

## **APPENDIX C: Storyboards of design ideas presented by the research team**

# **Engaging Teenagers in Asynchronous Online Groups to Design for Stress Management**

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DOI: <https://doi.org/10.1145/3311927.3323140>

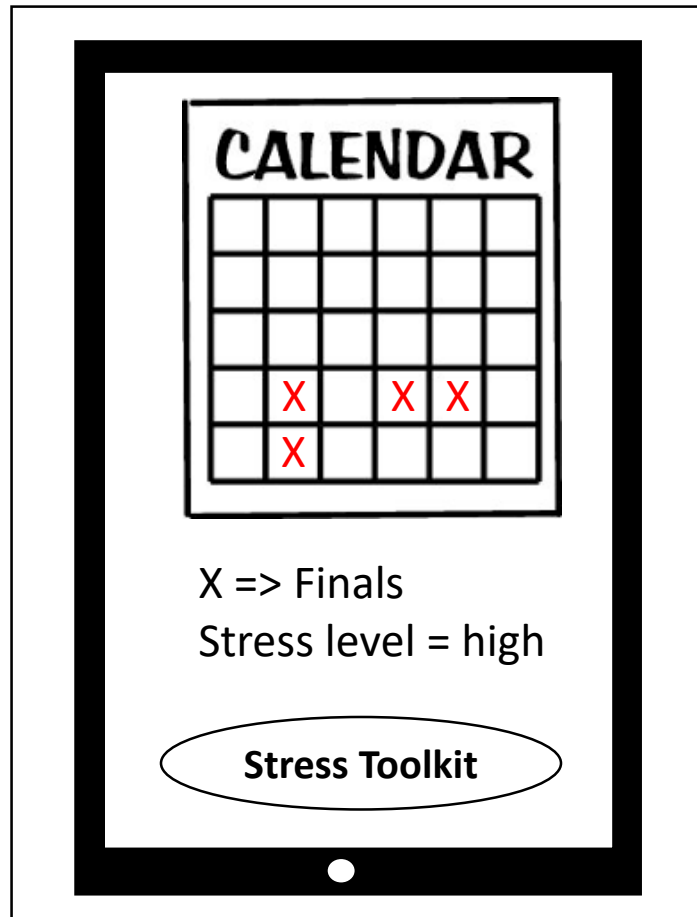
## **APPENDIX C:** Storyboards of design ideas presented by the research team

Group 1

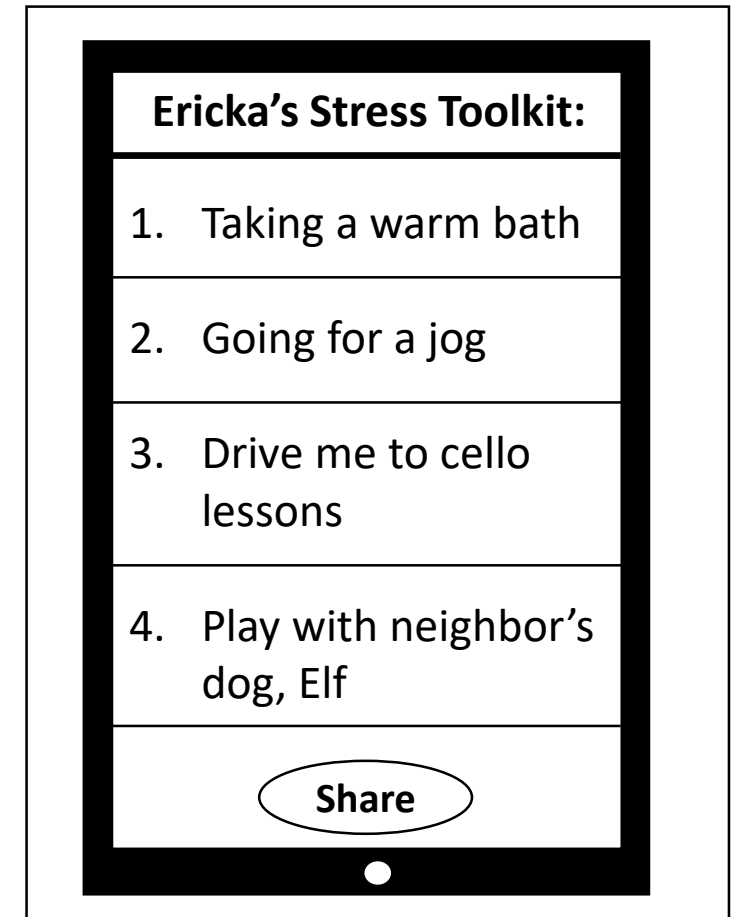
### Storyboard 1: Stress toolkit



Susan notices that her teenage child, Ericka, is more stressed than usual and wants to help.



Susan opens up a phone application that has Ericka's school calendar and other responsibilities that she shared with her. She sees that Ericka is stressed because of deadlines.



The app also includes a stress toolkit that Ericka created where she added her coping strategies. She also chose to share them with her mom and a friend.



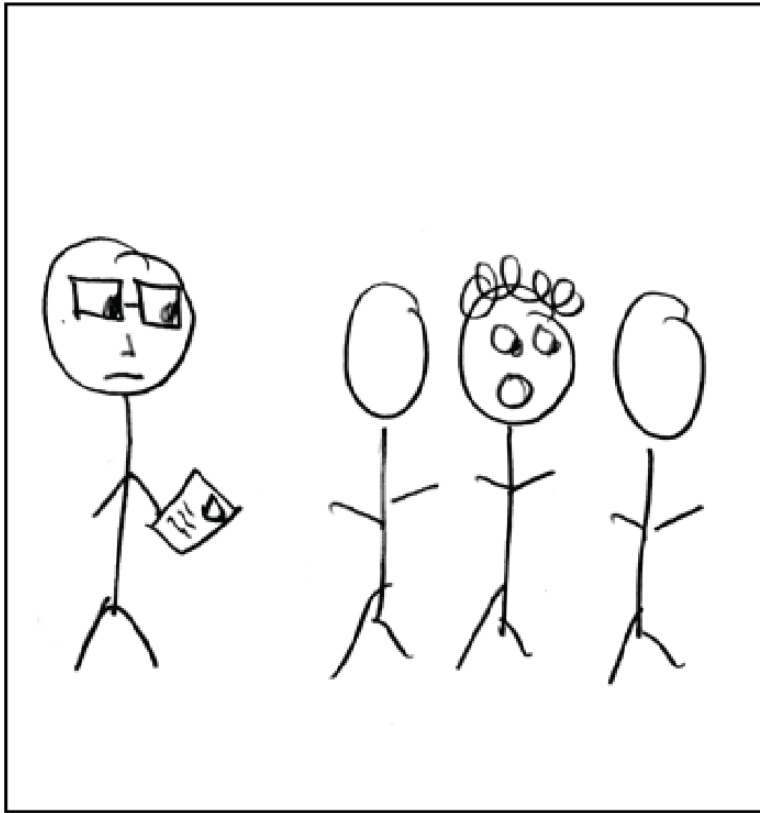
Mom goes through Ericka's toolkit to refer to ways of helping her daughter. One of the items is taking a bath.



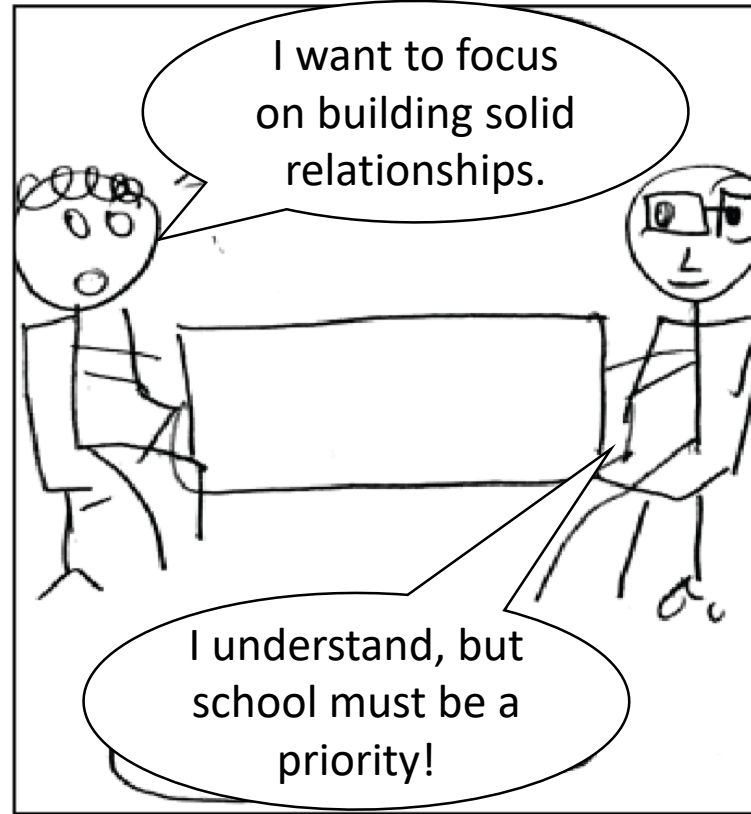
Mom sets up a bath for Ericka. Ericka takes a break with a relaxing bath and is also happy to see how much her mom cares.

Group 1

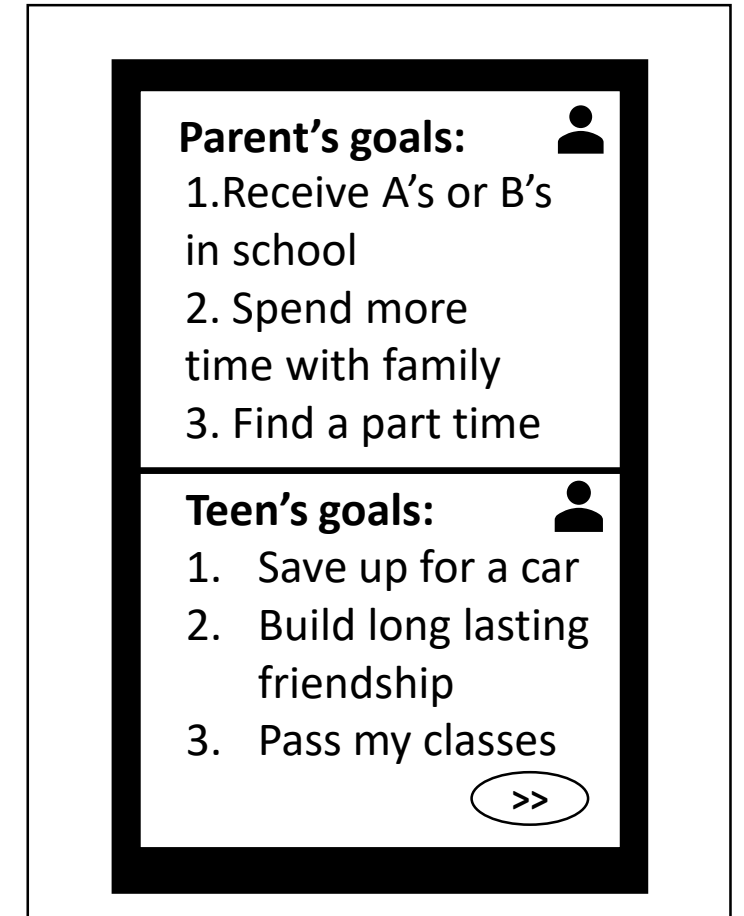
Storyboard 2:  
Collaborative planner



Miguel's dad worries that Miguel is spending too much time with friends and not enough time with school work.



