



# **Creating a Culturally Specific Theoretical Model of Childhood Obesity in New York City Chinatown**

**A Community Group Model Building Workshop**

## ***Facilitation Manual***

February 10 & 11, 2017

Created January 5, 2017

Last Revised January 10, 2017

# Culturally Specific Theoretical Model of Childhood Obesity in New York City Chinatown

## *Project Description*

There is currently little documented knowledge of the sociocultural nuances in Asian American communities that influence obesity-related behaviors. Although the literature provides mainstream evidence for nutrition, physical activity and other behavioral interventions, how such evidence can be translated into Asian American populations is not known. Through group model building, we seek to generate a culturally specific theoretical model of childhood obesity, which may yield insights into the design of future interventions and how interventions can be most effectively and sustainability implemented in Asian American communities.

In this context, we are not so much interested in re-identifying known obesogenic behaviors as the sociocultural factors and processes (e.g., the unique family dynamic that comes with the one-child policy; aspiration of immigrant parents and how that translates into childrearing practices; the role of grandparents; the dynamic between school and family, etc.) that may be unique to and that influences diet, physical activity and other obesogenic behaviors in a specific Asian American community.

Recognizing that Asians are a diverse population, we will stratify the population based on cultural backgrounds and undertake this work with Chinese Americans in New York City to start.

The purposes of this group model building workshop are multiple:

1. To develop a culturally tailored theoretical framework that focuses on sociocultural factors and processes that influence obesity-related behaviors and that are unique to each sub-community of Asian Americans.
2. Identifying culture- and place-specific factors and pathways for implementation of future interventions to address childhood obesity.
3. Building a network of actors invested in obesity within the Chinese American communities in New York City.

# Group Model Building Workshop

## Public Agenda

### Day 1

- 12:30 – 1:00 Folks Arrive
- 1:00 – 1:15 Welcome and Introduction
- 1:15 – 1:45 Graphs over time
- 1:45 – 1:55 Dots
- 1:55 – 2:05 Break!
- 2:05 – 3:00 Causal mapping with seed structure
- 3:00 – 3:20 Model Review
- 3:20 – 3:40 Next Steps and Closing

## Public Agenda

### Day 1

- 12:30 – 1:00 Folks Arrive
- 1:00 – 1:15 Welcome and Review
- 1:15 – 2:00 Transferring group ownership from one model to another
- 2:00 – 2:10 Break!
- 2:10 – 3:00 Action Ideas: Implementation
- 3:00 – 3:20 Reflector Feedback
- 3:20 – 3:40 Next Steps and Closing

## Group Model Building Workshop

Detailed Agenda for February 10, 2017

<i>Time</i>	<i>Activity (public agenda)</i>	<i>Facilitation details</i>
12:00-12:30	Room setup	Writes agenda on whiteboard, prepare space with materials (including white paper with Connection Circles written, nametags for participants). Set up tables around the room with space for circulation, clear view to white boards/flipcharts/wall space.
12:30-1:15	Folks Arrive	Wait for people to arrive - can start a bit early if we have everyone there and seated, but should plan on a bit of delay
	Welcome and Introductions  XXXX XXXX	Terry and Sheng will welcome participants to the workshop, introduce the facilitation team, welcome VIPs or important people.  Terry will explain the goals of the project, highlighting: <ol style="list-style-type: none"> <li>1. Our interest in hearing multiple, diverse voices and facilitating this conversation</li> <li>2. The goal of engaging folks in the issues that directly affect them in new ways, thinking differently</li> <li>3. The intention for this to be an open and safe space for discussion - nothing you say will be traced back to you, and we're really interested in frank talk. XXXX will take some photos.</li> </ol>
	Graphs over time  Facilitator: XXXX Wall Builder: XXXX	XXXX introduces the graphs over time by highlighting that it's easy to come up with explanations about why we behave the way we do, but we need to really think deeper. What's true today may not have been true before...He provides 2 examples. The examples will highlight two criteria: demonstrating multiple time horizons, and demonstrating tangible and intangible variables. Example 1: Availability of fast food in the neighborhood Example 2: Videogame usage XXXX will then ask participants to draw as many graphs over time as they can in the next 4 minutes, specifically,

