

## ERA Mixed methods workshop

Tuesday November 20th  
The Greek Club  
Brisbane

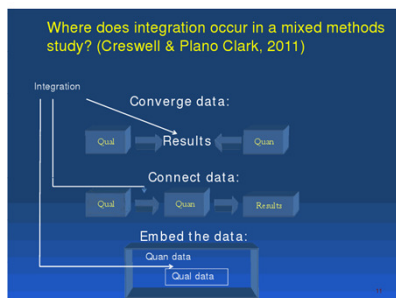
- Integrating data in analysis
- Some new methods being used in mixed methods
- Writing up
- Getting published
- Conclusions

### Integrating data

- The purpose of mixed methods research is to integrate the quantitative and qualitative data, to draw on the strengths of each
- You need to be able to integrate the data and results and think of how you write up
- Integration involves the technical skills of knowing how to integrate numeric information with text or image information- it's not easy!

### Some ways integration might be incorporated into mixed methods study

- Integrate at multiple steps in the research process (e.g. qualitative informing an intervention trial)
- Integrate at multiple phases in a project (e.g. in a multi-phase study to have one study build on the other toward a common study aim of the project).
- Integrate into the data collection (e.g. qualitative open ended questions added to quant survey)
- Integrate in data analysis (e.g. quant categorical data are placed in a matrix with qualitative themes)
- Integrate in interpretation or discussion phase (side by side comparison of qualitative and quant results)



### Integrating the data in analysis: Analysis of Mixed Methods Research:

#### Separate Analyses

- Qualitative and quantitative data sets are analysed separately and conclusions drawn that incorporate both data sets.
- This is often done (e.g. qual quotes tacked onto quant survey findings)
- Can be used for:
  1. Triangulation
  2. Expansion or Complementarity
  3. Development
- Note: Separate analyses may give rise to contradictory or discrepant results which need to be explained (Halcomb and Andrew, 2009)

Can we go further ???



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### Integrating with side-by-side comparisons in discussion in Convergent Design

**Present QUAN result**

Overall, certain elements were consistently considered to have a great or considerable impact on coalition success, regardless of how success was defined. "Commitment to goals/vision" (95 percent) and "complete leadership" (82.5 percent) were the top two elements regardless of definitions of success, followed by "commitment to coalition unity/work" (87.5 percent), "equitable decision-making structure/process" (80 percent), and "mutual respect/trust/cohesion" (77.5 percent). Additional important elements of success were having "a broad-based constituency" (75 percent), "gaining trust from visitors" (72.5 percent), "maintaining continued confidentiality/resources" (67.5 percent), and "financial responsibility and consistency" (65 percent). Note that the longest elements relating to resources (staffing and funding) were given much less importance. Only three external factors were deemed important by most coalition leaders: "the right timing" and selecting a "vital issue" (at 67.5 percent each), and "high-profile target" (71.5 percent). Whereas coalition leaders cannot control these factors as much, it is clear that these factors rise the decision-making processes with respect to the timing of goals and strategies.

**Present corresponding QUAL result and relate to QUAN result**

The resources amassed by our coalition are valued and respected. They are the heartbeat, all possessed tremendous knowledge about their subject areas and about the political process. Being recognized as experts gives the coalition leverage and trust with the target.

Overall, certain elements were consistently considered to have a great or considerable impact on coalition success, regardless of how success was defined. "Commitment to goals/vision" (95 percent) and "complete leadership" (82.5 percent) were the top two elements regardless of definitions of success, followed by "commitment to coalition unity/work" (87.5 percent), "equitable decision-making structure/process" (80 percent), and "mutual respect/trust/cohesion" (77.5 percent). Additional important elements of success were having "a broad-based constituency" (75 percent), "gaining trust from visitors" (72.5 percent), "maintaining continued confidentiality/resources" (67.5 percent), and "financial responsibility and consistency" (65 percent). Note that the longest elements relating to resources (staffing and funding) were given much less importance. Only three external factors were deemed important by most coalition leaders: "the right timing" and selecting a "vital issue" (at 67.5 percent each), and "high-profile target" (71.5 percent). Whereas coalition leaders cannot control these factors as much, it is clear that these factors rise the decision-making processes with respect to the timing of goals and strategies.