At dinner, dad expresses his concerns to Miguel but Miguel is worried he may lose friends if he does not go out as often.



Using an app, Miguel ranks his personal goals. His dad also creates a list of goals for Miguel.

### Combined goals:



Get A's or B's in  
midterm

a) Study in library  
for 2 hours

b) Attend office  
hours



Spend time with  
friends

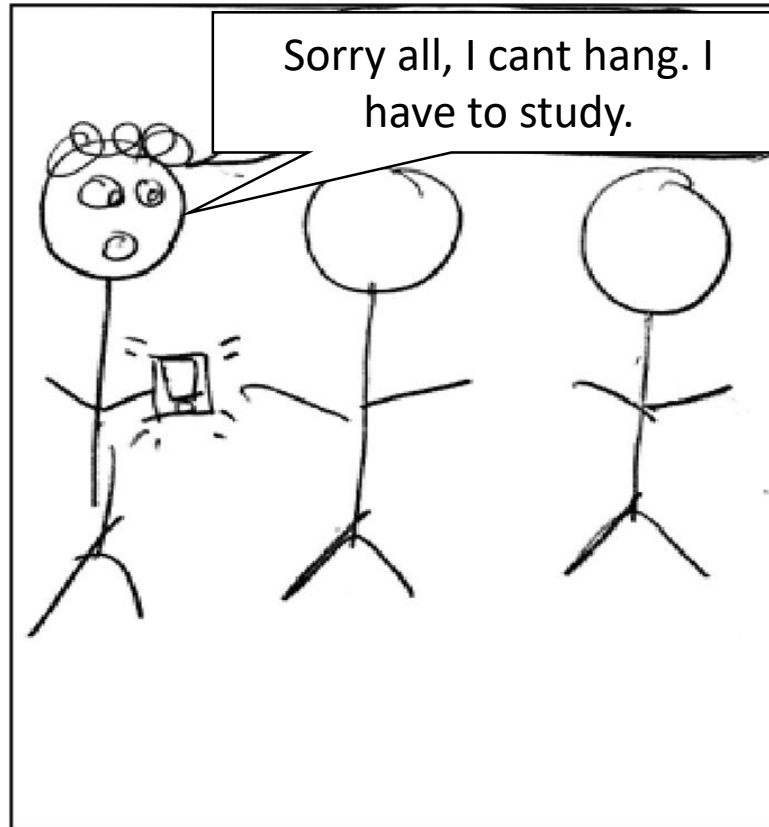


Eat dinner with  
family



Find a job to save  
up for a car

a) \_\_\_\_\_



They discuss the lists and agree upon a combined list of goals and prioritize them. Each goal has a list of milestones to help Miguel.

Next time, Miguel wants to hang out with friends, but he remembers to prioritize school.

Your teen completed  
a goal in school: got B  
in Applied Physics!



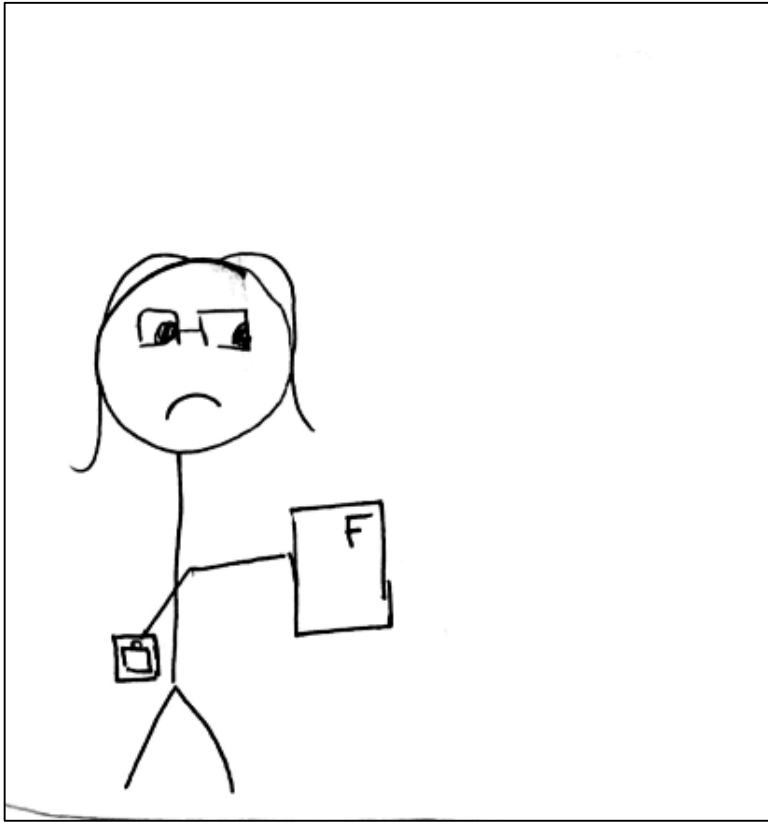
### Suggestions for reward

- Night out with friends
- Movie night
- -----

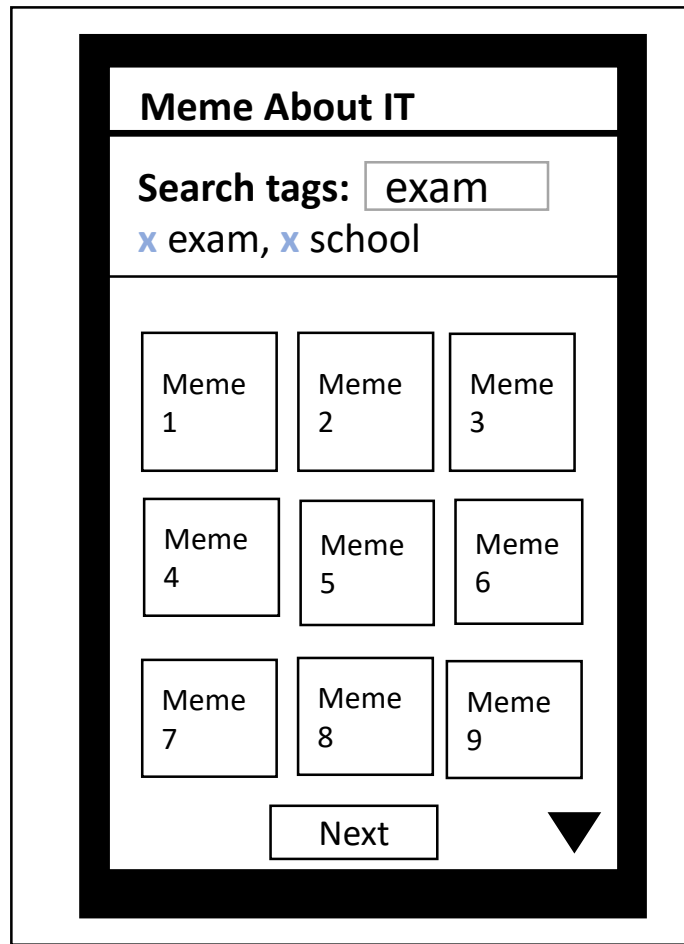
A month later, after reaching his goal in school, Miguel checks it off on the app, his dad is notified, and they celebrate with a movie.

