

Communicating Risk

PHASE 6, 7 AND
PERTH BUSH FIRE SOCIAL NETWORKS

Department Name
00 Month 2010





Phase 6 Study

Department Name
00 Month 2010

Study Design - Recruitment

- **500 questionnaires were sent to residents in the Perth Hills study areas of Roleystone, Kelmscott, Red Hill and Brigadoon,**
- **1000 to residents in Gelorup and Stratham,**
- **200 to residents at risk of bushfire in the City of Bunbury.**
- **402 completed questionnaires were returned with approximately 90% filled out completely.**

Intervention

- **“Many people don’t realise that there’s a good chance that they will lose their services when a bushfire occurs. For example, in the February 2011 fires in the Roleystone and Kelmscott area, 1 in every 5 households lost their water supply, 71% of houses lost electricity, 36% lost their landline phone, mobile phone coverage was decreased to about 25% of usual coverage, and 46% of households with internet lost their connectivity.”**

Follow-Up Data

- **A follow-up survey to those who indicated a willingness to participate**
- **251 responses to the second survey were successfully matched.**
- **Of these 254 respondents, 52% were Male and 48% Female. The average age of the matched respondents was 55.1 years.**

GOOD NEWS

- A significant main effect Manipulation ($F(1, 352) = 5.76, p < .05, \eta^2 = .02$) was found for an item measuring severity of impact of bushfire on town/suburb ('If a bushfire were to occur in your town or suburb, how severe would the impact of it be on your town or suburb?'). \
- A main effect of Manipulation ($F(1, 353) = 6.49, p < .05, \eta^2 = .02$) was also found for an item measuring the significance of the threat of potential bushfire on life and property ('How significant do you think the threat of bushfires is to life and property in your town or suburb?').

BAD NEWS

- **There was no significant effect of Manipulation on expectations**
 - **loss of water ($F(1,323)=0.01, p=.92$)**
 - **loss of electricity ($F(1,352)=0.68, p=.41$)**
 - **loss of landline phone ($F(1,340)=1.80, p=.18$)**
 - **loss of mobile phone ($F(1,335)=0.88, p=.35$)**
 - **loss of internet connectivity ($F(1,331)=0.14, p=.71$).**

AND MORE BAD NEWS

- **No statistically significant effects ($c^2 (6) = 5.60, p = .47$) about the possible loss of utilities on intended fire plans.**
- **No evidence that intervention ($\chi^2 (6) = 10.20, p = .12$) significantly predicted intended bushfire response plans**

- **Intervention not change beliefs around anticipated loss – so more effective intervention needed ?**
- **May only be relevant to subset with a defensive fire plan – so lack power ?**
- **Why severity increase not result in more planning – what to do about it ?**



Phase 7 Study

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The Interventions

- **Manipulation 1 – Focus on easy versus hard activities first**
 - After completing preparatory actions checklist (what have you done so far?), residents were asked to rank either the top 3 easiest preparedness actions they hadn't done yet ('easy') vs rank the top 3 hardest activities they hadn't done ('hard').
- **Manipulation 2 – Comparison feedback**
 - Residents were then told most Australians complete either about 25% or about 75% of the bushfire preparedness actions listed in the survey.
- **Manipulation 3 – Goal commitment versus progress**
 - Finally residents were asked to indicate whether they believed they had 'made a lot of progress towards being prepared for bushfires' (progress focus), or to what extent they were 'committed to being prepared for bushfires' (commitment focus).

The Dependent Variables

- **To what extent do participants intend to complete the as of yet uncompleted preparatory activities?**
- **To what extent do they actually complete these activities within the next 10 weeks?**

The Dependent Variables

- **Different types of preparedness actions surveyed at Wave 1:**
 - Property preparedness:
 - E.g. “All of your roof coverings fit tightly so that there are no openings for sparks”.
 - “Your external house timbers all have a sound coat of paint”.
 - “There is a minimum two metre gap between your house and tree branches or shrubs”.
 - “Leaf litter and twigs under trees are raked”.
 - Planning:
 - E.g. “You have thought carefully about what each person in your household would need to do in the event of a bushfire”.
 - “All household members are aware of the fire plan”.

Study Design

2-Wave Longitudinal Field Study

- **Wave 1:**
 - **Eight different surveys sent out, each with a different combination of the manipulations (Easy/Difficult, 25%/75% and Commitment/Progress).**
 - **Intentions to complete uncompleted preparatory actions**
- **Wave 2:**
 - **Actually completed preparatory actions**
- **Participants drawn from the Organisational Research Unit (panel provider).**

Study Design

Wave 1 ID	Easy/Difficult (Difficulty Manipulation)	25%/75% (Comparison Manipulation)	Commitment/Progress (Framing Manipulation)
010	Easy	25%	Commitment
011	Difficult	25%	Commitment
110	Easy	75%	Commitment
111	Difficult	75%	Commitment
000	Easy	25%	Progress
001	Difficult	25%	Progress
100	Easy	75%	Progress
Wave 2 ID	Commitment/Progress (Framing Manipulation)		
002	Commitment		
003	Progress		

