

# Proposal: Bowen Theory Research and Development Program

This document provides an example research program based on Bowen Theory designed to meet the higher standard for research held by the scientific community. The sole focus is to be a purely data-driven exploration of family emotional process. The operational parameters of the program are outlined, along with the initial plan for research, mandated outcomes, wish-list outcomes, projected outcomes, and resources required.

*NOTE: Underlined terms are defined in the [Definitions](#) section at bottom.*

## Problem Statement

There is no formal scientific research conducted under Bowen theory today. Here “formal research” pertains to funded, systematic data collection across multiple samples, and with multiple coordinated researchers reaching mandatory milestones. Particular to Bowen theory, formal research is differentiated from personal “research” projects that have no deadlines, no defined outcomes, pertain only to the “researcher’s” own family as part of an effort at differentiation of self, or where *more curiosity* is the outcome.

It is assumed that while aimed at thinking for one’s self, these kinds of projects do not produce sufficient quality or quantity of data to make formal scientific claims outside of the Bowen Network (BN). This proposal implies that a more formally defined program is necessary to escape the BN. The work in this program is intended to be more productive than it is “fun,” hence the emphasis on compensation.

## Vision

The total vision consists of *all* of the following:

- To re-conceive the aim of the original NIMH research project through a data-driven modality, i.e. to test the fundamental claims of Bowen theory.
  - Use and improve specialized software for systematic data collection and analysis, a *major* value-add to any research project.
  - Software assists with dissemination of Bowen theory
- To build explicit predictive models taking time-series data as input to generate *new knowledge* about the role of the family in individual functioning, i.e.:
  - Knowledge about what is formally demonstrable, i.e. through models
  - Knowledge of entirely new observations
  - Knowledge that exists independently of “Dr. Bowen”
- To move toward financial autonomy through *development* of commercial products and services.

- To drive researchers' performance through material incentives contingent on measurable performance.
- To quickly adapt trajectory with new findings, e.g. "agile" methodology
- To allow maximum program autonomy through clear contracts and reporting with external stakeholders, e.g. Bowen Center (BCSF) Executive Director (ED) and Board.

## Program Definition

This section defines what the program is and what it will do as opposed to the theoretical content of the team's research work. For example, the program does not yet ask specific theoretical questions and instead focuses on producing data that is basic to *any* theoretical question.

## Hired Personnel

There is no locale requirement for any hired position. Any synchronous communication will occur over Zoom / Teams.

- 1 Program Director (PD) / Tech Lead
  - Responsible for technical vision & definition of milestones
  - Reports status of milestones to external stakeholders, e.g. ED & Board
  - Responsible for app training & consultation
  - Responsible for information management
    - Defines requirements, tools, and methods for recording data
    - Manages database of cases
    - Team operations materials, e.g. documents and meeting notes.
  - Leads technical meetings with interns
- 2-3 Program Interns (PI)
  - Clinical Intern: Professionally licensed or supervised clinicians; data from paid clients
  - Coaching Intern: Unlicensed "coach"; data from paid clients
  - Research Intern: Not seeing clients; data re-purposed from predefined existing sources
  - Formal research/engineering experience a plus but not required
  - Minimum experience with Bowen theory
- 1 Program Administrator (PA)
  - Administrative / operations tasks
  - IT operations as defined by PD
  - Non-technical clerical point of contact for interns
  - Managing application process
  - Receives and manages external inquiries
  - Does not manage tech at meetings, that is for the PD

## Adjacent Personnel

These personnel are not part of the program but are adjacent to it. They are necessary for the program to operate but do not hold responsibility or participate in decision making for the program. They are intended to come from an existing institution, such as the Bowen Center.

- Training Supervisor
  - Represents Bowen theory to interns through traditional means
- Clinic Administrator
  - Oversees the usual operations of the Clinic

## Resources

Provided by third party. Compensation ensures that (measurable) outcomes are reached.

- \$20,000 Retainer contract for PD
  - \$100/h, 4h/week for 1 year
  - Time for managing team & information
- \$ for app product software development (perhaps covered under PD retainer)
  - <https://www.scnsoft.com/software-development/costs>
  - <https://www.uptech.team/blog/software-development-costs>
  - <https://doit.software/blog/software-development-costs#screen19>
- \$? - Base compensation for Interns' program participation
  - Time for meetings
- \$30 - Payment for each clean case produced
  - Approved by PD
  - At least clean enough to be presented by a more experienced person
  - Additional criteria to be clarified
  - Could increase & become basic compensation, would align incentives well
- \$50 - Bonus for each comprehensive video case formulation < 3 minutes
  - Requires clarity above current state of the art
  - Requires practice with the case in the app
  - Implies the more the merrier
  - 1 in 15 interns w/ rare talent would really crank these out as could Dr. Stinson
- \$200/year - 1 Professional app license per intern
- 1 Professional Zoom/Teams Account to allow for longer meetings.
- \$0 - Cloud file storage for case data, materials, and meeting recordings, e.g. Google Drive
- \$0 - Jira + Confluence Ticketing + Documentation System

## Research Plan

This section describes the technical plan for the program. It is intended to be updated iteratively with new findings and experience.

