Engaging Teenagers in Asynchronous Online Groups to Design for Stress Management

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Hi.
Social & developmental transitions
Lack of access to mental health care
Challenging to engage in HCl research
Asynchronous Remote Communities

MacLeod et al. 2016, Maestre et al. 2017
Research Questions

RQ1: What needs do teenagers envision for support with stress management?

RQ2: How might technologies support needs of teenagers for stress management?

RQ3: What are opportunities and challenges in using asynchronous online groups as a method to engage teenagers in designing for wellbeing?
Asynchronous Remote Communities (ARC)

• 2 private groups on Slack
• Anonymous

• 23 teens (13-19 years)
• 20-minute online activities per week
• 10 design activities, surveys, & interviews
[ACTIVITY: SUPPORT NETWORK MAP (15 min)]: There may be different people who can support us in different ways through stressful times. In this activity, map the type of support that you find helpful when you are stressed to who can you approach to receive that support. There are 3 parts:

First, from the following, pick the types of support you expect from others when you are stressed:
(1) Informational support: practical advice or suggestions, providing resources and information, sharing their own experience
(2) Logistical support: Helping me with chores or school work, driving me places, help me with planning or saving time
(3) Companionship: holding me accountable, distraction, doing activities together
(4) Emotional support: listens to me or I can vent to them, positivity/encouragement, validates/acknowledges how I feel, comforting.
You can modify these or add your own categories or subcategories.

Second, under each type of support you expect, list the people in your social network who you can approach for that support (if any). You can also include whom not to approach when you need one type of support (e.g. someone can be good at giving advice but bad at listening to you). One person can offer multiple types of support too.

Message your support network map on the group or email it to me if you don't want to post on
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Informational Support:
Advice coming from experience
New thoughts and ideas that could help me out
in different ways
- My older friends
- My parents
- My younger friends (can be reckless)

Companionship:
Fun, relaxing activities with others
Conversing about deeper problems
- My close friends
- A Significant Other
- My parents (don’t always offer much in this regard)

Logistical Support:
Financial assistance (for tuition, food, etc)
- My parents
- My friends (they always ask me to drive them everywhere, it absolutely drives me nuts)
Design Activities

• Psychoeducation
• Shared experiences on stress
• Private diary entries
• Try out existing apps
• Feedback on Storyboards
• Codesign
Data Analysis

Inductive and deductive coding

Affinity modeling

Network analysis
Findings:
Design Needs

Meeting teens at their perception of control
Empowering teens’ developing sense of self
Varying boundaries of social needs
Meeting Teens at their Perception of Control

My third idea is an add-on app to your calendar that gives you **mini goals** based on what it sees coming up in your calendar.

For example, if I had a research paper due in a week's time, it would give me mini goals based on those parameters and on days where it shows that you don't have much activity. - T4
Empowering Teens’ Developing Sense of Self

**Teens Advice**

What is **not** appropriate to say to your teen if they have lower mood than usual?

- You should forget this and focus on work.
- I see that you are worried.
- You can talk to me when you want...
- Sorry that it sucks! Let me know how I can help...

[Hint] [Next]
Empowering Teens’ Developing Sense of Self

There could be categories too like: ‘Dating & Romance’, 'Hygiene & health', 'Family', 'LGBTQ', 'School', 'Social Life', 'Mental Disorders' etc. These topics can branch off, like, 'Hygiene & Health'- 'Sleep', 'Menstrual Periods', 'Birth Control', and then 'Mental Disorders' - 'Learning Disorders', 'Self-Harm', 'Eating Disorders', 'Anxieties', 'Mood Disorder.' - T18
# Design Space for Teen Stress Management