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**Table 5.4 Expected length of stay in the sex industry by years of working in the industry<sup>1</sup>.**

Expected length of stay in sex industry	Years of working in sex industry				Comparison across years of work
	Total N=759 % (s.e.)	<1 year N=76 % (s.e.)	>1 year N=683 % (s.e.)		
<1 year	20.9 (1.7)	48.4 (5.8)	17.8 (1.7)		
1-2 years	21.7 (1.8)	15.2 (5.1)	22.5 (1.9)		
3-5 years	12.7 (1.5)	13.1 (5.4)	12.6 (1.6)		
>5 years	15.0 (1.5)	2.4 (1.9)	16.4 (1.7)		
Don't know	29.7 (1.9)	20.9 (4.7)	30.7 (2.0)		
Total	100.0	100.0	100.0	$\chi^2 = 99.0$ df=4 p<0.0001	

<sup>1</sup>Weighted estimates to account for variation in probability of selection and response.

Few street-based workers discussed how long they would remain in the sex industry. Street-based workers who did discuss this described leaving when they could "turn their life around", such as when they could get on a drug rehabilitation programme.

*So then (on entering a drug rehabilitation programme) I will be quitting, because I'm just at that point where I need to turn my life around, and I know I can do it because I'm just, you know, I've had enough and I want to do it, I want to make changes. I can't do that if I'm still working, you know.*

Joan, Street, Female, Christchurch

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### Integrating the data in analysis: Analysis of Mixed Methods Research:

#### Combining Data Types for Synthesis

- Combining of data types for analysis requires transformation of data

Can be done through:

1. Meta matrices, databases, spread sheets e.g. systematic reviews
2. **Qualitising numerical data** e.g. using scores to provide a descriptive classification
3. Counting
4. **Quantitising qualitative data** e.g. 0/1 transformation for absence/presence of code, numerical weighting of codes (MaxQDA)

(Halcomb and Andrew, 2009)

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### Integration through cross-tabs of quantitative categorical variable with qualitative themes in Convergent Design

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### Integrating the data in analysis: Analysis of Mixed Methods Research:

- Combined analysis can be used to:

1. Merge and compare
2. Explore, predict and explain (e.g. case by case variable matrix, cluster analysis)
3. Blend to create new variables or research questions to use in further studies

(Halcomb and Andrew, 2009)

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### Further integrative analysis strategies

- Intensive case studies
- Employment of results from one analysis of one form of data in approaching the analysis of another form of data
- Extreme and negative cases
- Flexible, iterative analyses involving multiple, sequenced phases where the conduct of each phase arises out of or draws on the analysis of the preceding phase
- Inherently mixed data analysis where a single source gives rise to both qualitative and quantitative information, e.g. social network analysis
- Use of visual techniques in combination with statistical and/or text-based e.g. using GIS

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### Emerging methods in mixed methods- how to integrate?



- Integration of spatial data (geo referencing and qualitative and/ or quantitative data)
- Multimedia visual data (digital storytelling, photovoice)
- Integrating quant and qual (eg using N.Vivo)
- *Transformative paradigm- what 'tools' of social research can give voice to marginalized?*



### Transformative paradigm- what 'tools' of social research can give voice to marginalized?



Picture 4: It's like I'm walking through the desert alone and I don't know what the future holds



**Table 1.** Contemporary "Core" Characteristics of Mixed Methods Research

Characteristic number	Description of characteristic
#1	Methodological eclecticism
#2	Paradigm pluralism
#3	Iterative, cyclical approach to research
#4	Set of basic "signature" research designs and analytical processes
#5	Focus on the research question (or research problem) in determining the methods employed within any given study
#6	Emphasis on continua rather than a set of dichotomies
#7	Emphasis on diversity at all levels of the research enterprise
#8	Tendency toward balance and compromise that is implicit within the "third methodological community"
#9	Reliance on visual representations (e.g., figures, diagrams) and a common notational system

These nine characteristics were taken from Teddlie and Tashakkori (2010) and rearranged so that the four topics discussed are the first four in this table.