		<p><b>PROMPT:</b>  <i>“What are the factors that contribute to childhood obesity in Chinatown?”</i></p> <p>Participants have <b>5 minutes</b> to draw the graphs, but this can be monitored and extended/shortened by a few minutes if necessary. At 4 minutes, a <b>1-minute warning</b> is given and they are asked to begin stacking their graphs over time with the most important/favorite on top and least important/least favorite on the bottom.</p> <p>XXXX calls at stop and then goes around using a nominal group technique where each person identifies their top graph over time and explains the graph, which is handed to XXXX who clusters the behavior over time graphs (BOTGs) on the wall. After people have shared most of their graphs or when time has run out, XXXX asks XXXX to share how the graphs were clustered.</p> <p>XXXX then reviews the clusters and themes, highlighting uncertainty in her choices, and asks participants if there are any changes to be made in where each graph is situated.</p>
	Dots XXXX	XXXX asks participants to take the dots they have in their tables and vote for which are the most important drivers of community trends over time. They can vote 5 times for the same graph, or one for each. Colors don't matter.
	Break	Set a time when folks come back - try to make it firm!
	Introduction of Causal Loop Diagrams. Facilitator: XXXX	<p>XXXX will introduce the Reference Mode graph about XXX.</p> <p>XXXX will introduce the basic conventions of CLDs through a seed model, highlighting:</p> <ol style="list-style-type: none"> <li>1. polarity,</li> <li>2. variable definition</li> <li>3. feedback</li> <li>4. Delays</li> </ol> <p>He will highlight how CLDs build on the concepts of connections circles, but they can tell more complicated stories.</p>

	<p>Causal Loop Diagram Facilitation Facilitator: XXXX</p>	<p>XXXX will ask the groups to build their own CLDs explaining factors driving obesity. While groups work, XXXX, XXXX, and XXXX will circulate, asking questions and providing guidance if folks are stuck.</p> <p>With 5 minutes left XXXX gives a 5-minute warning and asks folks to focus on consequences of target behavior, closing feedback loops.</p>
	<p>Action Ideas Facilitator: XXXX Wall Builder: XXXX</p>	<p>XXXX asks folks to return to their seats.</p> <p>He asks participants to think about ways we can intervene in this system, highlighting that intervention does not come only in the form of programs, but also new information flows, accelerating feedback loops, etc.</p> <p>On sheets of white paper, he asks everyone to write up one action idea on each paper, stacking like we've done before.</p> <p>At the end of 5 minutes, XXXX asks for a volunteer to share. That person should tell about their action ideas, how it is related to the model they or another group built, and where it fits on a matrix of feasibility and potential impact.</p> <p>XXXX places the action idea on the wall based on this recommendation.</p>
	<p>Next steps and closing</p>	<p>XXXX closes the session, thanks people for their participation, and identifies what will be happening tomorrow. XXXX asks Ms. Cookie/Ms. Annie if she has any last words to add, and then XXXX ends the session.</p>

## Group Model Building Workshop

Detailed Agenda for February 11, 2017

<i>Time</i>	<i>Activity (public agenda)</i>	<i>Facilitation details</i>
12:00-12:30	Room setup	Writes agenda on whiteboard, prepare space with materials (including white paper with Connection Circles written, nametags for participants). Set up tables around the room with space for circulation, clear view to white boards/flipcharts/wall space.
12:30-1:15	Folks Arrive	Wait for people to arrive - can start a bit early if we have everyone there and seated, but should plan on a bit of delay
	Welcome and Introductions  XXXX XXXX	Terry and Sheng will welcome participants to the workshop, introduce the facilitation team, welcome VIPs or important people.  Terry will explain the goals of the project, highlighting: <ol style="list-style-type: none"> <li>1. Our interest in hearing multiple, diverse voices and facilitating this conversation</li> <li>2. The goal of engaging folks in the issues that directly affect them in new ways, thinking differently</li> <li>3. The intention for this to be an open and safe space for discussion - nothing you say will be traced back to you, and we're really interested in frank talk. XXXX will take some photos.</li> </ol>
	Graphs over time  Facilitator: XXXX Wall Builder: XXXX	XXXX introduces the graphs over time by highlighting that it's easy to come up with explanations about why we behave the way we do, but we need to really think deeper. What's true today may not have been true before...He provides 2 examples. The examples will highlight two criteria: demonstrating multiple time horizons, and demonstrating tangible and intangible variables. Example 1: Availability of fast food in the neighborhood Example 2: Videogame usage XXXX will then ask participants to draw as many graphs over time as they can in the next 4 minutes, specifically,