Group 1

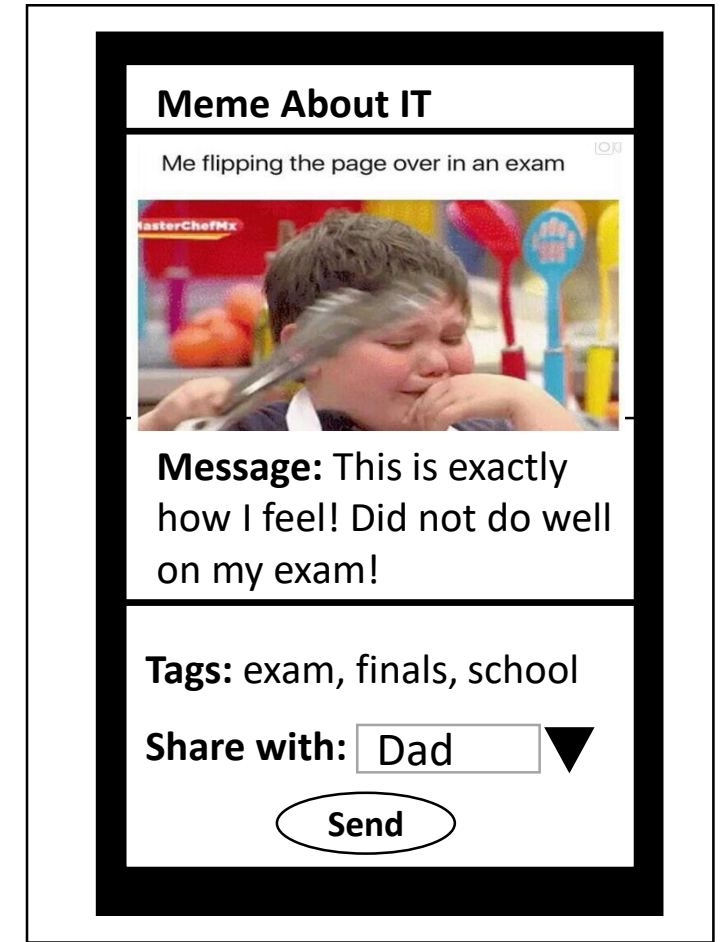
Storyboard 3:  
Ice-Breaker Meme



Cameron is feeling down because she did poorly in an exam



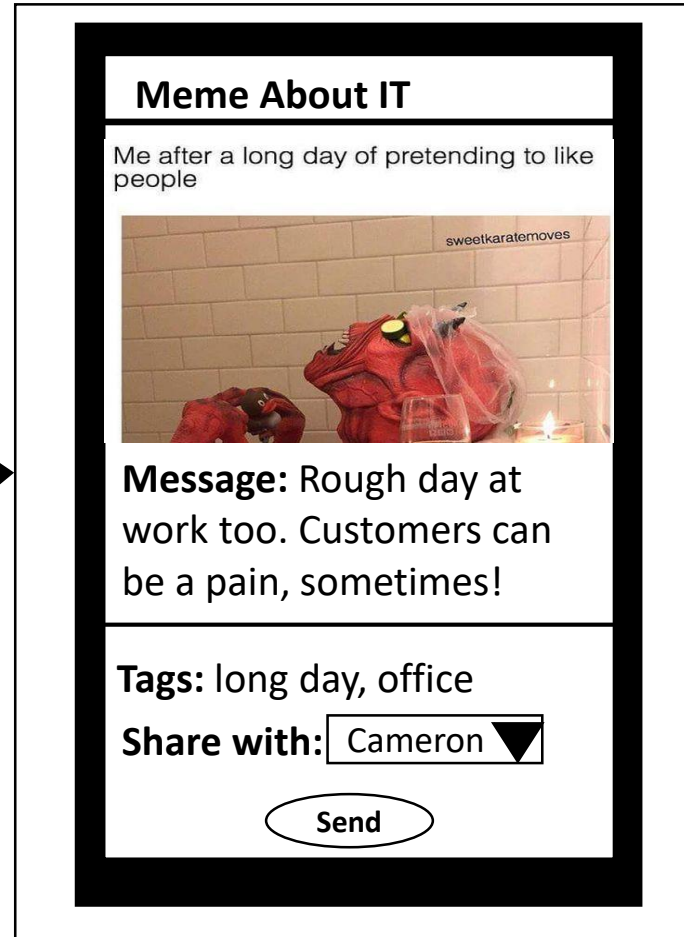
Cameron opens an app –“Meme About It” — to view memes. Using the search bar, she searches memes tagged under “exam” and “school”. These memes are relatable and make her laugh.



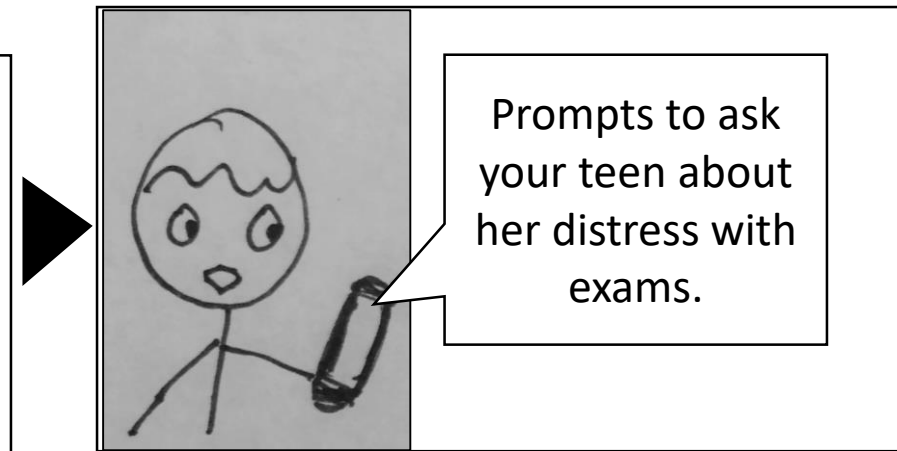
Cameron clicks on her favorite meme and shares it with her dad along with a personalized message.



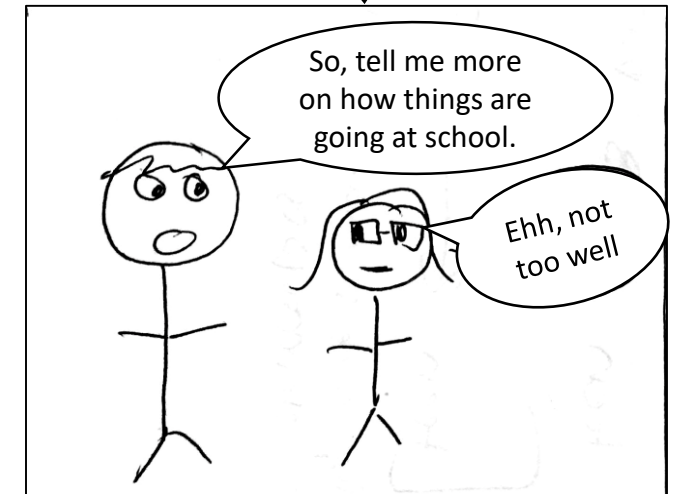
Cameron's dad views the meme while he is at work. He laughs at the meme but is still concerned with Cameron's grade.



He sends responds with a meme relating to his own stress at work.



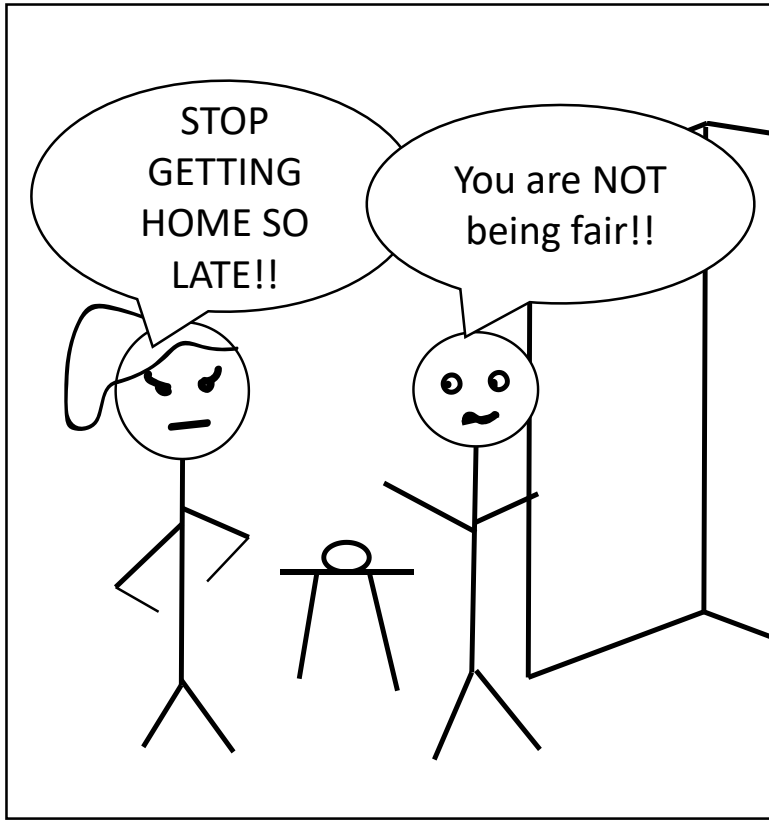
The app also suggests prompts to talk to his daughter about the exam.



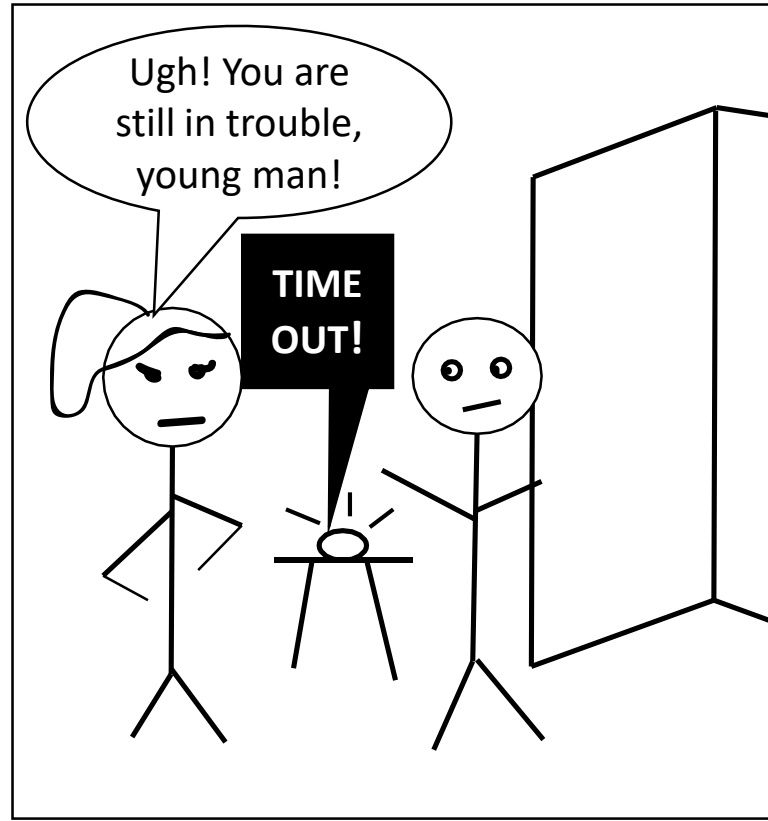
Later that day, Cameron and her dad have an easier time discussing school and stress.

Group 1

Storyboard 4:  
Conflict Time-Out



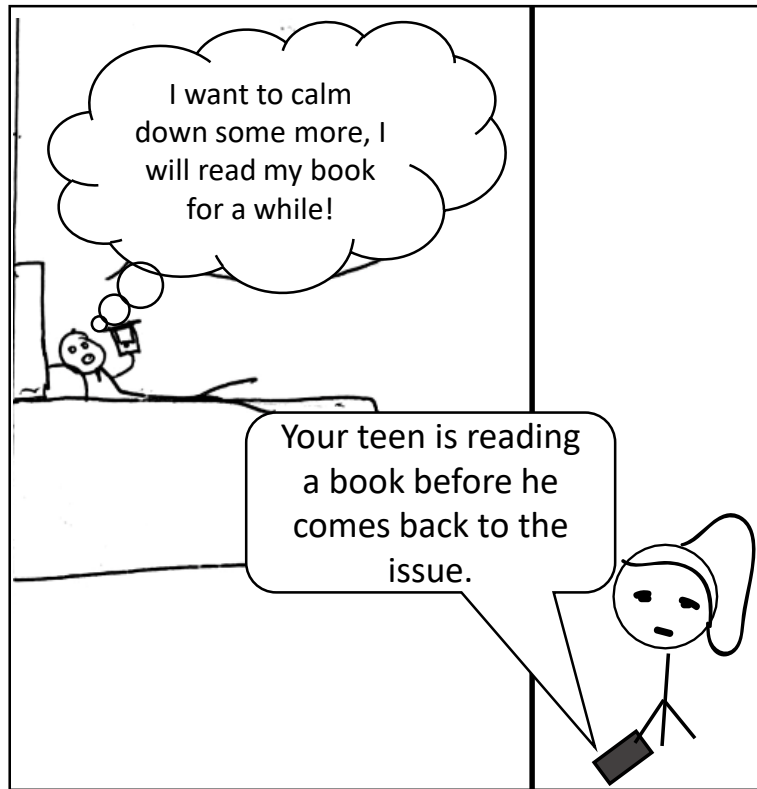
Dave returned home past his curfew time for the third time this week. His mom is furious, and they get into a heated argument.



