Stress Tolerance Among the Millennials: Issues of Measurement

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Stress Tolerance Among the Millennials: Issues of Measurement

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Department of Health and Kinesiology
Georgia Southern University
AAHPERD Conference
April 3, 2009
Purpose

1. Describe the unique characteristics of the Millennium generation as related to stress.

2. Present the research findings that reveals the techniques employed by this generation to handle stress and coping mechanisms significantly related to high stress tolerance among the Millennials.

3. Provide example activities for the Millennials that are based on the research findings.
High Level Millennial Characteristics

- Diverse
- Special
- Sheltered
- Confident
High Level Millennial Characteristics, Cont’

- Team-Oriented
- Conventional
- Pressured
- Achieving
Stress and Stress Tolerance

- Health Effects of Stress
  - Huge!

- Stress Tolerance
  - some people can seemingly handle large amounts of stress while others are crippled with much less

- Measuring Stress Tolerance
  - Looking at factors that buffer against stress
  - Identify certain lifestyle habits and coping strategies that may be significantly associated with high or low stress tolerance in college students
Measuring Stress Among Millennials

- Stress still a factor, maybe under more stress because:
  - High achieving (Welle, 2006)
  - Parental expectations
  - Fear of failure

- Areas of Stress (Blackmore, Tucker & Jones, 2005):
  - Financial
  - Interpersonal
  - Personal
  - Academic
  - Professional Competence
  - Time
  - Physical Issues

- What to Measure? Stress? Stress Levels?
- How to Quantify? LCU? Intensity? Frequency?
- Practical Applications?
Methods

Multiphase Study

- 2006: Cross sectional, quantitative, analytical, quasi-experimental study (n=479) (Welle, 2006).
  - Used Established Stress Instruments (DH, LE, SS)
  - Quantified Stress Tolerance
  - Difficulty with Stress Measurements Among Millennials

- 2007: Qualitative Nominal Group Process Study
  - Input on DH, LE, SS and CM
  - Updated Instruments

- Spring 2008 (Pilot):
  - Cross sectional, quantitative, analytical, non-experimental study. (n=157)
  - Updated Established Stress Instruments
  - Non-probability Sample of Convenience
  - Quantified Stress Tolerance

- Statistical differences in exposures between the case or ill group (low stress tolerance) and the control or well group (high stress tolerance) were studied.
Instrumentation

- Final:
  - Live Events: 32
  - Daily Hassles: 40
  - Symptoms: 42
  - Coping Mechanisms: 29
  - Demographics: 5

- Validity: Construct Validity
  - Factor Analysis (factor load <0.40)
  - Inter-Item Correlation

- Reliability: Overall Cronbach Alpha = 0.766
Operationalizing Stress Tolerance

- Divide frequency count of stressors by the symptomatology score, a stress tolerance score can be obtained:

  \[
  \frac{\text{Stressors}}{\text{Symptomatology Score}}
  \]

- A person with many stressors and few symptoms can be said to have high stress tolerance (control).
- Conversely, few stressors and many symptoms indicate low stress tolerance (case).

- Subject 331-
  - Stressors = 11
  - Symptomatology Score = 160
  - Stress Tolerance Score = 0.07
Data Analysis

- <1.4 was defined as low stress tolerance (n=82), and ≥1.6 (n=88) was defined as high stress tolerance.
- Statistical tests included descriptive statistics, chi-squares, and Odds Ratios reported with 95% Confidence Intervals.

<table>
<thead>
<tr>
<th>Disease Status</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Exposure</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>a</td>
<td>b</td>
</tr>
<tr>
<td>No</td>
<td>c</td>
<td>d</td>
</tr>
<tr>
<td><strong>Status</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a+c</td>
<td></td>
<td>b+d</td>
</tr>
</tbody>
</table>

