Self-assessments of standardized scalp massages for androgenic alopecia: survey results

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23 pages
8 figures

Table of Contents

Materials

Materials S1. Literature Excerpt

All survey participants were exposed to literature detailing how to perform the standardized scalp massages (SSMs) along with directions for tracking hair changes using photographs. This literature is republished, with permission, through the following link:

https://perfecthairhealth.com/dermatology-and-therapy/excerpt_suppinfo1.pdf

Materials S2. Demonstration Video

All survey participants were exposed to a demonstration video detailing how to perform the SSMs. This demonstration video is republished, with permission, through the following link:

https://vimeo.com/310444236/bed6eb03c2

Materials S3. Survey Design, Skip Logic, & Questions

The following text shows the survey design, skip logic, and questions issued to all survey participants using SurveyHero.com (questionnaire begins on the next page). Full-width lines represent survey page breaks.

(1) What is your email? * This is just so I can verify when you received the book and videos

_____

(2) What is your age? *

[ ] 13-19

[ ] 20-25

[ ] 26-34

[ ] 35-44

[ ] 45-54

[ ] 55-64

[ ] 65-74

[ ] 75+

(3) What is your gender? *

[ ] Male

[ ] Female

[ ] Other

(4a) (only if (3) = [Female]): Before starting any of the recommendations in the book or video, what kind of hair loss did/do you have? * Please check all that apply to you

[ ] Temple / frontal recession (a receding hairline)

[ ] Vertex thinning (a balding spot)

[ ] Diffuse thinning (hair thinning all over the scalp)

[ ] Alopecia areata (hair loss from an autoimmune condition

[ ] Telogen effluvium (temporary, patchy hair shedding – often related to stress)

(5a) (only if (3) = [Female]): Which of the following images best represents your kind of hair loss? * Click on any image to make a selection

(4b) (only if (3) = [Male]): Before starting any of the recommendations in the book or video, what kind of hair loss did/do you have? * Please check any that apply to you

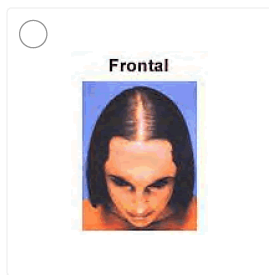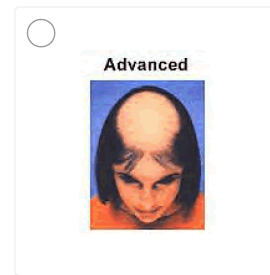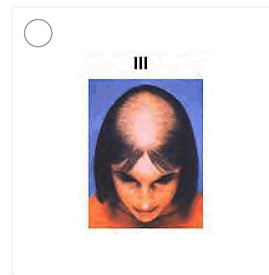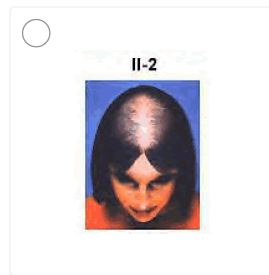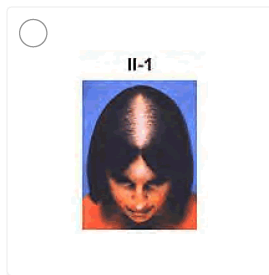[ ] Temple / frontal recession (a receding hairline)

[ ] Vertex thinning (a balding spot)

[ ] Diffuse thinning (hair thinning all over the scalp)

[ ] Alopecia areata (hair loss from an autoimmune condition

[ ] Telogen effluvium (temporary, patchy hair shedding – often related to stress)

(5b) (only if (3) = [Male]): Which of the following images best represents your kind of hair loss? * Click on any image to make a selection
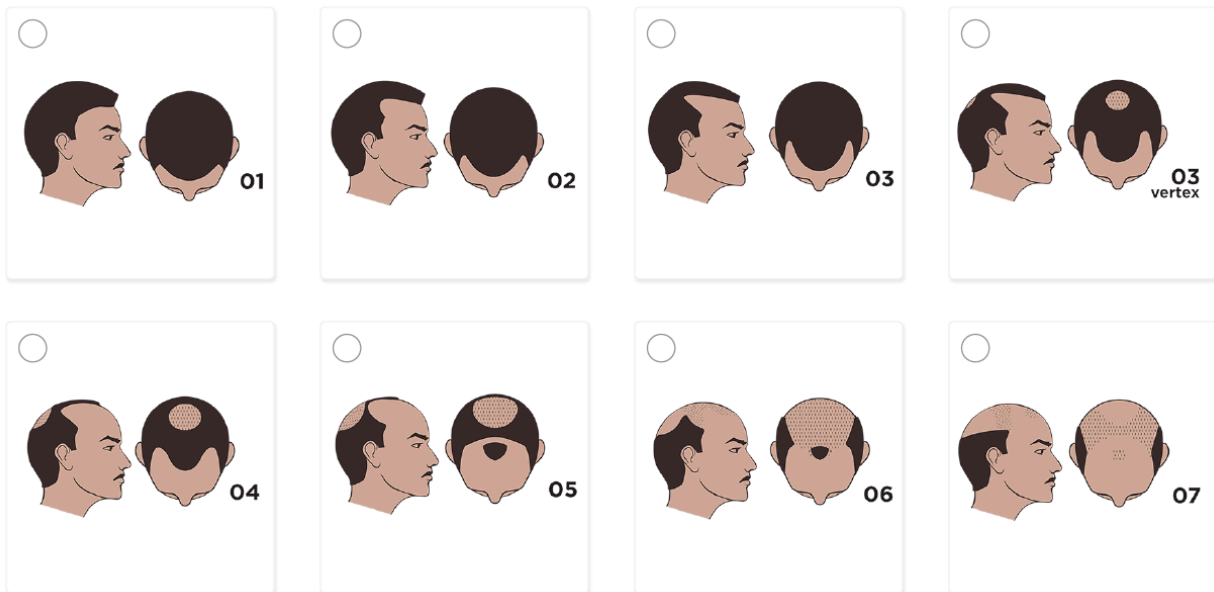
(4a) (only if (3) = [Other]): Before starting any of the recommendations in the book or video, from what kind of hair loss did/do you suffer? *