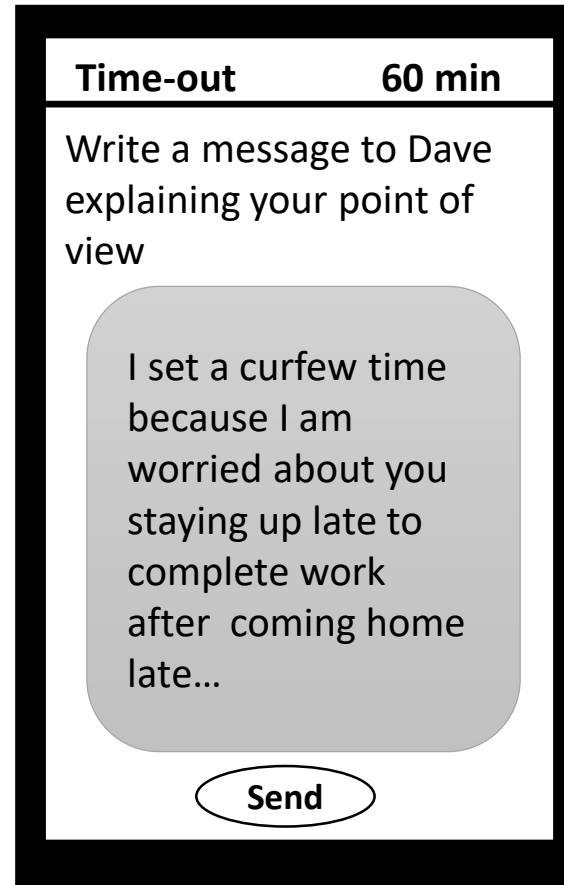
A device in the background detects a conflict and announces “Time out” indicating that both disengage from the fight and not speak face to face about the issue.

Time-out	1 min
(1) How are you feeling about this issue?	
I am SO frustrated because... 😞	
(2) What do you think your teen feels about this issue?	
Dave must be hating me because... 😞	
Need a break	Next

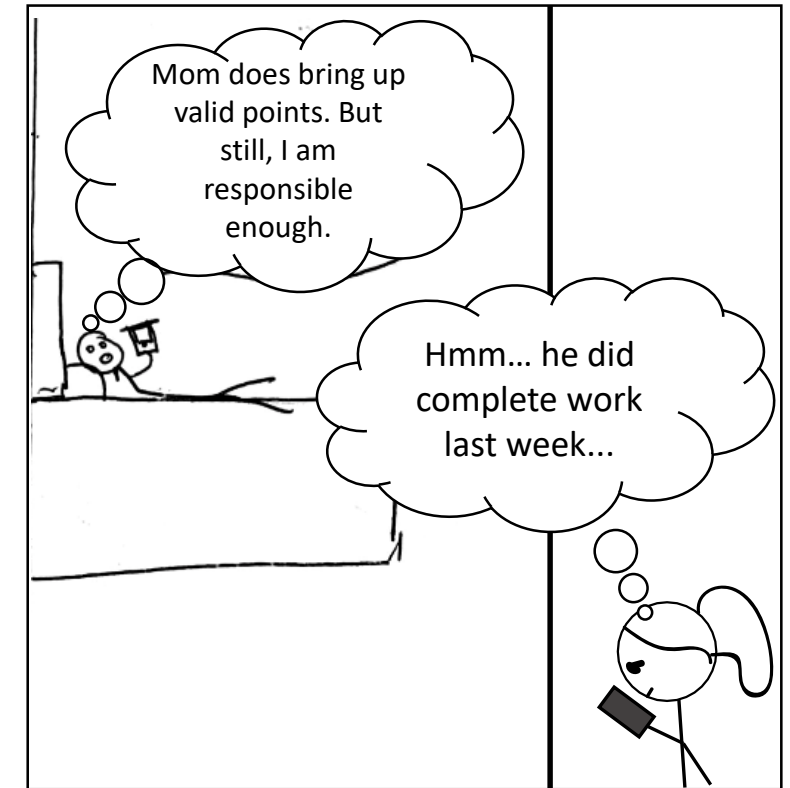
While apart, the app connected to the time-out device starts a timer and prompts both Dave and his mom to vent and reflect on the issue on their respective phones.



They can also access more strategies for relaxing. The app notifies his mom that Dave chose to read a book.



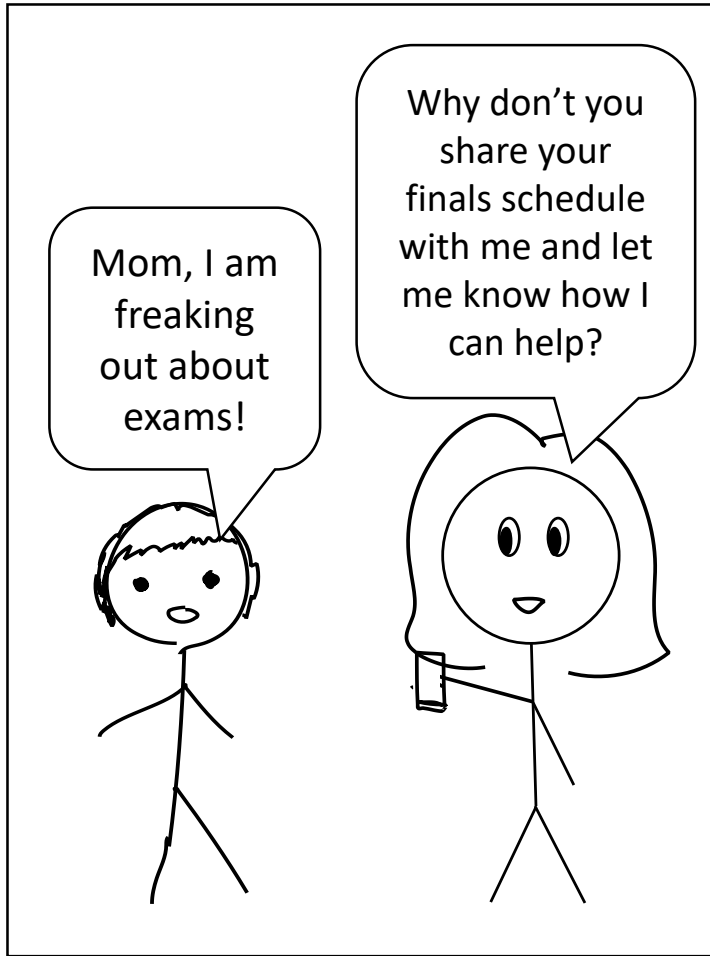
Later, the app prompts them to send a message explaining their perspective to each other.



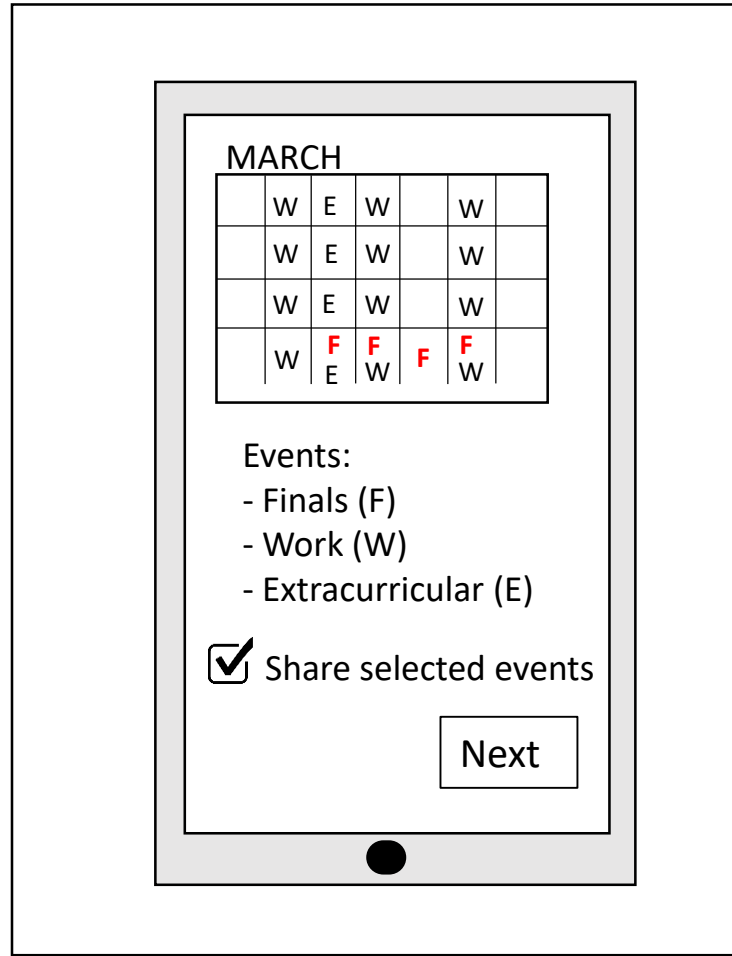
They open each other's messages and acknowledge each others' point of view. The time-out ends and they can discuss the issue in-person.