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	Dots XXXX	XXXX asks participants to take the dots they have in their tables and vote for which are the most important drivers of community trends over time. They can vote 5 times for the same graph, or one for each. Colors don't matter.
	Break	Set a time when folks come back - try to make it firm!
	Introduction of Causal Loop Diagrams. Facilitator: XXXX	<p>XXXX will introduce the Reference Mode graph about XXX.</p> <p>XXXX will introduce the basic conventions of CLDs through a seed model, highlighting:</p> <ol style="list-style-type: none"> <li>1. polarity,</li> <li>2. variable definition</li> <li>3. feedback</li> <li>4. Delays</li> </ol> <p>He will highlight how CLDs build on the concepts of connections circles, but they can tell more complicated stories.</p>



	<p>Causal Loop Diagram Facilitation Facilitator: XXXX</p>	<p>XXXX will ask the groups to build their own CLDs explaining factors driving obesity. While groups work, XXXX, XXXX, and XXXX will circulate, asking questions and providing guidance if folks are stuck.</p> <p>With 5 minutes left XXXX gives a 5-minute warning and asks folks to focus on consequences of target behavior, closing feedback loops.</p>
	<p>Action Ideas Facilitator: XXXX Wall Builder: XXXX</p>	<p>XXXX asks folks to return to their seats.</p> <p>He asks participants to think about ways we can intervene in this system, highlighting that intervention does not come only in the form of programs, but also new information flows, accelerating feedback loops, etc.</p> <p>On sheets of white paper, he asks everyone to write up one action idea on each paper, stacking like we've done before.</p> <p>At the end of 5 minutes, XXXX asks for a volunteer to share. That person should tell about their action ideas, how it is related to the model they or another group built, and where it fits on a matrix of feasibility and potential impact.</p> <p>XXXX places the action idea on the wall based on this recommendation.</p>
	<p>Next steps and closing</p>	<p>XXXX closes the session, thanks people for their participation, and identifies what will be happening tomorrow. XXXX asks Ms. Cookie/Ms. Annie if she has any last words to add, and then XXXX ends the session.</p>

## Facilitation Team Roles

**Meeting Convener/Closer:** Primary responsibility for starting the session, introducing participants to the exercise, making sure that participants understand the purpose of the exercise within the context of their organization or community, and introducing the facilitators. Closer has primary responsibility for bringing the session to close and thanking participants for their time.

**Community Facilitator:** This is a person who is familiar with the local or substantive knowledge of the problem being modeled and knows the local language and community norms in cross-cultural situations. The substantive expert/facilitator should have strong group facilitation skills, some exposure to system dynamics (e.g., through the planning process and training session or workshop), and have sufficient knowledge of the topic or community to anticipate and mediate conflicts that might arise within the group model building session. This person extends their social capital to help the community accept and work with the modeler facilitator.

**Modeler Facilitator:** Primary responsibility for system dynamics modeling and group model building process. This is a person who is trained in systems thinking/system dynamics model with expertise teaching and leading groups in the use of systems/thinking/system dynamics. The person should also have experience facilitating groups and leading group model building sessions. If the goal of the project is to develop a simulation model, it is expected that the modeler/facilitator also be an expert modeler and able to anticipate and address the variety issues that can arise in data and modeling.

**Reflector:** Primary responsibility for helping the group reflect on what they have done so far and recognize the issues/insights that have been developed during the modeling. This role requires someone who is familiar and comfortable with the language of system dynamics (e.g. can point out reference modes, stocks and flows that were mentioned, etc.) and has strong listening skills, especially in accurately paraphrasing participants' comments in their own words.

