

Usability Testing of a Pet-Assisted Virtual Coaching Intervention to Promote Social Participation of Adolescents with Social Anxiety

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Key Terms

Social anxiety: a marked, or intense, fear or anxiety of social situations in which others may scrutinize the individual.¹

Social participation: taking part, involvement, engagement, doing or being with others.²

Introduction

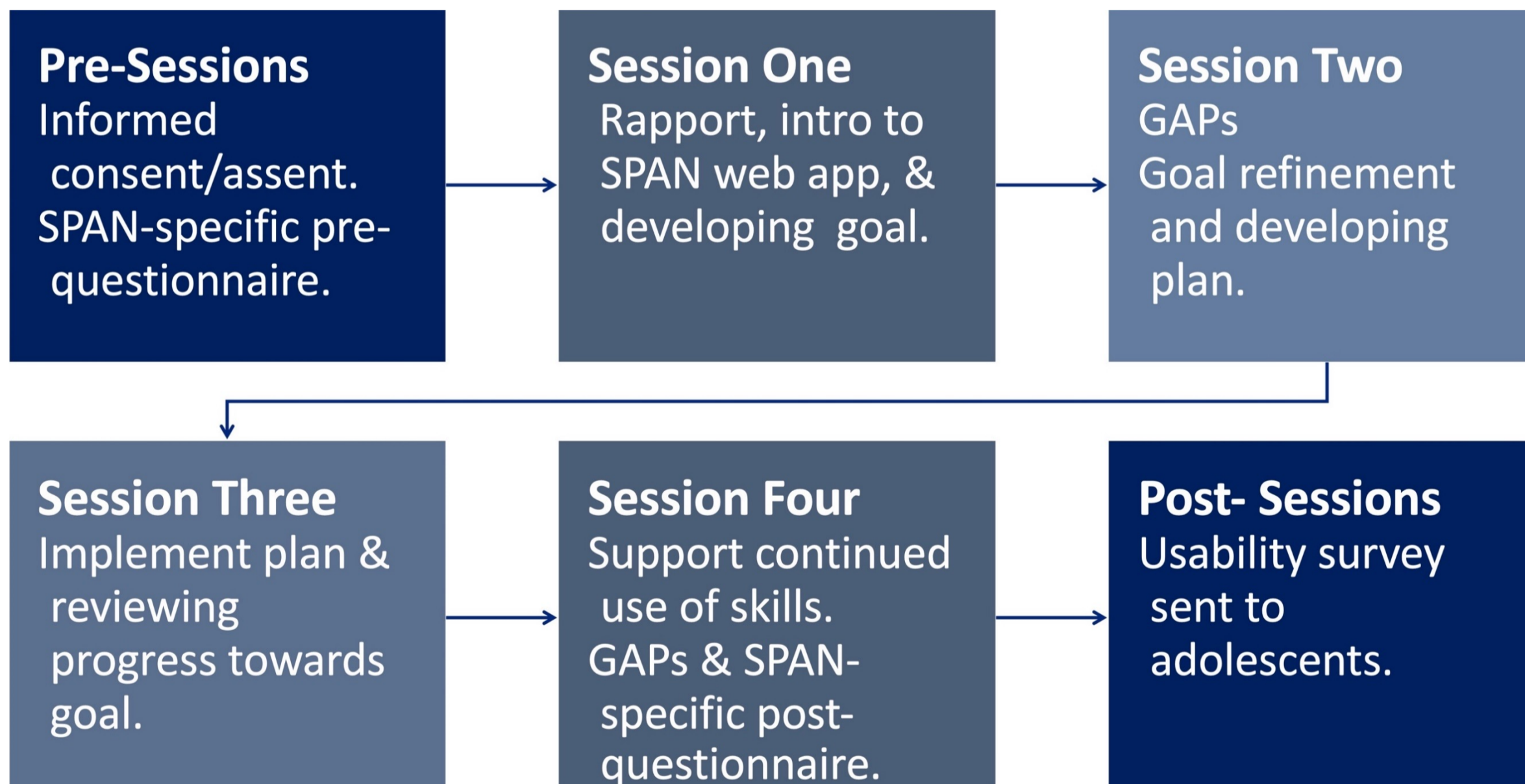
- 9% of adolescents (13 to 17) in the US meet criteria for social anxiety.³
- Social anxiety impacts social participation but lack of interventions.