### Long-Term Vision

Research would best proceed incrementally driven by data as opposed to only by hypothetically productive ideas or concepts for theory. Personal hunches may drive well beyond what the models demonstrate in the data, but **a hard rule for this program** is that there must be a clear

distinction between hunch or existing theoretical vernacular and what any given model supports or does not support. Therefore, the following plan starts with basic tasks regarding team organization and data collection *before* asking lofty questions from any part of Bowen theory. This is the key unique difference between this proposal and the status quo for “research” under Bowen theory which is too broad for precise data-driven models.

### Pilot Phase

The pilot phase will develop a data-generating machine in the form of a research team, processes, and pay structure.

### Mandate

Generate a sample of at least 30 family cases in the app of varying quality:

- In a standardized data model, i.e. app diagram files.
- One or more ad-hoc prediction for clinical change within the family
  - Regardless of precision (low precision is also a finding)
- A time series data set for each case
  - A-B-n Evolution of coach’s ad-hoc current working model (CWM) for each family
    - Example A: Symptoms in children are driven by overfocus in parent(s)
    - Example B: Daughter absorbed anxiety from mother, Daughter’s anxiety increased after disrupted attachment to mother’s abusive partner’s family.
    - Example n: Mother decreasing own anxiety leads to daughter’s symptom cessation
  - A-B-n Evolution of ad-hoc predictions based on CWM (1-to-1 ratio)
    - Example A: If anxious attention shifts from offspring to work on self, daughter’s symptoms will decrease (default, generalized hypothesis from BT)
    - Example B: If this mother can shift attention from daughter’s bloody nail biting to self, nail biting will decrease.
    - Example n: If mother focuses on self, daughter’s nail biting ceases.
- Maintain a list of ad-hoc predictions
  - Possibly aggregate ad-hoc predictions into common predictions
- Storable/stored in a single location, e.g. online drive administered by PD
  - Must be accessible in perpetuity
  - Must be efficient to find + access
- *Expectations will be low* about making any real theoretical prediction or discovering anything conceptually interesting in this pilot milestone.

While the mandate is to only get the data-generating machine going in the form of the team, this model will at least always have something to show for the time and materials used.

### Extra Credit

Each intern produces at least one video case formulation

- Less than 3 minutes (2 is even better)
- Argues that an emotional process has occurred
  - Summarized in a single sentence
  - Detailed in the rest of the video
- Pruned to the minimum data required for the argument
  - No duplicated details
  - No superfluous details
- Presented in the app, with use of the following encouraged:
  - Timestamped emotional process symbols
  - Event variables
  - Diagram view alone (i.e. no timeline view)

There are only two such presentations that exist so far, one by Laura Havstad and one by Patrick Stinson. [Havstad's video](#) has been published here, though it is much longer than 3 minutes. The theoretical argument is quite clear. Stinson's case has not been published for confidentiality, though it could be tidied with some work. It does not have enough data for a complete formulation. A goal would be to have at least 3, ideally 5 such examples.

## Projections

These projections come from experience in the [app seminar](#).

- Significant effect in both researcher and clients' CWM will be found
  - A-B-n comparison of CWM *in client*
    - Example A: Daughter's bloody nail biting has always been there, therapist must fix it.
    - Example B: Daughter's bloody nail biting started after fleeing from abusive partner.
    - Example n: Daughter's nail biting was related to my own stress, and stopped when I worked on two key relationships.
  - A-B-n comparison of projected *efficiency* of plan based on each CWM *in client*
    - Example A: Therapy for daughter is costly and ineffective (average \$2000 + uncountable time)
    - Example B: Therapy for daughter + abusive partner will be costly and ineffective (average \$3000 + uncountable time)
    - Example n: 2 x 60 minute sessions of systems assessment with mother lead to symptom abating (\$300 + 120 minutes)
  - A-B-n comparison of CWM *in intern*
    - Example A: Symptoms in children are driven by overfocus in parent(s)
    - Example B: Daughter absorbed anxiety from mother, Daughter's anxiety increased after disrupted attachment to mother's abusive partner's family.
    - Example n: Mother decreasing own anxiety leads to daughter's symptom cessation
- Only 50% of actual cases will end up in the app.

