Young adult conservation workers: Health benefits and satisfactions of green jobs

Ecological Society of America
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Metro nature - including trees, parks, gardens, and natural areas - enhance quality of life in cities and towns. The experience of nature improves human health and well-being in many ways. Nearly 40 years of scientific studies tell us how. Here's the research ...

RESEARCH THEMES

- Livable Cities
- Social Strengths
- Local Economics
- Place Attachment & Meaning
- Crime & Public Safety
- Safe Streets
- Active Living
- Reduced Risk
- Wellness & Physiology
- Healing & Therapy
- Mental Health & Function
- Work & Learning
Study Purposes

• First intentions – veterans, then WCC

• How does conservation work affect personal effectiveness and stress recovery?

• How do social interactions contribute to stress recovery and personal effectiveness?

• What individual traits and characteristics are related to stress recovery and enhanced personal effectiveness?
All Project Sites

~ 50 Crews
Projects

urban forestry, trail clearing & building, fish surveys, riparian restoration, salmon throws, wildland fire teams support, Oso mud slide response, Elwah dam restoration
Sample
275 WA Conservation Corps crew members
(U of WA IRB review)

Orientation Sessions
pre-test
(Oct 2013)

Debrief Sessions
post-test
(Sept 2014)

Field Interviews

Comparison Analysis
descriptive statistics, t-tests

Survey Measures

Demographics
Perceived Stress Scale
New Eco Paradigm Scale
Rand Medical Outcomes
  physical functioning
  role limitations/physical
  role limitations/emotional
  bodily pain
  general health perceptions
  energy/fatigue
  social functioning
  emotional/mental health
  health change

ROPELOC (Personal Effectiveness with Locus of Control)
  self-confidence
  self-efficacy
  stress management
  open thinking
  social effectiveness
  cooperative teamwork
  leadership ability
  time management
  quality seeking
  coping with change
  active involvement
  internal locus of control
  external locus of control
  overall effectiveness

Study Methods
validated measures
Survey Response - Quantitative
pre WCC employment

<table>
<thead>
<tr>
<th>Employment Status</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Working full time</td>
<td>38%</td>
</tr>
<tr>
<td>Working part-time</td>
<td>32%</td>
</tr>
<tr>
<td>Unemployed</td>
<td>22%</td>
</tr>
<tr>
<td>Looking for work</td>
<td>32%</td>
</tr>
<tr>
<td>Taking care of their home and/or family</td>
<td>9%</td>
</tr>
<tr>
<td>Going to school</td>
<td>30%</td>
</tr>
</tbody>
</table>

Note: Total is greater than 100% due to multiple responses.
New Ecological Paradigm

<table>
<thead>
<tr>
<th>selected statements</th>
<th>WCC Responses, % pre- &amp; posttest</th>
<th>WA Resident % responses, by year</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SD</td>
<td>D</td>
</tr>
<tr>
<td>We are approaching the limit of the number of people the Earth can support.</td>
<td>3.2%</td>
<td>7.2%</td>
</tr>
<tr>
<td></td>
<td>6.3</td>
<td>7.1</td>
</tr>
<tr>
<td>Humans have the right to modify the natural environment to suit their needs.</td>
<td>14.9</td>
<td>37.1</td>
</tr>
<tr>
<td></td>
<td>17.1</td>
<td>37.9</td>
</tr>
<tr>
<td>The balance of nature is very delicate and easily upset.</td>
<td>0.9</td>
<td>16.1</td>
</tr>
<tr>
<td></td>
<td>0.0</td>
<td>14.6</td>
</tr>
</tbody>
</table>

2014 data collection
Perceived Stress
(with comparison to national age cohort)

<table>
<thead>
<tr>
<th></th>
<th>mean</th>
<th>standard deviation</th>
<th>Paired t-test</th>
</tr>
</thead>
<tbody>
<tr>
<td>WCC (pretest over posttest)</td>
<td>12.74 (n=218)</td>
<td>7.05</td>
<td>t(214)=2.759, p&lt;.006</td>
</tr>
<tr>
<td></td>
<td>11.23 (n=240)</td>
<td>4.76</td>
<td></td>
</tr>
<tr>
<td>1983</td>
<td>14.54</td>
<td>5.95</td>
<td></td>
</tr>
<tr>
<td>2006</td>
<td>18.64</td>
<td>7.24</td>
<td></td>
</tr>
<tr>
<td>2009</td>
<td>16.78</td>
<td>6.86</td>
<td></td>
</tr>
</tbody>
</table>

10 scale items, some reverse coded, total possible score = 24 (higher stress)
### RAND Medical Outcomes