SPAN Program	Dog Companionship
Existing virtual coaching program for teenagers with TBI or brain tumors to promote social participation. ⁴	Promotes well-being and acts as buffer for stress in adolescents with anxiety. ⁵
Work with coach to develop goal, implement plan, & reflect on progress.	Pet's presence -> higher positive affect in social stressor task. ⁶

Incorporating the benefits of SPAN & dog companionship.

- Phase One: Program development including stakeholder interviews & feedback surveys (Jan to Aug 2021).
- Phase Two: 4-week usability & feasibility study (Jan to May 2022).

Methods



SPAN-Specific Questionnaire: rates confidence & involvement in social participation areas, & confidence in other skills related to SPAN (goal planning, self regulation, etc.).

Goal Activity Participation Scale (GAPs): framework for developing goals; rates involvement, satisfaction, & confidence.

Usability Survey: assesses usefulness & benefits of program.

Cohen's D & Wilcoxon Signed Ranks	Content analysis
<ul style="list-style-type: none"> • SPAN specific questionnaire involvement & confidence scales. • GAPs involvement, confidence, & satisfaction scales. 	<ul style="list-style-type: none"> • Open-ended responses for: <ul style="list-style-type: none"> • SPAN specific questionnaire. • GAPs. • Usability survey.

Participants:

- Recruited from existing participant pool (Phase One)
- N=3, one male, two female, 14 to 17 years old (M= 16, SD=1.73)
- SAS-A Scores: 65 to 74 (M= 70.3, SD=4.73), social anxiety > 50
- All had pet dogs, one had dog join each session.

Results

Goals & Strategies

Goal Areas: Meeting new people, decreasing fear of judgement, & having conversations in groups.

50% of goals addressed more than one goal area.

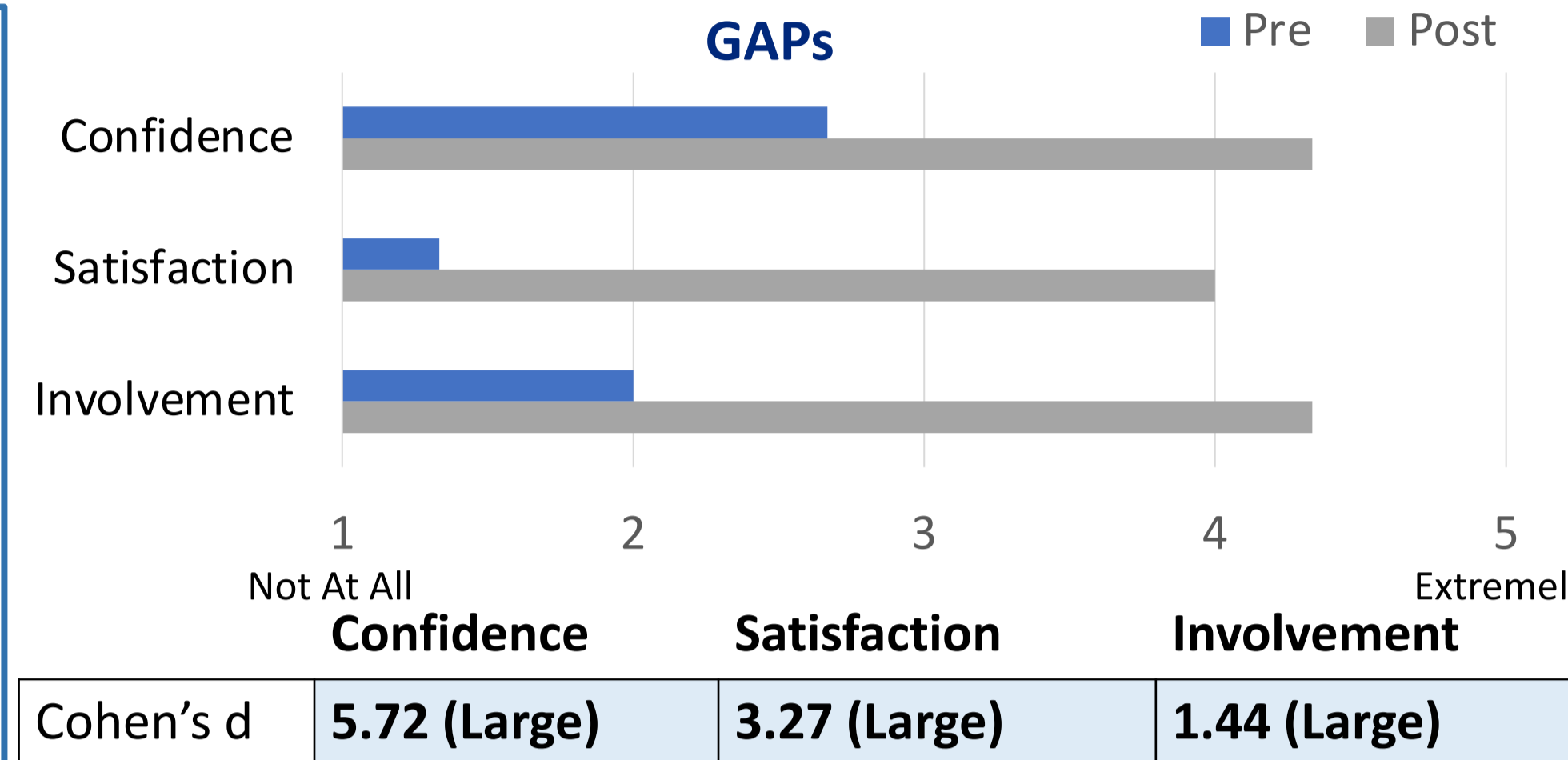
1 or 2 goals developed by participants.