- o Intern clinical / research aptitude
  - o Intern technical aptitude
  - o Issues with app usability / functionality
- Quality of data will be lower than expected
  - o 95% of cases will not contain enough data to argue a formulation outside the BN
  - o 5% of cases will bubble to the surface for a video
  - o Data not clear enough
    - client presenting vague dates
    - incoherent client recollections
    - “sampling error” in the interns
- Pilot will result in a period of adjustment to realistic of state of knowledge
  - o Most language used in BN today is too vague + lofty for direct use in systematic research.
- Many operations-level realities of this kind of team will be learned
  - o Expectations for intern technical aptitude
  - o Expectations for intern bandwidth (more pay == more bandwidth expectations)
- Findings will pertain more to methodology and training than “theory”
- Steep learning curve with app + method
  - o Skills learned once are easily repeated
  - o Quickly repeat any learned technical skills with the app
  - o App training will reduce learning time by 50%, not 100%
    - Remaining 50% will occur slowly or may never be completed

## Risks

Pertains specifically to funds to producing mandated result.

Levels:

- Low: Not likely to happen
- Med: May or may not happen
- High: Almost certainly expected

Areas:

- (med) Unable to recruit interns
- Interns are unable to
  - o (med) Reach proficiency with the app
  - o (med) Gather data on clients
  - o (med) Meet mandatory milestones
- (high) Technical meetings devolve into instruction basic research skills
  - o Lack of formal research training or engineering experience
- (low) Lack of clients / cases

## Aspirations Beyond Pilot Phase

Once a data-generating machine has been established in the form of a team and its processes, richer research efforts can be organized. Frost, Havstad, and Stinson have suggested ideas for research in Bowen theory which could be brought to organized data.

## Stinson: Three Basic Hypotheses to Justify Research in Bowen Theory

This one is listed first because the goal is to experiment with the basic proposition that research in Bowen theory is justified. The three hypotheses are:

1. That a *significant* number of non-behavioral/mental problems are impacted by contextual factors outside the patient's physiological structure, and some other portion will *not* indicate contextual factors.
2. That a *significant* number of indicated cases from #1 have anxiety (1) as a contextual factor.
3. That a *significant* number of indicated cases from #2 will have relationships implicated in the anxiety (1) factor.

The accuracy of hypothesis #3 would be the justification for research in Bowen theory. A fourth hypothesis would pertain to *how* relationships are implicated in anxiety (1). This hypothesis is Bowen theory itself.

This model could occur in the context of an existing revenue stream, e.g. an existing medical practice for conditions with low predictability from apparent "systemic" factors. Examples are asthma/allergy/immunology, auto-immune problems, and cancer.

## Frost: Clinical Change

Frost's model asks questions derived more directly from theory. *Operational definitions* would be decided for key terms from BT. These definitions would be used to evaluate a *baseline level of functioning* and *affected level of functioning* following a key move after coaching.

## Havstad: Framework For Research in Bowen Theory

Dr. Havstad's article [Study of Weight Loss as a Model for Clinical Research](#) proposes a model for clinical research. The model suggests that the basic etiological pipeline (Dr. Stinson's words) in Bowen theory from symptom to family is; symptom, anxiety (2), functioning/relationships. Qualitative interview data is used to mark shifts in each of the four factors on a timeline. Shifts in functioning/relationships are either correlated with shifts in symptom along with shifts in anxiety (2), or not.

## Stinson: Machine-Learning Markovian Agent Models of Family Emotional Process

The technology exists today to build complex systems simulation models that predict how "emotional process" would play out in a particular family. However, the ability to produce the

appropriate data for such models is a long, long way off if even possible at all. Hence the initial focus on producing data.

A slam dunk is a straightforward yet exceedingly complex model. This thumbnail description is only to suggest that it exists, not to dive into a comprehensive technical description.

A *machine learning* model is one that is trained repeatedly on an exceedingly large number of samples to approach near perfect predictive power. A *markovian* model is one where it makes a probabilistic prediction among a limited set of decisions/choices equaling 100%. An *agent* model is one where there are multiple agent interacting simultaneously over time in a stepwise fashion.

Combining these three could hypothetically simulate the simultaneous, step-wise behavioral “decisions” of people in triangles during an emotional process over a short period. The model would be trained on generic principles given thousands of family samples of such triangles. The trained model would be seeded with data about the triangles in a client family. The stepwise simulation could occur visually in the family diagram app using existing emotional process symbols.

