

## Mixed Methods Designs

Mixed methods designs can be defined as: the combined utilization of quantitative and qualitative data collection methods in a research and/or evaluation project, making possible a greater understanding of the phenomenon being studied than what could be offered by separate quantitative and qualitative designs. This type of design gives the investigator the opportunity to utilize the strengths of both quantitative and qualitative data collection methods, at the same time that it compensates for some of their weaknesses.

### Identifying Mixed Methods Research Designs

DESIGN	CHARACTERISTICS		NOTATION	INTENT
<b>Convergent</b>	<b>data collection timing</b>	concurrent	<b>QUAN + QUAL</b>	Obtain complementary data on the same topic and compare datasets.
	<b>emphasis</b>	usually equal		
	<b>integration type</b>	merge		
	<b>integration start point</b>	study results		
	<b>number of phases</b>	one		
<b>Sequential Explanatory</b>	<b>data collection timing</b>	quantitative first	<b>QUAN → qual</b>	Explain quantitative results and/or facilitate participant selection.
	<b>emphasis</b>	usually quantitative		
	<b>integration type</b>	explain		
	<b>integration start point</b>	study data collection		
	<b>number of phases</b>	two		
<b>Sequential Exploratory</b>	<b>data collection timing</b>	qualitative first	<b>QUAL → quan</b>	Develop or test an instrument, theory or intervention.
	<b>emphasis</b>	usually qualitative		
	<b>integration type</b>	build		
	<b>integration start point</b>	study data collection		
	<b>number of phases</b>	three		

Table 1 - Dowbor, TP; Guetterman T. (2014) Based on: Creswell, JW. (2015). A concise introduction to mixed methods research. Thousand Oaks, CA: Sage.

The table above identifies the three main mixed methods research designs referred to by Creswell (2015). Each takes into consideration: [1] Data collection timing – if concurrent or sequential and what type of data are collected first (quantitative or qualitative data). [2] Quantitative/ qualitative emphasis – if equal, more quantitative or more qualitative.

[3] Type of mixed methods integration – if you are (a) merging the data, (b) using one method to explain the data collected from another method, or (c) using one method to build on data collected from another method. [4] Integration start point – if you start combining quantitative and qualitative data during data collection or during the results/analysis phases. [5] Number of phases involved in the mixed methods design.

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The number of mixed methods design phases proposed by Creswell is defined based on how the quantitative and qualitative data collection and analysis interact. The convergent design has only one phase, in which quantitative and qualitative data are merged during analysis. The sequential explanatory design has two phases: quantitative data collection (phase 1) explained by qualitative data collection (phase 2). The sequential exploratory design has three phases: qualitative data collection (phase 1), which informs the development of quantitative instruments or interventions (phase 2), followed by quantitative data collection (phase 3).

## Convergent Design Example

The At Home/Chez Soi national longitudinal study used a convergent mixed methods design to address its primary aim: to assess the impacts of the Housing First (HF) intervention for people experiencing homelessness and mental illness. The HF model offers immediate access to permanent housing with optional wrap-around supports with no housing readiness conditions.

In the Toronto site, 575 participants were enrolled in the study, with about half (n=301) randomly assigned to one of three HF treatment arms and half (n=274) to “treatment as usual” (TAU). A subsample of 60 participants was randomly drawn from each of these groups to complete in-depth narrative interviews upon enrollment and again 18 months later. Thus, both validated quantitative measures and qualitative indicators were captured and analyzed to provide a comprehensive picture of these participants’ experiences, and change over time in those experiences, with HF and TAU.

## Exploratory Sequential Design Example

CRICH SRU used an exploratory mixed methods design to evaluate a telephone interpretation program in terms of its impact, appropriateness, satisfaction and areas for development.

During the first phase, we conducted 31 qualitative exploratory interviews to obtain an in-depth understanding of the program from the perspectives of different stakeholders (service managers, health care providers, administrative staff and program co-ordination leadership). The sample was purposively selected to include staff from organizations that varied by type (e.g. hospitals, community health centres), size and usage patterns.

Based on the information collected in the first phase of the evaluation, we developed two quantitative survey instruments to be completed by service providers (n=127) and patients (n=41) during the evaluation second phase. All organizations with reported usage of the program were invited to participate and 88% of them were represented in the second phase of the study.

The mixed methods exploratory approach made possible the in-depth exploration of themes in the first phase of the evaluation and the gathering of more generalizable data from key stakeholders in the second phase.

The qualitative and quantitative data were complementary. The qualitative information was not only used to inform the development of the quantitative survey instruments, but also helped to contextualize the closed-ended information collected by the surveys.

## Explanatory Sequential Example

An explanatory mixed methods design enabled researchers to better understand discrimination experienced by 231 ethno-racial individuals with moderate mental health needs who participated in the At Home study. Quantitative data revealed high prevalence of discrimination based on race/ethnicity/skin colour, poverty/homelessness, and alcohol/substance use. Statistical analysis found demographic characteristics most strongly associated with all of these categories included length of time spent homeless, and being born outside of Canada. These findings led us to focus on these demographic groups in in-depth interviews with a random sample of 36 of these individuals, and to explore how they navigated experiences with multiple categories of discrimination. Three common themes emerged: 1) self-isolation – from friends and family due to stigma; 2) old and new labels/identities – experiences of discrimination due to homelessness and mental illness were more predominant due to newness of the labels; and 3) the role of cultural identity and the ‘homeland’ - perceptions of mental illness and homelessness in their homeland culture affected how they interpreted and adjusted to these new labels, and thus to stigma and discrimination associated with them.

The explanatory design incorporated the strengths of both quantitative and qualitative approaches. Quantitative data analysis revealed overall prevalence and demographic patterns of discrimination among the larger sample; this helped to focus the in-depth qualitative analysis, which provided a more nuanced understanding of those larger patterns.

CRICH Survey Research Unit – Providing high quality and efficient research and evaluation services to the health and social sciences community.



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