <b>0.0560</b>	<b>Capable</b> <b>0.3667</b>
Openness to Change less	<b>-0.0710</b>	<b>0.1056***</b>	-0.0039	-0.0307
Conservation	(0.0484)	(0.0378)	(0.0152)	(0.0311)
Self-Transcendence less	<b>-0.0942**</b>	<b>0.0528*</b>	-0.0088	<b>0.0502*</b>
Self-Enhancement	(0.0400)	(0.0280)	(0.0124)	(0.0256)

- **H1 supported: Higher Self-Transcendence oriented**
  - less likely to be Pre-Aware, more likely Aware and Capable
- **H2 not supported: Higher Conservation oriented**
  - not more likely Capable
- **H2a/3 supported: Higher Openness to Change orientation**
  - More likely to be aware than pre-aware

# Robustness check on endogeneity

- **Possible reverse causality**
  - Financial Literacy and Decision State
- **Instrument financial literacy by postcode level dividend income relative to wages** (dividend proportion)
  - Oneway ANOVA dividend proportion by decision state *ns*
- **Control function approach** (Wooldridge, 2010)
  - Residuals from first stage (F-stat > 10) included in ordered logit with financial literacy index
    - Residuals non-significant (bootstrapped SEs), exogeneity not rejected
- **Generalised structural equation model**
  - Multinomial logit, with financial literacy predicted by dividend proportion. Results qualitatively same



# Summary and Future Work

Many people are (30%) “Pre-Aware” of life insurance

- Costly for individual financial wellbeing, taxpayer

Move to higher states by priming

- Financial literacy
- Values (Self-Transcendence, Openness-to-Change)

Work to do:

- Refine Decision States classifications
- Refine financial/insurance literacy scales
- Explore interaction of Financial Literacy & Values
  - **Financial literacy as values expressive behaviour**