### Data Model

The data model is enforced by the Family Diagram App. The data model defines what data will be collected. It ensures efficient data collection and provides a standard format for all cases in the project. A standardized format allows for efficient management and productive critique of a large sample of cases.

The data model in the app is as follows:

- Biological structure
  - Person
    - Birth event
    - Adopted event
    - Death event
    - Misc. events
    - Sex
  - Pair-Bond(s)
    - Bonded event(s)
    - Married event(s)
    - Separated event(s)
    - Divorced event(s)
    - Misc. events(s)
  - Offspring
    - Multiple births / adoptions
- Events
  - Timestamp (date & time)
  - Description (fact or functional fact)
  - Item (person or pair-bond)

- o Variables (chosen by user, shown on diagram)
- Emotional Process Symbols (shown on diagram)
  - o 4 Mechanisms: distance, conflict, reciprocity, projection
  - o Triangles: inside, outside
  - o Moves: toward, away, defined self
  - o Intensity
  - o Start event
  - o End event

## Methodology

- Article: [An Emotional Systems Research Methodology](#)
  - o Basic Principles defined in this article
  - o Explains how to organize data but not how to evaluate data, e.g. specific variables, tags, etc.
- Video: [The Importance of the Timeline in Family Diagram](#)
  - o First starting point for data entry
- Video: [Remote Video Coaching With Family Diagram](#)
  - o Techniques for where to put what kinds of data in the app

## Team Processes

- Proposal sign-off with Stakeholders (ED? Board?)
  - o Becomes legal contract between PD and stakeholding entity.
  - o Contract – through its clarity - provides 100% autonomy for PD within contractual terms
  - o Includes terms for compensation and disbursement
  - o Includes terms for milestone reporting
- PD Produces *Program Handbook* containing all processes, definitions, models
  - o Available in cloud storage, i.e. Atlassian Confluence
- Interns train in using the app (1 month?):
  - o 100% merit-based, testing out encouraged at any point
  - o See: [Appendix B: App Competency Requirements](#)
  - o Assigned homework consists of reading and exercises
  - o Dr. Stinson holds individual consultation with interns
- Interns enter cases into app
  - o Likely retrospective entry for professional Interns, i.e. after sessions
  - o Real-time entry is ideal but unlikely
  - o Interns encouraged to provide feedback on app's usability, weaknesses
    - Dr. Stinson will improve app via feedback as time allows
- Ad-hoc, logical model (e.g. theoretical formulation) required for each case
  - o Model is explicit, i.e. written down
  - o Merely logical/mental to start, in English
  - o Under 1 paragraph
  - o Updated whenever necessary with new data
  - o First few iterations likely mostly intuitive, but model must exist
  - o Each iteration is tracked to capture time-series of *change in model*.

- Dr. Stinson provides system for tracking each iteration
- Iterative technical meetings
  - Led by PD
  - 1 hour / every 1 or 2 weeks, at least to start
  - Interns sign up for slot(s):
    - One slot per case
    - Can present technical issues with research or in theory
    - Can present minor technical issues with app (otherwise save for individual consultation)
  - All meetings recorded and stored on program cloud drive
    - Transcripts automatically recorded in Zoom for efficient content search
  - Eventually become obsolete through technical proficiency
    - Likely more technical issues up front, more theoretical issues later
  - Interns present their current working model of case and data to back it up
- Iterative app viability meetings
  - 1 hour every month
  - Interns present issues/ideas related to app usability and functionality toward project goals
  - Watch for potential for idea for lay version / view of app (interns may need it)
  - Dr. Stinson iteratively improves app via retainer and/or additional compensation
- 1-to-1 Individual Technical Consultation
  - Can pertain to technical issues with app or research
  - Delegates supervision issues to Bowen theory supervisor
- "Agile" Task Management and Dashboarding
  - 100% of known tasks are defined as Atlassian Jira tickets
  - Emphasis on clear definitions toward an asynchronous team process

## Appendix A: Definitions

- Ad-hoc prediction: A specialized prediction worded for a single case, i.e. not generalized to any family.
  - Ad-hoc example: If father Tom stands up to Mother Teresa, Teresa will react negatively for a short time before settling into lower anxiety baseline.
  - Generalized example: If the father of any family stands up to mother, mother will react negatively for a short time before settling into lower anxiety baseline
    - Likely not correct since the predicted lower baseline will likely not occur in many families. But it demonstrates a *generalizable* wording that applies across samples, i.e. is *not* ad-hoc.
- Agile: Most common team methodology for systematically managing *iterative progress* toward defined goals where creativity / innovation is required.
  - Ideal for adaptive research.
  - Plan is devised at beginning of iteration, e.g. bi-weekly or monthly.
  - Plan can be updated at beginning of each iteration.
  - Modern ticketing systems like Jira are specifically designed for agile teams.

