

What Factors lead Australians to support or actively reject Factory Farming?

Presented at the International Conference *Minding Animals* in Newcastle, Australia 2009, by

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Aims

- To explore the range of attitudes towards farm animals and factory farming in Australia and to identify the factors that lead Australians to support or actively reject factory farming.

Attitudes 3 components:

knowledge, underlying belief systems and 'willingness to act'

- **Objectives**

Knowledge of impact of factory farming

The relative relevance of these issues to the respondents

Relevance of the concept of Affected Ignorance (Williams 2008)

Behaviour change drivers and barriers

- *Note:*

- Focus on chickens and pigs as representatives of the farm animal community

Knowledge of impact of factory farming in the areas of :

Animal welfare, Environment, GHG/climate change (listed as separate item rather than integrated under the environment in general due to prevalence in public debate, policy making etc), Community Health, Social justice

Affected Ignorance

The dissonance between attitudes and actual behaviour is disconcerting.

A significant factor requiring further exploration is what Harper and Henson (2001, p.5) call the engagement of consumers in 'voluntary ignorance'.

Te Velde et al. (2002) refer to this phenomenon as 'functional ignorance' and 'collective non-responsibility' as a form of coping strategy.

In both cases, responsibility for animal welfare is abrogated and shifted onto others.

Williams (2008, pp.372-373) introduces the concept of 'affected ignorance' in which

- (i) people refuse to acknowledge the connection between their actions and the consequent suffering of others,
- (ii) people ask not to be informed of the nature of the practices in question,
- (iii) some people manifest a readiness of not asking questions and/or
- (iv), people uncritically accept what is customary.

Why focus on chickens and pigs

1. Dramatic increase in production and consumption, 2. convenience of availability of relevant data for Australia (Voiceless 2005, 2008).

95% of meat chickens and 95% of pigs for meat consumption are raised in factory farms.

Their production and consumption has increased dramatically in Australia.

Over the past 40 years: from 5.9kg per year to 36kg in 2007-2008

(the equivalent of 27 chickens) per person, an increase of approximately 600%

Over the past 50 years: the chicken meat production has increased from 3 million to 470 million chickens per year.

Both industries (meat chicken and pork) are highly concentrated, with 3% of piggeries being in the control of 54% of the total sow herd,

and only three companies supplying 80% of Australia's meat chickens (Voiceless 2008).

According to the ABS, there were 320,000 sows in Australia in 2004 (Brown 2008)

and according to a Voiceless report (2005), 200,000 breeding sows spend their lives in factory farms in Australia.

Methodology

- Focus groups (6 groups, 48 participants plus pilot)
- Survey (demographic data, animal product consumption habits, attitudes towards farm animals and consumer items, BAM, NEP)
- Visual methods: Photo-elicitation
 - Individual Image selection task (24 images)
 - Group collage (207 images)
- Individual interviews (2-3 from each focus group, totaling 14 plus 1 from pilot group)

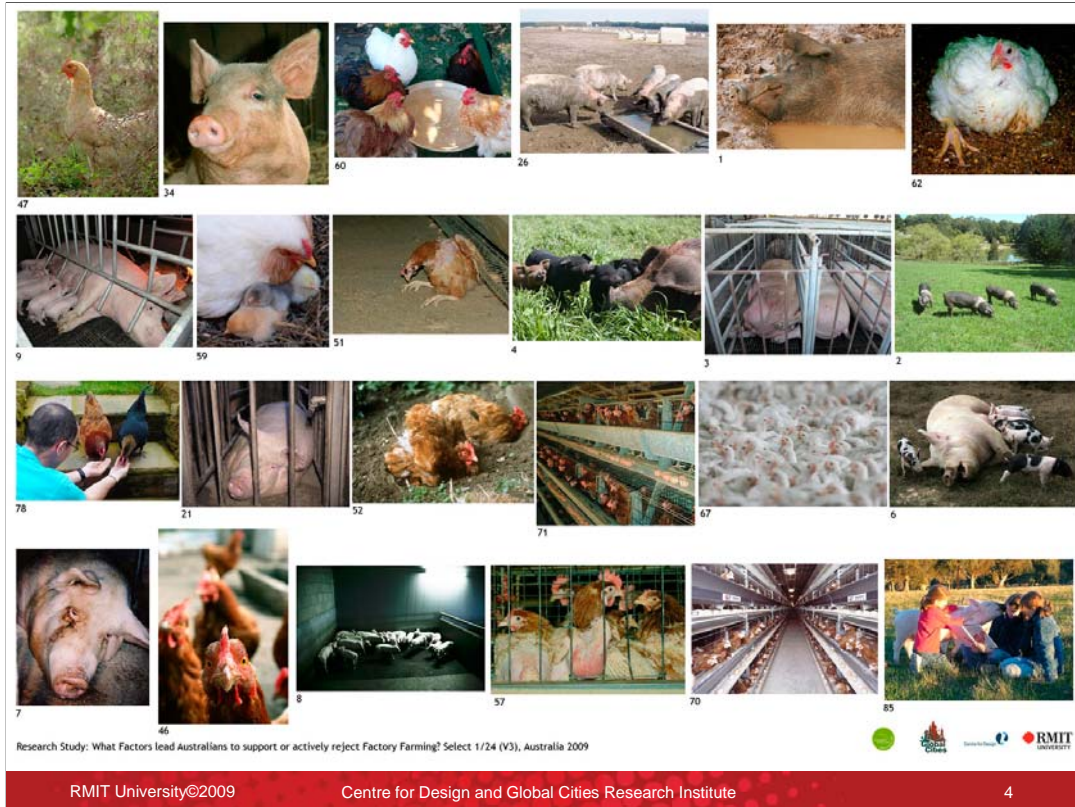
Importance of the visual:

Cognitive, kinaesthetic and emotional mode.

Help to express ideas, sort out, focus and find focus, 'what is important to me', express complex thoughts, create linkages, think in relationships, facilitation of 'networked thinking'.

The collage technique is incorporated here as an interaction between the individuals' different modalities – their verbalisations and visualisations of their thoughts. The engagement with the collage is expected to facilitate the process of bringing to awareness one's own mental models of the topic under investigation, of finding a position towards the topic, of clarifying one's feelings and notions towards it, and importantly, of supporting the participant as an active player in this process of uncovering mental models (Bergmann 2000).

Based on research in cognition and cognitive neuroscience (neuro-imaging and categorisation). Visual methods including the collage technique are extensively used in market research. Market research is strongly wedded to psychology. Researchers and practitioners using visual methods in market research draw on neuropsychology, cognitive neuroscience, cognitive theory, linguistics and related fields. A widely used method is ZMET, the Zaltman Metaphor Elicitation Technique, which also includes collages in the interview process (e.g. Christensen & Olson 2002). Zaltman (1997, pp.424-428), in his seminal paper on visual research methods, states that: 1. Thought is image-based, not word-based. 2. Most communication is non-verbal. 3. Metaphor is central to thought. 4. Metaphors are important in eliciting hidden knowledge. 5. Cognition is embodied (i.e. abstract thought represented in metaphors). 6. Emotion and reason are equally important and commingle in decision making. 7. Most thought, emotions, and learning occur without awareness. 8. Mental models guide the selection and processing of stimuli. 9. Different mental models may interact.



Selection of images for Image Selection Task 1/24

Photo-elicitation: Image Selection Task 1/24

Please select an image from the large image sheet that shows 24 images of chickens and pigs in different situations.

Please write below some 20-30 words about the significance of that particular image to you and why you have chosen that image.

Here a few questions if you would like some guidance, but feel free to express what is already on your mind first:

What does it express for you - what is significant about this image?

Does this image relate to farming of animals in Australia in general or to the individual animal in particular and in what way?

Is there anything else on your mind in relation to this image?

What is your interest in this research topic?



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Participant ID 36 (female, Toogoolawah), from focus group transcript and task sheet, Image #9:

“I chose that one. This picture is of a sow with piglets in a farrow and pen. If we want to continue eating pork, pigs need to be raised. As far as I can see, this method of pig raising is very common in piggeries in Australia. The pig, while confined, is not noticeably uncomfortable, and will be released when her pigs are bigger. There has to be a balance between farming practices and economy, otherwise we’d all starve.”

Image: Sow in Farrowing Crate, Copyright Animal Rights Advocates Inc



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Participant ID 52 (male, Sydney), from focus group transcript, Image #9:

“I chose this one. I kind of thought it kind of captures everything that is wrong with factory farming for me, industrial farming. You know, obviously the pig is in too short of a space; too small of a space. The fact that it is tagged through its ear, it doesn't look unhappy in sort of Joel's terms but it kind of looks like it is out of it, I don't know, kind of doped out or just laying there pointlessly. And then also I kind of found how the other little pigs are desperate to try and get the milk and how they have been separated from their mum. Not that I am feeling maternal or anything, but it's just a kind of thought and the sad thing about that is that there is an irony, in that that's their future and so it's kind of like she is passing on the milk.

... it's a claustrophobic photo, the fact that there is separation between the generations of animals. The fact that the animal **almost has no expression on her face**. It just kind of, yeah I mean I have no personal problem with people eating meat, like I think. But when I see that image, I think that everybody that eats meat from a factory farm should know that that's what it looks like. And so you know, on the side of cigarette packets you see the lungs. I think it would be nice to see on like the side of shoes, it would be nice to see kids in sweat shops or pigs on the side of your bacon, rather than have a happy looking pig, just to see that image. So that's what when I saw it, I mean, yeah.”