2 of 3 achieved at least one goal.

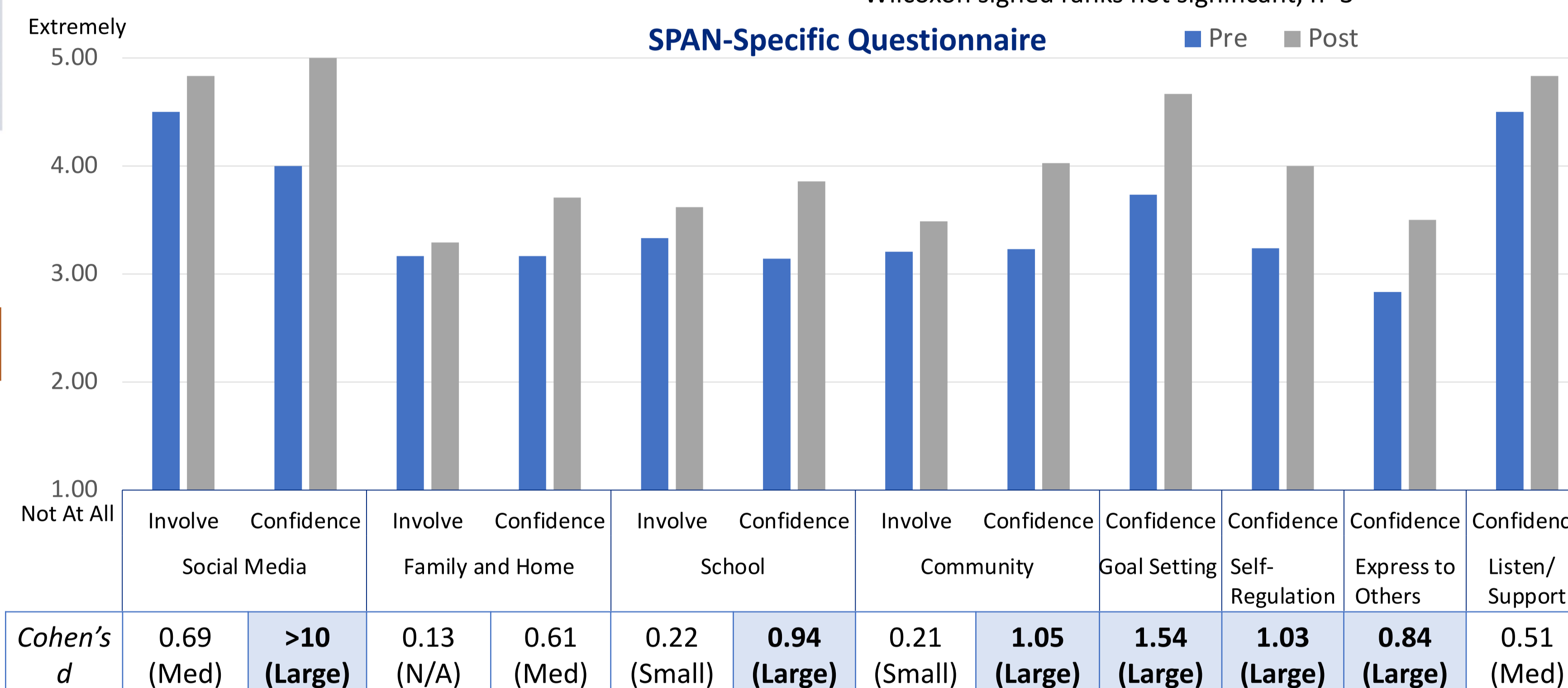
No goals directly involved pet-dog.