Group 2

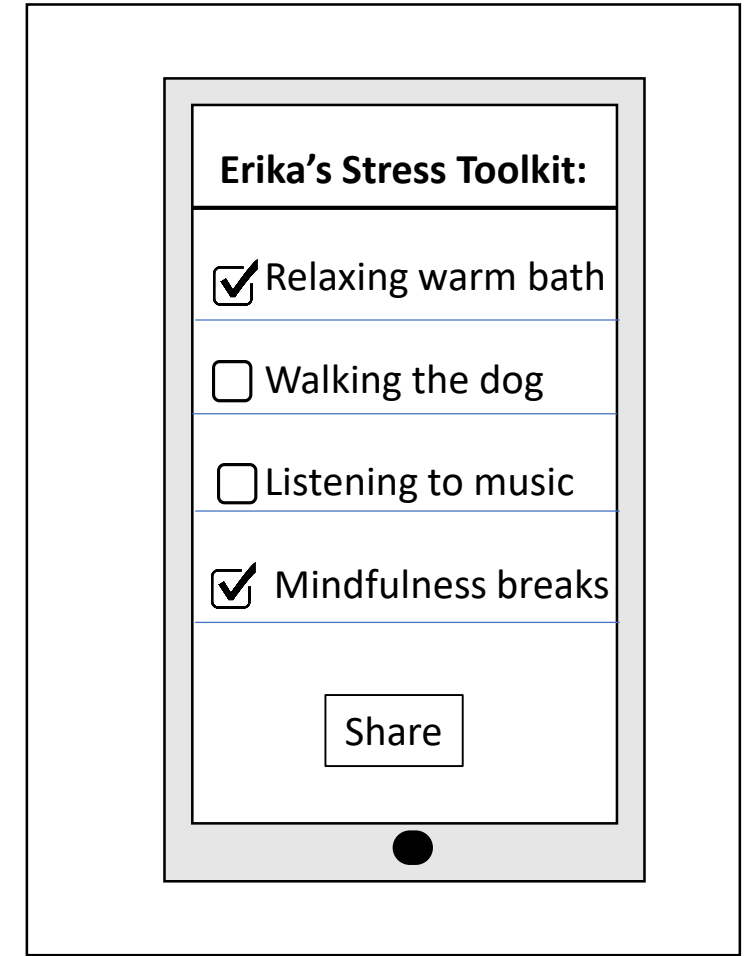
Storyboard 5:  
Stress toolkit



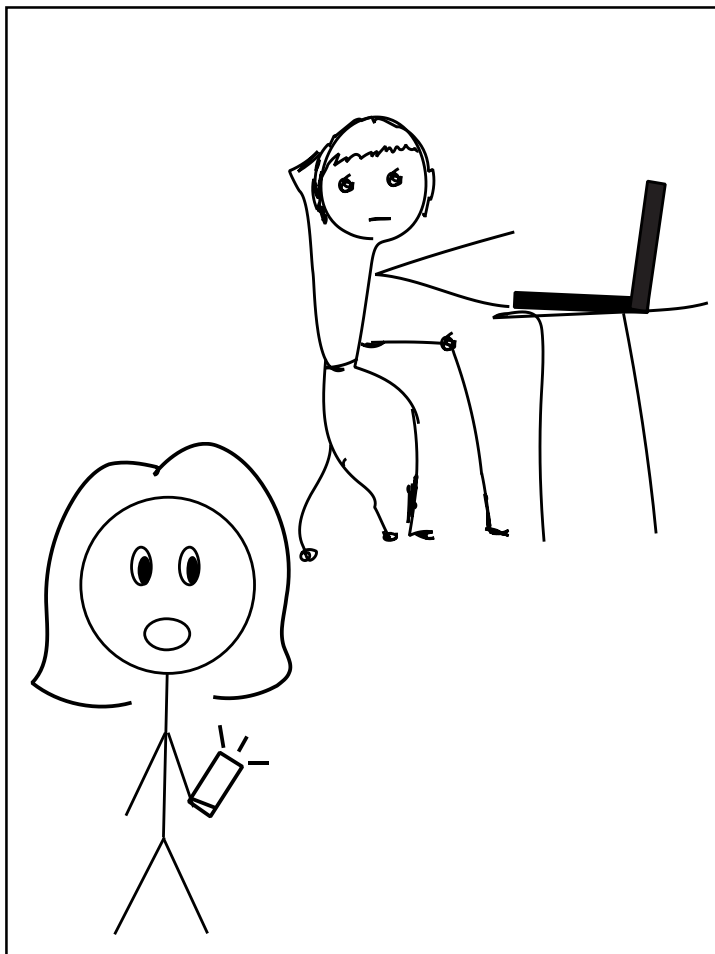
Erika vents to her mom about upcoming exams. Her mom asks her to share her important finals dates and ways she can help.



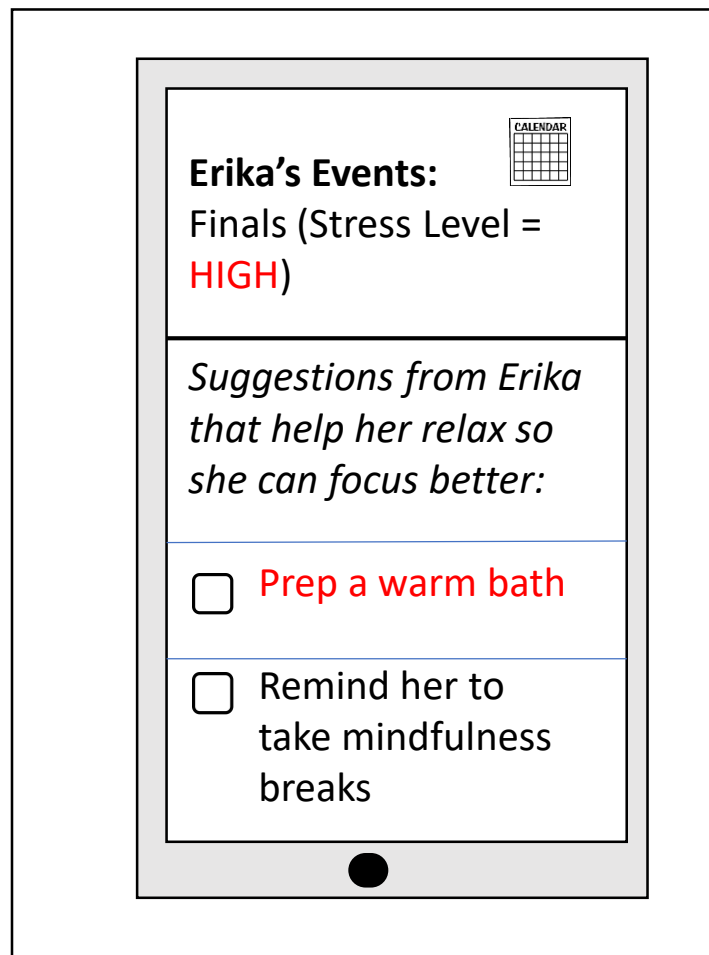
Erika has an add-on feature on her calendar app, where she can choose to share selected events to someone else's calendar.



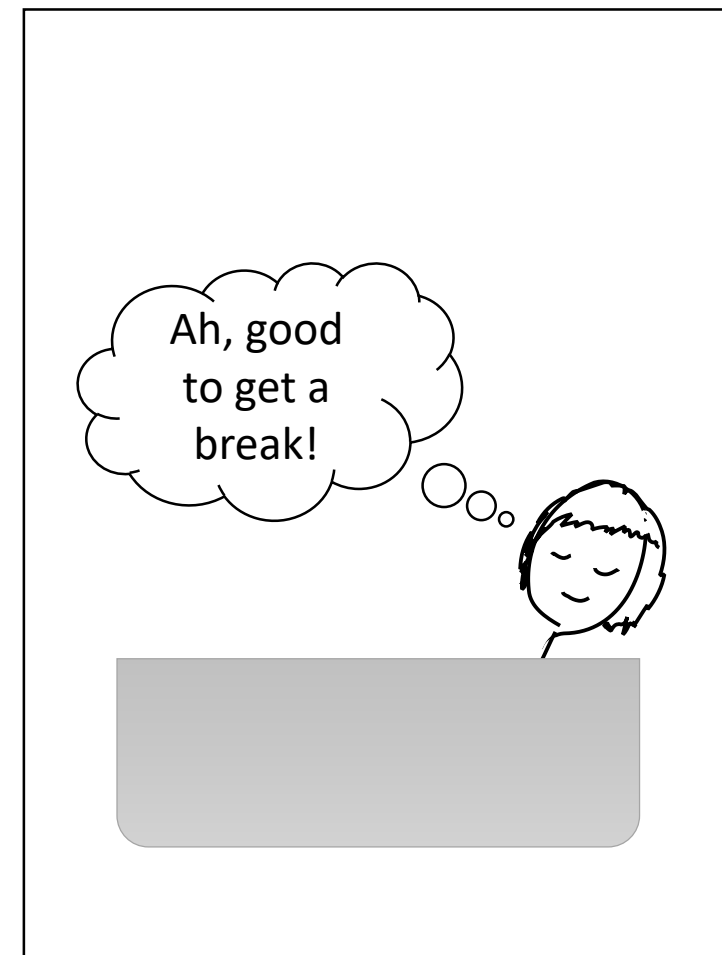
Erika can also create a stress toolkit listing helpful strategies and share it. She shares finals dates and toolkit with her mom.



During finals week, Erika's mom notices that Erika is isolating. She gets a reminder from the shared calendar app.



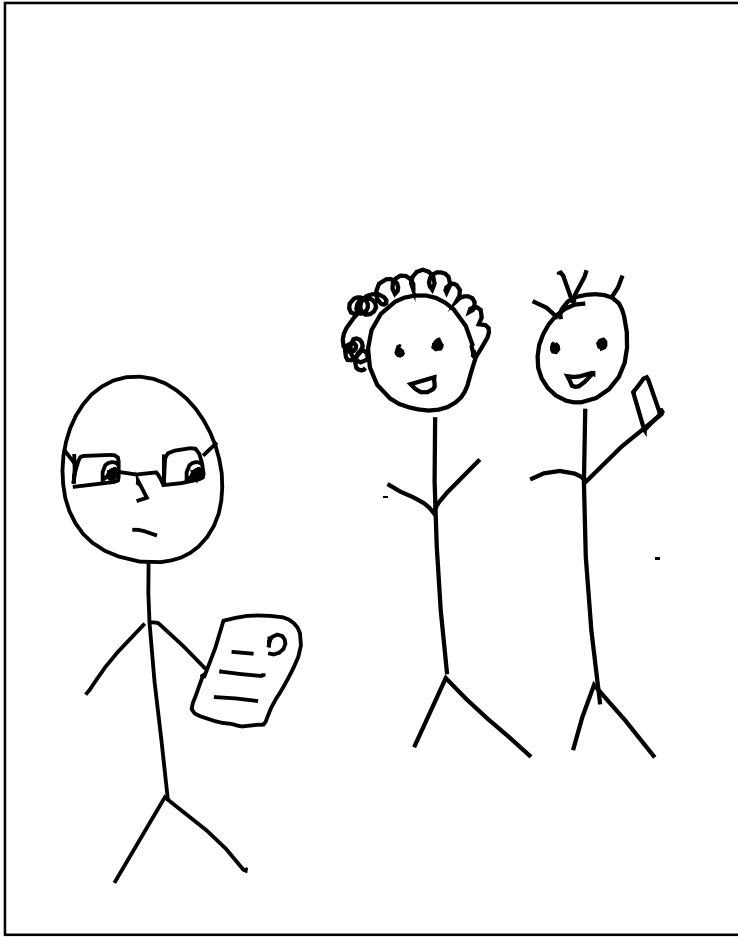
The app notifies mom that it is finals week for Erika and she sees Erika's list shared from her stress toolkit.



