

Safety and Tolerability of Facial Skincare in Children and Adolescents: Clinical Testing and Multigenerational Insights

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ABSTRACT

Background: Pediatric and adolescent interest in facial skincare is increasing, often driven by social media and early exposure to adult-formulated products.

Objective: To evaluate the safety of skincare products suitable for all ages through the lens of generationally evolving skin attitudes and routine behaviors.

Methods: A 3-product regimen (hydrating cream cleanser, hydrating moisturizer, daily mineral SPF 40) underwent pediatric safety-in-use studies under normal use, comedogenic/acnegenic assessments, and adult Human Repeat Insult Patch Test (HRIPT). In addition, a quantitative cross-sectional survey across 3 age cohorts (8–17, 18–29, 30–45 years) assessed facial skincare behaviors and attitudes.

Results: Across adult testing, the regimen showed low irritation and sensitization potential, non-comedogenic performance, and no product-related adverse events. In 4 pediatric safety-in-use studies, no clinically meaningful increases in erythema, dryness, or edema were observed. Among 855 eligible survey respondents, product use, routine complexity, and specialty-product exposure increased with age, whereas daily SPF use was suboptimal in 8–17 year-olds. “Tested on sensitive skin,” “clinically tested,” and “fragrance-free” claims were highly valued across cohorts. Dermatologists and other medical professionals emerged as the most trusted sources of guidance.

Conclusion: A skincare regimen developed with dermatologists demonstrated favorable safety in controlled and real-world conditions across a large age demographic. Multigenerational survey findings highlight early engagement, persistent gaps in photoprotection, and broad reliance on medically oriented guidance, supporting the need for simple, evidence-based, age-appropriate skincare recommendations and greater engagement from the dermatologic community.

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INTRODUCTION

Growing consumer engagement with skincare across all age groups, including a documented trend toward early-onset use in children and adolescents, has spurred robust discussion in the dermatologic community. Skincare trends are broadcast on social media through influencer marketing and dermatology/beauty channels. Growth in online searches for ingredient-based education reveals both rising interest and an opportunity for dermatologists to anticipate questions and concerns.¹⁻⁴ This is especially true when products intended for older, mature skin are used by those with an immature skin barrier and heightened risk of comedogenicity, sensitivity, irritant dermatitis, and allergic contact dermatitis.⁵⁻⁸ Given heightened interest in active ingredients and the unique vulnerabilities of pediatric skin, rigorous safety evaluation of products marketed to and used by children and adolescents

is critical. A dermatologist-developed skincare routine and a generational skincare survey were evaluated to explore modern, relevant guidance, especially for pediatric and adolescent populations.

MATERIALS AND METHODS

A dermatologist-developed 3-product regimen (Table 1) formulated for sensitive skin – a hydrating cream cleanser, a daily hydrating moisturizer, and a daily sunscreen – underwent safety-in-use studies in pediatric and adolescent subjects, acnegenic/comedogenic evaluations, and an adult Human Repeat Insult Patch Test (HRIPT) to assess irritation and sensitization under controlled and real-world conditions. All studies followed the Declaration of Helsinki, ICH Guideline E6 for Good Clinical Practice, applicable US regulations (21 CFR Parts 50 and 56), and the testing facilities’ standard operating procedures.

TABLE 1.

Description of Products Tested	
Tested Product Name	Key Ingredients
Soft Launch Hydrating Cream Cleanser	Coconut-based cleansing agents, ceramides (NP, AP, EOP), cholesterol, phytosphingosine, glycolipids, allantoin
Slam Dunk Hydrating Moisturizer	Glycerin, arginine NMF, shea butter, plant-derived fatty acids, phospholipids
Solar Mate Invisible Daily Mineral Sunscreen (SPF 40)	Zinc oxide 12%
Plus One Tinted Daily Mineral Sunscreen (SPF 40)	Zinc oxide 15% plus iron oxides

Ceramide NP = non-hydroxy fatty acid + phytosphingosine base; Ceramide AP = alpha-hydroxy fatty acid + phytosphingosine base; Ceramide EOP = esterified omega-hydroxy fatty acid + phytosphingosine base