Please check any that apply to you

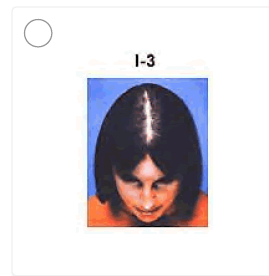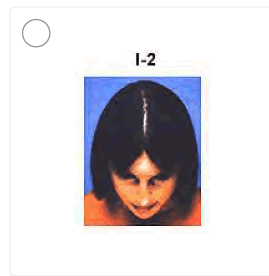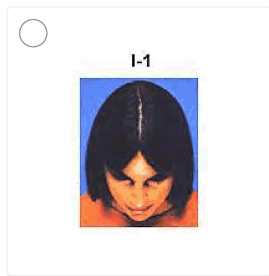[ ] Temple / frontal recession (a receding hairline)

[ ] Vertex thinning (a balding spot)

[ ] Diffuse thinning (hair thinning all over the scalp)

[ ] Alopecia areata (hair loss from an autoimmune condition

[ ] Telogen effluvium (temporary, patchy hair shedding – often related to stress)

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(5) Have you had a chance to read the book and watch the video? *

[ ] Yes

[ ] No

(if (5) = [Yes], continue to (6); if (5) = [No], skip to (20))

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(6) Have you had a chance to try any of the recommendations in the book and video? * This includes any dietary, lifestyle, or massage exercises (and for any length of time)

[ ] Yes

[ ] No

(if (6) = [Yes], continue to (7); if (6) = [No], skip to (20))

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(7) Since getting the book, have you tried to do the massages? * This is for any length of time

(even if just once)

[ ] Yes

[ ] No

(if (7) = [Yes], continue to (8); if (7) = [No], skip to (20))

(8) Since getting the book, which other mechanical stimulation therapies have you tried (if

any)? * Please check all that apply to you

[ ] None (just massaging)

[ ] Dermarolling

[ ] Boar bristle brushing / brush taps

[ ] Low-Level Laser Therapy

[ ] Platelet-Rich Plasma Therapy (PRP)

[ ] Botox injections (in the scalp)

[ ] Acupuncture (in the scalp)

[ ] Other _____

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(9) Roughly how many months have you been massaging your scalp? *

[ ] 0

[ ] 1

[ ] …

[ ] 36

[ ] 37+

(10) On average, how many minutes per day do you massage your scalp? *

[ ] 0-10 minutes daily

[ ] 11-20 minutes daily

[ ] 21-30 minutes daily

[ ] 31-40 minutes daily

[ ] 41+ minutes daily

---

(11) Since getting the book, have you applied any topicals to your scalp on a consistent basis? * Please only check "yes" if you've applied a topical regularly and for longer than two months

[ ] Yes

[ ] No

(if (11) = [Yes], continue to (12); if (11) = [No], skip to (13))

---

(12) Which topical(s)? * Please check all that apply to you

[ ] Minoxidil (Rogaine)

[ ] Fat-based oils (like emu, castor, olive, pig lard, or pumpkin seed oil)

[ ] Essential oils (like rosemary, peppermint, or lavender oil)

[ ] Caffeine

[ ] Spironolactone

[ ] Other _____

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(13) Since getting the book, which of the following best resembles your own diet? *

[ ] None (I don't follow any particular diet)

[ ] Danny Roddy / Ray Peat Diet

[ ] Low Carb Diet (but not paleo)

[ ] Mediterranean Diet

[ ] Paleo: Ketogenic / Low-Carb

[ ] Paleo: Moderate Carbohydrate (no ketosis)

[ ] Paleo: plus modifications from the book: white rice, no cruciferous vegetables, etc.

[ ] Veganism

[ ] Vegetarianism

[ ] Other _____

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(14) Since implementing any of the book's recommendations, how has your hair changed?*

[ ] Significant hair regrowth (significant thickening and significant visible improvements to balding areas)

[ ] Slight hair regrowth (slight thickening and slight visible improvements to balding areas)

[ ] Stabilization (no hair regrowth, but no further hair loss)

[ ] Slight hair loss (hair loss at the same pace since before trying any of the book's recommendations)

[ ] Significant hair loss (accelerated hair loss since trying any of the book's recommendations)

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(15) Which of the following statements best applies to you? * These statements pertain to the use of finasteride (Propecia) and dutasteride (Avodart)

[ ] I've never taken finasteride (Propecia) or dutasteride (Avodart)

[ ] I used to take finasteride (Propecia) or dutasteride (Avodart), but stopped before I read the book

[ ] I used to take finasteride (Propecia) or dutasteride (Avodart), but stopped after I read the book

[ ] I currently take finasteride (Propecia) or dutasteride (Avodart)

(if (15) = ["never"], skip to (18); if (15) = ["used to"], skip to (16); if (15) = ["currently"], skip to (17))

---

(16) (if (15) = ["used to"]) How long did you take finasteride (Propecia) or dutasteride (Avodart)? *

