

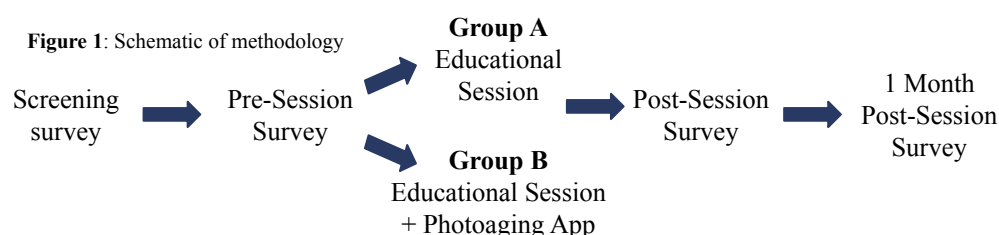
Introduction

Pickleball is a popular sport in Hawai'i, with many outdoor courts exposing players to UV radiation.^{1,2} Given Hawai'i's high UV index, sun protection is crucial, as outdoor activities like pickleball increase the risk of skin cancer, including melanoma.^{3,4} Although health-based sun-safety interventions have improved knowledge about skin cancer, they may not be the most effective at encouraging sun-protective behaviors.⁵ Research suggests that appearance-based sun-safety education, highlighting the effects of UV exposure on premature aging, may be more effective in promoting sun-protective actions.^{5,6,7}

Objective

Our project investigates whether appearance-based education improves sun-protective behaviors in Hawai'i pickleball players more than health-based education.

Methods



Surveys were used to collect demographic information and sun-protective attitudes and behaviors. The Likert scale was used for survey questions.

Likert scale responses were converted to numerical scores as follows: *Strongly disagree* = 1, *Disagree* = 2, *Neither agree nor disagree* = 3, *Agree* = 4, and *Strongly agree* = 5. Changes in scores from pre- to post-survey were compared between Groups A and B using the Wilcoxon rank-sum test. Positive changes indicate improved responses in the post-survey compared to the pre-survey. A p-value of <0.05 was considered statistically significant.

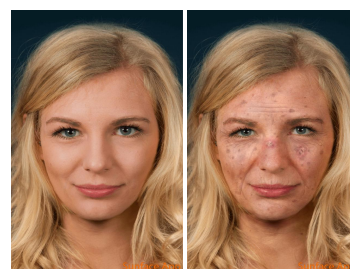


Figure 2: Representative photoaged image using the Sunface App. Participants in group B were shown photoaged images of themselves using the app.

Results

Sun behavior and attitude statements	Average Change in Scores (SD)		P-value
	A	B	
<i>Sun and UV light damage cause wrinkles</i>	-0.02 (0.76)	0.20 (0.58)	0.208
<i>Bad sunburns are unhealthy</i>	-0.02 (0.88)	0.09 (0.55)	0.678
<i>Too much sun exposure causes skin cancer</i>	0.05 (0.86)	0.11 (0.60)	0.928
<i>In the future I plan to use sunscreen on my face daily</i>	0.10 (0.49)	0.28 (0.81)	0.506
<i>In the future I plan to use sunscreen on all exposed areas of my body daily</i>	0.07 (0.88)	0.57 (0.91)	0.024

Table 1: Pre and post intervention change in numerical Likert score to sun behavior and attitude statements for groups A and B

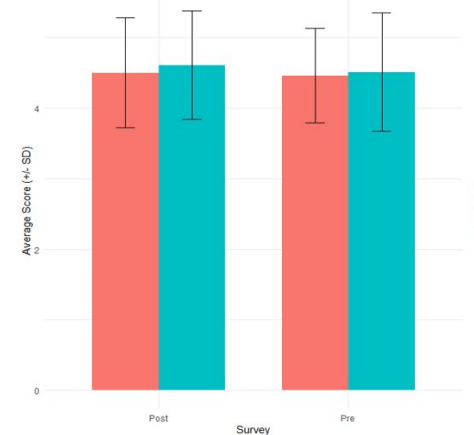


Figure 4: Responses between Group A and B to *Too much sun exposure causes skin cancer*. Responses taken pre and post intervention.

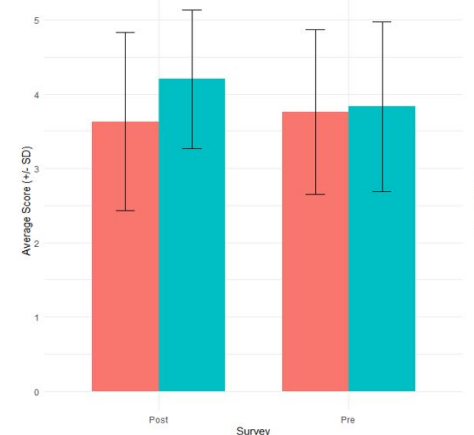


Figure 5: Responses between Group A and B to *In the future I plan to use sunscreen on all exposed areas of my body daily*. Responses taken pre and post intervention.