Clinical Study Design

Safety in Use Testing – Pediatric

Four single-center, baseline-controlled, monadic safety-in-use studies in healthy panelists 8 to 18 years evaluated a hydrating moisturizer, a hydrating cream cleanser, an invisible daily mineral sunscreen SPF 40, and a tinted daily mineral sunscreen SPF 40 under normal facial use conditions. Panelists were enrolled if in good general health, free of confounding systemic or dermatologic disease, and willing to discontinue similar products for the study duration. Written informed consent was obtained from a parent or guardian for panelists <18 years and assent from those 8 to 17 years, using Institutional Review Board (IRB)-approved forms. Key exclusions included significant illness; use of systemic or topical corticosteroids, anti-inflammatory drugs, antihistamines, immunosuppressants, retinoids, or antibiotics that could interfere with assessments; visible facial dermatoses confusable with product reactions; prior adverse reactions to similar products; and introduction of new personal care products during the trial. The cleanser study additionally excluded a history of dermatitis/eczema or psoriasis, abnormal pigmentation at the test site, and excessive baseline erythema or dryness.

Instructions for use were: moisturizer once daily to clean dry skin for 4 weeks; cleanser twice daily for 2 weeks; and SPF 40 products at least once daily as the final morning step and every 2 to 3 hours outdoors. Caregivers were instructed not to introduce overlapping products and to record applications and comments in daily diaries; the cleanser study added a day 7 telephone check-in. At baseline and the final visit (week 2 for cleanser, week 4 for others), a board-certified dermatologist (or dermatologist/pediatrician) graded erythema, edema, and dryness on standardized ordinal scales (0-4, none to severe; dryness 0-3 in the cleanser study). In the cleanser study, panelists and/or caregivers also rated stinging, burning, itching, and tingling on a 0-3 scale at baseline and week 2.

Adverse events (AEs) were monitored continuously, with standardized definitions distinguishing transient expected sensations from reportable AEs and serious AEs; investigators assessed severity, relationship to the test article, and outcomes. Compliance was assessed by diary review in all studies and by weighing cleanser bottles at baseline and week 2. Across all 4 trials, no product-related dermatologic irritation, hypersensitivity, or clinically meaningful changes in erythema, dryness, or edema were reported, supporting good tolerability and safety for intended facial use in children and adolescents.

Clinical Testing

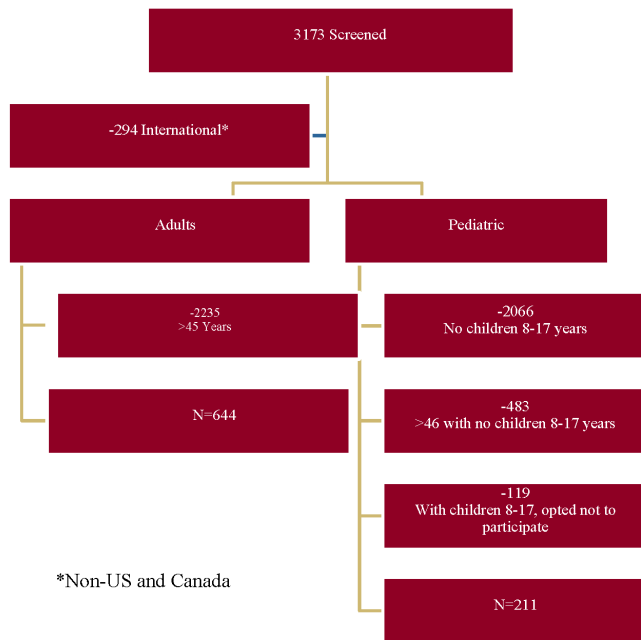
In manufacturer-sponsored testing, a 4-week facial trial in 26 adult women with normal-to-dry skin and mild comedonal acne found no significant change in mean total acne lesion counts after daily moisturizer use ($P=0.746$), with no adverse events. A 4-week back comedogenicity study using a cyanoacrylate follicular biopsy model found that the cream cleanser had a low mean comedogenic score, comparable to the dimethicone negative control and significantly lower than the acetylated lanolin alcohol positive control. In a 55-subject HRIPT of the moisturizer under occlusion, 51 completers showed no irritation during induction and no sensitization at challenge. Overall, these studies support the acnegenic/comedogenic and dermal safety profile of the evaluated moisturizer and cream cleanser under the conditions tested.⁹

