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LAND ACKNOWLEDGMENT





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DBC

- SETTING THE STAGE: PRESENTERS, DEFINITIONS
- MIXED METHODS DESIGNS: TYPOLOGY
- MIXED METHODS DESIGNS: DIY!
- QUESTIONS & REFLECTIONS

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WHO ARE WE + WHAT TO EXPECT

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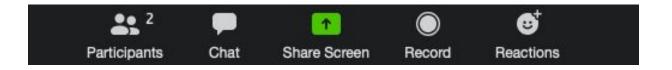


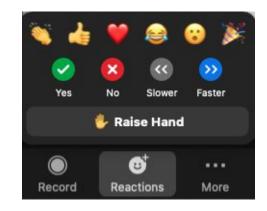




- 4

Participation in Zoom: Reactions







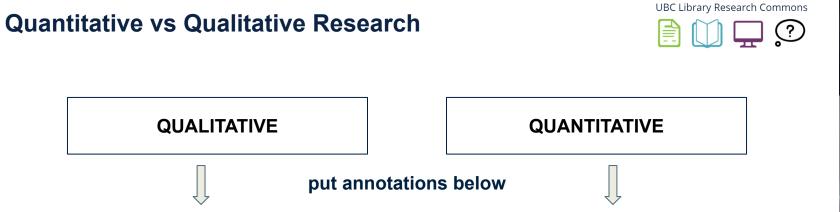


Participation in Zoom: Annotations

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Quantitative vs Qualitative Research

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QUALITATIVE

Process theory

QUANTITATIVE

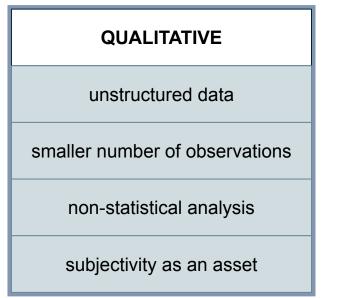
Variance theory

(Maxwell, 2010, p. 477)

Quantitative vs Qualitative Research

<u>Bryman (2008)</u>: Qualitative and quantitative research differ in their paradigmatic approaches with respect to their **epistemological** (ways of knowing and enquiry in nature of reality) and **ontological** (what is to be known and assumptions about the nature of reality) foundations

Differences Are Not Fixed



QUANTITATIVE

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(?)

structured data

larger number of observations

statistical analysis

focus on objectivity





Can different paradigms co-exist?





"[the sociologist, Andrew] Abbott argued, on the basis of numerous examples from a range of the social sciences, that philosophical positions, **rather being unified sets of premises that strongly shape the practices** of particular communities of scholars, **function instead as heuristics**, conceptual and practical resources that are used to solve specific problems in theory and research [...] 'To do that, sometimes we need to invoke constructivism... Sometimes we need a little realism' [Abbott, 2004, p. 191]"

(Maxwell, 2012)



Mixed methods research may look like this:

QUALITATIVE

QUANTITATIVE

structured data

larger number of observations

statistical analysis

non-statistical analysis

subjectivity as an asset

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Mixed methods: Definition

"In mixed methods, the researcher:

- **Collects and analyzes** both qualitative and quantitative data rigorously in response to research questions and hypotheses,
- integrates (or mixes or combines) the two forms of data and their results,
- organizes these procedures into specific research designs that provide the logic and procedures for conducting the study, and
- frames these procedures within theory and philosophy."

(Creswell & Clark, 2018, p. 42 - PDF)

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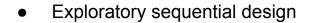
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I don't believe that typologies of design are useful as a starting point for designing a study [...] The proper starting point (insofar as there is one) is the researcher's goals and research questions; what approaches and methods are appropriate for addressing these has little to do with typologies, and everything to do with what sorts of data you will need to answer these questions. The "type" of study that emerges from this process is an outcome of these decisions, rather than the starting point in making them.

(Maxwell, 2018, p. 323-324)







• Explanatory sequential design



• Convergent design







• Exploratory sequential design



- (1) Qualitative: Interview study (N=15) to explore the needs, challenges, and practices of graduate students using data analysis software. The study <u>maps the</u> <u>qualities/dimensions</u> of those issues.
- Quantitative: Survey study (N=221). A survey is designed based on the findings of the qualitative study to assess the generalizability of the findings to a population.