Study Design

Timeline and Numbers:

- **Wave 1 surveys launched electronically at the beginning of the 2012 bushfire season to participants who lived in a bushfire risk area.**
- **Different regions of Australia have different commencing dates for their bushfire season: each participant received Wave 1 survey three weeks after the start of the bushfire season in their particular area.**
- **After screening data, 1449 responses recorded for Wave 1.**
- **Participants received a second survey during Wave 2, approximately 10 weeks after completing the first survey.**
- **A total of 617 Wave 2 responses were received from participants and successfully matched with their response to the Wave 1 survey.**

Wave 1 –Incomplete preparedness actions and intentions: Property

Tests of Between-Subjects Effects

Dependent Variable: IntentionsProperty

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	28.070 ^a	7	4.010	2.431	.018	.013
Intercept	14958.884	1	14958.884	9070.082	.000	.875
DIFFICULTY	5.955	1	5.955	3.611	.058	.003
COMPARISON	6.042	1	6.042	3.664	.056	.003
FRAMING	6.500	1	6.500	3.941	.047	.003
DIFFICULTY * COMPARISON	.738	1	.738	.447	.504	.000
DIFFICULTY * FRAMING	5.741	1	5.741	3.481	.062	.003
COMPARISON * FRAMING	.329	1	.329	.199	.655	.000
DIFFICULTY * COMPARISON * FRAMING	1.981	1	1.981	1.201	.273	.001
Error	2144.032	1300	1.649			
Total	17805.079	1308				
Corrected Total	2172.102	1307				

a. R Squared = .013 (Adjusted R Squared = .008)

Wave 1 –Incomplete preparedness actions and intentions: Planning

Tests of Between-Subjects Effects

Dependent Variable: IntentionsPlanning

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	34.431 ^a	7	4.919	2.128	.038	.013
Intercept	23775.800	1	23775.800	10286.595	.000	.904
DIFFICULTY	5.790	1	5.790	2.505	.114	.002
COMPARISON	6.045	1	6.045	2.615	.106	.002
FRAMING	.487	1	.487	.211	.646	.000
DIFFICULTY * COMPARISON	6.771	1	6.771	2.929	.087	.003
DIFFICULTY * FRAMING	2.657	1	2.657	1.149	.284	.001
COMPARISON * FRAMING	5.804	1	5.804	2.511	.113	.002
DIFFICULTY * COMPARISON * FRAMING	7.015	1	7.015	3.035	.082	.003
Error	2537.849	1098	2.311			
Total	27611.027	1106				
Corrected Total	2572.280	1105				

a. R Squared = .013 (Adjusted R Squared = .007)



VERY VERY INTERIM ANALYSIS LOOKS PROMISING

Department Name
00 Month 2010

Post Hoc Analysis Post Bush Fire Survey

Department Name
00 Month 2010

Perth Bushfires – Ubran Rural Interface

- * **February 2011 Bushfire in Kelmscott & Roleystone**
- * **March 2011 400+ interviews**

Rural Urban

- **These R codes determine the density of the land use in terms of dwellings per hectare and they reflect the current and anticipated use of the land. An R code was found for each of the properties involved in the interviewing by utilising the council's website.**
- **Urban R 5-25 dwellings per hectare**
- **Rural RL 1-4 dwellings per hectare**

Variable	Urban	Rural
Single Headed	17%	2%***
Couple Headed	80%	83%
Resident < 10 yrs	50%	43%
Resident 11 – 20 yrs	23%	21%
Resident 21 – 30 yrs	17%	21%
Prev residence - Urban	25%	19%
Prev residence - Rural	13%	19%
No experience of Bushfires	13%	12%
Experience of Bushfires	44%	62%
Experience + Evacuation	4%	0
Worst fire to date	19%	12%

Relationship	Pre-Fire	
	Urban	Rural
Spouse /partner discussion	0%***	45%
Immediate family discussions	20%***	2%
Neighbour discussions	29%***	74%
All family discussions (immed/extend)	48%*	74%
Attended local meetings	5%***	26%
Discussions/visits fire brigade/FESA	5%***	33%
Part of a community phone tree	5%***	31%
SES/Fire Brig/FESA – self or known	26%	26%

Actions during the fire:

Action	Urban	Rural
Watched & monitored weather	32%	33%
Went for a walk to see	19%	19%
Climbed on roof	13%***	Nil
Went for a drive to see	11%	21%
Fire brigade seen or heard	54%	57%
Emergency services contact	43%	56%
Emergency told to evacuate	53%***	17%
FESA message received	71%	50%

Other Sources of Information:

Source	Pre-Fire		During Fire	
	Urban	Rural	Urban	Rural
Websites for information	18%	19%	41%	31%
Listen to radio for information	25%*	14%	60%	57%
Outgoing calls to authority	25%*	11%	23%*	14%
Bushfire/Fire Training	20%	26%	-	-
Read magazine/newspaper articles	13%*	7%	-	-
Read brochures	31%*	50%	-	-

Differences in Rural and Urban communities

- **Discussions about bush fire arrangements**
- **Information seeking about the fire**