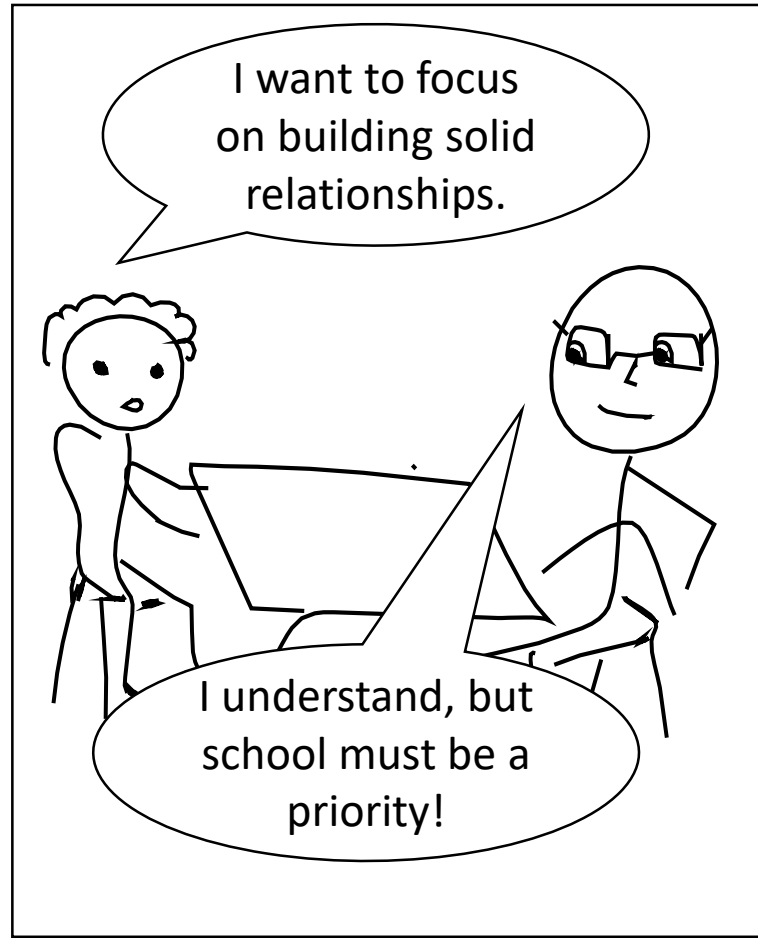
That night, mom sets up a bath for Erika which helps Erika relax.

Group 2

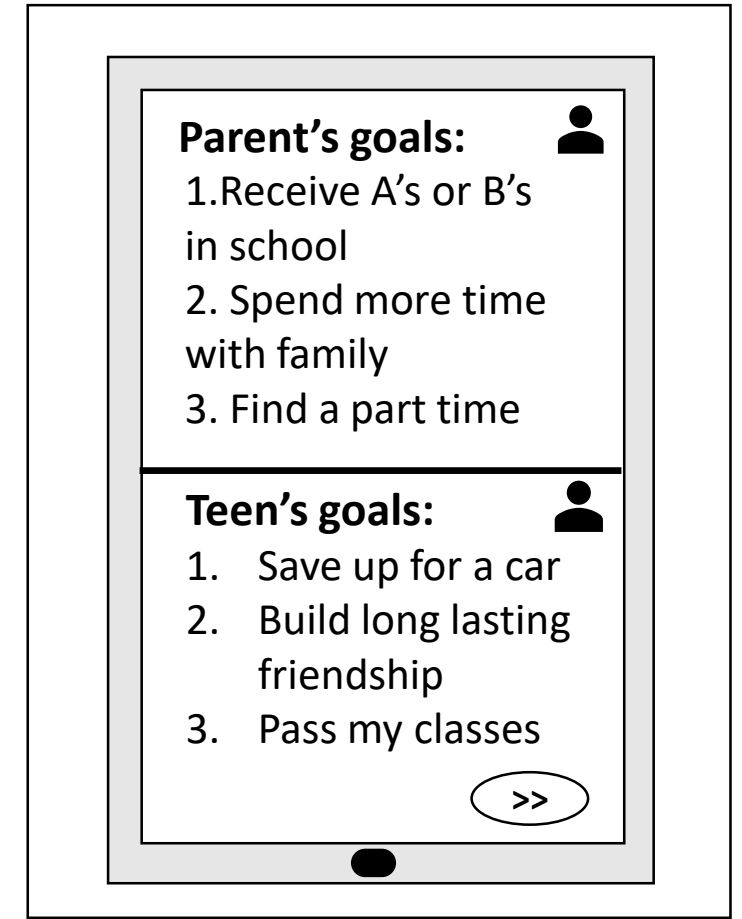
Storyboard 6:  
Collaborative planner



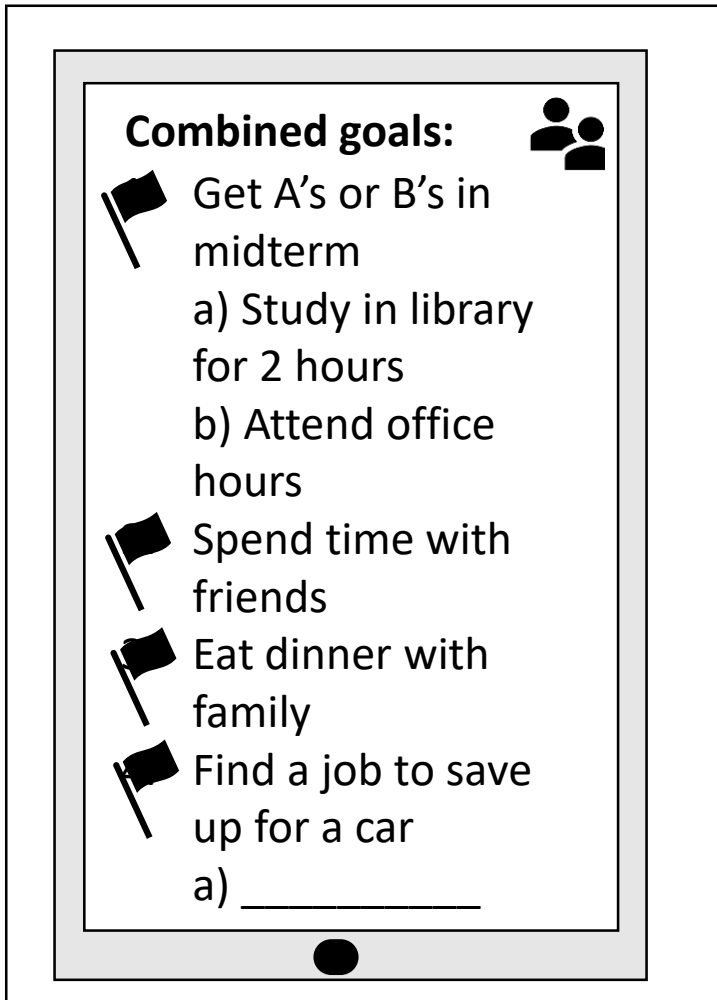
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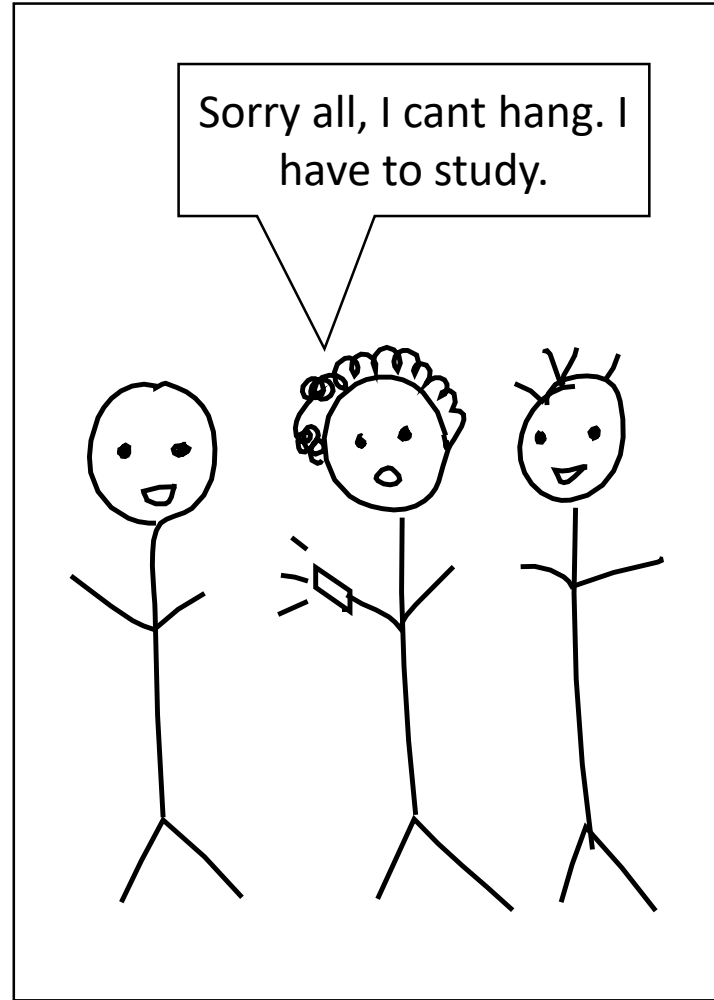
At dinner, dad expresses his concerns to Miguel but Miguel is worried he may lose friends if he does not go out as often.