• Explanatory sequential design



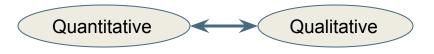
- (1) Quantitative: Randomized controlled experiment (N=707) to examine the role of perceived video quality and user YouTube experience in credibility assessment (perceived credibility) of online science news videos. <u>Findings determine that</u> <u>perceived credibility is positively associated</u> with perceived quality and users' YouTube experience.
- (2) Qualitative: Based on the findings of the quantitative study, a qualitative study (focus groups) is conducted to <u>determine why</u> more experienced YouTube users tend to assign higher perceived credibility to science news videos, as well as why perceived video quality is associated with perceived credibility.











- Quantitative: Survey (closed-ended questions) to examine high school students' attitudes toward tobacco use (using a validated scale).
- (2) **Qualitative**: Survey (open-ended questions) to examine high school students attitudes toward tobacco use (students are asked to share openly about their attitudes toward tobacco use).

(Creswell & Clark, 2018)



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MIXED METHODS DESIGNS: DIY!



CANADA HOUSING AFFORDABILITY: CASE 1



Housing affordability is known to be a major issue in Canada in recent years. The study examines Canadians' conceptions of the housing market and where they see it headed in the future.

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What mixed methods design would best fit?

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What type of mixed method design would be most appropriate to address the following questions in order?

- 1. What are Canadians' conceptions of housing affordability in Canada?
- 2. Additional RQs TBD based on findings pertaining to the RQ above.
 - Explanatory sequential design?

• Exploratory sequential design?

• **Convergent** design?



What mixed methods design would best fit?

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- 1. What are Canadians' conceptions of housing affordability in Canada?
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 - **Explanatory sequential** design? •

Exploratory sequential design?

Convergent design?







Grounded theory?

Conversation analysis?

Narrative analysis?







What would be an appropriate qualitative methodology to address the first RQ?

Grounded theory?

Conversation analysis?

Narrative analysis?



A systematic methodology that has been largely applied to qualitative research conducted by social scientists. The methodology involves the construction of hypotheses and theories through the collecting and analysis of data. Grounded theory involves the application of inductive reasoning. (Wikipedia)



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an approach to the study of social interaction, embracing both verbal and non-verbal conduct, in situations of everyday life. CA began with a focus on casual conversation, but its methods were subsequently adapted to also include more task- and institution-centered non-verbal interactions (Wikipedia)



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What qualitative method would best fit?

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What would be an appropriate qualitative methodology to address the first RQ?

1. What are Canadians' conceptions of housing affordability in Canada?

• Grounded theory?

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Based on the qualitative findings...



Findings of the qualitative (grounded theory) study may have indicated the following:

- A major category Metaphors of market unsustainability.
- Findings may have indicated that younger, recent immigrants with lower income are **more likely** to perceive the market as a bubble than older, long-timers with higher income.
- Based on the findings of this study, a quantitative research question has been developed: Are younger, more recent immigrants who have lower income more likely to perceive the housing market as a bubble than older, higher-income long-timers?





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Exploratory factor analysis

Multiple regression

Analysis of variance (One-way ANOVA)





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Exploratory factor analysis (EFA) is a method of theory generation that exploits an important principle of scientific inference known as the principle of the common cause. EFA is generally used to discover the internal structure of a large set of measured variables.

Exploratory factor

analysis

Multiple regression

Analysis of variance (One-way ANOVA)

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Analysis of variance

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Multiple regression analyzes the relationship between a single dependent variable and several independent variables. The main objective is to use the independent variables whose values are known to predict the single unknown dependent value

Multiple regression

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Multiple regression

One-way ANOVA separates observed variance in the data into different components to determine whether there are statistically significant differences between the means of three or more independent groups. One-way ANOVA involves only one independent variable and a continuous outcome

Analysis of variance

(One-way ANOVA)



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Now, to the quantitative study:

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What would be an appropriate quantitative methodology to address the following RQ?

What about the data? Since this RQ proceeds from the previous findings, we are not limited by a specific dataset. However, one can imagine that some sort of public opinion dataset may be used here (e.g., the Canadian Housing Survey or the Canadian Survey of Consumer Expectations)

- **Exploratory factor analysis**
- **Multiple regression**
- Analysis of variance (One-way ANOVA)











Are younger, more recent immigrants What are Canadians' who have lower income more likely to conceptions of housing perceive the housing market as a bubble affordability in Canada? than older, higher-income long-timers? **Metaphors of** Grounded Multiple market Regression theory unsustainability **EXPLORATORY** CONFIRMATORY



CANADA HOUSING AFFORDABILITY: CASE 1 Exploratory sequential mixed methods design



The first, exploratory, qualitative study helped us map and theorize about Canadians' conceptions of housing affordability, and the second, quantitative phase, examined whether some of the results of the qualitative phase could be generalized to a population.