Methods (Survey)

Given the influence of social media and heightened interest in skincare ingredients in those with an immature skin barrier, a quantitative cross-sectional study was conducted between February 1, 2026 and March 31, 2026. SkinSAFE®, a clinically backed platform developed with Mayo Clinic to help consumers navigate skincare ingredients and skin health, served as the survey partner to reach a highly engaged population. Participants were registered members of the HIPAA-compliant network who had previously consented to surveys, had an active interest in skincare, used online tools to research products, and who may have had self-perceived sensitive skin or a diagnosed skin condition (eg, eczema, atopic skin). A screening questionnaire stratified panelists into 3 age groups: 8 to 17, 18 to 29, and 30 to 45 years. Panelists >45 years were asked whether children <18 years lived in their household. Written informed consent was obtained from a parent or guardian for panelists under 18 years, and assent from adolescent panelists. The survey was open to both male and female panelists in North America (United States and Canada) and included approximately 24 questions focused into 4 major areas: facial skin type and product use; the age of survey participants when facial skincare products were first used; attitudes towards purchase and trusted sources of recommendations; and the idea of perfect facial skincare products. A further evaluation was conducted to assess potential differences in reporting between parental and self-reported

responses for those aged 12 to 17 years. Quantitative z-tests for proportion comparisons across cohorts at the 95% and 90% confidence levels were conducted.

FIGURE 1. Disposition of survey respondents.



RESULTS

Sex and Age Distribution

A total of 3173 panelists completed screening (Figure 1); 855 (26.9%) met criteria: <18 years, n=211; 18–29 years, n=147; 30–45 years, n=497. Within the youngest group, n=90 were 8–12 years, and n=121 were 13–17 years (Figure 2).

Survey Results

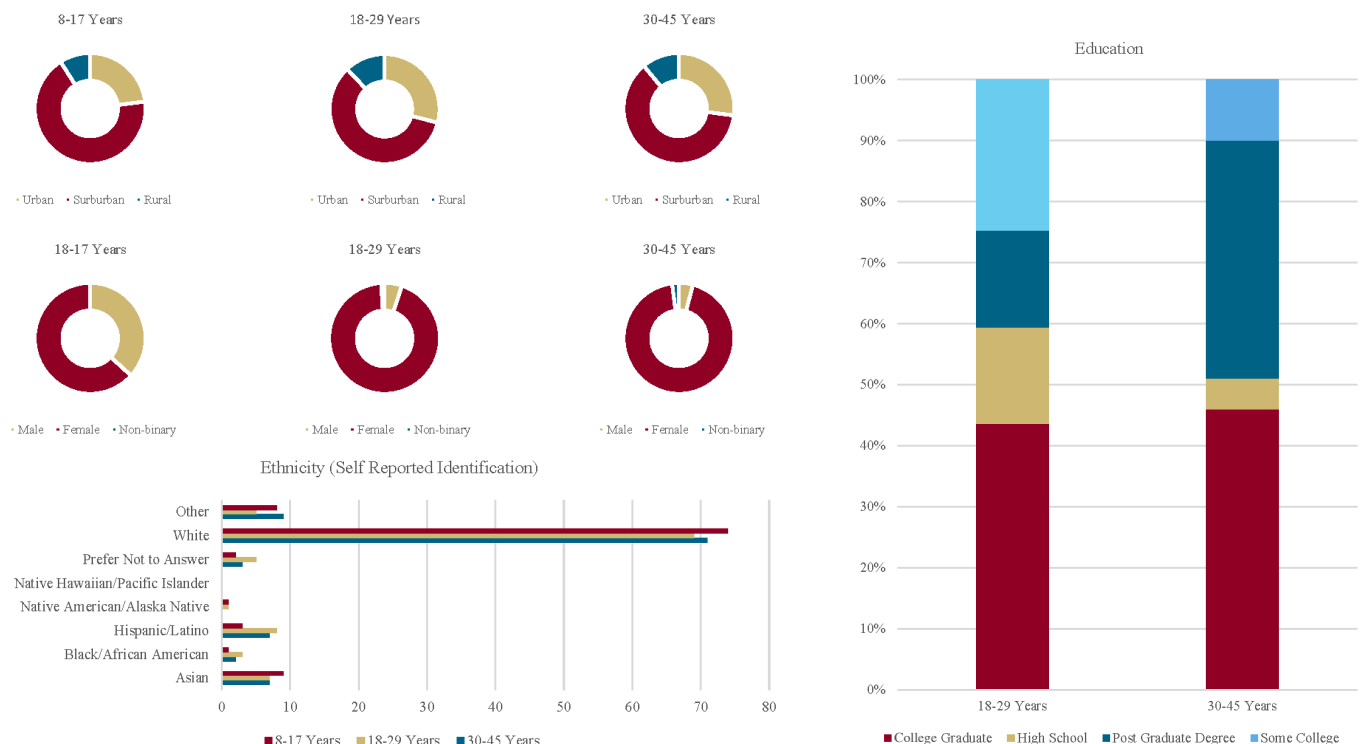
Facial Skin Type, Skin Sensitivity, Dermatologists' Impact, and Attitude Towards Product Use