Risk: <1.00 Protective Factor, = 1.00 Equal Exposure, > 1.00 Risk Factor
<table>
<thead>
<tr>
<th>Variable</th>
<th>n</th>
<th>(%)</th>
<th>Variable</th>
<th>n</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Year in School (n=241)</strong></td>
<td></td>
<td></td>
<td><strong>Gender (n=238)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Freshmen</td>
<td>180</td>
<td>74.7</td>
<td>Male</td>
<td>135</td>
<td>56.7</td>
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<tr>
<td>Sophomore</td>
<td>38</td>
<td>15.8</td>
<td>Female</td>
<td>103</td>
<td>43.3</td>
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<tr>
<td>Junior</td>
<td>19</td>
<td>7.9</td>
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<td></td>
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<tr>
<td>Senior</td>
<td>4</td>
<td>1.7</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td><strong>Race (n=239)</strong></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>153</td>
<td>64.0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Black</td>
<td>66</td>
<td>27.6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>20</td>
<td>8.4</td>
<td></td>
<td></td>
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<tr>
<td><strong>GPA (n=125)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>&lt; 2.00</td>
<td>8</td>
<td>6.4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.00 – 2.99</td>
<td>30</td>
<td>24.0</td>
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<td>3.00 – 4.00</td>
<td>87</td>
<td>69.6</td>
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<tr>
<td><strong>Age (n=241)</strong></td>
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<td></td>
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<td></td>
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</tr>
<tr>
<td>≤ 18</td>
<td>151</td>
<td>62.6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>52</td>
<td>21.6</td>
<td></td>
<td></td>
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<tr>
<td>20</td>
<td>19</td>
<td>7.7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>2</td>
<td>0.8</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>6</td>
<td>2.4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>23+</td>
<td>11</td>
<td>4.9</td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>
# Table 2: Ten most frequent life events, daily hassles, and symptoms reported by frequency and percentiles.

<table>
<thead>
<tr>
<th>Life Events/Daily Hassles/Stressors</th>
<th>Freq.</th>
<th>(Percentage)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Life Events</strong>*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Pressure to do well in school/ parental expectations</td>
<td>205</td>
<td>(83.3%)</td>
</tr>
<tr>
<td>2. Change in living conditions</td>
<td>202</td>
<td>(82.1%)</td>
</tr>
<tr>
<td>3. Beginning college</td>
<td>182</td>
<td>(74.0%)</td>
</tr>
<tr>
<td>4. Identifying a major or career choice</td>
<td>169</td>
<td>(69.0%)</td>
</tr>
<tr>
<td>5. Transfer to new university/ moving</td>
<td>166</td>
<td>(67.8%)</td>
</tr>
<tr>
<td>6. Summer job plans</td>
<td>156</td>
<td>(63.7%)</td>
</tr>
<tr>
<td>7. Relationship problems</td>
<td>140</td>
<td>(56.9%)</td>
</tr>
<tr>
<td>8. Source of income</td>
<td>134</td>
<td>(55.1%)</td>
</tr>
<tr>
<td>9. Graduation</td>
<td>131</td>
<td>(54.8%)</td>
</tr>
<tr>
<td>10. Looking for job</td>
<td>130</td>
<td>(53.1%)</td>
</tr>
<tr>
<td><strong>Daily Hassles</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Tests</td>
<td>215</td>
<td>(87.8%)</td>
</tr>
<tr>
<td>2. Procrastination</td>
<td>204</td>
<td>(82.9%)</td>
</tr>
<tr>
<td>3. Text messaging</td>
<td>202</td>
<td>(82.8%)</td>
</tr>
<tr>
<td>4. Lack of sleep</td>
<td>197</td>
<td>(80.1%)</td>
</tr>
<tr>
<td>5. Assignments/ papers</td>
<td>197</td>
<td>(80.4%)</td>
</tr>
<tr>
<td>6. Time Management</td>
<td>196</td>
<td>(79.7%)</td>
</tr>
<tr>
<td>7. Deadlines</td>
<td>191</td>
<td>(78.0%)</td>
</tr>
<tr>
<td>8. Body image/ keeping in shape</td>
<td>181</td>
<td>(73.6%)</td>
</tr>
<tr>
<td>9. Increased workload at school</td>
<td>172</td>
<td>(69.9%)</td>
</tr>
<tr>
<td>10. Change in social habits</td>
<td>170</td>
<td>(69.1%)</td>
</tr>
</tbody>
</table>

*Life Events occurred in the last 12 months

**Daily Hassles occurred in the last (1) month
Table 3.  Ten most frequent coping mechanisms employed by college students as reported by frequency and percentiles.