Image: Sow in Farrowing Crate, Copyright Animal Rights Advocates Inc

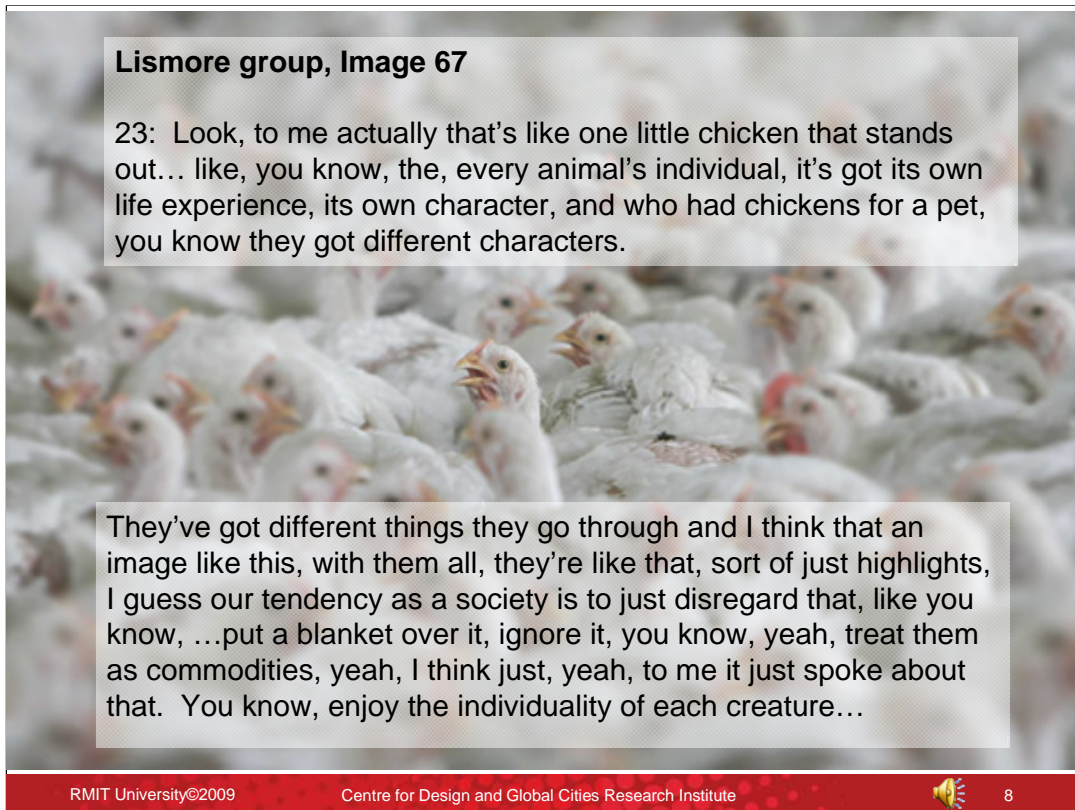


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Participant ID 49 (female, Sydney), from focus group transcript, Image #67:

“And the reason was because I have seen pictures in the media of, you know the ones that some of us picked earlier with the chickens in the cage and the pigs in the cage and I have never seen this sort of image before. And really, you know it’s just so tightly packed and it actually reminds me of a butcher shop and so it looks like a butcher shop where all the meat is piled together, except they are still alive, which I think is quite sad; that’s the main reason that I chose it.”

Image: CIWF Photo competition: "Chickens", Copyright Compassion in World Farming/ Martin Usborne



Includes audio for live presentation

Participant ID 23 (female, Lismore), from focus group transcript, Image #67:

“Look, to me actually that's like one little chicken that stands out... like, you know, the, every animal's individual, it's got its own life experience, its own character, and who had chickens for a pet, you know they got different characters.

They've got different things they go through and I think that an image like this, with them all, they're like that, sort of just highlights, I guess our tendency as a society is to just disregard that, like you know, ...put a blanket over it, ignore it, you know, yeah, treat them as commodities, yeah, I think just, yeah, to me it just spoke about that. You know, enjoy the individuality of each creature...”

Image: CIWF Photo competition: "Chickens", Copyright Compassion in World Farming/ Martin Usborne

Emerging Themes...

- **Knowledge & awareness**

- Factual details of FF practices largely unknown
- Impact of factory farming
 - Animal welfare ***
 - Environment (water, land, biodiversity) **
 - Climate Change
 - Community Health
 - Social Justice
- Overall, only some awareness and knowledge of environmental impacts of FF
- Very little to nil in terms of links between FF and climate change, social justice and community health

Factual details of FF practices unknown

Animal Welfare impacts come to mind first, but the details of FF practices are largely unknown.