There were significantly more panelists in the younger Gen Z (14–29 years)/Alpha (<13 years) group who characterized their skin as normal (37%) or normal to oily (21%) vs the 18 to 29 group ($P<0.05$). This shifted at 13 to 17 years, with one-third reporting combination skin. Because self-reported skin types evolve with age, and inappropriate active ingredients can damage a developing barrier and provoke irritant or contact dermatitis, educating younger populations is urgent. Although most younger panelists had not seen a dermatologist in the prior 2 years, indiscriminate product use may contribute to increased dermatology visits.

Having a daily routine increased with age: about 30% of those <18 years reported one (42% among 13–17 year olds), vs over 63% of those >18.

The most-reported products across all groups were makeup removers/cleansers, facial skincare with SPF, and acne

FIGURE 2. Demographics.



treatments, the last more common in those <29 vs >30 years ($P<0.05$). Use of serums, essences, and similar treatments was highest in those >30 years, while facial moisturizers and lip balm were used heavily regardless of age.

The number of facial products used was age-associated, with older panelists reporting more products. More than half of respondents across age groups purchased products every few months – normal for maintenance products, though higher use would be expected for those managing acne or dry skin.

Attitudes toward routines were consistent across age groups, with the top 3 statements being a desire for a simple, low-effort routine; finding something that works and sticking with it; and prioritizing facial skin care. The 2 older groups (>18 years) reported feeling more overwhelmed by product choice, presenting an opportunity for dermatologists to guide selection.

Age at Initiation of Different Facial Skincare Products

Although almost a quarter of the youngest group reported not using a cleanser/makeup remover, those who did began earlier (10–14 years) than the older groups (10–17 years). Most of the GenZ/Alpha group began using facial products with SPF between 10 and 14 years, significantly earlier than the older groups ($P<0.05$), though still suboptimal, representing a continued opportunity for dermatologists to counsel on skin cancer prevention. Facial moisturizer without SPF also started significantly earlier in the youngest group, though about a third reported not using it at all. Acne treatment use began between 10 and 17 years, coinciding with pubertal skin changes.

Eye cream use was most common in the 30 to 45 group, with over 30% starting at 25 to 34 years and more than a third at 18 to 24 years. For essences, serums, and specialty products, most

of the youngest group did not use treatments; usage in the 18 to 29 group mostly began when they were 15 years or older and in the oldest group at 18 to 44 years. Because many 15- to 24-year-olds engage with varied formulations, there is a key opportunity to pair broad-spectrum sunscreen counseling with simple, pre-aging products. Lip balm use was heavy across all groups, with most starting young (under 10 to 14 years).

Attitudes Towards Purchase of Skincare Products, Claims, Trusted Sources, Influence of Social Media, and Artificial Intelligence
Across all age groups, most purchased products to solve self-identified or dermatologist-recommended concerns (Table 2). The 2 older groups scored significantly higher on higher-order needs (confidence, indulgence, feeling good) than the youngest group.

