<table>
<thead>
<tr>
<th></th>
<th>OBJECTIVE METHOD</th>
<th></th>
<th>SUBJECTIVE METHOD</th>
<th></th>
</tr>
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<tbody>
<tr>
<td></td>
<td>of Information Collection</td>
<td></td>
<td>of Information Collection</td>
<td></td>
</tr>
<tr>
<td>INDIVIDUAL</td>
<td></td>
<td>COLLECTIVE</td>
<td>INDIVIDUAL</td>
<td></td>
</tr>
<tr>
<td>Unit of Analysis</td>
<td>(Contextual Analysis)</td>
<td></td>
<td>Unit of Analysis</td>
<td></td>
</tr>
<tr>
<td>INSTITUTIONAL Level Data Source</td>
<td></td>
<td>INSTITUTIONAL Level Data Source</td>
<td></td>
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</tr>
<tr>
<td>INDIVIDUAL</td>
<td>GLOBAL MEASURES</td>
<td>AGGREGATED</td>
<td>INDIVIDUAL</td>
<td>Don't exist</td>
</tr>
<tr>
<td>Level Data Source</td>
<td>are obtained directly from institutional records or directly from observable information</td>
<td>MEASURES</td>
<td>MEASURES</td>
<td>exist</td>
</tr>
<tr>
<td>individual measures</td>
<td>are obtained via questionnaire responses</td>
<td>from institutional summaries of individual characteristics</td>
<td>created from responses to questionnaire survey items about individual characteristics</td>
<td>created from responses to questionnaire survey items about interactions between individuals within the institution (i.e. about collective processes)</td>
</tr>
</tbody>
</table>
TABLE 2

COLLECTIVE MEASURES

ANALYTIC PROPERTIES - ALSO CALLED AGGREGATE TRAITS: DATA SOURCE-INDIVIDUAL LEVEL
MEASURE TRANSFORMED TO COLLECTIVE MEASURE FOR COLLECTIVE LEVEL ANALYSIS
(Objective/Subjective Method of Measurement-Gathered from individuals via questionnaire
survey or survey of institutional records)

% Profile of Racial Makeup

Expectations (Averages) of:

- Inmate Security (Custody) Level
- Salient Factor Score (Criminal History)
- Length of Time at Institution (Staff and Inmate)
- Time Until Expected Date of Release
- Age (Staff and Inmates)
- Education Level (Staff and Inmates)
- Physical and Perceptual Health Indicators (Staff and Inmates)
- Physical and Perceptual Levels of Stress (Staff and Inmates)
- Morale (Staff)

Expectations (Averages) Counts or Rates of:

- # Serious or Infectious Illnesses Per Month
- # Accidents Per Month by Area, e.g. Living, Industrial, Kitchen, etc. (Staff and Inmates)
- # Disciplinary Reports by Severity Level Per Month
- # Inmate/Inmate and Inmate/Staff Assaults Per Month
- # of Inmates Admitted to Disciplinary/Administrative Segregation (Admissions/Capacity) Per Month
- # of Visits Per Month
- # of Program Enrollments/Completions Per Month
- # of Escapes (or Attempts) Per Month
- # of Lawsuits Per Month
- # of Successful Lawsuits Per Month
STRUCTURAL PROPERTIES ALSO CALLED CONTEXTUAL OR COMPOSITIONAL TRAITS OR EMERGENT GROUP ATMOSPHERE: DATA SOURCE-INDIVIDUAL LEVEL MEASURE TRANSFORMED TO COLLECTIVE MEASURE FOR COLLECTIVE LEVEL ANALYSIS
(Subjective Method of Measurement—Gathered from inmates and staff via questionnaire survey)

Expected Perceptions (Average Assessments) of:

- Openness and Effectiveness of Communication Channels between Staff and Management (Staff)
- Effectiveness of Management style (staff)
- Effectiveness of Management-Union Relations (Staff)
- Openness and Effectiveness of Communication Channels between Staff and Inmates (Staff and Inmates)
- Staff-Inmate Relations (Staff and Inmates)
- Institutional Level of Violence (Staff and Inmates)

GLOBAL PROPERTIES: DATA SOURCE-COLLECTIVE LEVEL MEASURE
(Objective Method of Measurement—Generally gathered from institutional records)

Ratios of:

- # of Correctional Officers to # of Inmates
- # of Service Providers to # of Inmates
- # of Managers to # of Inmates
- # of Managers to # of Non-Managers

Institution Security Level

Age of Facility

Facility Size (Average or Count of Staff Per Month, Average or Count of Inmates Per Month (Mandays), Design Capacity)

Transiency (# of Inmates Admitted During the Last Year, # of Inmates Discharged During the Last Year, Staff Turnover During the Last Year)

# of Different Academic/Training Programs Offered During Previous Year (Count Each Course Offering)

Population Density (Square Feet Per Inmate, # of Inmates Per Cell or Dormitory)

Climate Survey Response Rate
FIGURE 1.
MEASUREMENT MODEL
FIGURE 2
CONVERGENT AND DISCRIMINANT VALIDITY MODEL

M_1
  /\  \/
 /   \ /
 c11 u1 c1
  \   / \
   \ /  
    c1

M_2
  /\  \/
 /   \ /
 c22 u4 c2
  \   / \
   \ /  
    c2

M_1
  /\  \/
 /   \ /
 c21 u3 c2
  \   / \
   \ /  
    c3

M_2
  /\  \/
 /   \ /
 c31 u5 c3
  \   / \
   \ /  
    c3

M_1
  /\  \/
 /   \ /
 c12 u2 c2
  \   / \
   \ /  
    c1

M_2
  /\  \/
 /   \ /
 c32 u6 c3
  \   / \
   \ /  
    c4

M_1
  /\  \/
 /   \ /
 c22 u4 c2
  \   / \
   \ /  
    c4

M_2
  /\  \/
 /   \ /
 c32 u6 c3
  \   / \
   \ /  
    c4
FIGURE 3
LONGITUDINAL DESIGN

Starting
Time \( t \)

\( G_0ci \) \rightarrow \( G_1ci \) \rightarrow \( G_2ci \) \rightarrow \( G_3ci \)

\( t + m \) After Start

\( S_1ci \) \rightarrow \( S_2ci \) \rightarrow \( S_3ci \)

\( t + (2m) \) After Start

\( A_1ci \) \rightarrow \( A_2ci \) \rightarrow \( A_3ci \)

\( t + (3m) \) After Start