Most unaware of environmental, climate change impacts

Most unaware standards & regulations exist, illustrated by images

Aware widespread ignorance a problem

Acknowledge info & knowledge in consumer decisions; but can still 'switch off' (i.e. affected ignorance)

Overall, rejection of FF practices; however still believe it's necessary to feed large populations

Knowledge & awareness

- Participants are quite unaware of facts about FF practices, even amongst those with some awareness generally and who had an impetus for change
- Most were unaware of the environmental impacts or made a connection to climate change.
- Many unaware standards & regulations exist and that the images shown reflect these. Some shocked by this – believed such practices would be illegal.
- Awareness of majority that ignorance of how pork, chicken, eggs produced is a problem. Believe there is a need for education en masse
- Acknowledge role of information and knowledge in consumer decision making but believe consumers can still 'switch off' at purchase point (affected ignorance).
- Although majority condemn FF methods still believe to have to accept some level of FF in order to maintain low cost food for large populations – even used social justice and concepts of food security (not in those terms specifically) to justify need for it.

Themes continued...

- **Affected ignorance**

- Clear examples of participants choosing to maintain affected ignorance (i.e. denial)
- Acknowledgement of difference between stated concerns & purchasing
- Underlying acknowledgement FF shows true status of animals

Action taken
(e.g. change
made)



Explore potential negative relationship between affected ignorance and actions taken

- **Empowerment**

- Role of control, empowerment. For those who have embraced the issue, explore the role of 'epiphany' or 'a-ha' moment

Affected ignorance

-When made conscious of the status and treatment of animals, some participants were visibly uncomfortable, even denying what they saw – 'this is not in Australia' or 'this is just a few bad farms', "a few bad apples".

- Yet others were inspired to make changes in consumption habits and even awareness raising of the issues amongst friends and family.

- Substantial evidence of participants not knowing details of FF practices, lack of knowledge and lack of initiative (until the focus group event) to find out and act on.

- However, consumer ignorance of reality recognised as an issue. Concern about disconnection from nature, environment and reality of meat production.

-GRAPH

- We propose that there may be a negative relationship between affected ignorance and actions taken against FF or meat consumption and also the possible relationship between action taken and empowerment.

Empowerment

-What is the role of empowerment? Is there a pattern to show that those who embrace the issue and make a change feel absolved of guilt? Feel empowered?

Example of denial:

36: And you maintain this happens in Australia now, as badly as that?

I: Yes.

36: I thought they were improving it.

I: No they're not. Not yet.

36: Definitely.

I: No.

36: Well they've got those project farms going and things like that. I mean they are, some of those figures I was reading today, they're definitely working –

(This particular participant, however, changed her mind later on "I have made up my mind, I don't like factory farming.")

Themes continued....

- **Dominance of 'pragmatism', culture & misconceptions**
 - Even though 'ideal', small scale farming methods preferred, need to feed large populations cheaply: therefore FF inevitable
 - So, dominant perception meat is needed to feed large numbers of people
 - Australia has a meat-eating culture
 - Healthy, clean animals = healthy people
 - Growth hormones used to produce (meat) chickens
 - Use of 'sustainable', e.g. small scale farming
- **Confusion, scepticism re: labels**
 - Significant confusion, scepticism about 'organic' & 'free range' labels
 - Much greater awareness of free range chicken products & production vs. pork
 - Scepticism re: RSPCA and FF. Not for farm animals, domestic only
- **"Anthropomorphism"**

Dominance of pragmatism

- Dominance of pragmatism – even though ideal farming methods preferred, resignation to idea that need to feed large population cheaply, therefore the belief that some is FF inevitable. And if it means animal suffering to a degree, so be it!
- Perception that meat is needed to feed large numbers of people. Some believed don't have enough land to grow vegetables for entire vegetarian population. Hint of panic that wouldn't be enough food (basic survival need). Others, being veg is 'impossible' too hard. Opposite view that huge amounts of land used to feed meat production animals – could be used to feed people instead. Generally lack of awareness of this fact.
- Varying opinions as to whether meat eating was necessary – some yes, needed for health, others no, yet others believe it is personal choice. But widespread belief Australia has a meat-eating culture. Reasons mentioned include due to availability, convenience and/or culture. Mention of habits, as has come up in other presentations at this conference.
- Healthy animals = healthy people. Human ideas about hygiene applied to FF conditions. Confined FF conditions that look clean are preferred to those that are not. To some degree, a certain level of crowding was acceptable for many, as long as it looked clean.