The top claims across all groups were tested on sensitive skin, clinically tested, and fragrance free (Table 3); SkinSAFE Trusted Choice also ranked highly, likely an artifact of the survey population. The youngest group differed in valuing “Suitable for young people/ Tested for safety on children and teens,” possibly influenced by caregivers – a claim dermatologists can reinforce by helping consumers recognize products backed by pediatric safety data.

Across all age groups, dermatologists, SkinSAFE, and nurse practitioners/physician assistants/other medical professionals were the 3 most trusted sources for advice and recommendations, underscoring the central role of medically oriented guidance (Table 4). The fourth most trusted source was parents/guardians for the youngest cohort, estheticians/facialists for those 18 to 29 years, and online reviews for adults over 30, suggesting dermatology-driven messaging may have greatest impact when reinforced through age-specific secondary influencers.

TABLE 2.

Top Five Reasons for Purchasing Facial Skincare Products					
8–17 Years N=211		18–29 Years N=147		30–45 Years N=497	
I buy facial skincare products primarily to solve specific skin concerns.	83%	Skincare is part of how I take care of myself.	86%	I buy facial skincare products primarily to solve specific skin concerns.	87%
I buy skincare when I notice a visible problem.	72%	I buy facial skincare products primarily to solve specific skin concerns.	85%	I buy facial skincare products to prevent future skin issues.	85%
I buy facial skincare products to prevent future skin issues.	71%	I feel more confident when I'm consistent with skincare.*	80%	Skincare is part of how I take care of myself.	83%
Skincare is part of how I take care of myself.	71%	I buy facial skincare products to prevent future skin issues.	76%	I feel more confident when I'm consistent with skincare.*	71%
I feel more confident when I'm consistent with skincare.	59%	I buy facial skincare products to make me feel good.	64%	I buy skincare when I notice a visible problem.	61%

* $P<0.05$ vs 8 to 17 years

Use of social media for skincare information was more common among the 2 older groups and older Gen Z than the youngest panelists (approximately 84%, 68%, and 19%), likely reflecting differential access to technology beginning in middle school (Figure 3). Social media had the greatest influence in the 18 to 29 group (Table 5), which scored significantly higher on most

items. Respondents most often endorsed that “social media has both positive and negative effects on me” and “I follow social media influencers,” while the lowest-rated were positive effects on mental health and self-confidence. Interest in using AI to shop for skincare was mixed, with more than half at most slightly interested.

TABLE 3.

Importance of Product Claims in Purchasing Decisions (Top 10)					
8–17 Years N=211		18–29 Years N=147		30–45 Years N=497	
Tested on Sensitive skin	86%	Tested on Sensitive skin	83%	Tested on Sensitive skin	90%
Suitable for young people/Tested for safety on children and teens	82%	Fragrance Free	80%	Fragrance Free	83%
Clinically Tested	76%	Clinically Tested	75%	Clinically Tested	75%
Fragrance Free	74%	Non-comedogenic	66%	SkinSAFE Trusted Choice	71%
SkinSAFE Trusted Choice	74%	SkinSAFE Trusted Choice	63%	Non-comedogenic	66%
Non-comedogenic	68%	Cruelty-free	62%	Developed with Dermatologists	59%
Dermatologist Recommended	66%	Dermatologist Recommended	56%	Cruelty-free	57%
Developed with Dermatologists	63%	Free of essential oils	56%	Dermatologist Recommended	55%
Natural Ingredients	62%	Developed with Dermatologists	53%	Natural Ingredients	51%
Cruelty-free	58%	Natural Ingredients	53%	Free of essential oils	50%

TABLE 4.

Top 5 Most Trusted Sources for Skincare Advice			
Rank	8-17 years Rankings	18-29 years Rankings	30-45 years Rankings
1	Dermatologist	Dermatologist	Dermatologist
2	SkinSAFE	SkinSAFE	SkinSAFE
3	Nurse Practitioner / Physician Assistant / other medical professionals	Nurse Practitioner / Physician Assistant / other medical professionals	Nurse Practitioner / Physician Assistant / other medical professionals
4	Parents/Guardians	Esthetician / Facialist	Online Consumer Reviews / Ratings
5	Other Family/Friends	Online Consumer Reviews / Ratings	Esthetician / Facialist