**Time Keeper:** Primary responsibility for managing the time of the group model building session, keeping the group on schedule by starting and ending on time and taking breaks, and ensuring that the overall structure of the session is predictable. When there is a need to adjust the schedule, it is the time keeper's responsibility to become aware of the issues and help negotiate a solution to end on time. It is overall very important to start and end on time as much as possible.

## Group Model Building Scripts

*The following scripts were used in the group model building workshop. Scripts are structured small group exercises used in group model building. These scripts are compiled in a wikibook called Scriptapedia which is intended to be a freely distributed book and easily edited to support the creation of new scripts, discussion of what works and what doesn't, and internationalization of group model building practice. Scriptapedia is available at <https://en.wikibooks.org/wiki/Scriptapedia>.*

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# Hopes and Fears

This script is used to elicit and establish group expectations for a GMB session or project and is performed at the start of a GMB project.

**Status:** Best practices

**Primary nature of group task:** Divergent

## Time

Preparation time: 10 minutes

Time required during session: 30 minutes

Follow-up time: 0 minutes

## Materials

1. Two different colors of office paper (8.5 x 11) for each participant
2. Thick tipped markers
3. Blue "painters" masking tape

**Inputs:** None

**Outputs:** List of participants' hopes and fears

## Roles

- Facilitator with good group facilitation skills and knowledge of the local language and topic
- Wall-builder to categorize hopes and fears
- Recorder to document the session
- Runner (optional) to transfer hopes and fears from facilitator to wall-builder

## Steps

1. Participants are given several sheets of paper in each color. The facilitator explains that they will be writing their hopes and fears for the project and then sharing them with the group.
2. The facilitator states which color represents hopes and which represents fears, and participants write their hopes and fears on the corresponding piece of paper.
3. In a round-robin fashion, each participant then reads one fear and one hope. The facilitator takes each hope and fear that the participant has read and posts it on the wall. After each participant has had a chance to share once, the facilitator may open the floor to participants to offer hopes and fears or may go around the room until everyone has shared all of their hopes and fears.
4. The facilitator then tries to identify some of the themes of the hopes and fears.
5. Recorders write down the hopes and fears in the session notes.

## Evaluation Criteria:

- Participants have shared both their hopes and fears for the upcoming project
- Participants understand the overall themes of the hopes and fears

**Authors** George P. Richardson and David F. Andersen

**History** First described in Luna-Reyes et al (2006).

**Revisions** None

## References

Luna-Reyes, L. F., Martinez-Moyano, I. J., Pardo, T. A., Cresswell, A. M., Andersen, D. F., & Richardson, G. P. (2006). Anatomy of a group model-building intervention: Building dynamic theory from case study research. *System Dynamics Review*, 22(4), 291-320.

**Notes:** None

## Graphs over Time

This script is used to engage participants in a group model building session in framing the problem, initiating mapping, eliciting variables, and gathering input in deciding the reference modes for the study. It is performed at the beginning of a group model building session as it is a springboard for discussion about the problem to be modeled.

**Status:** Best practices

**Primary nature of group task:** Divergent

## Time

Preparation time: 15 minutes

Time required during session: 45 minutes

Follow-up time: 0 minutes

## Materials

1. Stacks of 8.5x11 white paper with X and Y axes drawn on them
2. Large blank wall (8'x10')
3. Thick tipped markers
4. Blue painters tape, glue sticks, or tacks
5. Camera or other method to capture the graphs

**Inputs:** None

**Outputs:** Candidate variables for the dynamic model or the map

## Roles

- Facilitator who has some experience with SD to work with the group
- Modeler who listens to what is being graphed and the way people are talking about the graphs, and who is also be able to conceptualize the early seeds of system structure
- Wall-builder with little or no experience in SD who will cluster graphs and talk about themes
- Recorder to document the session and photograph the clustered graphs
- Runner (optional) to bring the graphs from the community facilitator if the group is large