[ ] 0-6 months

[ ] 7-12 months

[ ] 12-24 months

[ ] 24+ months

---

(17) (if (15) = ["currently"]) How long have you been taking finasteride (Propecia) or dutasteride (Avodart)? *

[ ] 0-6 months

[ ] 7-12 months

[ ] 12-24 months

[ ] 24+ months

---

(18) Since getting the book, have you taken any supplements on a consistent basis? * Please only check "yes" if you've taken a supplement regularly and for longer than two months

[ ] Yes

[ ] No

(if (18) = [Yes], continue to (19); if (18) = [No], skip to (20))

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(19) Which supplements? * Please check all that apply to you

[ ] Multivitamin (any brand)

[ ] Curcumin / Turmeric (any brand)

[ ] Saw Palmetto (any brand)

[ ] Biotin (any brand)

[ ] Iron (any brand)

[ ] Ashwaganda (any brand)

[ ] Provillus™

[ ] Hair Essentials™

[ ] Vitamin D (any brand)

[ ] Calcium (any brand)

[ ] Zinc (any brand)

[ ] Vitamin B-12 (any brand)

[ ] Fish oil (any brand)

[ ] Callagen (any brand)

[ ] Nutrafol™

[ ] Viviscal™

[ ] Other _____

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(20) Do you have anything else you'd like to share? (optional) Ex: suggestions, questions,

topics you want me to research, statements about your progress, etc.

_____

(21) Please indicate your ethnicity (optional)

Ethnicity encompasses a person's feelings of belonging to others who share a similar ancestry, color, language, or religion. You can check any that apply, but you're more than welcome to leave this blank.

[ ] Caucasian

[ ] Latino / Hispanic

[ ] Middle Eastern

[ ] African

[ ] Caribbean

[ ] South Asian

[ ] East Asian

[ ] Mixed

[ ] Other

Materials S4. Bias Exploration

      Background. In our original survey issued in December 2017, photos cataloguing hair changes were not requested of participants. However, the standardized scalp massage-related materials recommended that each prospective participant track their progress through monthly photos (Materials S1). Also included were instructions on how to take photos using similar lightings, angles, distances, hair styles, lengths, and wetness. Accordingly, several survey participants also submitted unsolicited photos representative of their hair change scores.

      Objective. We reviewed all submitted photos and filtered by standardized scalp massage participants and photoset quality. Then we used these photosets to evaluate bias in self-reporting data; specifically, for self-assessed hair change scores.

      Methods. In August 2018, survey participants who entered a valid email address during the December 2017 survey were randomized into 8 groups of equal numbers (n = ~43) and recontacted once through email. Using the same 5-point assessment scale as the original survey, we asked each group to evaluate the hair change of one before-after photoset of an SSM participant who had completed the initial survey, submitted a quality hair change photoset (similar lighting, photo angle, and hair length), and granted permission for its redistribution. Photo-submitting participants rated their own hair changes as -2 (n = 1), 0 (n = 1), 1 (n = 4), or 2 (n = 2). Each group was exposed to only one photoset to eliminate comparative biases across photo-submitting participants.

      Results. 185 of 342 (54.1%) recontactees responded, yielding an average of 23.1 evaluations per photoset (Figure S7). On average, group-perceived hair change scores were 0.07 units higher than self-perceptions. At the time of the original survey, 6 of 8 photo-submitting participants evaluated their hair change as worse than the corresponding recontactee group. Negative and neutral self-perceived hair change scores (i.e., 0, -1, and -2) were, on average, 0.93

units lower than group-perceived scores, whereas positive self-perceived hair changes (i.e., +1 and +2) were 0.24 units higher than group-perceived scores. Differences in self- versus group-perceived hair scores were largest at endpoint endorsements (i.e., -2 and +2), indicating that SSM participants tended to directionally overstate self-perceived hair changes of the most negative or positive magnitude.

Conclusions. While SSM participants tended to overstate both negative and positive self-perceived hair changes, self-assessment biases washed out across all hair change scores (Figure S8). However, these conclusions are a function of the quality of photographs submitted by participants and are thereby variable. Dermatological assessments are needed to determine if self-perceptions align with actual hair changes.