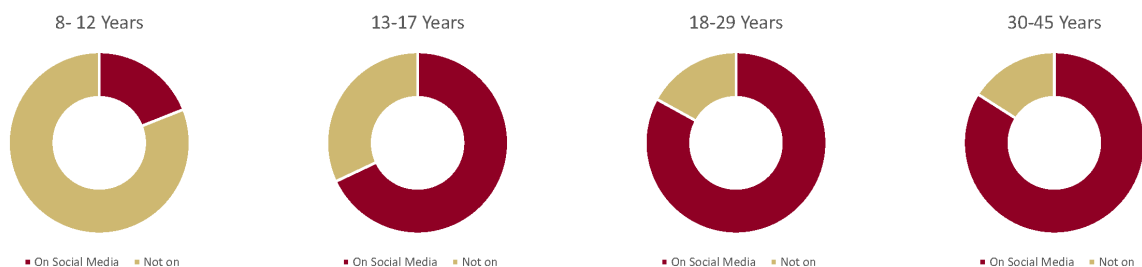
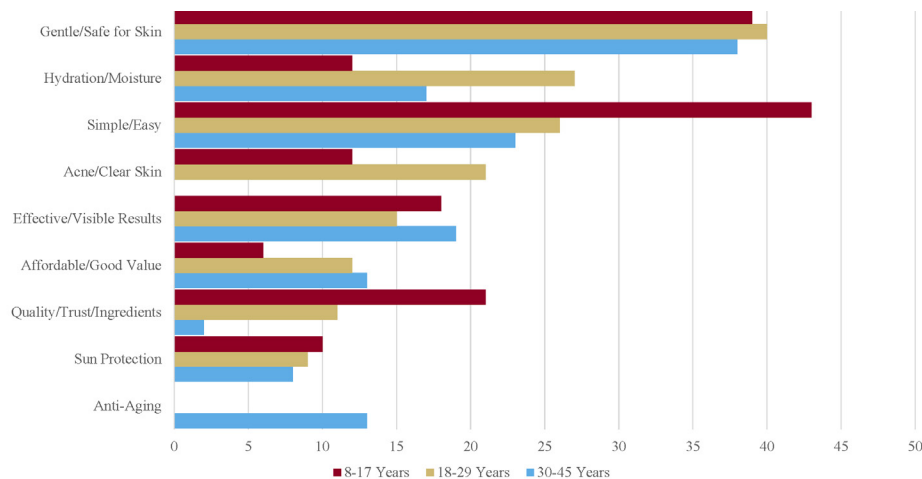
FIGURE 3. Percent of participants on social media.

TABLE 5.

Attitudes Towards Social Media – Strongly Agree/Agree			
	13-17 years N=92	18-29 years N=122	30-45 years N=416
I follow social media influencers	64%	70%	52%
Social media increased my self-confidence	11%	13%	10%
Social media added to my self-criticism	34%	69%	43%
Social media has both positive and negative effects on me	66%	84%	69%
Social media has a positive effect on my mental health	4%	23%	13%
Social media has a negative effect on my mental health	36%	49%	42%
Social media has educated me on facial skincare	41%	65%	48%

FIGURE 4. Open ended verbatim in response to question about the perfect skincare product.

*Perfect Facial Skincare Product (Open Ended Responses)*

Across age groups (Figure 4), the ideal product was described as gentle, easy, and effective.

DISCUSSION

This study demonstrates that facial skincare engagement begins early, with many respondents aged 8 to 17 years already using facial cleansers, suggesting childhood and adolescence may be an important window for establishing safe, simple, preventive habits before more complex behaviors develop. Age-related differences may reflect generational differences in motivation: younger respondents engaged more functionally or reactively, whereas older respondents reported greater consistency and more preventive, wellness-oriented motivations. For younger individuals, recommendations may be most effective when framed around simplicity, tolerability, safety, and ease of adoption; for adults, counseling may additionally emphasize prevention, skin health maintenance, and the well-being of consistent self-care.