## Steps

1. Based on group size, decide whether to break participants into subgroups. In smaller groups ( $N < 10$ ), allow individuals to work and present independently. In larger groups ( $N > 10$ ), divide participants into subgroups of roughly 10. Ask the subgroups to sit together.
2. The modeling team hands out sheets of white paper to each participant.
3. The facilitator gives an example of how to draw a graph over time, carefully labeling the X-axis as "Time," and adding a start time, end time, and the present time indicated with a vertical dashed line. The Y-axis is labeled with a variable name. The facilitator then sketches the behavior over time.
4. The facilitator then asks participants to draw one variable over time per piece of paper. The participants should be given the option of including hoped for behavior, expected behavior, and feared behavior on the same graph.
5. The facilitator and wall-builder walk around and help participants with the task if they need it. Allow 15 minutes or until the group runs out of steam to complete the task.
6. Reconvene as a large group:
  - If  $N < 10$ , the facilitator takes one graph at a time from each participant, holds it up in front of entire group, and asks him/her to talk about it. Ask for participants to share the "best stuff" first. Clarify timescale, variable names, etc.
  - If  $N > 10$ , instruct subgroups to share their graphs with each other and choose the ones they think are most important. The facilitator then goes to each subgroup and holds the first graph they have selected up in front of entire group. The subgroup spokesperson talks about the graph. Ask subgroups to share the "best stuff" first. Clarify timescale, variable names, etc.
7. The facilitator then hands the graph to the wall-builder.
8. The facilitator repeats steps 6 and 7 with each participant or subgroup, taking one graph at a time until all graphs are shown or time has run out. Finish by asking if any participant has something else that really ought to be shown.
9. During steps 7-8, each graph is posted on the wall. The wall-builder tries to cluster the graphs meaningfully on the fly based on themes and variables.

10. The facilitator asks the wall-builder to explain the clusters of graphs on the wall. The wall-builder tries to summarize dynamics that help to characterize the problem that emerges from the participants' graphs.
11. The facilitator enables the participants to talk about the clusters and the characterization of the problem they imply.
12. Consider labeling the clusters based on themes or related variables. There is potential for the modeler to close by highlighting the beginnings of feedback thinking in the dynamic problem.

### **Evaluation Criteria:**

- Interesting, self-sustaining group discussion about clusters described by the wall-builder
- Meaningful clusters identified
- Graphs tend to converge to a clear dynamic problem
- Some key dynamic variables emerge from reflecting on the graphs and thematic clusters
- Modeling team can begin to see key stocks and perhaps important feedback loops
- Members of the group appear to have a better understanding

**Authors:** George P. Richardson and David F. Andersen

**History:** First described in Luna-Reyes et al (2006).

**Revisions:** None

### **References**

Andersen, D. F., & Richardson, G. P. (1997). Scripts for group model building. *System Dynamics Review*, 13(2), 107-129.

**Notes:** None

## **Dots**

**Status:** Best practices

**Primary nature of group task:** Evaluation

### **Time**

Preparation time: 0 minutes

Time required during session: 10 minutes

Follow-up time: 0 minutes

**Materials:** Three to five adhesive dots per participant, or markers

**Inputs:** An array of items to vote on with dots, for example, a set of behavior over time graphs

**Outputs:** Prioritized choices

**Roles:** Facilitator to introduce the exercise

### Steps

1. The facilitator gives every participant the same number of dots.
2. The facilitator instructs participants to place their dots beside the items they think are most important to them. They can distribute the dots any way they want (e.g. put all of them on one behavior over time graph or spread dots out across several graphs).
3. The facilitator tallies the dots beside each item to create a ranked list of importance.

### Evaluation Criteria:

- Participants have prioritized their choices
- Participants have achieved consensus on the most important items

**Authors:** Unknown

**History:** Unknown

**Revisions:** None

**References:** None

**Notes:** None

## Connection Circles

**Status:** Promising practices

**Primary nature of group task:** Divergent

### Time:

Preparation time: 10 minutes

Time required during session: 30 minutes

Follow-up time: 15 minutes

### Materials

1. Sheets of large paper, such as butcher block paper, with blank connection circles (1 per small group)
2. Markers
3. Variable list