Misconceptions

- Widespread misconception growth hormones used to produce (meat) chickens.
- Use of the term 'sustainable' – for e.g. used when referring to images of small scale farming, 'not sustainable' – not able to provide for large populations, again pragmatism. Interesting use of word... considered to be too ideal perhaps? The desired, natural often seen as unattainable, unrealistic, a fantasy and maybe implied therefore not worthwhile pursuing.

Confusion and scepticism

- Free range more so than organic. Some cynicism that confusion and ignorance are deliberately maintained by industry and their supporters.
- In general much greater knowledge of chicken production methods than compared to pork. Only in terms of its existence, not as to the details and facts of what is actually happening.
- Despite awareness of issues many still buy cheaper FF products, particularly eggs.
- Scepticism about RSPCA not having enough powers, ineffective for farmed animals. Allied with Pace farms to produce barn laid eggs, but Pace are biggest producer of FF eggs in Australia – perceived as hypocritical.

Anthropomorphism

- Strong emotional response to imagery – power of the images
- Some participants were, others were not self-conscious in being anthropomorphic when discussing how animals treated in the images. (Need to address conceptualisation of 'anthropomorphism' in the general population based on research into animal cognition, emotion, consciousness and philosophy.)
- Empathy, morality 'not right': In fact, human ideas of suffering used as the standard for what's considered 'right' by nearly all participants. Used as moral compass. Morality generally played large role in participant's responses. But they were compromised by sense of pragmatism, discussed shortly.

Value Scale

Extension of the concept of
basic value scale towards animals

Kellert & Berry (1980) and Kellert (1993)

Naturalistic
Ecologistic *
Humanistic * *
Moralistic *
Scientistic
Aesthetic *
Utilitarian * *
Dominionistic *
Negativistic

Most evidence for:

Humanistic and Utilitarian Views

Some evidence for:

Naturalistic, Moralistic, Aesthetic (= Appreciation) and Dominionistic Views

More detail on page attached to pdf version of this Powerpoint file, taken from Mazur, N., Maller, C. J., Aslin, H. and Kancans, R. (2006)