Each score range = 1 to 100

<table>
<thead>
<tr>
<th>Scales</th>
<th>Meaning of Scores</th>
<th>National Mean</th>
<th>WCC Mean</th>
<th>National SD</th>
<th>WCC SD</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Physical Functioning</strong></td>
<td>Limited a lot in performing daily physical activities</td>
<td>84.2</td>
<td>95.67</td>
<td>23.3</td>
<td>14.64</td>
</tr>
<tr>
<td><strong>Role limitations due to physical problems</strong></td>
<td>No problems with work or other tasks because of physical abilities</td>
<td>80.9</td>
<td>85.65</td>
<td>18.74</td>
<td>18.70</td>
</tr>
<tr>
<td><strong>Bodily Pain</strong></td>
<td>Very severe and limiting pain</td>
<td>75.2</td>
<td>85.65</td>
<td>23.7</td>
<td>18.70</td>
</tr>
<tr>
<td><strong>General Health perceptions</strong></td>
<td>Believes personal health is poor and getting worse</td>
<td>71.9</td>
<td>83.27</td>
<td>22.7</td>
<td>16.39</td>
</tr>
<tr>
<td><strong>Energy/Fatigue</strong></td>
<td>Feels tired and worn out</td>
<td>60.9</td>
<td>64.48</td>
<td>20.9</td>
<td>18.51</td>
</tr>
<tr>
<td><strong>Social Functioning</strong></td>
<td>Frequent interference with normal social activities due to health</td>
<td>83.3</td>
<td>78.21</td>
<td>22.7</td>
<td>16.39</td>
</tr>
<tr>
<td><strong>Role limitations due to emotional problems</strong></td>
<td>No problems over the past month with work or other daily life tasks because of emotional problems</td>
<td>81.3</td>
<td>75.04</td>
<td>18.1</td>
<td>18.68</td>
</tr>
<tr>
<td><strong>Emotional Well-being/Mental Health</strong></td>
<td>Feelings of nervousness and depression all of the time</td>
<td>74.7</td>
<td>75.00</td>
<td>17.51</td>
<td>17.51</td>
</tr>
<tr>
<td><strong>Health Change</strong></td>
<td>&quot;Compared to one year ago, how would you rate your health in general now?&quot;</td>
<td>59.14</td>
<td>67.20</td>
<td>23.12</td>
<td>20.84</td>
</tr>
</tbody>
</table>

Note: WCC Mean* is split, pre test scores over post test; WCC SD** is also a split display; ***See Table 3

**Significance Levels:**
- $p < .021$
- $p < .012$
- $p < .000$
Review of Personal Effectiveness with Locus of Control

<table>
<thead>
<tr>
<th>ROPELOC Subscales</th>
<th>Mean (SD) pretest</th>
<th>Mean (SD) posttest</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-Confidence</td>
<td>6.62 (1.1)</td>
<td>6.63 (1.03)</td>
<td>.924</td>
</tr>
<tr>
<td>Self-Efficacy</td>
<td>6.18 (1.25)</td>
<td>6.18 (1.18)</td>
<td>.969</td>
</tr>
<tr>
<td>Stress Management</td>
<td>6.09 (1.31)</td>
<td>5.87 (1.28)</td>
<td>.076</td>
</tr>
<tr>
<td>Open Thinking</td>
<td>7.07 (.94)</td>
<td>7.03 (.85)</td>
<td>.645</td>
</tr>
<tr>
<td>Social Effectiveness</td>
<td>6.15 (1.45)</td>
<td>5.9 (1.42)</td>
<td>.100</td>
</tr>
<tr>
<td>Cooperative Teamwork*</td>
<td>6.83 (.99)</td>
<td>6.63 (1.01)</td>
<td>.030</td>
</tr>
<tr>
<td>Leadership Ability</td>
<td>6.47 (1.25)</td>
<td>6.38 (1.29)</td>
<td>.492</td>
</tr>
<tr>
<td>Time Management</td>
<td>5.69 (1.36)</td>
<td>5.76 (1.27)</td>
<td>.592</td>
</tr>
<tr>
<td>Quality Seeking</td>
<td>7.03 (.93)</td>
<td>6.98 (.87)</td>
<td>.482</td>
</tr>
<tr>
<td>Coping with Change</td>
<td>6.30 (1.22)</td>
<td>6.11 (1.27)</td>
<td>.101</td>
</tr>
<tr>
<td>Active Involvement</td>
<td>6.70 (1.01)</td>
<td>6.66 (1.04)</td>
<td>.620</td>
</tr>
<tr>
<td>Internal Locus of Control</td>
<td>7.02 (.97)</td>
<td>6.87 (1.13)</td>
<td>.159</td>
</tr>
<tr>
<td>External Locus of Control</td>
<td>3.0 (1.42)</td>
<td>2.95 (1.47)</td>
<td>.740</td>
</tr>
<tr>
<td>Overall Effectiveness</td>
<td>6.15 (1.25)</td>
<td>6.29 (1.96)</td>
<td>.380</td>
</tr>
<tr>
<td>ROPELOC Control</td>
<td>4.24 (1.07)</td>
<td>4.12 (1.03)</td>
<td>.229</td>
</tr>
</tbody>
</table>

Notes: score range is 1 to 8 for each scale; * p<.05
Interviews & Survey Open Response
Qualitative Methods

- Supplement to surveys, added interpretations
- On-site walking interviews, open-ended survey question, observations during “Debrief” events
Findings :: Site Visits

- Professional Interests and Satisfaction
- Work and Project Skills
- Ecosystems Knowledge
- Life Transformations
Findings ::
Open Ended on Surveys

- Better physical and emotional health
- Confidence, Personal Growth
- Plant ID and Teamwork
- Challenges? Communication, Bodily Pain, Weather
Interpretations & Conclusions
Physical Health

- Healthy group from the beginning
- Perceived stress lowered
- Soreness did not interfere with social life or perceived overall well-being
- Returning employees healthier than first-year peers
Program Findings

- Gains in Skills and Self-efficacy
- Sensory experiences from ‘nature’
- Learning how to work and communicate as a team
Conclusions & Interpretations

- Oh, to be young again!
- Use of baseline data for program goals
- Healthy baseline, consider less healthy or therapeutic cohorts
- Now is focus on technical trainings, add work dynamics +/- health attention
Thank You
Questions?

Young adult conservation jobs and worker health.
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