<table>
<thead>
<tr>
<th>Coping Mechanisms</th>
<th>Freq.</th>
<th>(Percentage)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Listen to music</td>
<td>231</td>
<td>(95.1%)</td>
</tr>
<tr>
<td>2. Slept</td>
<td>227</td>
<td>(93.4%)</td>
</tr>
<tr>
<td>3. Engaged in social interaction</td>
<td>227</td>
<td>(93.4%)</td>
</tr>
<tr>
<td>4. Relaxed</td>
<td>219</td>
<td>(90.1%)</td>
</tr>
<tr>
<td>5. Supported by friends/family/instructors</td>
<td>214</td>
<td>(88.8%)</td>
</tr>
<tr>
<td>6. Surfed the internet</td>
<td>214</td>
<td>(88.1%)</td>
</tr>
<tr>
<td>7. Participated in internet social networks (facebook, etc.)</td>
<td>209</td>
<td>(86.0%)</td>
</tr>
<tr>
<td>8. Call a friend</td>
<td>206</td>
<td>(84.8%)</td>
</tr>
<tr>
<td>9. Engage in leisure activities (walking, hiking, etc.)</td>
<td>198</td>
<td>(81.5%)</td>
</tr>
<tr>
<td>10. Engaged in exercise</td>
<td>197</td>
<td>(81.4%)</td>
</tr>
<tr>
<td>10. Watched a movie</td>
<td>197</td>
<td>(81.4%)</td>
</tr>
<tr>
<td>Variable</td>
<td>n</td>
<td>OR</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>-----</td>
<td>------</td>
</tr>
<tr>
<td>Engaged in Leisure Activity</td>
<td>168</td>
<td>1.31</td>
</tr>
<tr>
<td>Quiet Time</td>
<td>168</td>
<td>1.21</td>
</tr>
<tr>
<td>Enough Social Interaction</td>
<td>168</td>
<td>1.43</td>
</tr>
<tr>
<td>Extra-curricular Sport</td>
<td>168</td>
<td>0.92</td>
</tr>
<tr>
<td>Extra-curricular Activity</td>
<td>168</td>
<td>0.86</td>
</tr>
<tr>
<td>Slept</td>
<td>168</td>
<td>1.69</td>
</tr>
<tr>
<td>Listened to music</td>
<td>168</td>
<td>0.93</td>
</tr>
<tr>
<td>Participated in Internet Social Networks</td>
<td>168</td>
<td>2.38</td>
</tr>
<tr>
<td>Took study breaks</td>
<td>168</td>
<td>2.20</td>
</tr>
<tr>
<td>Partied</td>
<td>168</td>
<td>1.26</td>
</tr>
<tr>
<td>Used a Substance (ie alcohol)</td>
<td>167</td>
<td>2.02</td>
</tr>
<tr>
<td>Called Friend</td>
<td>168</td>
<td>2.71</td>
</tr>
<tr>
<td>Called Mom</td>
<td>168</td>
<td>2.19</td>
</tr>
<tr>
<td>Played an Instrument</td>
<td>168</td>
<td>1.51</td>
</tr>
<tr>
<td>Activity</td>
<td>N</td>
<td>OR</td>
</tr>
<tr>
<td>--------------------------------------</td>
<td>----</td>
<td>-------</td>
</tr>
<tr>
<td>Mentally blocked stress out</td>
<td>167</td>
<td>1.32</td>
</tr>
<tr>
<td>Ate</td>
<td>168</td>
<td>2.14</td>
</tr>
<tr>
<td>Exercised</td>
<td>168</td>
<td>0.92</td>
</tr>
<tr>
<td>Family/Friends/Teacher Supported</td>
<td>167</td>
<td>0.35</td>
</tr>
<tr>
<td>Prayed</td>
<td>168</td>
<td>2.30</td>
</tr>
<tr>
<td>Cleaned your apartment</td>
<td>168</td>
<td>6.48</td>
</tr>
<tr>
<td>Had Sex</td>
<td>168</td>
<td>1.45</td>
</tr>
<tr>
<td>Wrote in a journal</td>
<td>168</td>
<td>1.49</td>
</tr>
<tr>
<td>Watched a movie</td>
<td>168</td>
<td>1.66</td>
</tr>
<tr>
<td>Relaxed</td>
<td>168</td>
<td>0.70</td>
</tr>
<tr>
<td>Sang</td>
<td>168</td>
<td>1.51</td>
</tr>
<tr>
<td>Read a Book</td>
<td>168</td>
<td>1.16</td>
</tr>
<tr>
<td>Surfed the Internet</td>
<td>168</td>
<td>1.46</td>
</tr>
<tr>
<td>Went on a Trip/Vacation</td>
<td>168</td>
<td>1.00</td>
</tr>
<tr>
<td>Shopping</td>
<td>168</td>
<td>2.17</td>
</tr>
</tbody>
</table>