### Living Positive in QLD



Qualitative longitudinal interviews

Quantitative scales: e.g. social isolation, HIV related stigma

Digital diaries

Photovoice, write and draw techniques



### Eg of analysis process:

#### Impact of the PRA on the health and safety of sex workers



### Eg of analysis: Starting in sex work industry before age 18



- 17.4% of survey participants reported starting in sex industry before 18 years.
- Street workers (57.2%) more likely than managed workers (9.6%) and private workers (15.8%) to have started before 18 years.





Table2: Reasons for entry into sex work by age of entry

	<18 years N=177 % (s.e.)	>18 years N=571 % (s.e.)
Pay household expenses (N=748)	65.0 (4.4)	74.9 (2.2)
Pay for social life/going out/luxuries (N=737)	66.4 (4.3)	59.7 (2.5)
Saving up (N=733)	38.7 (4.5)	63.5 (2.3)
Pay for education (N=730)	15.9 (3.2)	26.3 (2.2)
Support children / family (N=728)	29.7 (4.2)	39.7 (2.4)
Made to work by someone (N=727)	9.7 (2.2)	2.5 (0.7)
Exploring sexuality (N=724)	29.9 (4.3)	20.4 (1.9)
Unable to get benefit/parental support (N=724)	34.2 (4.3)	9.6 (1.4)
No other income (N=732)	52.8 (4.6)	24.9 (2.1)
Friend was doing it (N=731)	43.9 (4.5)	28.1 (2.1)
Minding a friend and was asked to join (N=723)	19.4 (3.4)	7.5 (1.2)
Thought it looked exciting/glamorous (N=724)	39.0 (4.5)	22.4 (2.0)
Sex workers looked fun to be with (N=717)	42.8 (4.5)	17.5 (1.8)
Curiosity (N=731)	48.9 (4.6)	49.3 (2.5)
Support for alcohol or other drug use (N=729)	42.1 (4.5)	15.7 (1.7)

### Mixed methods analysis: Entering sex work under age 18

- Correlations between entering the sex industry and running away, homelessness and experience of statutory care and protection- many started in the industry around 14 years
- An economic decision:
- To escape poverty, lack of opportunity
- Participants reported being unable to get govt benefit or parental support and had no other source of income
- Most experienced secondary homelessness
- Social networks: Some had friends working in the industry prior to joining, acted as 'minders', had relatives who were sex workers
- Issues of sexual identity (transgender)

### Structural issues: Critique of youth policy

- Haphazard policy formulation of youth with various aged-based frameworks developed in different policy contexts (Jones and Bell, 2000).
- 'extended linear' model of transition (Higgins, 2002) reflected in govt policy that reinforces inequality for those who do not have adequate parental support

### Coming onto the street

Many of the street-based workers who participated in the in-depth interviews ran away from home at an early age and were living on the street prior to starting sex work. There have been many studies which have found correlations between entering the sex industry and running away, homelessness and experience of statutory care and protection (O'Neill 1997, Shaw and Butler 1998, Cusick 2002). Nadon *et al.*'s (1998) study, which looked at a group of young sex workers and a comparison group of non-sex workers with similar backgrounds, concluded that there were high levels of childhood abuse, runaway behaviour, drug and alcohol use and dysfunctional families among young sex workers. Yet, they argue, these factors were equally common amongst non-sex working young people, and therefore background factors may be 'insufficient conditions to justify prostitution activity' (Nadon *et al.* 1998, p. 220).

Table 1. Age of entry into sex work of survey participants by sector<sup>a</sup>.

Age at entry into sex work (N=771)	Total (N=772)	Street workers (N=201)	Managed indoor (N=378)	Private indoor (N=191)	Comparison across sectors
<16 years	9.0 (1.1)	29.4 (3.8)	3.9 (1.1)	8.3 (1.9)	$\chi^2 = 443.2$ Degrees of Freedom = 10 $p < 0.0001$
16-17 years	9.3 (1.1)	26.6 (3.7)	5.7 (1.1)	7.6 (2.3)	
18-21 years	35.6 (2.0)	29.7 (3.7)	42.3 (2.7)	27.1 (4.0)	
22-29 years	27.1 (1.9)	9.8 (2.2)	32.3 (2.5)	26.3 (3.9)	
30-45 years	16.8 (1.7)	3.6 (1.4)	14.2 (1.9)	26.7 (4.0)	
>45 years	2.2 (0.7)	0.9 (0.9)	1.6 (0.7)	4.0 (1.7)	

<sup>a</sup>Weighted estimates to account for variation in probability of selection and response. Data presented as percentage (standard error).