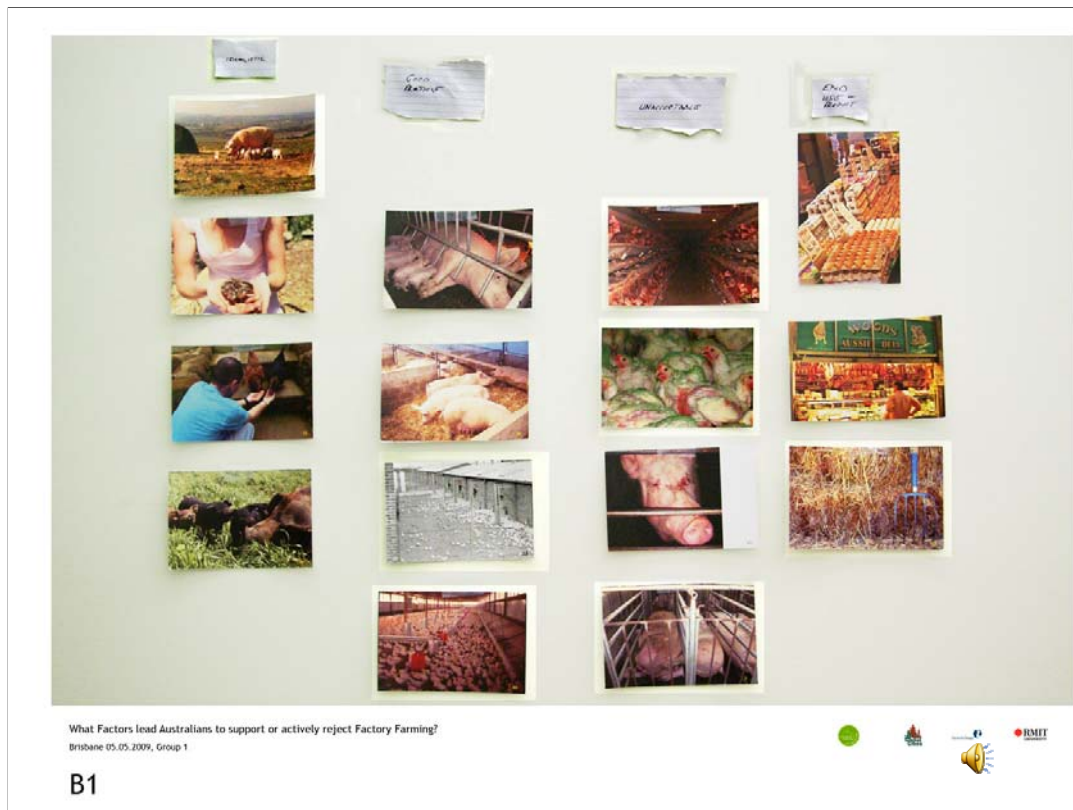
Participants thoughts about the future

- Groundswell of opposition to FF needed
- Frequent comparison to anti-smoking social marketing campaigns
- Critical of shock factor – short term impact only
- Human population always going to eat meat, but change consumption habits
- Optimism, change will come – but slowly, over time e.g. abolition of slavery, process of acceptance of homosexuality
- Government: important in improving standards, regulating industry, e.g. > welfare, > price, < consumption
- Recognition there is a need to change what's normal – in production & consumption i.e. change habits, practices
- The natural = utopia

Future scenarios

- Participants believe a groundswell of opposition to FF is needed to bring about widespread change.
- Frequent mention of social marketing anti-smoking campaigns. Some suggested using images of FF animals on animal products.
- Critical of impact of shock – short term only. From own experience has an immediate effect, then go back to previous consumption habits. Movie 'Babe' used as an example where pork consumption in US dropped dramatically after movie release but then resumed normal levels some months later.
- Believed that you can never stop entire human population eating meat. But can change consumption habits. Many participants had made changes, buying organic or free range animal products when they could, eating less meat was quite common, some had become vegetarian. Others had plans to grow their own chicken/eggs.
- Optimism – believe change will come but slow, over time. Historical examples given, e.g. abolition of slavery.
- See role of government as important. To improve standards and implement regulations for industry
- One possible solution – increase welfare, increase price, reduce consumption.
- Recognition that need to change what's considered normal – both FF methods and in consumption choices. Despite concern, recognition that practices/daily routines dominate – i.e. those around consumption.

Lead-over to photo-elicitation task



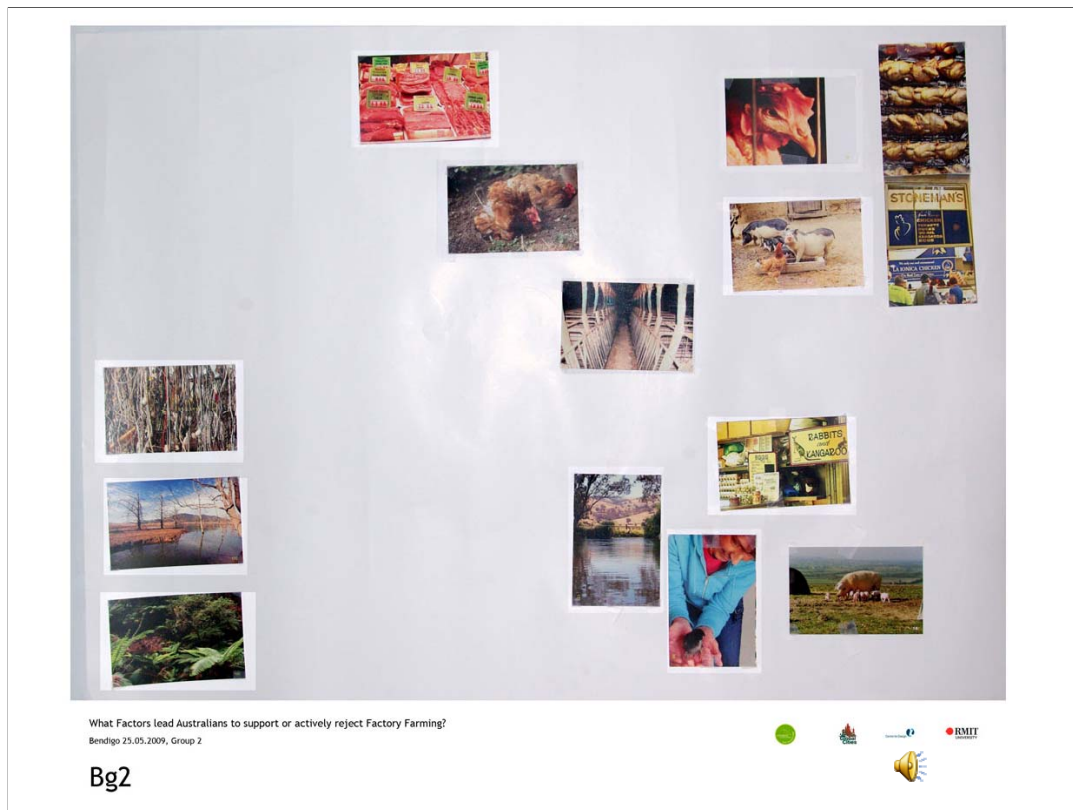
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Participant ID 28 (female, Brisbane), from focus group transcript, Brisbane collage group 1, 0:18:20