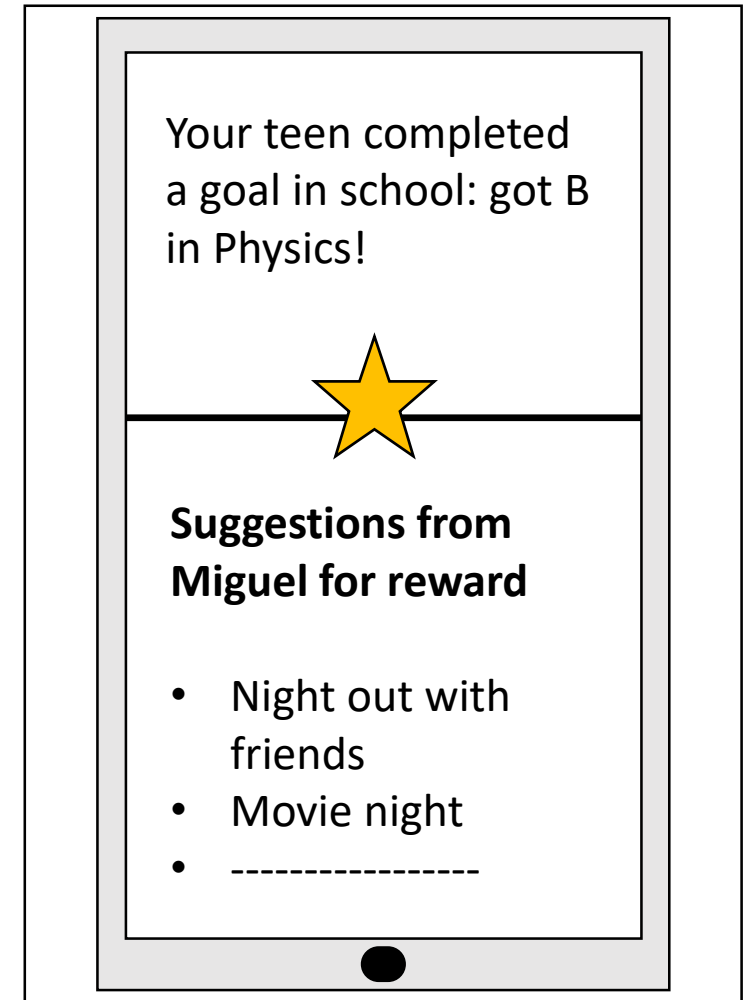
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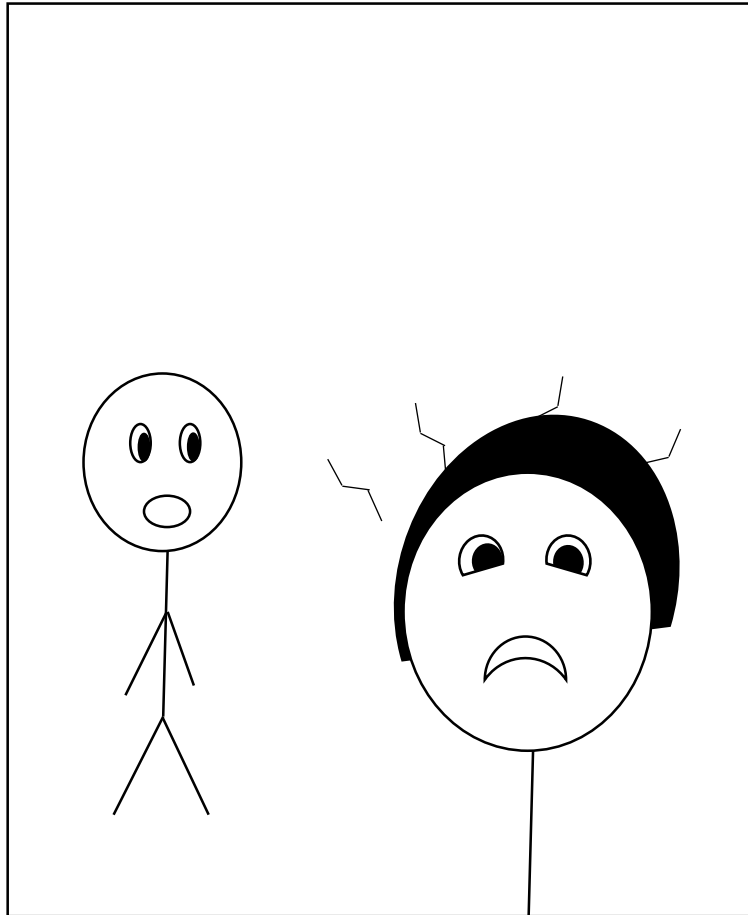


A month later, after reaching his goal in school, Miguel checks it off on the app, his dad is notified, and they celebrate with a movie.

Group 2

Storyboard 7:

Teens Advice – for parents & teens



Roz's dad does not know how to approach Roz about her stress. Dad downloads an app made by teens which guides parents on speaking to teens about stress.

### 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

The app quizzes parents regarding stressful topics, provides information, and suggests coping mechanisms.

### Teens Advice

**Breaking the ice:**  
Let your teen(s) know they can talk to you. Ask them what they want.

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**Suggested articles:**

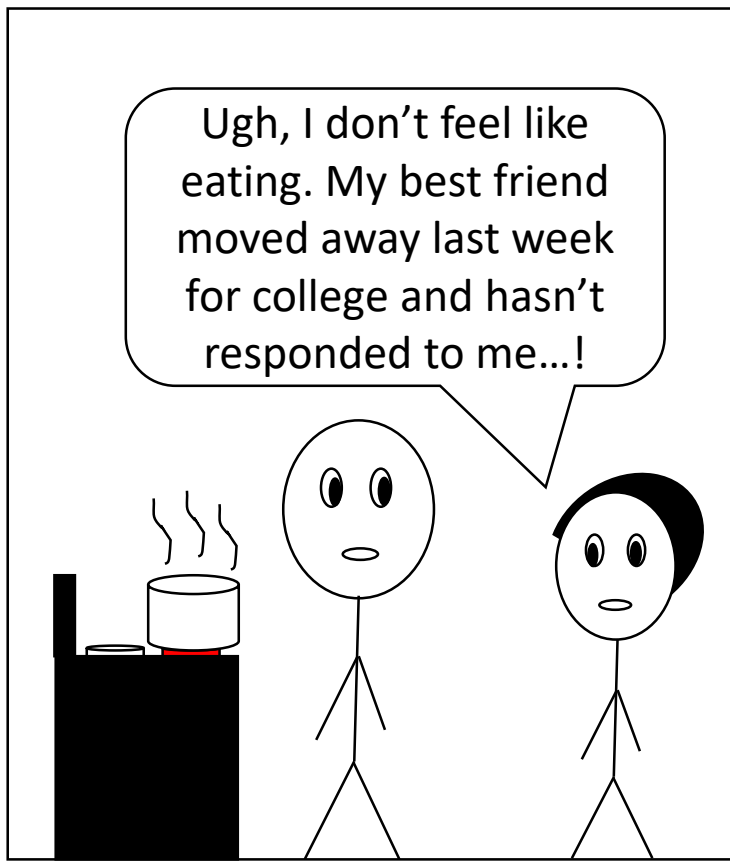
- Talking about stress
- Benefits of encouraging self-care
- Recognizing signs that your teen is stressed

Return

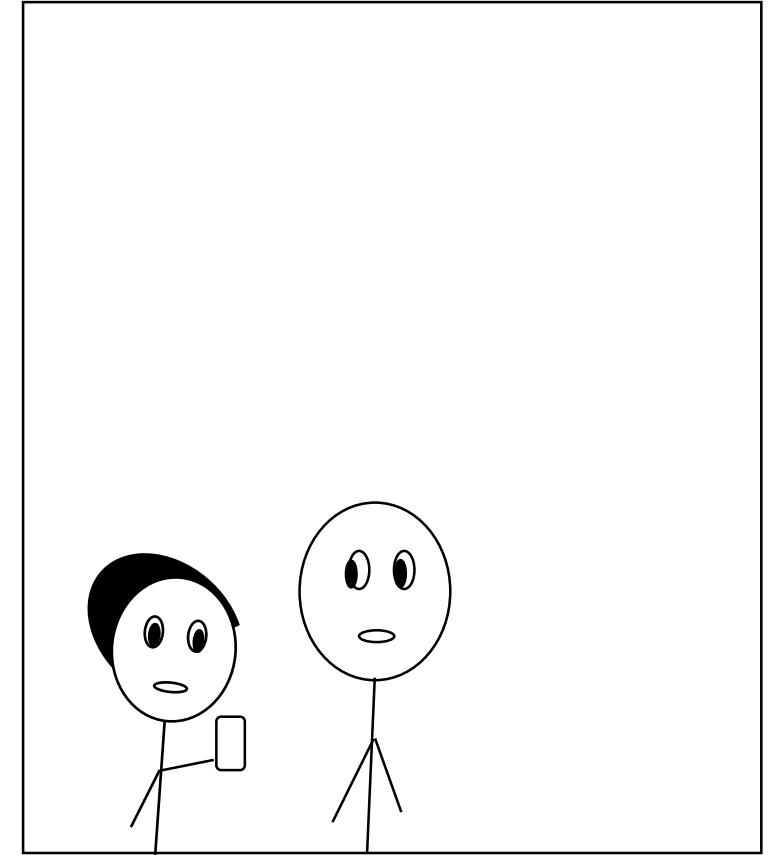
If the parent does not know an answer or gets it wrong, the app provides hints and additional readings regarding the topic, recommended by other teens.



After several uses of the app, dad feels more equipped to approach Roz about her stress.



Roz starts talking with dad about her concerns. Dad listens, shares advice, and also tells Roz about the app where they can ask teen volunteers for advice.

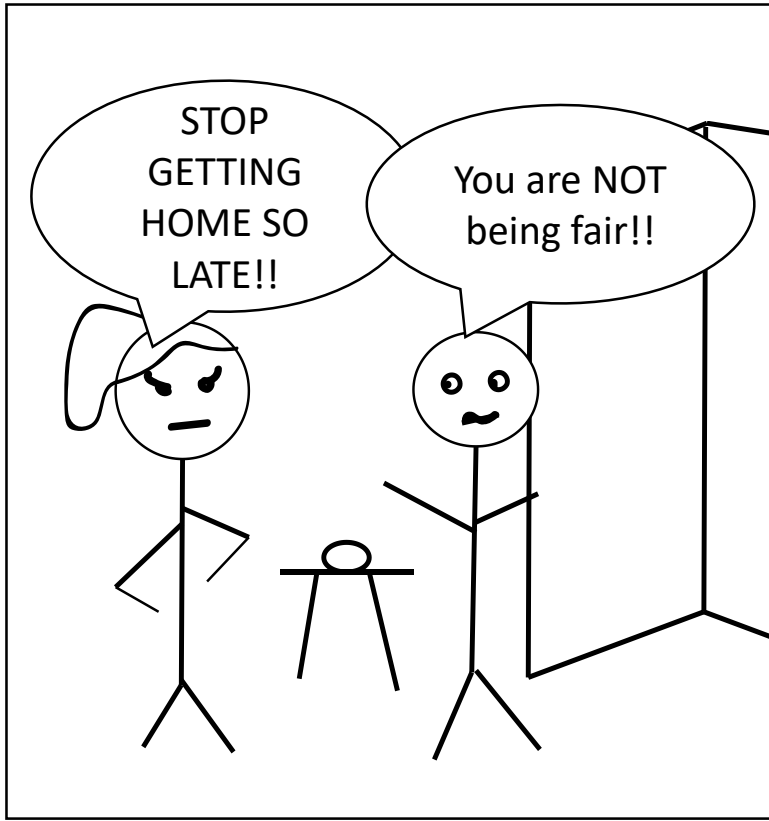


Roz and dad sit down to read and discuss suggestions together.