Figures

Figure S1

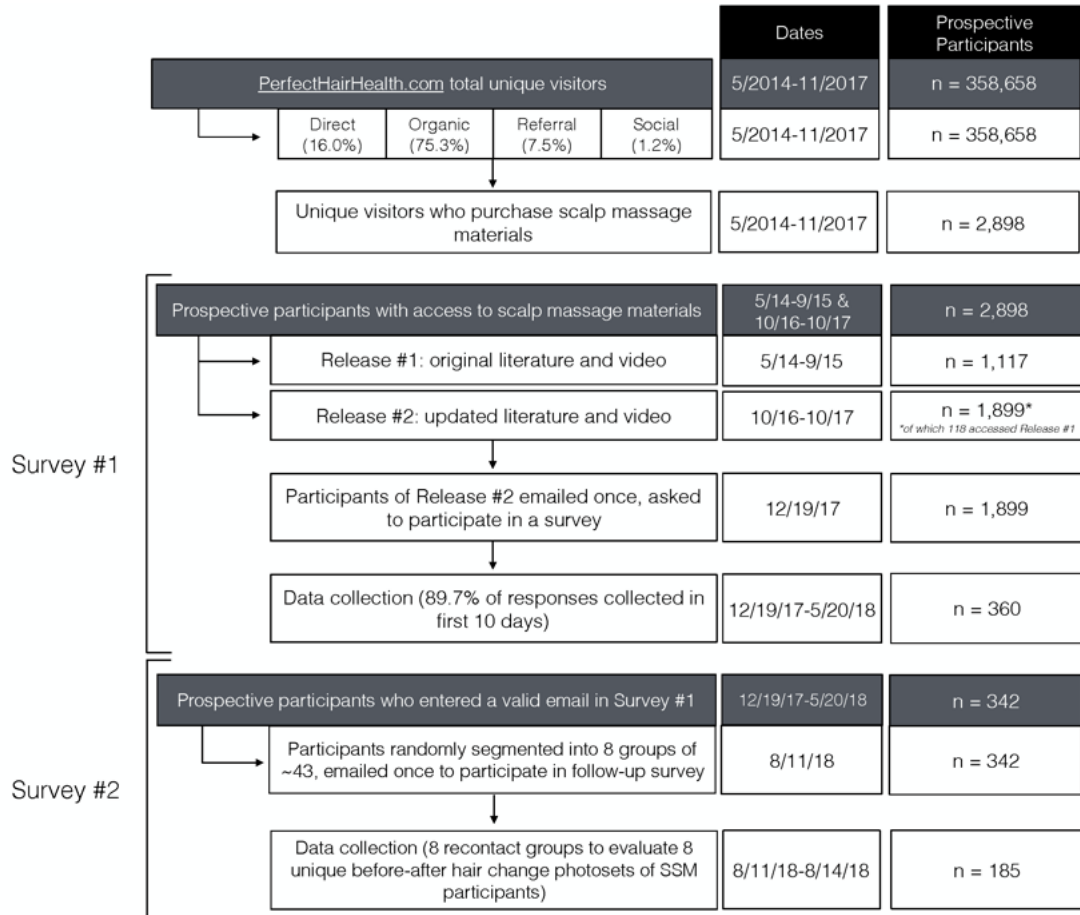|	Dates	Prospective Participants
PerfectHairHealth.com total unique visitors	5/2014-11/2017	n = 358,658
Direct (16.0%) / Organic (75.3%) / Referral (7.5%) / Social (1.2%)	5/2014-11/2017	n = 358,658
Unique visitors who purchase scalp massage materials	5/2014-11/2017	n = 2,898
Prospective participants with access to scalp massage materials	5/14-9/15 & 10/16-10/17	n = 2,898
Release #1: original literature and video	5/14-9/15	n = 1,117
Release #2: updated literature and video	10/16-10/17	n = 1,899* *of which 118 accessed Release #1
Participants of Release #2 emailed once, asked to participate in a survey	12/19/17	n = 1,899
Data collection (89.7% of responses collected in first 10 days)	12/19/17-5/20/18	n = 360
Prospective participants who entered a valid email in Survey #1	12/19/17-5/20/18	n = 342
Participants randomly segmented into 8 groups of ~43, emailed once to participate in follow-up survey	8/11/18	n = 342
Data collection (8 recontact groups to evaluate 8 unique before-after hair change photosets of SSM participants)	8/11/18-8/14/18	n = 185

Figure S1: a flowchart detailing 1) participant selection criteria, 2) dates of contact and inclusion, and 3) total participant numbers for the initial survey and recontact surveys. For full size and resolution, please see the following link: https://perfecthairhealth.com/dermatology-and-therapy/figure_s1_SuppInfo.pdf
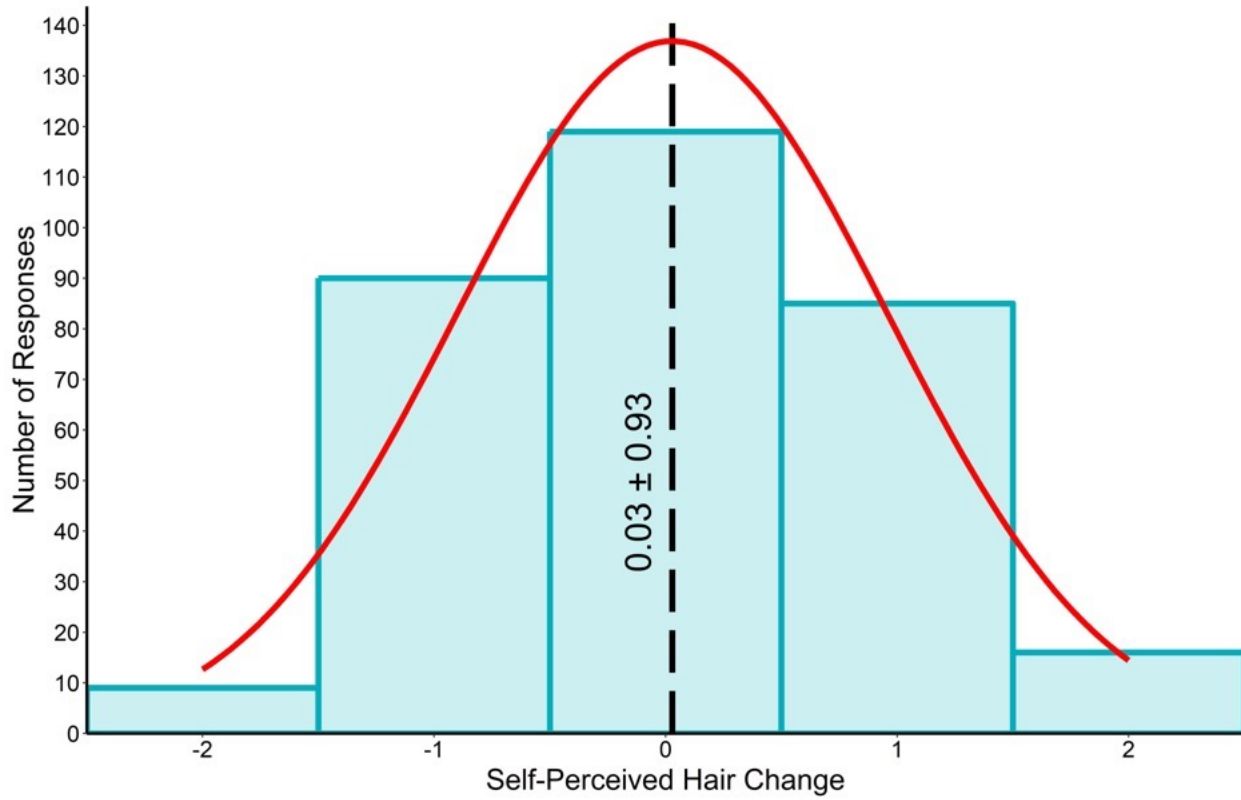
Figure S2