#### 4. Example of a completed connection circle on paper

**Inputs:** List of variables

**Outputs:** Connect circle

### Roles

- Facilitator
- Note Taker

### Steps

1. At the start of the exercise, separate participants into small groups and give each group one blank connection circle and a set of thick tipped markers.
2. Introduce the exercise by stating, "The goal of our first exercise is to identify the variables and the connections between them that are important in the system affecting access to healthy food. We are going to draw a connection circle. A connection circle is a visual tool that can help us identify and understand problems and see the connections in a system. First, let me show you an example."
  - Tell participants, "We are going to start with a large circle."
  - Next, explain that the participants will then pick two variables that are connected and draw a line with an arrow pointing in the direction of influence. Say that the arrow shows causality and it can indicate either a positive or a negative situation. Provide an example to the participants.
  - Say, "Next, you will pick another set of variables that are connected and draw an arrow to show causality. After about 15 minutes or so, you might have something that looks like this." Show an example of a completed circle.
3. Tell the participants that there are several points to keep in mind before starting:
  1. First, for a connection that goes in both directions, draw two separate lines, one going in one direction and the other going in the other direction. Remember that the arrow shows the direction of influence, or of causation. The arrow can represent something positive or negative.
  2. Second, it may be easier to bend some of the lines to make them easier to follow, and that's OK.
  3. Third, the variables and connections can be based on the data sharing or personal experiences.
  4. Fourth, this connection circle is the overall or combined group picture of what may be happening for [topic]. Some variables and connections may be common to all communities. Other variables and connections may be specific to only one community or group.
4. As groups work on their connection circles, facilitators walk around the room, observe how the groups are doing, and coach them. The focus of coaching moves through three phases:
  - (a) For the first phase (approximately the first five minutes), the focus is on clarifying the instructions and providing positive reinforcement that the participants are on the right track. For example, tell participants, "That looks great. You have several variables representing [topic] and connections with arrows pointing in one direction."
  - (b) During the second phase, focus on helping groups improve their skills in developing the diagrams and representing their discussion. For example, tell participants, "Remember, if you want to show a

relationship that goes in both directions, draw two separate lines," and, " Seems like you're having a lot of disagreement about whether the variable is the same for all communities. Why don't you try adding a second variable and representing both ideas on the page, even if they feel a bit contradictory, or are only relevant for some communities."

(c) During the final phase (approximately the last five minutes), look for a group that has a good example to start the next exercise, and role model how one explains the connections as follows:

"You have 5 minutes left before we return to a large group. That looks great. I see how [variable 1] is influencing [variable 2], and this is influencing [variable 3], which then affects [variable 4]. Nice job."

5. Tell the groups to stop after 15 minutes.

6. Tell participants to, as a group, rank their top five connections on their connection circle. Explain that they will have five minutes for this task. Demonstrate how to mark the connections.

7. Tell the groups to stop after 5 minutes.

### **Evaluation Criteria:**

- Connection circles with many connections including one or more feedback loops
- Participants see a system

**Authors:** Unknown

**History:** Originally documented as part of the Rise Sisters Rise project in July 2011 and based on materials developed by the Creative Learning Exchange.

**Revisions:** None

**References:** None

**Notes:** None

## **Initiating and Elaborating a Causal Loop Diagram**

**Status:** Best practices

**Primary nature of group task:** Convergent

### **Time**

Preparation time: 20 minutes

Time required during session: 20 minutes

Follow-up time: 20 minutes

### **Materials**

- Whiteboard
- Dry-erase markers

**Inputs:** A list of variables

### **Outputs:**

- Interim output/product: increased consensus on dynamic hypothesis, or a possible structural explanation for observed behavior
- Deliverable: a causal loop diagram which may be described either in a report (in the case that only a qualitative model is built), or be used as a dynamic hypothesis on the basis of which formal modeling starts

### **Roles**

- Facilitator:
- Modeler:
- Note Taker:

### **Steps**

1. Remind the group of the problem variable, preferably sketched as a reference mode of behavior. Remind the group of the list of variables XXXXcited before. Place the list of variables in such a way that it is visible to the group of participants. Write the problem variable in the center of the white board.
2. Build the model by following steps a, b, and c below (cf. Vennix, 1996: 120).
  - a. Ask participants which variable from the collected list is a cause for changes in the problem variable. When someone makes a suggestion, include this in the drawing of the model in order to visualize what is meant. Then check to see if everyone agrees with the proposed relation. If someone disagrees, ask for clarification and try to determine what the group thinks the relationship should be. If a discussion goes on too long, you can choose to temporarily 'park' this item and continue with another part of the model. Hopefully, there will not only be variables that have a direct relationship with the problem variable, but you will also build a few logical chains of reasoning (via intermediate variables) into the model. In addition, check the polarity (positive or negative) of the relationship.
  - b. After spending some time doing this, proceed to the consequences of changes in the problem variable.
  - c. At the point where a feedback chain becomes closed, check with the entire group to see if the chain as a whole is correct. Check again to see if a loop is positive or negative.
3. In the last part of the session, analyze the model by checking the feedback loops one more time. Before you close the group session, make sure you do the following:
  - a. If there is a list of 'parked' issues, go through them.
  - b. State once more what has been done and what will happen with the final products.
  - c. Formulate a few concise conclusions. As Andersen and Richardson (1997) say: "End with a bang!"

d. Make sure that all the information which is necessary for the report has been noted.

### **Evaluation Criteria:**

- Improvement in quality of communication
- Insight, consensus on the problem
- Commitment with regard to actions

**Authors:** Jac Vennix 1996, used for bachelor (undergraduate) course by Etiënne Rouwette from September 2007

**History:** Earlier publications Vennix

**Revisions:** Explained steps in more detail for bachelor students with limited experience in modeling

### **References**

Andersen DF, Richardson GP, 1997. Scripts for group model building. *System Dynamics Review* 13(2): 107-129.

Vennix JAM. 1995. Building consensus in strategic decision making: insights from the process of group model building. *Group Decision and Negotiation* 4: 335 – 355.

Vennix JAM. 1996. *Group model building: facilitating team learning using system dynamics*. Chichester: Wiley.

Vennix JAM, Akkermans HA, Rouwette EAJA. 1996. Group model building to facilitate organisational change: an exploratory study. *System Dynamics Review* 12(1): 39 – 58.

**Notes:** None

## **Action Ideas**

This script is used to identify and prioritize actions after a model has been developed.

**Status:** Best practices

**Primary nature of group task:** Divergent

### **Time**

Preparation time: 5 minutes

Time required during session: 30 minutes

Follow-up time: 30 minutes

## Materials

1. Sheets of office paper (enough for 5-8 sheets per participant)
2. One dark thick-tipped marker per participant
3. Blue “painters” tape for creating the wall and labels for the axes on the wall

**Inputs:** Causal loop diagram or stock and flow diagram

**Outputs:** Prioritized list of potential actions

## Roles

- Facilitator experienced in small group facilitation and familiar with Meadow’s (1999) paper on leverage points
- Co-facilitator/wall-builder able to organize the ideas
- Recorder to take notes on the ideas being suggested

## Steps

1. Ask groups to take 10 minutes to identify as many actions as they can that could impact the model from the previous exercise.
  - "What I would now like you to do in each group is take 10 minutes and use the diagram to help you identify as many possible actions to improve this system as you can."
  - "There are a number of places you can intervene in the system (adapted from Meadows), in order of effectiveness:
    - Variables (lowest)
    - Connections
    - Rules that govern the connections
    - Goals in the system
    - Mindset (highest)"
  - "You can develop interventions that impact variables directly. For example, you could come up with a way to decrease [variable 1; e.g. parent stress]. This may be the least effective way to intervene because it is only fixing a symptom in the connection circle. [variable 2; e.g. gangs] contribute to [variable 1] in the connection circle, and efforts to reduce [variable 1] would only have a temporary effect since the diagram suggests that [variable 2] would continue to contribute to [variable 1]. While addressing symptoms may not have the highest impact in a system, it is important to remember that they can still be beneficial."
  - "You can also develop interventions that impact a connection. For example, you could come up with a way to help increase [variable 3; e.g. healthy meals], by impacting [variable 1]. Doing this would change the system by weakening the connection from [variable 1] to [variable 3]. Ultimately, this type of intervention might XXXXminate the connection altogether."
  - "You can also consider interventions that create or strengthen a connection. For example, creating an intervention that is designed to help [variable 4; e.g. schools] more effectively

address [variable 2; e.g. gangs] would strengthen the connection from [variable 4] to [variable 2]."

