

Modeling processes, mechanisms and conditions of changes associated with psychotherapy of children with autism spectrum disorders

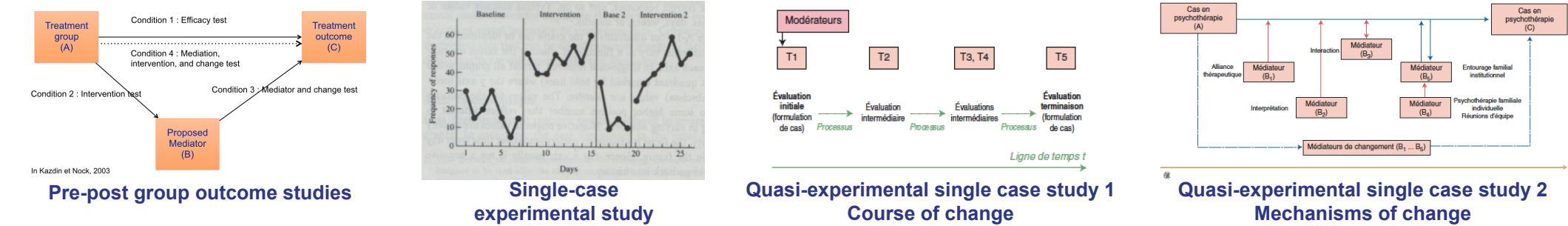
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● BACKGROUND: EVOLUTION OF PSYCHOTHERAPY RESEARCH

Focused 1980s to the 2000s on the overall efficacy of interventions and psychotherapeutic approaches, psychotherapy research has evolved towards a research on the change process related to mediators inside a therapy adjusted to patient. From «*What works for whom ?*» (in general), research questions became: «*When, why, how and under what conditions, a common or specific psychotherapeutic factor can produce changes for this patient?*»

This trend is reflected in the adjustment of the methodology.



Application of this evolution of methodology is particularly important for autism spectrum disorders because of the heterogeneity of cases and their situations, their developmental dimension, and differences that affect their approach. It is implemented in the Inserm clinical practice research network on psychotherapy (U 669) where, to this day, 50 intensive case studies in natural conditions have been completed.

● OBJECTIVES: MODELLING PARAMETERS AND MECHANISMS OF CHANGE

An analysis plan in 5 steps: For each case and aggregated cases, 1) Characterise mediators and moderators : indexing external parameters (moderators) and configurations of process observations (mediators) of therapeutic action, 2) Describe comportemental and functional trajectories of change ; 3) Among cases, distinguish the good and bad trajectories and search for explicative settings ; 4) Model processes and mechanisms of change associated with each psychotherapy ; 5) Propose assumptions about some predictive factors of change.

In this poster, we focus on the presentation on the first step of describing therapeutic action, using a process instrument developped from Q methodology, the Child Psychotherapy Process Q-set (CPQ).

● METHODOLOGY

Presentation of Q methodology

- Developed by W. Stephenson (1953), Q Methodology rests on the rating and ranking of a set descriptive formulations concerning a particular object. The ranking highlights what appears to be the most and least characteristic for the rater in the range of descriptions that are submitted.

Step One: A set of statements, called a « Q sample » is drawn from an exhaustive search of descriptive subject formulations. Recoveries of meaning are avoided, missing items are added. Statements are categorized and categories are equalized. Statements are numbered randomly.

Step Two: Q sorting. The Q sorter is instructed to sort the statements along a continuum from «most agree» at one end to «most disagree» at the other. To assist in the Q sorting task, the person is provided with a scale and a suggested distribution.

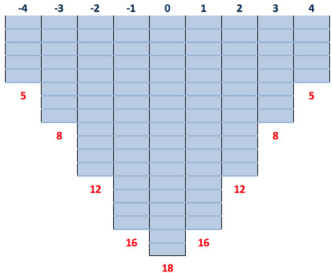
Step Three: Correlation. A correlation matrix is established between the sorts to describe the degree of similarity or dissimilarity in perspective.

Step Four: Factor analysis. It examines a correlation matrix and determines how many basically different Q sorts are in evidence: Q sorts which are highly correlated with one another may be considered to have a family resemblance, those belonging to one family being highly correlated with one another but uncorrelated with members of other families. Factor analysis tells us how many different families (factors), there are.

Step Five: Interpretation of factors. The interpretation of factors in Q methodology proceeds primarily in terms of factor scores rather than (as is typical in R methodology) in terms of factor loadings. A factor score is the score for a statement as a kind of average of the scores given that statement by all of the Q sorts associated with the factor. For the sake of precision, in Q methodology, the factor scores are weighted to take into account that some are closer approximations of the factor than others.

Application with CPQ (Child Psychotherapy Process Q-set)

- Developped by Schneider and Jones, CPQ is a common language to describe, classify and quantify the process of therapy from 100 items. Each item is designed to be observable, avoid references to a specific theory. It is intended to be largely neutral and can be used for any therapy. The CPQ is used to represent a range of therapeutic interactions including systematic characterization of therapist-patient interaction.



Step One: CPQ has been constructed from an exhaustive search of existing process descriptions. Their main formulations were selected and others were built from detailed discussions with clinical investigators. Each item was discussed in terms of its clarity, its importance for psychotherapy and implications of his choice for the set number of total items.

Step Two: Items are sorted into one of nine categories ranging from most characteristic (+4) to the most uncharacteristic (-4), through a neutral box (0) with a forced distribution (see diagram). This methodology obliges the rater to assess the relative significance of each item to this particular therapeutic hour and avoids the well-known halo effect, by which raters tend to avoid using the two extremes of a rating scale.

Step Three: Correlation. A correlation matrix is established which compares each of the fifty Q sorts with the others. The result is a 50x 50 correlation matrix.

Step Four: factor analysis determines how many basically different Q sorts of 100 observations describing patient, therapist and their interactions are in evidence. Q sorts which are highly correlated with one another may be considered to have a family resemblance. They define one common factor and 3 specific factors. Factor loadings differentiate in each family their level of similarity. Factor analysis tells us how many different families (factors), there are and in each family which are the most characteristic formulations.

Step Five: Interpretation of factors. The F1 (common factor) loadings are all positive, but vary from 0.28 to 0.84 (median: 0.69). F2 distinguishes psychotherapeutic approaches (psychodynamic and cognitive-behavioral) and the compliant or chaotic participation of the child in psychotherapy. F3 describes a curious, bright and imaginative child that can express his feelings to his therapist (or vice versa) and the psychotherapeutic approach adopted by the therapist. F4 describes the passage from a very close attachment towards a beginning of autonomy.

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