“Okay. Alright. Well, we voted into 4 categories. The idealistic [Column 1] is what we would have hoped to have happen and what everybody would like to think is what happens but the reality is probably looking at combination of the 2 central rows which is one was good practice where the animals still have a degree of freedom of protection [Column 2] as opposed to what’s totally unacceptable [Column 3] which does happen quite regularly where the animals are seen totally as products and it’s just greed as far as people are concerned to get most out of the animals before they die and give up, killed off or what ever and the last set of photos [Column 4] targeted were just the end product of the usage where for example the delegate estimate was felt that they perhaps were more likely to have good practice as something as a purchase of ripped bull products similar with markets as opposed to supermarkets although supermarkets do have labelling of their eggs that talk in terms of RSPCA certified or something similar, some of them out there say free range. So they were the 4 main categories.”

NOTE: Columns 2 and 3 ‘degree of freedom and protection’ versus ‘what is totally unacceptable’

Photo-elicitation task attached to pdf version of this Powerpoint file



Includes audio for live presentation

Participant ID 40 (male, Bendigo), from focus group transcript, Bendigo collage group 2, near the end of the transcript

“Our future vision...well it’s more of a dream, fantasy. It’s to have all of the good stuff, to have the free range, to have your options. Well actually, not to have options because we want it all to be free range. We don’t, we want stricter laws, stricter regulations on farming and marketing. More community education. Local producers given more support, given priority over the larger businesses, and protection from the monopolies. More responsible labelling and advertising. Even less meat consumption as a nation, or as a global community. And yeah, more humane and respectful farming techniques. And that’s about it. [applause]”

This one maybe to conclude the presentation with a positive outlook, but a caveat presented beforehand (reminder of the swaying back to pragmatic at the expense of ethics and animal welfare let alone rights that is not reflected here)

Conclusions

- Facilitation of the process of seeing oneself within the other, identification, recognition of emotional states, what feels good what not (through images).
- However, the animal's natural environment that provides opportunities to express all of their natural behaviours is repeatedly described as:

idealised, utopian, fantasyland



“...it was more personified and it just looked really sad; a very sad little pig...”
(Image 7 not depicted above)

“Chicken en mass, appear uncomfortable, unclean, not normal for animals, stressed animals. Mass/mass/mass. Could be us.... It represents how we might end up, mass everything, I don't know. That's all I can say I think.” (Image 67 not depicted above)

“Happy; it has a grin...”

“I chose this one basically because of the expression on the sow's face there. It looks like she's smiling, she looks so happy, yeah.”

“We do not live in ideal environments either. We would all like to have nice schools where all the kids can roam free and yet we end up in schools that [53:38] so if you look at our society the way it is we need to make compromises and that is I think why we should look for good practice in our factory farming.”

Conclusions cont'd

- Nuances in lack of knowledge of factory farming conditions and evidence of affected ignorance :



71

"Overcrowded",
"scruffy", "dirty"



74



51

Distressed and
suffering



70



9

"Clean",
"disease free",
"acceptable",
"the animal is
looked after
and does not
want for more"



21

"Sort of
acceptable"

Note the impact of the aesthetic of the image such as the role of light.

36: The pig, while confined, is not noticeably uncomfortable... (Image 9)

52: [This picture, Image 9] captures everything that is wrong with factory farming for me... The fact that the animal almost has no expression on her face.

53: Yeah. Oh I can't stand these places, I really think they are terrible. They make me want to cry. I buy free range eggs on principle, I never buy the others. I look at all of them there and I know they are dearer and most people, a lot of people do buy the cheaper ones, the ones from the...

50: Nine is acceptable, you know, that's the one with the pigs suckling on the mother. They, you know, it's factory farming, but there is some kind of acceptable standard to that. There is a look of contentment in the animals despite the fact that **they are tightly housed and 21 is sort of acceptable, despite the fact, well sort of because the bars are disturbing, but the pig doesn't look stressed.** But the poultry; the intense poultry ones start to turn towards unacceptable because all the things are starting to look worse and worse and more stressed. And then the individual animals like 51, is clearly distressing sort of thing of an animal that is suffering, so that's the range.

Some caution

- While there is sketchy and very little knowledge about the impact of the conditions in factory farms on animals, multiple meanings and readings of images can be problematic:



“The pig, while confined, is not noticeably uncomfortable...”

“[This picture] captures everything that is wrong with factory farming for me... The fact that the animal almost has no expression on her face...doped out.”

Desensitisation factor – commented on multiple times by the participants

e.g. focus group in Sydney:

49: And the reason was because I have seen pictures in the media of, you know the ones that some of us picked earlier with the chickens in the cage and the pigs in the cage and I have never seen this sort of image before. And really, you know it's just so tightly packed and it actually reminds me of a butcher shop and so it looks like a butcher shop where all the meat is piled together, except they are still alive, which I think is quite sad; that's the main reason that I chose it.”