- "You can also come up with interventions that impact the rules that govern the connections such as the rules [insert policy intervention; e.g. regulate what foods a corner grocery store can sell]."
  - "You can also address the goals in the system. [Insert example goal in topic system; e.g. examples of goals in the obesity system could be fitting into clothes, lowering stress, and eating healthy foods]."
  - "And finally, you can develop interventions that aim to change mindset. [Insert example of changing mindset; one such example of changing the mindset from the obesity example could be changing how people view the cause of obesity from "parents just don't know how to cook" to "parents are too busy trying to make ends meet with their work and don't have the time to plan meals, shop, and cook.]"
  - "There are many different types of actions you can come up with but they should all be focused on [topic]."
  - "For each action, I want you to write a name that identifies the action on a sheet of 8.5x11 paper."
  - "Since we will be posting and organizing each action, write only one action per sheet of paper and please use the large thick markers."
  - "Specifically, look at the diagram and identify places where you might intervene.[Give example; e.g. In the obesity example, we might try to implement a program to decrease the consumption of unhealthy snacks and call this intervention "Providing healthy snacks at church." We would then write the name of this ("Providing healthy snacks at church") on one sheet of 8.5x11 inch paper using the markers.]"
  - "After 10 minutes, I will ask you to share in a round-robin fashion the results of your list of actions by going to each group and asking you to share your most important action."
  - "For each action, I want you to do the following:
    - (a) describe the action,
    - (b) identify where it would impact the model,
    - (c) identify how easy or hard it is to implement, and
    - (d) if successfully implemented, how much impact might this have on the [topic]."
  - "You will have 10 minutes to complete this task."
2. Participants are given a 1-minute warning and told to sort their actions from the most important to the least important.
- "We're about to finish. Please complete your last action before we get started again in the large group."
  - "Please sort your actions from the most important to least important."
  - "Please stop."
3. The facilitator then asks groups to share their actions, one at a time and in a round robin fashion starting with their most important action. If another group has already identified that action, then they should select their next most important action.
- "As we did in the first exercise, I am going to ask each group to only share one action at a time because I want to make sure that everyone gets an equal opportunity to share their insights."
4. The facilitator asks clarifying questions to make sure everyone understands the action and where the action would impact the system by referring to the model, and then asks them to identify where the action should be placed on the wall in terms of workability and priority.

- "Where do you see this action falling in terms of ease of implementation? How easy or hard would it be to implement this?"
  - "If successfully implemented, what do you see as the potential impact of this action on [topic]?"
5. As each group shares the action, the co-facilitator/wall-builder places the action in the quadrant identified by the group, while a co-facilitator or recorder writes the action and draws how it connects to other variables in the connection circle.
    - It is important that the group nominating the action determines where it fits in terms of workability and importance, as well as how it connects to other variables in the system. If other groups have a different opinion on where the action fits, they can nominate the variable on their turn.
  6. Reflect back to the group your observations about the potential actions.
    - Actions that are easily workable and high priority represent "low hanging fruit."
    - Actions that are hard and high priority represent areas where funders, policy makers, and researchers may be able to help in understanding or modifying the barriers to implementing high priority ideas.

### Evaluation Criteria:

- The exercise has led to a rich list of potential actions prioritized by the ease of implementation and potential impact
- Participants have high energy and express enthusiasm in finding potential solutions
- The group has developed a shared understanding of each intervention and how it maps into the system

**Authors:** Unknown

### History

Originally based on an Action Ideas activity used outside of group model building and developed into a group model building script as part of the Rise, Sally, Rise project sponsored by the Ohio Department of Mental Health with funding from the Substance Abuse and Mental Health Services Administration.

**Revisions:** None

### References

Meadows, D. (1999). *Leverage points: places to intervene in a system*. Hartland, VT: The Sustainability Institute.

### Notes

In its current form, the script is generally used after presenting a model in the form of causal loop diagram or stock and flow diagram. While the exercise was originally designed to work with participants studying a connection circle, the activity is much more effective with a causal loop diagram, where participants can clearly see the feedback loops, or a stock and flow diagram, where participants can clearly see the material flows and buffers in a system.

A variation of this exercise will have a modeler adding the action ideas to a model in the modeling software as participants describe how their proposed actions will impact the system.