- Anxiety (1): A sufficient combination of *urgency* and *uncertainty* where the response substantially impacts *efficiency* moving toward self-stated goals, sometimes including decreased coherence of goals structure itself.
- Anxiety (2): Response to real or imagined threat. Synonym: fear
- Asynchronous process: Use of modern online techniques, e.g. ticketing, comment threads, short video recordings, and automated notifications, to work on one's own time and to avoid in-person meetings as much as possible. Goal is to minimize inefficient real-time zoom calls where a short and clear message would suffice. Depends on writing and communication skills in team members. Optimal goal is 85% asynchronous time and 15% synchronous time for necessary debate, deliberation, and creativity.
- Current working model (CWM): The theoretical formulation of a case built out at a particular point in time. Always exists for every case, even with literally zero data; default CWM is BT itself as being the most generalized case for every human family, first iteration occurs with very first data point. The term CWM functions to identify *what changes* through coaching.
  - Implicit CWM: What they do; Only inferrable through actual behavior
  - Explicit CWM: What they say; Stated or written down, may or may not match behavior
- The app: Family Diagram designed by Dr. Patrick Stinson. See: familydiagram.com
- Dashboarding: A web-based summary view of the status of work toward goals. Tickets, percentage toward milestones, etc. PD & PI should be able to quickly glance at their current tasks, and ED should be able to quickly glance at progress toward milestones.
- Data model: The format(s) that the data set is recorded in, e.g. defined in a spreadsheet or in the app.
- Data set: The raw data samples fed as input to an EPM. Format defined by the data model.
- Explicit predictive models (EPM): Mechanical prediction devices, ranging from mathematical formulas to computer simulations to systematically trained machine learning models. Formalized CWM, required for formal testing of CWM. Construction requires formal scientific training or engineering experience.
- Tickets: Units of work defined and track for clear operations-level team management. Clarifies a) team goals and 2) who is responsible for what toward those goals and when. Managed in an online ticketing system, e.g. Atlassian Jira. Allows for status tracking, coordination of time estimates for required tasks, automated notifications of responsibility between people, automatic dashboarding (stakeholding entity).
  - Example:
    - Title: Tidy up Smith data
    - Status: In-Progress
    - Assignee: Intern Davis
    - Blocker: Dr. Stinson
    - Problem: Argument for cutoff is unclear; requires previously referenced events from your hand-written notes
    - Time estimate: 1-2 hours
    - Comments:

- Intern Davis: 5/11/24: Dr Stinson, please provide direction on data referenced in hand-written notes
- Time-series data: A list of timestamped (i.e. date and/or time) samples
  - Example:
    - 1/12/82 - birthday party
    - 1/14/82 - brother/sister argument Re: birthday party
    - 1/14/82 - last contact between brother sister
    - 5/11/94 - first brother/sister contact after “cutoff”

## Appendix B: App Competency Requirements

1. Explain difference between inductive and deductive modes of use
  - Explain shift from static paper diagram VS app diagram+timeline
    - Paper: Static = basic pattern
    - App: Dynamic = basic pattern + timestamped evidence as shifts
  - Explain difference between “genogram” and “family diagram”
2. Name + define each item (nouns) and symbols (verbs)
  - Which have a basis in the literature, and what literature
  - Which are experimental, i.e. a product of AFS
    - Extra credit question
  - Which are dyadic, which are not “monadic”
3. Outline “data model”
  - Items: Person, Pair-Bond, Relationship Symbol
    - Notes
    - Events
      - Datetime
      - Description
      - Notes
      - Items
      - Tags
      - Variables
  - Emotional Process Symbols
  - Twins, Adoptions
4. Parse timeline from interview narrative:
  - Normal facts
  - Functional facts
    - Notable functional facts representing shifts
  - Opinion as opinion, and as fact
  - Nodal events
  - Basic pattern (IRR)
  - Triangle positions, basic or shifts (IRR)
  - Variables shifts:
    - Shifts toward, away (IRR)

- Shifts anxiety up/down (IRR)
  - Shifts symptom up/down
  - Shifts functioning up/down (Need to think about that one)
5. Where to put what on diagram
  6. Explain difference between tags and layers
  7. Use tags to group meaningful events
    - Determine which tags from provided hypothesis
    - Present tags via graphical timeline
  8. Use Layers to present sub-groups
    - 2 nuclear families in extended family
    - 2 families in unrelated system
  9. Share diagrams via server
    - Manage access rights
  10. Ability to use real-time with clients
    - Requires speed of use, probably kb shortcuts