43 total strategies developed.

12 strategies (28%) involved pet-dog.



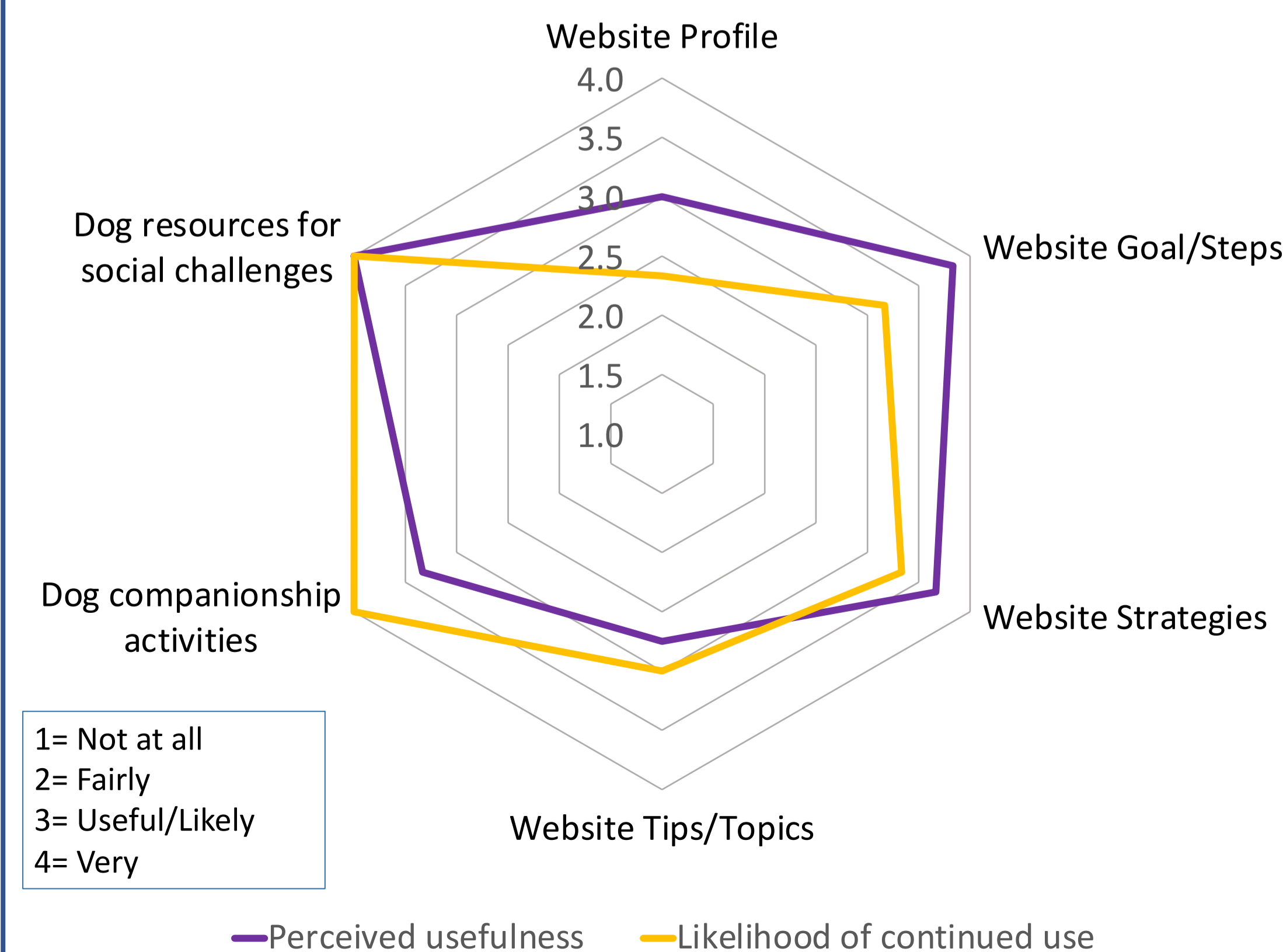
Increase in all areas with large effect sizes
* Wilcoxon signed ranks not significant, n=3 *