Figure S2: a histogram representing self-perceived hair change response frequencies across all respondents endorsing SSM participation. For full size and resolution, please see the following link: https://perfecthairhealth.com/dermatology-and-therapy/figure_s2_SuppInfo.jpg
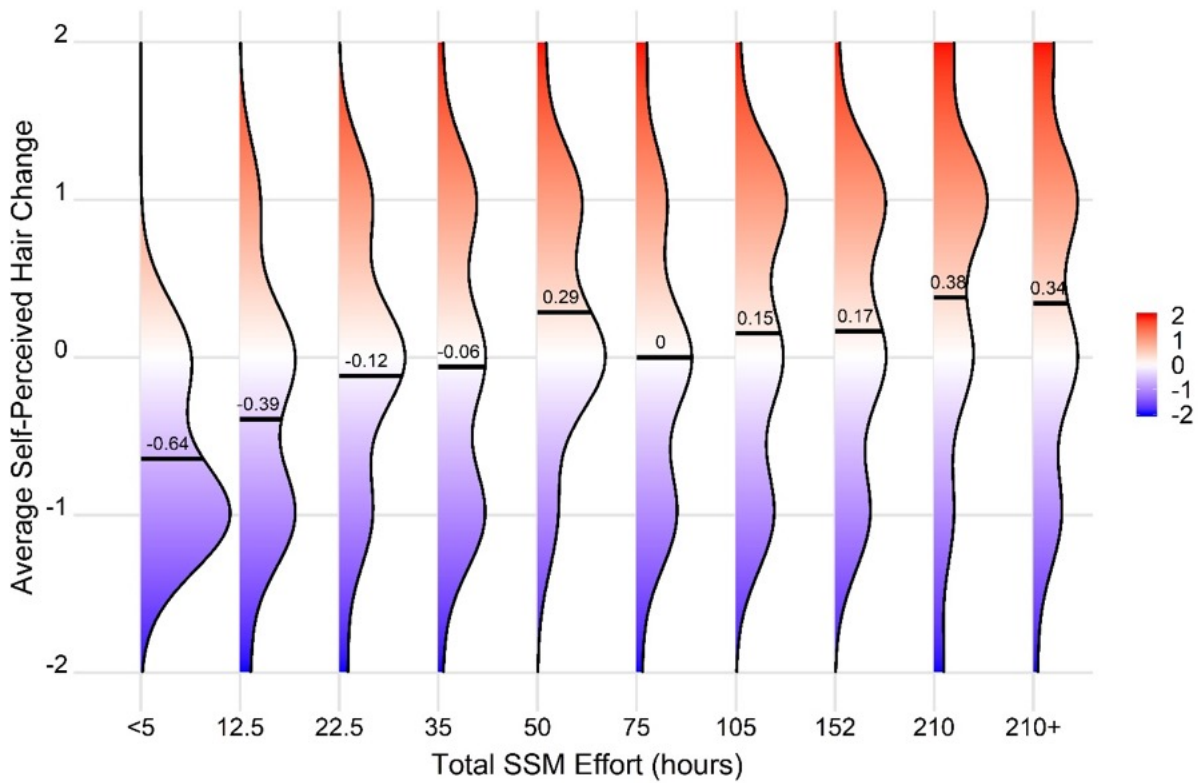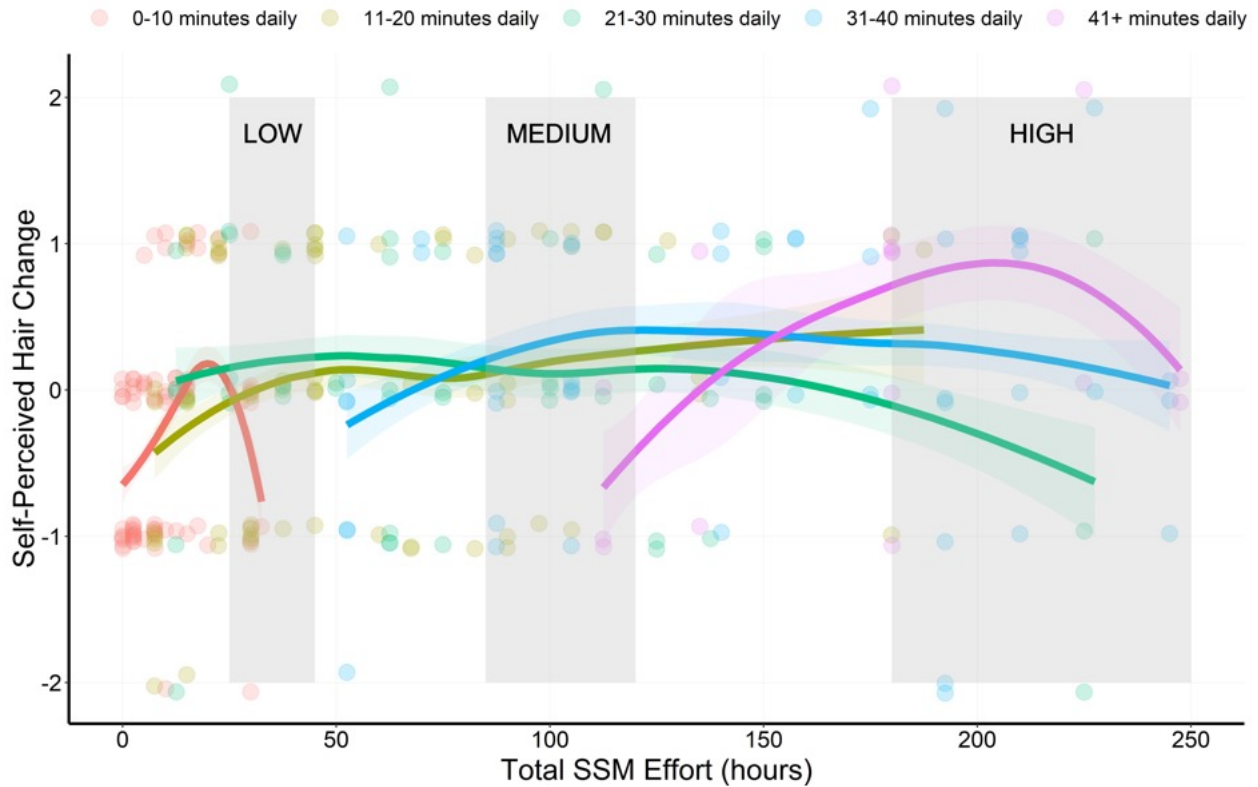
Figure S3