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HOUSING AFFORDABILITY: CASE 2

The housing market is highly influenced by investors who buy property in order to sell it again after some time for a higher price and/or to generate income via rent. To understand how these practices change the market and its perception, it may be useful to understand who is the typical investor and what is their reasoning for investing specifically in real estate

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What mixed methods design would best fit?



What type of mixed method design would be most appropriate to address the following questions in order?

- 1. Do older, high-income or long-timer Canadians buy more investment properties compared to younger, recently-immigrated, or low-income Canadians?
- 2. Why do Canadians from different backgrounds (e.g., age, immigration, income levels) buy investment properties?
 - Explanatory sequential design?

• Exploratory sequential design?

• **Convergent** design?





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Logistic Regression

Correlation Analysis (Pearson coefficient) **Analysis of variance** (One-way ANOVA)







Logistic Regression is an extension of the linear multiple regression model for classification problems. It is used when the dependent variable(target) is categorical. LR can help reveal the interrelationships between different variables and their impact on outcomes

Logistic Regression

Correlation Analysis (Pearson coefficient) Analysis of variance (One-way ANOVA)









Correlation Analysis (Pearson coefficient)

Analysis of variance (One-way ANOVA)



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Pearson's coefficient (denoted by *r*) describes the relationship between continuous variables and ranges from -1 to 1. Correlations may also be tested for statistical significance. Correlation analysis is a common tool for describing simple relationships without making a statement about cause and effect







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What quantitative method would best fit?

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What would be an appropriate quantitative methodology to address the second RQ?

1. Do older, high-income or long-timer Canadians buy more investment properties compared to younger, recently-immigrated, or low-income Canadians?

Logistic Regression

Correlation Analysis (Pearson coefficient)

Analysis of variance (One-way ANOVA):





* Note: when we interpret each predictor independently, we assume that all other predictors are kept equal

Quantitative findings

Findings of the quantitative (logistic regression) study may have indicated the following:

All predictors were *statistically significant*, as well as an interaction between income and immigration status. We can now say with some degree of certainty that, on average,

- Older people tend to have more investment properties*;
- At various levels of income, the relationship between immigration and the number of properties is different: e.g., <u>among the lowest-income individuals</u>, **non-immigrants** are **more likely** to own property*, while among <u>the highest-income group</u>, **immigrants** are **more likely** to have a higher number of investment properties*.







Why do Canadian from different backgrounds (e.g., age, immigration, income levels) buy investment properties?

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What would be an appropriate qualitative methodology to address the second RQ?

Interpretive phenomenological analysis?

Thematic analysis?

Poetic inquiry/analysis?





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an approach that it aims to offer insights into how a given person, in a given context, makes sense of a given phenomenon. Usually, these phenomena relate to experiences of some personal significance, such as a major life event, or the development of an important relationship. (Wikipedia)

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life event, or the development of

phenomenological analysis?

Interpretive

focuses on examining themes or patterns of meaning. Can emphasize both rich description of the data set and theoretically informed interpretation of meaning. Goes beyond simply counting phrases or words in a text (as in content analysis) and explores explicit and implicit meanings within the data. (Wikipedia) Poetic inquiry/analysis?





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What qualitative method would best fit?

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What would be an appropriate qualitative methodology to address the second RQ?

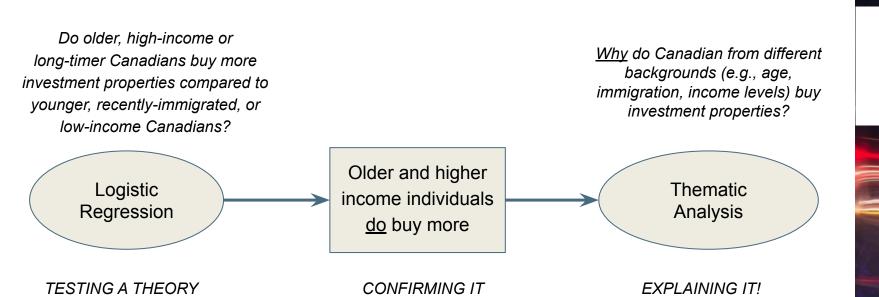
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Thematic analysis?

Poetic inquiry/analysis?







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(?)

CANADA HOUSING AFFORDABILITY: CASE 2 Explanatory sequential mixed methods design

The quantitative phase examined variance patterns and their generalizability to a population (specifically, whether older, high-income, long-timer Canadians buy more investment properties compared to younger, recently-immigrated, and low-income Canadians), and the qualitative phase attempted to explain these patterns in a follow-up study, exploring why Canadians from different backgrounds (e.g., age, immigration, income levels) buy investment properties. The results of the quantitative phase guided the framing of the focus group questions.

