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Background Skin cancer is the most commonly diagnosed cancer worldwide, with incidence rates steadily increasing over the past 5 decades¹, with incidence rates nationally 22.7 per 100,000 individuals² • Approximately **95%** of cases of skin cancer are linked to **modifiable risk factors**³ (e.g., inadequate sunscreen use) • **Sun exposure**—Among the ages of 18-24, the percentage of sun exposure protective factors (sunscreen, hats, protective clothing) is lower than those ages 25+ and they spend the most time out in the sun^{4,5} • Young adults **ages 18–25** are at elevated risk in Southern California due to high UV exposure, year-round sunshine,

- and an active outdoor lifestyle, with incidence rates in California mirroring the national average¹
- Limited research on how factors such as risk perception, and sunscreen access and application affect sun protection behaviors in 18–25 year olds

Methods

- <u>Type of study</u> • Cross-sectional survey
- <u>Target population</u>
 - Southern California residents (San Diego, Orange, Los Angeles, and other Southern California counties), ages 18-25
 - **Convenience sampling** via social media, flyers, email recruitment, and word of mouth
- <u>Measure</u>
 - Online survey via anonymous Google Forms survey, consisting of 30 multiple choice questions
 - Demographics
 - **Exposure:** score based on percieved cancer risk • Risk-Perception score: cumulative score (6-13) of five items assessing perceived susceptibility and knowledge about sun exposure risks
 - Low (6-9), Moderate (10), High (11-13), based off the 33% and 66% cut offs
 - **Outcome:** sun exposure behaviors (sunscreen use and reapplication, other sun protection behaviors)
- Analysis plan
 - Logistic regression (outcome=sunscreen use: Yes vs No)
 - Conducted through SPSS v29

Ray of Caution: Sun Exposure & Skin Cancer Perception

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Objective

To evaluate the relationship between perceptions of skin cancer risk and sun exposure behaviors, specifically sunscreen use, among residents of Southern California

Table 1. Demographics (N=92)		
Age (years)		
Mean (SD)	22.2 (1.87)	
Gender	n (%)	
Female	61 (66.3%)	
Male	30 (32.6%)	
Non-binary	1 (1.1%)	
Race/Ethnicity	n (%)	
White	50 (54.3%)	
Asian	12 (13%)	
Middle Eastern	9 (9.8%)	
Latino/Hispanic	5 (5.5%)	
Black	2 (2.2%)	
Biracial	14 (16.2%)	
Risk-Perception Score	n (%)	
Low	43 (46.7%)	
Moderate	34 (37.0%)	
High	53 (57.6%)	
County	n (%)	
San Diego	53 (57.6%)	
Orange	24 (26.1%)	
Los Angeles	8 (8.7%)	
Other*	7 (7.6%)	

*Imperial, Riverside, Ventura

Table 4. Awareness assessment

Greater sunscreen use with increased awareness of prolonged sun exposure	60 (65%)
Barriers to sunscreen use	1.Forgetfulness
	2.Not enough time
	3.Lack of inclusivity in sunscreen products
	4. Expense of sunscreen products

Finding highlights an educational gap and suggests awareness of UV risks may improve sunscreen use.

Results

Figure 1. Oc

Predicto

Risk-Perceptio Score

Risk-Perception score: odds of using sunscreen increased by 86% per 1 unit increase, a significant predictor of sunscreen usage

on Face and Body

Sunscreen Usage	n (%)	Median Risk-Perception Score		
Sunscreen use on FACE				
Rarely	11 (21.2%)	9.70		
Occasionally	11 (21.2%)	10.20		
Frequently	9 (17.3%)	9.60		
Always	21 (40.4%)	9.80		
Sunscreen on BODY				
Rarely	43 (82.7%)	9.90		
Occasionally	8 (15.38%)	10.40		
Always	1 (1.93%)	10.00		

Among sunscreen users (n = 52), all levels of sunscreen use were moderate with minimal variation

Table 3. Median Risk-Perception Scores by Typical Sunscreen Use, Sunscreen Reapplication, and Sun Protection Behaviors

Sun protective behaviors	n (%)	Median Risk- Perception Score		
Do you typically apply sunscreen? (N=92)				
ſes	52 (57.6%)	9.77		
When do you normally reapp	ly sunscreen?* (n=52	2)		
normally don't reapply	25 (48.1%)	9.7		
After swimming or sweating	15 (28.8%)	10.2		
After 2+ hours in the sun	12 (23.1%)	9.58		
Do you use any other forms o balm, uv clothing)? (n=52)	of sun protection (hat	s, sunglasses, lip		
None	13 (25.0%)	9.6		
Hats	2 (3.8%)	9		
_ip balm	1 (1.9%)	13		
Sunglasses	6 (11.5%)	10		
JV clothing	1 (1.9%)	7		
Hats + lip balm	1 (1.9%)	8		
Hats + sunglasses	10 (19.2%)	9.9		
Sunglasses + lip balm	5 (9.6%)	10.4		
Hats + sunglasses + lip balm	10 (19.23%)	9.7		
Hats + sunglasses + UV Clothing	2 (3.84%)	9.5		
Hats + sunglasses + UV clothing + lip balm	1 (1.9%)	11		
edian Risk-Perception scores by sunscreen reapplication timing and other sun rotection methods, showing moderate variation across groups with higher				

dds of Sunscreen	Use by	Risk-Perception	Score

r	Odds Ratio	95% CI	p-value
ı	1.86	1.25, 2.77	0.002

 Table 2. Median Risk Perception Scores by Typical Sunscreen Use

scores generally associated with more comprehensive protective behaviors

- recommended practices⁶

- Limitations







Conclusions

• Participants with higher risk-perception scores were more likely to practice daily sunscreen habits Suggests that risk awareness of prolonged sun exposure can drive protective health behaviors

• About half of participants (52%) reported reapplying under circumstances under swimming, sweating, or extended sun exposure (2+ hrs) which falls short of the

• Consistent with PubMed, forgetfulness was a barrier that contributed to less sunscreen usage⁷ Alongside forgetfulness, our data suggests that not having enough time, lack of inclusivity, and the expense of sunscreen products to also be barriers

 Further investigation is needed to clarify the role of perceived risk and knowledge in shaping consistent sun protection practices long-term

 Self-reported data may be affected by recall bias Online recruitment may have introduced selection bias toward health-conscious individuals Not generalizable due to lack of diversity (mainly) college students) and no random sampling

Policy Implications

 Integrate sunscreen into campus wellness campaigns • Posters and social media posts to remind students to wear sunscreen outdoors Install free sunscreen dispensers at high traffic outdoor areas on campus (dorm entrances, gyms,

 Incorporate sunscreen education into K-12 curriculum to **normalize sunscreen use** as a habit Include sunscreen as a tax-free health product at pharmacies and retail stores

References

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