For an Agenda of Change...

...some of the factors that need to be addressed for Australians to actively reject factory farming are:

- Discontinuity between belief and action, focus on value-based approaches, choice editing
- Further education and information about
 - Complexity of the system in which farming of animals is embedded – impact of FF on all sustainability indicators
 - Conditions for animals in factory farms, animal suffering
 - Alternatives (nutrition, animal farming practices, consumer issues e.g. labeling, availability of humane products)
- Further exploration and exploitation of the effect of BAM (Hills 1995, Knight et al. 2004)
- Creation and transition towards new social norms and habits - social learning – practicing alternatives (action competence,

Caution: Trust in increase in the public's interest in and belief of the importance of animal welfare.

Lock desired visions in through choice editing.

Sustainability indicators: Impact on animal welfare/rights, the environment, GHG/climate change, community health, social justice

Notion of intrinsic value, rights to healthy (holistic sense) body and mind (issue of genetic manipulation and breeding).

BAM = Belief in Animal Mind.

Social learning as a strategy.

Collages and comments above demonstrate the critical factors. Claim that photo-elicitation has facilitated to uncover the nuances.

Importance of personal experience with animals.

Future Research

- Further Analysis of the available data
 - Demographic factors
 - NEP scale (Dunlap 2000)
 - BAM (Hills 1995, Knight et al. 2004)
 - Frequency of themes
 - Other relationships between the themes
- National Survey
 - on factory farming, treatment of farm animals, consumer issues, animal welfare footprint
- Systems Approach
 - Describe the system in which Factory Farming operates
 - Develop an impact matrix, define the factors that influence the system, identify those with the strongest impact

NEP = New Ecological Paradigm

BAM = Belief in Animal Mind

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Images and other

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Katelyn Samson, moderator for the pilot in Melbourne and the focus group in Lismore

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References

- Bergmann, I. (2000) "How to Grasp Environmental Complexities? - A Cognitive Approach: Visual Mental and Photographic Narratives for Environmental Concept Formation." *Australian Journal of Environmental Education*, 15/16 (December): 9-16.
- Brown, M. (2008). "Australian Animal Welfare Strategy Education and Training Stocktake Pigs Final Report". Viewed 5 February 2009.
http://www.daff.gov.au/__data/assets/pdf_file/0007/617425/companion-animals.pdf
- Dunlap, R. E., Van Liere, K.D., Mertig, A.G. and Jones, R.E. (2000). "Measuring Endorsement of the New Ecological Paradigm: A Revised NEP Scale." *Journal of Social Issues*, 56 (3): 425–442.
- Harper, G. and Henson, S. (2001). "Consumer Concerns about Animal Welfare and the Impact on Food Choice". Reading: Centre for Food Economics Research (CeFER), Department of Agricultural and Food Economics, The University of Reading.
- Hills, A.M. (1995). "Empathy and Belief in the Mental Experience of Animals. Reviews and Research Reports". *Anthrozoos* 8: 132- 142.
- Jensen, B.B., & Schnack, K. (1997). The action competence approach in environmental education, *Environmental Education Research*, 3 (2), 163–178.
- Knight, Sarah; Vrij, Aldert; Cherryman, Julie & Nunkoosing, Karl (2004). " Attitudes Towards Animal Use and Belief in Animal Mind". *Anthrozoos* 17 (1): 43-62.
- Mazur, N., Maller, C. J., Aslin, H. and Kancans, R. (2006). "Australian Animal Welfare Strategy Stakeholder Analysis Phases 1-4". Canberra: Bureau of Rural Sciences, Department of Agriculture, Fisheries and Forestry.
- Te Velde, H., Aarts, N. and Van Woerkum, C. (2002). "Dealing with ambivalence: Farmers' and consumers' perceptions of animal welfare in livestock breeding". *Journal of Agricultural and Environmental Ethics* 15 (2): 203-219.
- Voiceless (2005). "From Paddocks to Prisons – Pigs in New South Wales, Australia, Current Practices, Future Directions". Report. Paddington, Australia.
- Voiceless (2008). "From Nest to Nugget – An Expose of Australia's Chicken Factories". Report. Paddington, Australia.
- Williams, N. M. (2008). "Affected Ignorance and Animal Suffering: Why our Failure to Debate Factory Farming puts us at Moral Risk", *Journal of Agricultural and Environmental Ethics* 21:371–384.
- Zaltman, G. (1997). "Rethinking Market Research: Putting People back in". *Journal of Marketing Research*; 34 (November): 424-437.