Figure S3: self-perceived hair changes for SSM participants organized by 10% increments of total SSM effort (hours). Black horizontal lines represent the average across response bins. Color codes represent the distribution of reported self-perceived hair changes per bin; red hues as hair regrowth (+1 or +2), white as stabilization (0), and blue hues as hair loss (-1 or -2). For full size and resolution, please see the following link: https://perfecthairhealth.com/dermatology-and-therapy/figure_s3_SuppInfo.jpg

Figure S4

Figure S4: discrete data of endorsed hair changes for all SSM participants, organized by total SSM effort, with grey bands indicating effort groups of low (25-45 hours), medium (85-120 hours), and high (180-250 hours). Data are color-coded by minutes daily endorsements with red, yellow, green, blue, and purple trend lines indicating the mean self-perceived hair changes of SSM participants endorsing 0-10, 11-20, 21-30, 31-40, and 41+ minutes daily, respectively. Corresponding color-shaded bands represent a 50% confidence interval. For full size and resolution, please see the following link: https://perfecthairhealth.com/dermatology-and-therapy/figure_s4_SuppInfo.png
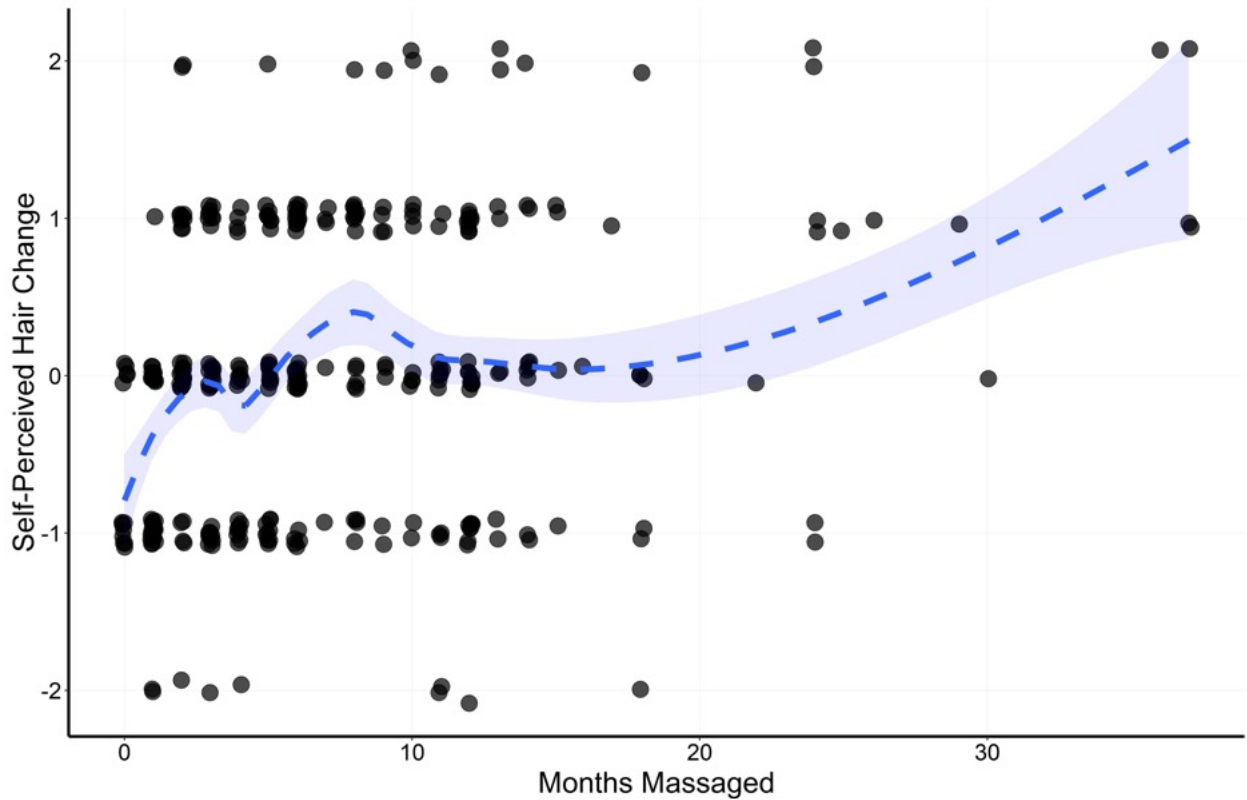
Figure S5