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HOUSING AFFORDABILITY: CASE 3



For the third case, we will look into differences between the asking and selling price of properties. In high-demand markets, there are more than one offer for most properties, and therefore buyers have to participate in blind auctions. The next study will investigate the magnitude of the gap between asking and selling prices and the process of offering the price.

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What mixed methods design would best fit?





What type of mixed method design would be most appropriate to address the following questions?

- Is the gap between asking price and selling price larger among people who own fewer 1. properties?
- 2. What kinds of power relations are embedded in how people talk about their offer price selection process?
 - **Explanatory sequential** design? •

Exploratory sequential design?

Convergent design?





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Convergent design?









Analysis of variance (One-way ANOVA) Correlation Analysis (Pearson coefficient)









Stepwise regression is the step-by-step iterative construction of a regression model that involves the selection of independent variables to be used in a final model. It involves adding or removing potential explanatory variables in succession and testing for statistical significance after each iteration

Stepwise regression

Analysis of variance (One-way ANOVA) Correlation Analysis (Pearson coefficient)





Stepwise regression

Analysis of variance (One-way ANOVA)

Correlation Analysis (Pearson coefficient) UBC

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Analysis of variance

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Pearson's coefficient (denoted by r) describes the relationship between continuous variables and ranges from -1 to 1. Correlations may also be tested for statistical significance. Correlation analysis is a common tool for describing simple relationships without making a statement about cause and effect

Correlation Analysis

(Pearson coefficient)



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What qualitative method would best fit?

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What would be an appropriate quantitative methodology to address the first RQ?

1. Is the gap between asking price and selling price larger among people who own fewer properties?

Stepwise regression

Analysis of variance (One-way ANOVA)

Correlation Analysis (Pearson coefficient) •





Based on the quantitative findings...

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Findings of the quantitative (one-way ANOVA) study may have indicated the following:

There is a <u>significant</u> difference in the gap between asking and selling price for individuals who own different number of properties.

However, for the analysis to be complete we also have to make **<u>post-hoc</u>** tests to determine between which groups that difference exists.

As an example, we may find that there is a significant difference between groups 0 and 1, or 0 and 2, but it is less likely that the difference is significant for groups 2 and 3.





What kinds of power relations are embedded in how people talk about their offer price selection process?

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What would be an appropriate qualitative methodology to address the second RQ?

Content analysis?

Discourse analysis?

Critical discourse analysis?



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What would be an appropriate qualitative methodology to address the second RQ?

Content analysis?

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Critical discourse analysis?



the study of documents and communication artifacts, which might be texts of various formats, pictures, audio or video. Examines patterns in communication in a replicable and systematic manner. Analyses social phenomena is its non-invasive nature (Wikipedia) What kinds of power relations are embedded in how people talk about their offer price selection process?

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analysis of written, vocal, or sign language use, or any significant semiotic event. Sometimes defined as the analysis of language 'beyond the sentence'. Considers the larger discourse context in order to understand how it affects the meaning of the sign (e.g., a sentence). (Wikipedia; Linguistics Society of America)



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Discourse analysis?

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Critical discourse analysis?

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What qualitative method would best fit?

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Discourse analysis?

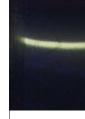
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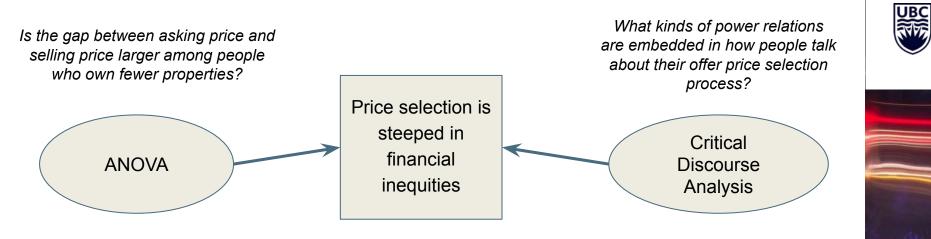




Summary

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EXPLORING FROM BOTH SIDES!

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CANADA HOUSING AFFORDABILITY: CASE 3 Explanatory sequential mixed methods design

We quantitatively examined whether the gap between asking price and selling price is larger among people who own fewer properties. The findings of this quantitative part of the study were complemented by the other, qualitative component, where we examined what power relations were embedded in how people talk about their offer price selection process. The results of these two components of our mixed methods study complement each other and create a rich image on the topic of gaps between asking and selling prices of properties in Canada, and the power differentials associated with those gaps.



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Reflections (What did you learn today?)

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