Note: OR = odds ratio; CI = confidence interval
* denotes significance at alpha level 0.05
<table>
<thead>
<tr>
<th>Type of Factor</th>
<th>Variable</th>
<th>Odds Ratio</th>
<th>Type of Factor</th>
<th>Variable</th>
<th>Odds Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protective Factors</td>
<td>Supported</td>
<td>0.35*</td>
<td>Risk Factors</td>
<td>Cleaned Apartment</td>
<td>6.48*</td>
</tr>
<tr>
<td></td>
<td>Relaxed</td>
<td>0.70</td>
<td></td>
<td>Called Friend</td>
<td>2.71*</td>
</tr>
<tr>
<td></td>
<td>Extra-Curricular Activity</td>
<td>0.86</td>
<td></td>
<td>Internet Social Network</td>
<td>2.38**</td>
</tr>
<tr>
<td></td>
<td>Extra Curricular Sport</td>
<td>0.92</td>
<td></td>
<td>Prayed</td>
<td>2.30*</td>
</tr>
<tr>
<td></td>
<td>Exercised</td>
<td>0.92</td>
<td></td>
<td>Took Study Breaks</td>
<td>2.20*</td>
</tr>
<tr>
<td></td>
<td>Listened to Music</td>
<td>0.93</td>
<td></td>
<td>Called Mom</td>
<td>2.19*</td>
</tr>
<tr>
<td>Equal Exposure</td>
<td>Went on Trip/Vacation</td>
<td>1.00</td>
<td></td>
<td>Shopping</td>
<td>2.17*</td>
</tr>
<tr>
<td></td>
<td>Read a Book</td>
<td>1.16</td>
<td></td>
<td>Ate</td>
<td>2.14*</td>
</tr>
<tr>
<td></td>
<td>Quiet Time</td>
<td>1.21</td>
<td></td>
<td>Used Substance</td>
<td>2.02*</td>
</tr>
<tr>
<td></td>
<td>Partied</td>
<td>1.26</td>
<td></td>
<td>SLEpt</td>
<td>1.69</td>
</tr>
<tr>
<td></td>
<td>Engaged Leisure Act.</td>
<td>1.31</td>
<td></td>
<td>Watched Movie</td>
<td>1.66</td>
</tr>
<tr>
<td></td>
<td>Mentally Block Stress</td>
<td>1.32</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Enough Social Inter.</td>
<td>1.43</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Had Sex</td>
<td>1.45</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Surfed the Internet</td>
<td>1.46</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Wrote in Journal</td>
<td>1.49</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sang</td>
<td>1.51</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Played an Instrument</td>
<td>1.51</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* denotes significance at alpha level 0.05
** denotes significance at alpha level 0.10
Discussion

1 of the 26 factors were found to be significantly protective:
  - Felt Supported by Family, Friends, Teachers

9 of the 26 factors were found to be significantly a risk factor
  - Cleaned apartment
  - Called a friend
  - Prayed
  - Took Study Breaks
  - Called Mom
  - Shopping
  - Ate
  - Used Substances
Recommendations

- Stress Coping Mechanisms
  - Revise, update current textbooks, literature
  - Educate college students on ineffective coping mechanisms that are risk factors.
  - Emphasis protective factors to increase stress tolerance.
- Assimilation of these findings into college general health classes and first year experience classes.
- Teach parents to work with children early on stress tolerance to avoid problems in college years.
  - i.e. less hands-on problem solving, interceding, hovering, etc. for their child
Recommendations

- Repeat research varying geographical locations and school settings.
- National guidelines for stress tolerance could make “diagnosing” much more easy.
- Cause-effect relationships should be established with more controlled experiments.
QUESTIONS?