Increases in confidence with large effect sizes in 3 out of 4 participation areas & related skill areas.
* Wilcoxon signed ranks not significant, n=3 *

Usability Survey

SPAN Website and Pet-Dog Involvement



Coaching

- All participants rated "strongly agree" coaching process was **supportive, enjoyable, & helped achieve goals.**
- Key responses about coaching benefits: **accountability, new strategies & perspectives, & approachable.**

Program Design

- **Program Length:** 4 weeks (n=2) or 5 weeks (n=1).
- **Difficulties:** had difficulties scheduling & focusing with their busy schedules (n=2).
- **Involvement of Others:** involved family or friends in completion of goals (n=2).
- **Suggestions for Improvement:** website interface (n=2) & accessibility of website on mobile (n=1).
- **All of participants would recommend the program to other teenagers.**

Discussion

Pet Dog Involvement

- Goal activities did not incorporated dogs, but 28% of strategies did.
- Suggests pet dog acted as facilitator to support goal achievement.
- High usefulness of dog as a resource compared to dog companionship activities further suggests facilitator role in this study.
- High likelihood of continued use for dog companionship activities suggests potential expansion of pet-dog role in future studies.

Potential Benefits

- Increased confidence, involvement, & satisfaction with large effect sizes in GAPS suggests benefits on goal-related participation.
- 3 out of 4 areas had increases in confidence with large effect sizes but small & medium effect sizes for involvement for SPAN Survey, which may suggest program had a larger influence on confidence.
- Larger effect sizes in School & Community participation (compared to Family & Home) indicates potential benefits as goals targeted those areas.
- Large effect sizes in Self-Regulation & Expression to Others scores suggest potential to support emotional awareness & coping.
- Participants thought coaching was beneficial & supportive to achieving their goals suggesting value of coaching relationship.
- All found program beneficial & would recommend to others indicating positive participant perspective.

Conclusion

Results support usability & potential beneficial nature of program on increasing social participation of adolescents with social anxiety.

Limitations:

- Sample was small & participants were familiar with program from previous phases. Thus, results are not generalizable.
- Coach held dual role as researcher, leading to potential biases.
- COVID-19 pandemic may influence survey results and experiences.

Future Direction:

- Findings will be used to modify the program materials & procedures.
- Results suggest further exploration of optimal number of sessions.
- Modified materials will be used in a larger pilot study.

References

¹American Psychiatric Association. (2013). Social anxiety disorder (social phobia). In *Diagnostic and statistical manual of mental disorders* (5th ed.). <https://doi.org/10.1176/appi.books.9780890425596.dsm05>

²Bedell, G. (2012). Measurement of social participation. In V. Anderson & M. H. Beauchamp (Eds.), *Developmental social neuroscience & childhood brain insult: Theory & practice*. (p. 185). Guilford Press.

³Burstein, M., He, J. P., Kattan, G., Albano, A. M., Avenevoli, S., & Merikangas, K. R. (2011). Social phobia & subtypes in the national comorbidity survey-Adolescent supplement: Prevalence, correlates, & comorbidity. *Journal of the American Academy of Child & Adolescent Psychiatry*, 50(9), 870-880. <https://doi.org/10.1016/j.jaac.2011.06.005>

⁴Wade, 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 & navigation (SPAN) program for adolescents with acquired brain injury: Pilot findings. *Rehabilitation Psychology*, 63(3), 327-337. <https://doi.org/10.1037/rep0000187>

⁵Mueller, M. K., & Callina, K. S. (2014). Human-animal interaction as a context for thriving & coping in military-connected youth: The role of pets during deployment. *Applied Developmental Science*, 18(4), 214-223. <https://doi.org/10.1080/10888691.2014.955612>

⁶Kertes, D. A., Liu, J., Hall, N. J., Hadad, N. A., Wynne, C. D. L., & Bhatt, S. S. (2017). Effect of pet dogs on children's perceived stress & cortisol stress response: Stress buffering effect of pet dogs. *Social Development*, 26(2), 382-401. <https://doi.org/10.1111/sode.12203>

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