

### Background

- Social Participation And Navigation (SPAN) is an app-based coaching program initially designed for youth with traumatic brain injury (*with evidence of potential benefits*)<sup>1-3</sup>
- Top-down strengths-based approach<sup>1</sup>
  - 1<sup>st</sup> focus on social participation goal; then on what is needed to achieve goal
  - Leverage strengths & existing supports / strategies
- Supplementary or stand-alone tool
- iPhone mobile application initially used but technical & practical limitations<sup>3</sup>
- SPAN now includes 3 major facets:
  - **Web-based goal planning application** (usable on multiple platforms e.g. laptop, tablets, smart phones)
  - **Website** with brief tips & key topics, information on brain injury & app log in <http://spanprogram.com/>
  - **Coaching:** pairing teens & young adults with ABI with a trained & supervised college student coach

### Aims

1. **Developed new SPAN website & web app** that is easier to navigate & access on multiple devices (smart phones, tablets, & computers)
2. **Tested initial usability** of new SPAN website & app
3. **Made refinements** to SPAN website & app based on results from usability testing

### Participants & Procedures

**13 OT graduate students with clinical experience (n=13)**

- Two weeks to review & use SPAN website & goal planning app
- Online survey with rating scale items (perceived understanding / usefulness) & open-ended feedback questions
- Considered own experience / needs of teens/young adults with TBI

**4 teens with TBI (ages 16-18; 3 males; 1 female)**

- Each teen attended individual session (scheduled with clinic visit)
- Teens used SPAN website/app while responding to questions from project team member & provided feedback

### Data Analyses

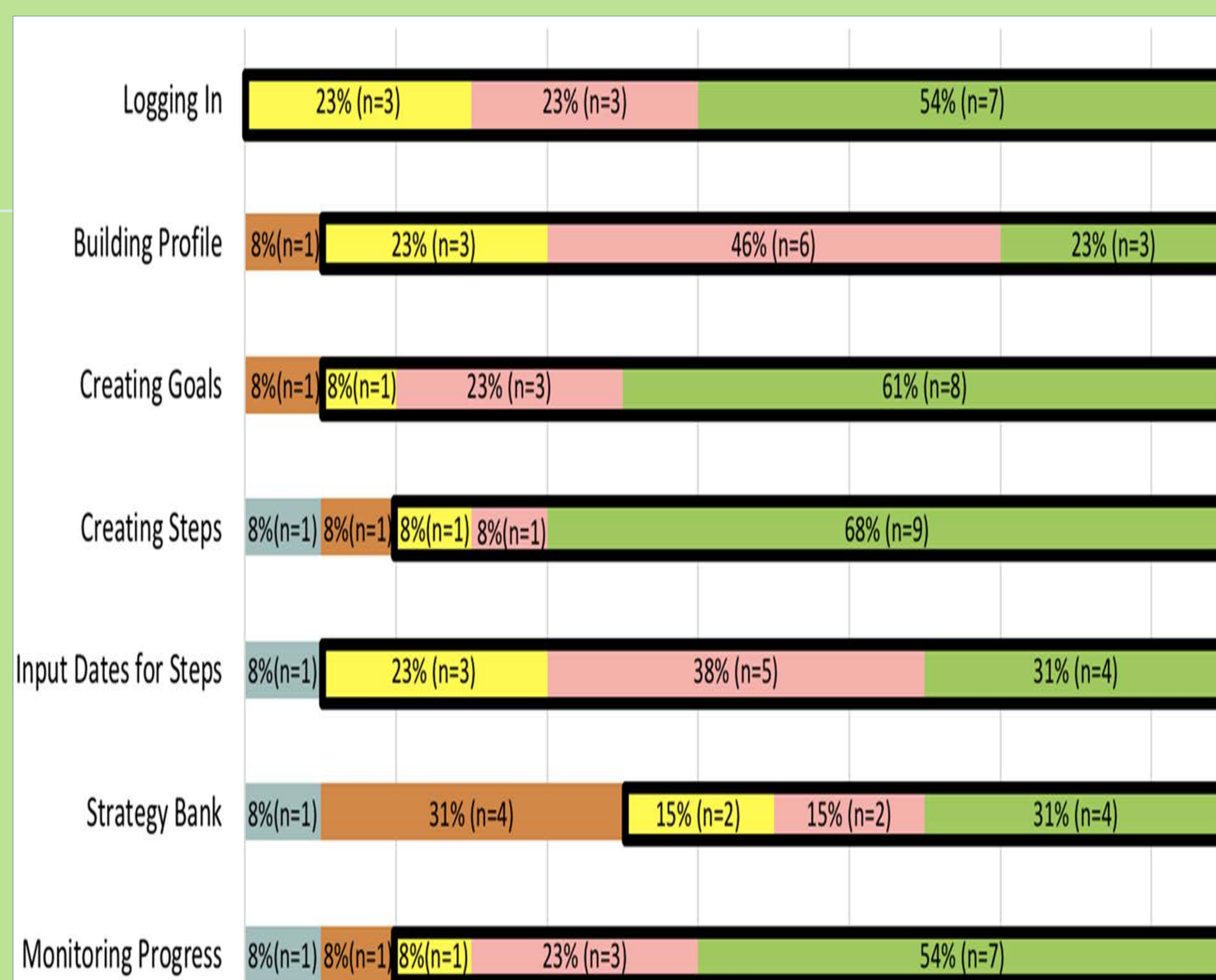
- Descriptive statistics – computed on selected quantitative survey data
- Content analysis – reviewed, coded, categorized open-ended responses