The findings also highlight a gap between product use and evidence-based routine development. As products are increasingly marketed to children and adolescents, manufacturers should be encouraged to generate clinical data in the intended-use population. Demonstrating tolerability, low irritation potential, absence of sensitization, and non-comedogenicity, as shown here, is particularly important given clinician and parent concerns about early product use. Such evidence may support safer adoption of routines, help avoid ingredients lacking an established need or safety profile in younger populations, and give clinicians greater confidence in age-appropriate recommendations. Survey respondents cited medical professionals as their most trusted sources, highlighting the central role of clinicians in shaping product adoption. Integrating vetted digital resources into counseling may extend in-office recommendations by helping families recognize products tested in sensitive or pediatric skin and by prompting timely return to care for persistent symptoms, suspected allergic contact dermatitis, acne exacerbations, or photosensitivity.

Social media and online trends remain influential, particularly among 18 to 29-year-olds. Rather than countering this interest, dermatologists, pediatric clinicians, and responsible industry partners are well positioned to reframe the message: skincare for children and adolescents should be gentle, age-appropriate, and grounded in clinical evidence rather than driven by influencer aesthetics or fear-based anti-aging narratives. Clear, age-appropriate communication that acknowledges early interest while discouraging unnecessary experimentation may reduce irritant and allergic reactions, simplify routines, and support long-term skin health.

Limitations

Limitations include self-reported survey data, parent-proxy reporting for minors, and recruitment through an online panel that may not reflect broader demographic diversity. Parent-proxy reporting may have influenced younger-group responses, as suggested by subtle differences in the small self-reporting 13- to 17-year-old subgroup. The SkinSAFE audience is an enriched sample with likely greater awareness of skin sensitivity, allergy, and routine skincare than the general population, so findings may not generalize to typical consumers. Children of regular SkinSAFE users may also be more familiar with skincare, as such discussions occur more often in households with chronic skin conditions. Sun care practices may reflect prior educational initiatives, generational differences, or response bias. Finally, the survey was limited to North American respondents and may not generalize to other regions.

CONCLUSION

Clinical testing and safety evaluation across diverse age groups are the foundation for evidence-based skincare recommendations. Facial skincare practices differ meaningfully across age groups, with routine complexity, consistency, and product engagement increasing with age. Despite frequent dermatologist recommendations, SPF use remains underused across all age groups, an important opportunity for continued photoprotection education. Across groups, respondents consistently identified the ideal product or routine as simple, gentle, and effective, even among those reporting higher rates of product trial. Dermatologists and other medical professionals remain the most trusted sources of guidance across generations, underscoring the importance of clinician-directed education in an increasingly complex consumer environment.

These findings suggest evidence-based skincare education should begin earlier and emphasize practical, age-appropriate routines prioritizing simplicity, tolerability, efficacy, and daily sun protection. Trusted digital resources may extend clinician recommendations beyond the encounter by supporting informed product selection and reinforcing healthy behaviors. This is especially important as people of all ages obtain information from technology and social media, where unvetted,

exaggerated content can normalize aggressive routines, drive unnecessary product use, and increase the risk of irritation, allergy, and potential skin damage. Earlier clinician intervention, supported by trusted digital tools, may guide adoption of safe, consistent, evidence-based skincare habits across generations.

DISCLOSURES

Dr Smith serves as a consultant, advisor and/or speaker for Amgen, Arcutis, Organon, Incyte, Regeneron, Sanofi, L'Oreal, and Bubble Skincare. Dr Zeichner is an advisor, consultant, and/or speaker for AbbVie, Allergan, Arcutis, Dermavant, Galderma, Incyte, Kenvue, L'Oreal, Bubble Skincare, Ortho Dermatologics, Pfizer, Procter and Gamble, Regeneron, RoC Skincare, Sun Pharma, UCB, and Unilever. Dr Frey serves as an investigator, consultant, advisor, and/or speaker for Beiersdorf, Procter and Gamble, Bubble Skincare, Kenvue, La Roche-Posay, CeraVe, and L'Oreal. Dr Lain is an advisor, speaker, and/or consultant for AbbVie, Alchemie, Almirall, Beiersdorf, Takeda, Apogee, Arcutis, Novartis, Organon, Eli Lilly, Galderma, Incyte, Kenvue, L'Oreal, Ortho Dermatologics, Pfizer, Bubble Skincare, Regeneron, Sanofi, Sun Pharma, and UCB.

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