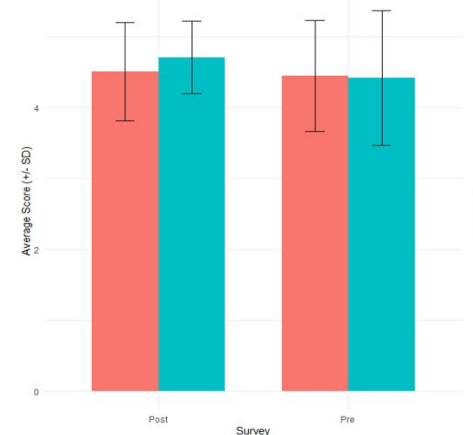


Figure 3: Responses between Group A and B to *Sun and UV light damage causes wrinkles*. Responses taken pre and post intervention.

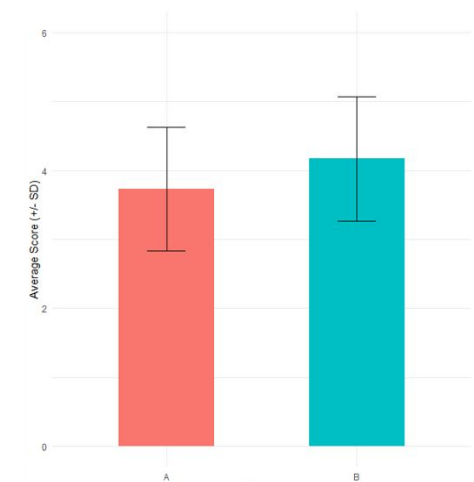


Figure 6: Responses between Group A and B to *Because of this educational session, I now plan to increase my sun safety practices*. Responses taken post intervention.

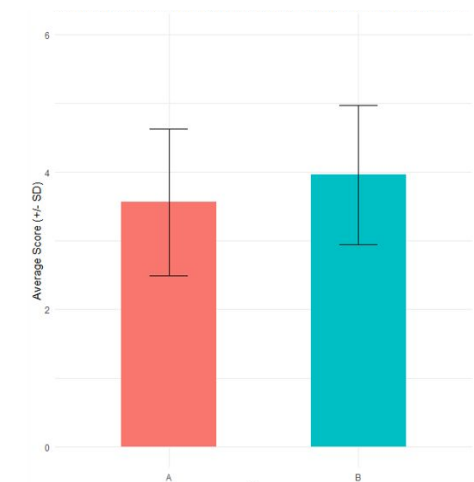


Figure 7: Responses between Group A and B to *I am more concerned about UV damage than I was before the intervention*. Responses taken post intervention.

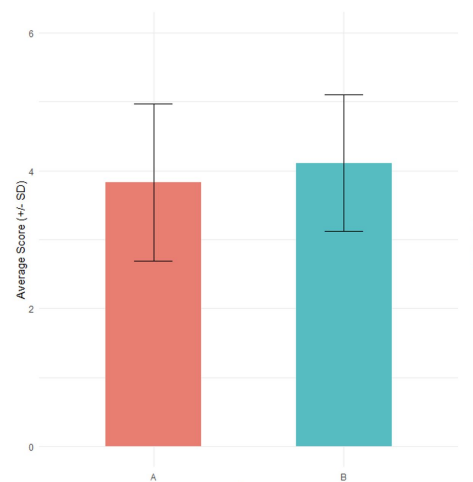


Figure 8: Responses between Group A and B to *I learned something new about UV effects on my body*. Responses taken post intervention.

Results Continued

High average pre-survey scores indicated high knowledge levels within the study population. As a result, the intervention had minimal impact on increasing knowledge. To address this, an additional analysis was conducted excluding participants who responded "Strongly Agree" on the pre-survey.

Pre to post changes analysis after excluding, subjects those who responded the Pre survey as "Strongly Agree"	Average Change in Scores (SD)		P-value
	A	B	
<i>Sun and UV light damage cause wrinkles</i>	0.40 (0.74)	0.42 (0.51)	0.062
<i>Bad sunburns are unhealthy</i>	0.60 (0.70)	0.46 (0.66)	0.521
<i>Too much sun exposure causes skin cancer</i>	0.33 (0.82)	0.42 (0.90)	0.853
<i>In the future I plan to use sunscreen on my face daily</i>	0.50 (0.96)	0.38 (0.80)	0.120
<i>In the future I plan to use sunscreen on all exposed areas of my body daily</i>	0.50 (0.84)	0.65 (1.13)	0.016

Table 2: Pre and post intervention change in numerical Likert score to sun behavior and attitude statements for groups A and B

Conclusions / Discussion

Preliminary results suggest photoaging software may be more effective than solely health-based interventions for sun safety education among Hawai'i pickleball players, influencing UV risk perception, intention to change, and knowledge. We will collect more data to reach our sample size and include 1-month follow-up data on long-term behavior and attitude changes.

References

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Acknowledgements

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