### Perceived Usefulness (open ended responses)

(Number of participants with similar comments)

	Most useful / Benefits	Least useful / Concerns
<b>Goal setting</b>	<ul style="list-style-type: none"> <li>• Recording goals is motivating (9)</li> </ul>	
<b>Creating steps for goals</b>	<ul style="list-style-type: none"> <li>• Can break down goals to be more attainable (9)</li> <li>• Able to set deadlines for individual steps &amp; receive email reminders (6)</li> <li>• Could track progress (4)</li> </ul>	<ul style="list-style-type: none"> <li>• Email reminders too general; did not identify specific goals or steps (2)</li> </ul>
<b>Strategy Bank</b>	<ul style="list-style-type: none"> <li>• Useful reminders to self to use (2)</li> </ul>	<ul style="list-style-type: none"> <li>• Strategies &amp; goals not linked (2)</li> </ul>
<b>Brief Tips &amp; Key Topics</b>	<ul style="list-style-type: none"> <li>• Useful information for user, friends &amp; family (5)</li> <li>• Tips were short &amp; easy to understand (2)</li> </ul>	<ul style="list-style-type: none"> <li>• Text heavy topics &amp; can be overwhelming to read (4)</li> <li>• Instructional language used in topics</li> <li>• Topics more geared towards coaches / professionals</li> </ul>
<b>General</b>	<ul style="list-style-type: none"> <li>• Profile helps social self-awareness</li> </ul>	<ul style="list-style-type: none"> <li>• Information on challenges might be uncomfortable for people with ABI</li> </ul>
<b>Web Access</b>	<ul style="list-style-type: none"> <li>• <b>Computer/laptops</b> (all 13 used)</li> <li>• Easy access to website &amp; app on multiple platforms (2)</li> <li>• Easy to navigate (4)</li> <li>• Good/ worked well (2)</li> <li>• Formatted nicely</li> </ul>	<ul style="list-style-type: none"> <li>• Display format – aesthetics (3)</li> <li>• Difficulties entering steps for goals(4)</li> <li>• Login not loading when navigating away (2)</li> <li>• Difficulties 'adding date' to steps</li> <li>• Did not get email reminders (2)</li> </ul>
	<ul style="list-style-type: none"> <li>• <b>Mobile phones</b> (3 used)</li> <li>• Easy to use (2)</li> </ul>	<ul style="list-style-type: none"> <li>• Difficult to type in text (2)</li> <li>• Not very user friendly</li> <li>• Goal steps cluttered (smaller screen)</li> </ul>
<b>Youth feedback</b>	<ul style="list-style-type: none"> <li>• Website for youth /young adults &amp; about social participation (4)</li> <li>• They would share with others (4)</li> </ul>	<ul style="list-style-type: none"> <li>• Web app needed clearer instructions (we developed user guides &amp; more online instructions / examples) (4)</li> </ul>

### Web App: Usability ratings



■ Not ■ Somewhat ■ Useful ■ Very ■ Extremely

### Suggestions

- Give positive feedback after completing each goal/step (2)
- Coach can monitor & support goal achievement
- Improve reminder system for goals/steps (e.g. visual calendar, phone messages)
- Reduce text in email reminders
- Link strategies to specific goal (2)
- Have strategies that users could select (2)
- Shorten topics
- Use interactive formats for topics (e.g. Piktochart, videos)
- Use more motivational approaches/language in Topics
- Add tips & topics (executive functioning & time organization)
- Add virtual social networking within app & online forum
- Make navigation easier between different areas of site

### Summary & Future Directions

- **Promising results:** Most rated key features useful / understandable (especially goal planning app)
- **Least useful features:** Human - website/ web app interface issues that were & could be mitigated by instructions & coaching
- **Limitations:** small sample size; Most feedback from OT students
- **Feedback** used to make refinements to SPAN website & app
- **Created** user guides & in-app instructions / examples
- **Mobile phone optimization** needed in the future (*additional costs*)
- **Current & future modifications / translations** for use with other populations & in other countries
- **Additional feasibility, pilot & full implementation studies**

### References

1. Bedell, G., Wade, S.L., Turkstra, L.S., & Haarbauer-Krupa, J. & King, J. (2017). Informing design of an app-based coaching intervention to promote social participation of teenagers with traumatic brain injury: Stakeholder perspectives. *Developmental Neurorehabilitation*, 20, 408-417.
2. Narad, M. E., Bedell, G., King, J. A., Johnson, J., Turkstra, L. S., Haarbauer-Krupa, J., & Wade, S. L. (2017). Social Participation and Navigation (SPAN): Description and usability of app-based coaching intervention for adolescents with TBI. *Developmental Neurorehabilitation*, 439-448.
3. Wade, S. L., Bedell, G., King, J. A., Jacquin, M., Turkstra, L. S., Haarbauer-Krupa, J., Johnson, J., Salloum, R., & Narad, M. E. (2018). Social Participation and Navigation (SPAN) program for adolescents with acquired brain injury: Pilot findings. *Rehabilitation Psychology*, 63(3), 327-337.

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