The effects of an expressive writing self-help strategy among first year undergraduates

Monica Kennison, EdD, RN,
Susan V. Clayton Nursing Chair, Professor, Berea College
Connie Lamb, PhD, RN, CNE, Berea College
Judy Ponder, DNP, RN, Baptist Health Richmond
Lisa Turner, PhD, RN, PHCNS-BC, Berea College
Purpose

• Examine the efficacy of an emotional disclosure expressive writing (EW) intervention on study participants’ mental and physical health and salivary cortisol levels.
Background

- Prevalence of psychological disorders is greater among university students than among their community counterparts (Hussain, Guppy, Robertson & Temple, 2013)
- First year undergraduates find the transition to college stressful
- Despite access to mental health services, many express concerns about the stigma, privacy, and anonymity in seeking counseling (Hussain et al., 2013)
- Students from disadvantaged groups, such as first-generation students and economically disadvantaged, are more likely than peers to drop out (ACT, 2017).
Interventions for College Students

• Large-scale review of 83 controlled interventions
• Interventions focused on student outcomes r/t social and emotional skills, self-perceptions, and emotional distress
• Skill-oriented programs (e.g., mindfulness training) and cognitive-behavioral techniques (e.g., EW) that included supervised practice appeared to be optimally effective in helping students deal with emotionally-focused issues (Conley, Durlack, & Dickson, 2013)
EW for College Students’ Transition

- EW, whether focused on negative stressful emotions or positive gratitude-focused emotions, beneficial for adjustment among transitioning undergraduates (Booker & Dunsmore, 2017)
- Paucity of published literature describing EW as intervention to help at-risk undergraduates transition to college
What is EW?

- Therapeutic intervention in which individuals write about deepest thoughts & feelings about traumatic, stressful, or emotional life events for 15 – 20 minutes on 3 – 4 consecutive days (Pennebaker & Beall, 1986; Pennebaker & Evans, 2014).

- Most commonly used EW method comes from the original work (Pennebaker & Beall, 1986)

- Study reported here two-group design
  - Intervention group wrote about stressful, emotional or traumatic experiences
  - Control group wrote about neutral trivial topics
Selected Benefits of EW in College Students

• Fewer health center visits (Pennebake & Beall, 1986)
• Less depression symptom severity (Sloan, Feinstein, & Marx, 2009)
• Improved self-esteem (Mum, 2014)
• Decreased self-criticism (Troop, Chilcot, Hutchings, & Varnaite, 2012)
• Decreased intrusive thoughts (Boals, 2012)
• Improved psychological, social, and physical health (Yang, Tang, Duan, & Zhang, 2015).
• In females, less sleep difficulty and less body-focused upward social comparison relative to control participants (Arigo & Smyth, 2011)
• Lower physiological measures of stress among first year college students (Ramler, Tennison, Lynch, & Murphy, 2016).
Stress in College Students

• In the 2017 American College Health Association (ACHA) - National College Health Assessment Survey II (ACHA-NCHA-II)

• 50% of student respondents reported academics represented traumatic or very difficult situations to handle

• 34% cited stress as a factor influencing their individual academic performances within the preceding 12 months.
Variables for Study Reported Here

• Quality of life for first year students transitioning to college
• Quality of life defined as subjective assessment of health and well-being that encompasses physical, mental, emotional, and social domains of life (Healthy People 2020, 2010)
• This study focused on physical and mental components of quality of life measured by SF-36v2 survey (Ware, 2015)
Research Questions

• 1. What are the effects of an EW intervention on the physical and mental health of first-year college students as measured by the SF-36v2 survey (Ware, 2015)?

• 2. What are the effects of an EW intervention on salivary cortisol?

• 3. What stressful or traumatic experiences are described by first year undergraduates?
Recruitment & Sample

• Convenience sample of 39 came to Day 1 meeting
• 32 completed study – all in experimental group finished, whereas 7 in control group did not complete writing; similar findings in EW intervention studies (Lancaster, Klein, & Heifner, 2015).
## Descriptive Statistics of Total Sample

<table>
<thead>
<tr>
<th>Race</th>
<th>N (%)</th>
</tr>
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<tbody>
<tr>
<td>African American/Black</td>
<td>3 (9.4)</td>
</tr>
<tr>
<td>Asian</td>
<td>2 (6.3)</td>
</tr>
<tr>
<td>Bi-/Multi-Racial</td>
<td>6 (18.8)</td>
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<tr>
<td>Caucasian/White</td>
<td>18 (56.3)</td>
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<tr>
<td>Hispanic/Latino</td>
<td>3 (9.4)</td>
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</table>

<table>
<thead>
<tr>
<th>Academic Area of Interest*</th>
<th>N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO/BUS/PSYCH/CFS</td>
<td>12 (37.5)</td>
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<tr>
<td>NUR/CS/MUS</td>
<td>6 (18.8)</td>
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<tr>
<td>Undecided/Varying</td>
<td>14 (43.8)</td>
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</table>