Figure S5: discrete data of discrete data of endorsed hair changes for all SSM participants, with

the blue dashed line corresponding to the average self-perceived hair change for any given month

of SSM adherence and blue-shaded bands indicating an 85% confidence interval. For full size

and resolution, please see the following link: https://perfecthairhealth.com/dermatology-and-

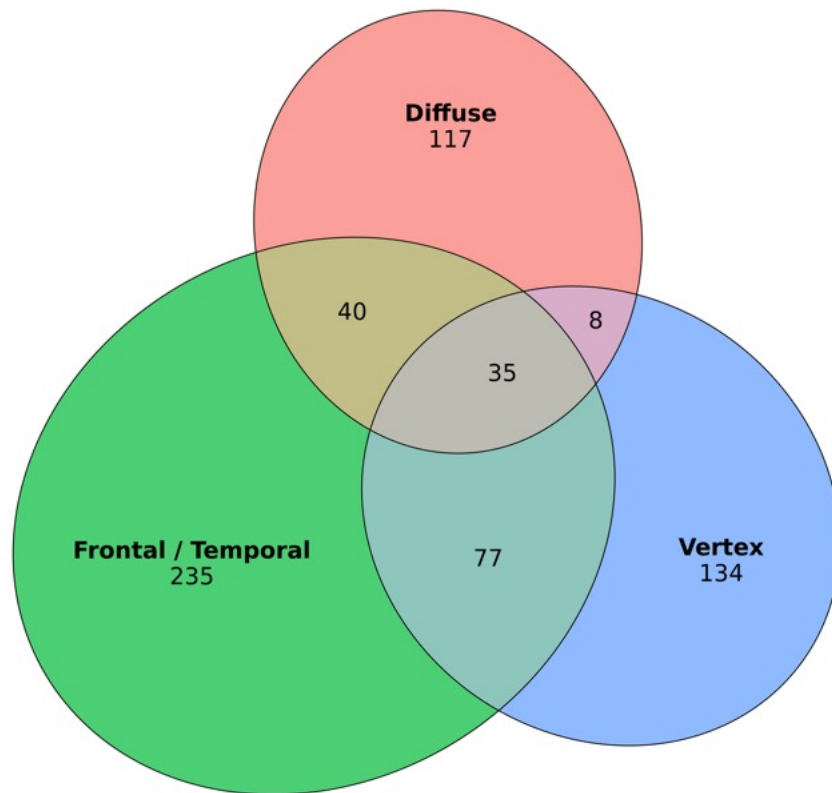therapy/figure_s5_SuppInfo.jpg

Figure S6

Figure S6: Venn diagram showing the incidence of endorsements for hair loss regions frontal /
temporal, vertex, and diffuse thinning across SSM participants. For full size and resolution,
please see the following link: https://perfecthairhealth.com/dermatology-and-
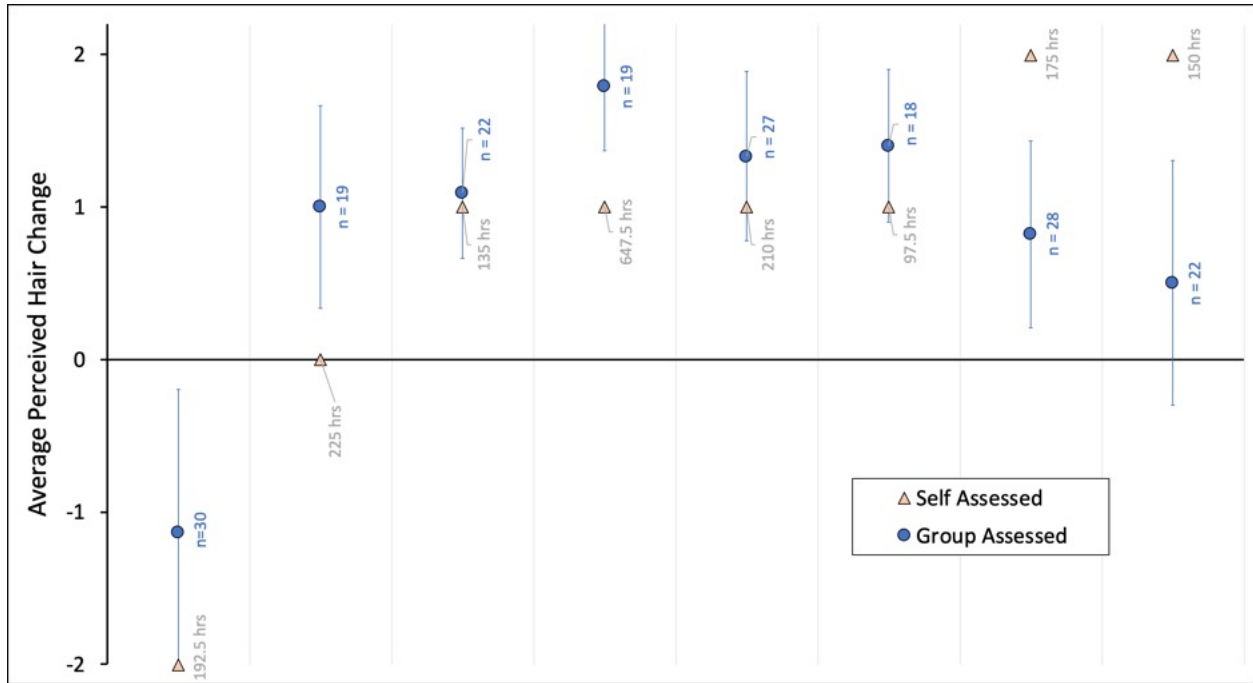therapy/figure_s6_SuppInfo.png