<table>
<thead>
<tr>
<th>Design Needs</th>
<th>Logistical Support</th>
<th>Emotional Support</th>
<th>Informational Support</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tailoring support to perception of control</td>
<td><strong>Mini Goals</strong></td>
<td><strong>Headspace</strong></td>
<td><strong>Pacifica (CBT)</strong></td>
</tr>
<tr>
<td>Empowering sense of self</td>
<td><strong>Teens Advice</strong></td>
<td>3 <strong>Good things</strong></td>
<td><strong>Pacifica, Daylio</strong></td>
</tr>
<tr>
<td>Scaffolding social support</td>
<td>Collaborative goal planning</td>
<td>Peer matching for venting</td>
<td><strong>Teens Advice</strong> (for parents)</td>
</tr>
</tbody>
</table>
Findings: ARC Method

Flexibility in Asynchronous Participation

Technology Mediated Disclosures

Reciprocity & Interactions
Technology Mediated Disclosures

“... I don’t wanna say [share] with strangers, but with people who I just don’t see everyday because sometimes if you share things with your close friends for example, they might bring up your problems with you and you might not want to be reminded of that.

– T8, Interview
Technology Mediated Disclosures

“I think it was the stress diary about times when I had conflicts with people, like relationships with my family or my friends, that was a little harder to share. Because I don’t usually talk about that stuff.”

- T16, Interview
Reciprocity and Group Interactions

“In this group, nobody knew each other, so it was all strangers – I would like to say, assign a buddy or someone to start volunteering then I would be willing to buddy somebody and then maybe match them up or something.

– T6, Interview
Reflecting on ARC with Teens

Balancing time burden, anonymity, & peer interactions

Adding synchronous elements

Our role as facilitators & moderators
“

So much EASIER to give up – If it was easy, I would not feel good about doing it. So I will face the hard, I will face it head on until there is no bad habits of you [stress].

I cannot get better unless its hard because that’s not getting better that’s just hiding my stress and pushing it away. So today will be the first day I will face you head on, and not give in to your words.

– T10, Diary
Thanks to our teen participants!

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Figure A. Network analysis of responses and reactions between teen participants in Group 1 (left) and Group 2 (right). Each node is a participant, edge represents, weight of the edge represents frequency of interactions (1 point for responses, 0.5 points for reactions).
Participants who completed the activity

![Bar chart showing the number of participants who completed the activity over 12 activity weeks.](chart.png)
Empowering Teens’ Developing Sense of Self

It can be nice to write down anything that made you happy – to remind you of those times when things aren’t going quite as great. – T14
Empowering Teens’ Developing Sense of Self

Ownership in sharing and organizing mental health information

Platform for positive self-reflection

Understanding Data
Moderation Practices as Research team

• Moderate the group in shifts
• Group guidelines
• Emergency contact
• Team debriefs, especially for posts of concern
• Understanding boundaries and limits
[ACTIVITY, ADVICE COLUMN]: Hi all! Following are 7 scenarios for fictional personas of teens who are in stressful situations. The activity is to pick at least 5 scenarios, post ideas or advice for the persona on how you think tools (digital technologies/apps/physical/paper-based tools) can be used to help them manage stress in each scenario. These tools can be something that you know of, have used yourself, or something you imagine but doesn't exist. The tools can be used by the main persona or anyone else in the scenario (e.g., a friend).

In your advice message, for each scenario, add the number/name of the persona, describe the tool, who is using the tool, and how can the tool be used to manage stress in that situation. One tool can be used in different scenarios. You can also draw and post a picture, but drawing is not mandatory. Also feel free to build off of each other's ideas and discuss.

---Scenarios---

1. Rosaline had a break up with her significant other with whom she had been together for a year.

2. Broc applied to 7 colleges and is waiting on hearing college decisions. So far, he has had 3 rejects in a row. He has 4 decisions remaining, but he is feeling anxious and stressed out, unable to concentrate much on his current work.

3. Sofia returned home late one night after shopping with friends and got into a conflict with her parents about who she should be hanging out with.

4. Francis was involved in a car accident but her family does not know, yet. No one was hurt but the car suffered significant damage. Her insurance is under her dad's name but she is afraid to inform her dad about this situation. She does not have finances to pay for the...
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Meeting Teens at their Perception of Control