<table>
<thead>
<tr>
<th>Stress Management Strategies**</th>
<th>N (%)</th>
</tr>
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<tbody>
<tr>
<td>Exercise</td>
<td>(43.8)</td>
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<tr>
<td>Music</td>
<td>(18.8)</td>
</tr>
<tr>
<td>Television</td>
<td>(6.3)</td>
</tr>
<tr>
<td>Writing</td>
<td>(6.3)</td>
</tr>
<tr>
<td>Napping</td>
<td>(6.3)</td>
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Procedure

• Day 1
  • Consent signed
  • Saliva sample obtained for cortisol
  • Demographic survey
  • SF-36v2 (Ware, 2015) Pre-test
  • Assigned experimental (EW) group or control neutral writing (NW) group
  • Received writing journal, pen, plain envelope with either EW or NW prompt
  • Wrote for 20 minutes – timed
Writing Prompts

• EW experimental group - write continuously about their deepest thoughts and feelings related to a single or multiple stressful or traumatic experience.

• Neutral writing (NW) control group prompted to write about a neutral topic e.g., a nature scene or walking directions to a common place on campus.

• Both groups
  • Write continuously
  • Not worry about spelling or grammar
  • Reminded the writings would not be read by the researchers
Day 2, 3, 4

• Met at same place, same time 6-9 pm
• Received plain envelope with EW or NW prompt
• Timed for 20 minutes
• Day 4 reminded to return in 3 weeks for posttest
3 Week Posttest

- Met same place, same time
- Saliva sample for cortisol
- Posttest SF-36v2 (Ware, 2015)
- Received thanks and movie ticket
- 32 completed writing, saliva, posttest
One Year Follow-up

• Qualtrics exit survey
Instruments

• Salivary cortisol
• Demographic survey
• SF-36v2
  • Physical Component Summary Score
  • Mental Health Component Summary Score
• Exit survey
Results

• Three separate Split-Plot Analyses of Variance (ANOVAs) to determine effects of EW versus NW across two-time periods (i.e., pre-intervention and three-week post-intervention).
  • Quality of life
    • SF-36v2 Physical Component Summary [PCS] scores)
    • SF-36v2 Mental Component Summary [MCS] scores)
    • Salivary cortisol levels
  • Descriptive statistics and qualitative thematic analysis used, respectively, to analyze Likert scale responses and open-ended narratives on exit survey.
### Descriptive Statistics of Physical and Mental QOL for Total Sample

- **N** = 32

<table>
<thead>
<tr>
<th>Variable</th>
<th>Time 1</th>
<th></th>
<th>Time 2</th>
<th></th>
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</thead>
<tbody>
<tr>
<td></td>
<td>M (SD)</td>
<td>Range</td>
<td>M (SD)</td>
<td>Range</td>
</tr>
<tr>
<td>PCS</td>
<td>55.26 (5.35)</td>
<td>21.77</td>
<td>55.57 (4.86)</td>
<td>20.38</td>
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<td>MCS</td>
<td>39.04 (13.82)</td>
<td>48.77</td>
<td>42.72 (12.83)</td>
<td>50.17</td>
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PCS = Physical Component Summary Score  
MCS = Mental Component Summary Score.
Cortisol Means at Pre-Posttest
Physical Component Summary Score at Pre-Posttest
Mental Component Summary Score at Pre-Posttest
Exit Survey Frequencies

- 14 surveys returned; response rate 44%
- Four-point Likert scale
- “Writing about my deepest thoughts and feelings related to a stressful or traumatic event was helpful” – 71%
- “My time as a participant was enjoyable.” - 86%
- “I would tell a friend to take part in a study where one writes about his/her stressful or traumatic.” 77%
Narrative Responses

- Analyzed using thematic analysis (Nowell, Norris, White, & Moules, 2017)

- Dominant themes
  - Death of a family member
  - Transitioning from home to college
Discussion

• Trend toward lower cortisol levels and higher mean MCS scores from pre- to 3-week posttest when compared to the control group
• No significant effect of the EW intervention on the main variables of physical health, mental health and cortisol level, relative to those same levels for control group participants
• Unexpected contextual factors
• No known adverse affects
Limitations

- Small sample size
- One geographic location
- Use of convenient sample
- No exclusion criteria for excessive physical activity, medications, certain health problems known to affect cortisol levels
- No screening for engagement in other health promotion activities
Conclusion

• First year undergraduates may represent vulnerable population with significant physical and mental health problems including underlying traumatic experiences
• Adds to the body of literature on EW as a self-help intervention among first year undergraduates
• EW feasible, low-cost, accessible self-help intervention for first year undergraduates dealing with stressful or traumatic experiences who may be unwilling or unable to engage in other self-help strategies
• Further research - effectiveness of expressive writing on broader subset of healthy college students, particularly those at risk for developing deleterious effects of high stress and poor physical and mental health outcomes