Figure S7: self-perceived hair changes compared to SAGASs-perceived hair changes for SSM participants. Photosets and analyses can be found in Figure S8. For full size and resolution, please see the following link: https://perfecthairhealth.com/dermatology-and-therapy/figure_s7_SuppInfo.jpg
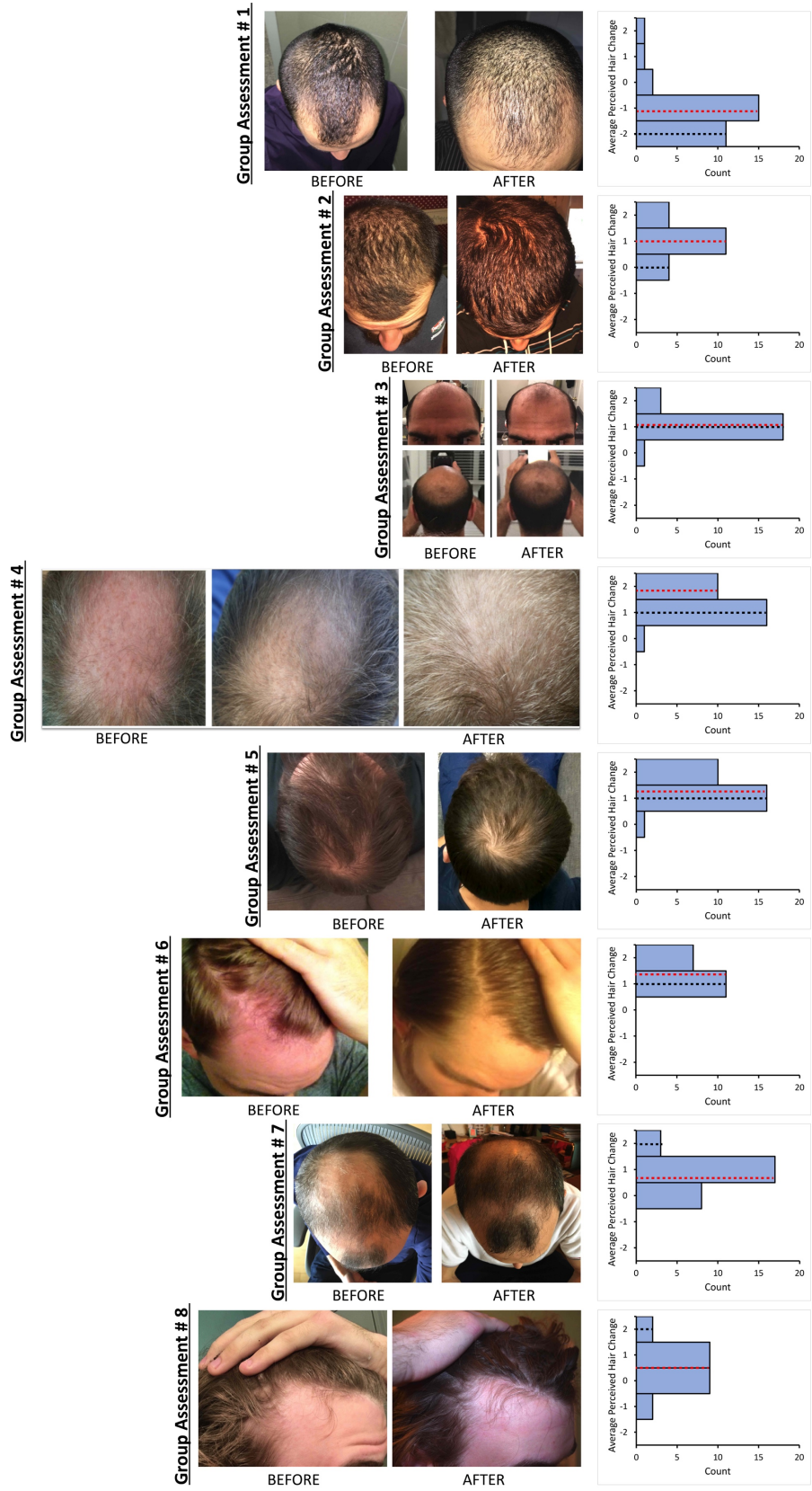
Figure S8

Figure S8: left-hand column: voluntarily submitted before-after photos from survey respondents representing their hair change during SSM participation; right-hand column: evaluations of that respondent's self-perceived hair change (black-dotted line) versus the hair change scores and averages (red-dotted line) given by each respective recontact group following exposure to that photoset. For full size and resolution, please see the following link:

https://perfecthairhealth.com/dermatology-and-therapy/figure_s8_SuppInfo.jpg