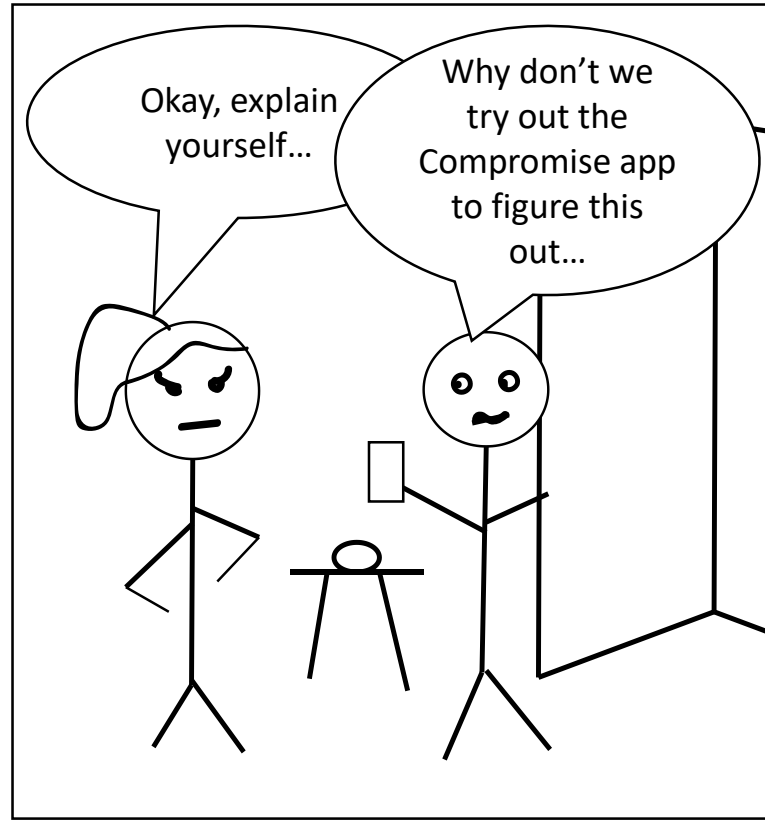
Group 2

Storyboard 8:

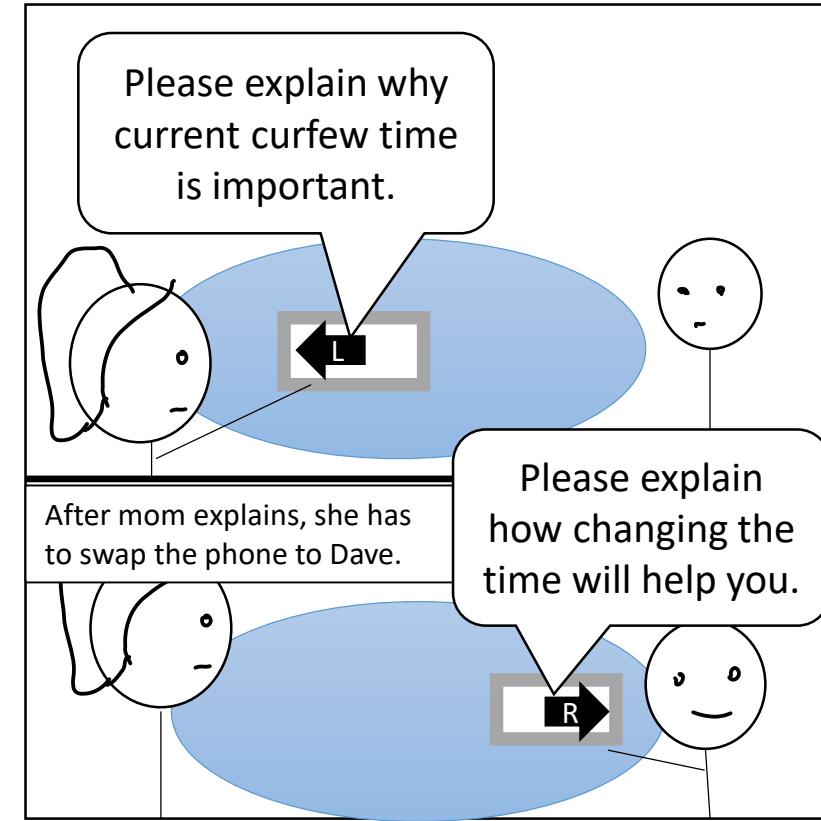
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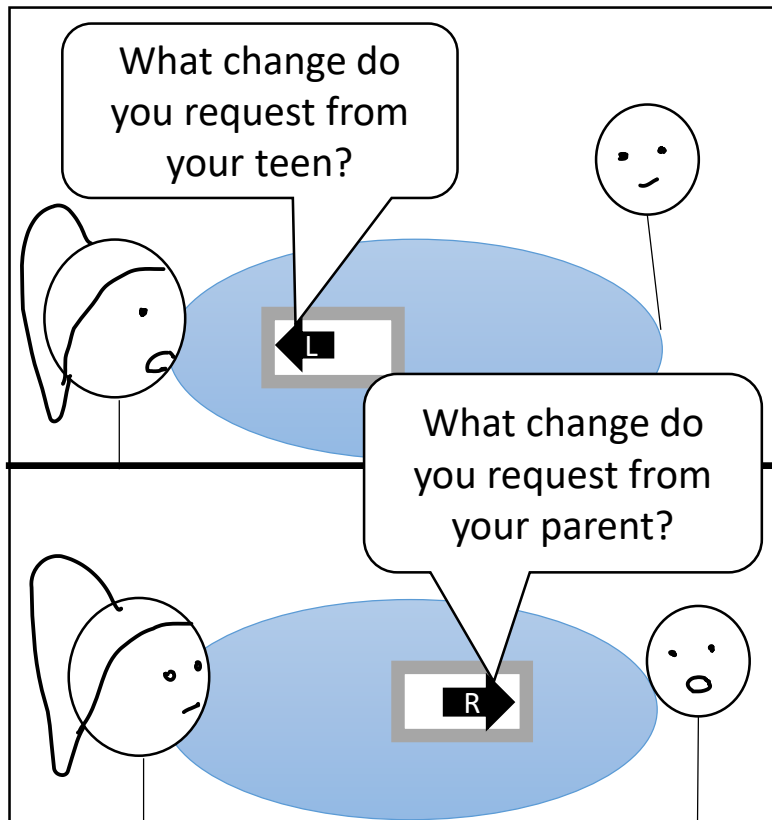
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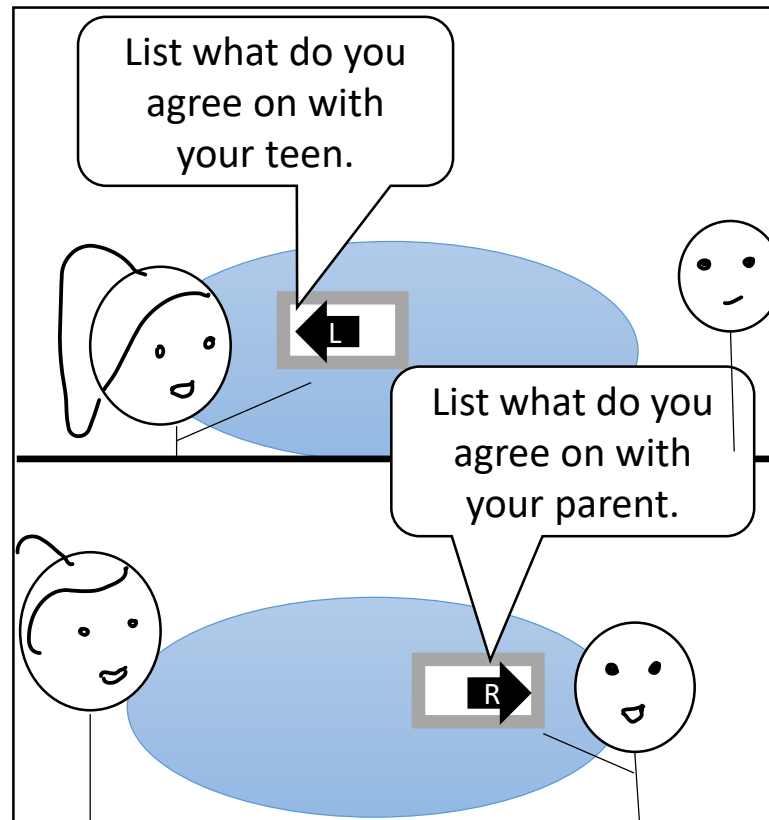
Dave suggests trying an app – Compromise -- recommended by his friend to work with parents on frequent issues. They select topic of curfew times on Compromise app.



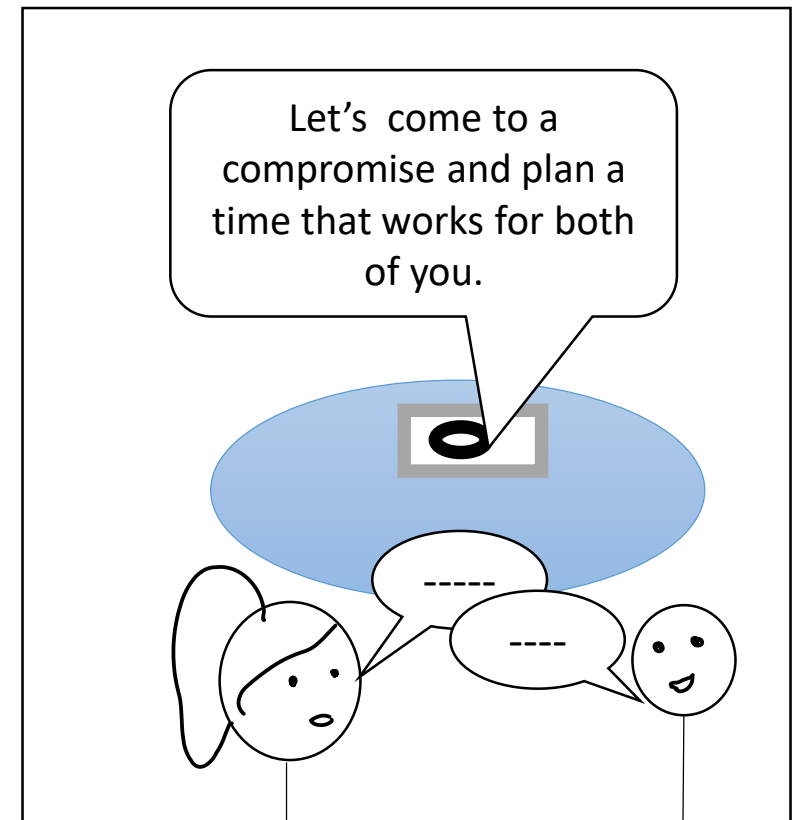
The app suggests prompts for Dave and his mom to discuss the issue together, by taking turns to explain their perspective. They have to swap the phone after they finish explaining their part.



The app then prompts them to take perspectives (e.g.; “how would you feel if you were in your teen’s shoes?” and vice versa) and what changes they request.



The app continues to prompt them to come to agreement.



Dave and mom continue the discussion to plan a different curfew time.