Journal of Youth Studies

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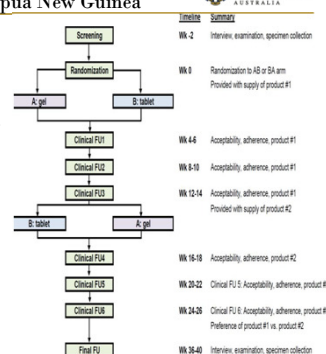
The street-based participants in this study had not experienced stable and supportive family lives and some had experienced foster care. Although all the street-based workers were at an age typically referred to as adolescence, none at that stage resided with parents, attended school or were supported financially by their parents, factors which are termed the sociological markers of adolescence (Benoit *et al.* 2008).

Well since I was 11, I was put into CYF's (Child, Youth and Family) care. ... And I learned to deal with the fact that's my friends and my family, because my family hasn't been around me. You know, my mum walked out on me when I was two and a half, and my dad, he's just an idiot. (Joyce)

The young people in this study articulated the need to survive and make money and their inability to gain financial support through either their parents or the government. The weekly allowance available through the Independent Youth Benefit is insufficient to meet their needs and the provision of enrolment in courses or other training to be able to obtain this sum is a deterrent to accessing this. In addition, this benefit is only available for those young people who are 16-17 years of age. Many of the young people in this study came onto the street at a younger age and were not eligible for any government support. Young people under 18 years are also unable to sign tenancy agreements and this plays a part in their transient lifestyle, moving accommodation from friend to friend, earning money to pay for a motel room and sometimes sleeping on the street. Such age-specific policies are designed to benefit some but not all, and many vulnerable youth fall through the cracks.

### NIH application for microbicides trial in Cambodia, Indonesia and Papua New Guinea

- Preparation:**
- Focus groups with clinic clients
- Key informant interviews with key stakeholders
- Trial** (with qual longitudinal component throughout)
- Community Feedback**





## Writing up mixed methods (Leech 2012)



- Multiple ways to present a mixed research study
- Start with and clearly state the research questions
- Know and write for your audience
- Work from an outline and allow for emergent changes
- Know and state your epistemological assumptions
- Respect both paradigms
- Be aware of issues regarding social justice
- Delineate why a mixed methods research study was used
- Discuss how the data are combined and integrated
- Use displays (e.g. tables, quotes, etc.) when presenting the findings
- Integrate your results and include meta inferences
- If use a research team. Be sure to communicate, especially about the integration



## Issues to consider in Mixed Methods Research



- 'paradigm wars', reconciling philosophical assumptions of each methodological perspective.
- Selecting and managing research team with diverse specialities.
- Practicalities of data collection and analysis, may make concurrent analysis difficult
- Statistical analysis often relies on large sample sizes which are not common in qualitative research
- Transforming qualitative data into numerical form may lose some of the richness and nuances in the text
- A lack of templates for the writing up and publishing mixed methods research, sometimes qualitative and quantitative results published separately
- Not all journals publish mixed methods research which may limit publication opportunities



## Benefits of Mixed Methods Research



- Gives researchers an opportunity to creatively rethink research design and the various different ways they can be linked to research questions
- Potential to generate new insights and levels of analysis
- Challenges taken for granted assumptions across a wide range of research methods topics
- Brings together researchers from different backgrounds and different specialisms and allows them to think together on a given research problem

(Bergman, 2008)



## Recommended Reading



- Andrew, S. and E. Halcomb (eds). 2009. *Mixed Methods Research for Nursing and the Health Sciences* Oxford: Wiley Blackwell.
- Creswell, J. 2009. *Research Design: Qualitative, Quantitative and Mixed Methods Approaches* (3rd Edition) London: Sage.
- Creswell, J. (2012) 'Achieving integration in mixed methods designs: an overview'. Presentation for the Hlth-OBSSR Workshop, 'Using Mixed Methods to optimize Dissemination and Implementation of Health Interventions' Natcher Conference Centre, NIH Campus, Bethesda, MD, May 3, 2012
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