Factors associated with choice of behavioral weight loss program by adults with obesity

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Supplemental Table S1: Question wording and response options for all metrics

Survey Information: Thank you for your interest in completing this survey. This survey is for research purposes, and you will be asked to answer some questions about your preferences for different types of health programs. Participation is voluntary. The risks associated with participating in this survey include potential discomfort answering questions and potential breach of confidentiality. Please note that you will not be asked to disclose any identifiable information as part of answering the questions of this survey. It takes <u>three to 15 minutes</u> to complete this survey, and you might be eligible to receive $3.00 as incentive (please read below for details). In this survey, you will first answer a few general questions (e.g., age, gender, ethnicity, height, weight, etc.) to assess if you are eligible to answer more specific questions about health programs. There are 15 eligibility assessment questions that will take you about <u>three minutes</u> to answer. If you are identified as 'not eligible', the survey will stop, and you should return your HIT to Mechanical Turk, and you will not be paid. If you are identified as 'eligible', you will need to answer up to 25 additional questions about health programs, which will take approximately <u>12 minutes</u>. When you complete the survey, you will receive a unique code that needs to be copy-pasted back on Mechanical Turk to process your $3.00 payment.		

	Question	Options	Note
	Please enter your unique Amazon mTurk ID.	**[box to type in]**	
1	How old are you?	**[under 25; 25-34; 35-44; 45-54; 55 and above]**	
2	To which gender identity do you most identify?	**[Male; Female; Transgender; Other]**	
3	Which state do you live in?	**(Dropdown menu)**	
4	What number do you call for emergency services?	**[119; 191; 911; 991]**	**We were interested in U.S. residing participants only, and this question aimed to screen out workers using a VPN to mimic a US-based IP address. Any response but "911" disqualified the participant.**

5	How would you describe your ethnicity?	[Hispanic/Latino; Non-Hispanic/Latino]	
6	How would you describe your race?	[White; Black or African American; Asian; Native Hawaiian or Pacific Islander; Other]	
7	In the past 2 years, have you ever traveled to, or done any business with entities in, Latveria?	[No, never; Yes, but not within the past 2 years; Yes, I have done so within the past 2 years]	This was a truthfulness check question. Latveria is a fictional nation. Any response but "No, never" disqualified the participant.
8	What is the highest level of education you have completed?	[Less than high school; High school graduate or GED; Associate's degree; Bachelor's degree; Master's degree; Doctorate degree]	
9	Which of the following conditions apply to you? (IMPORTANT: select all that apply)	[Diabetes; Hypertension or using medications to lower blood pressure; High cholesterol or using medications to reduce cholesterol; History of heart disease or stroke; Arthritis with limitations for walking or activities of daily living such as personal care; Any cancer requiring treatment within past 5 years; None of the above]	Needed to select at least two conditions to be eligible. None or one selected condition was excluded.
10	Have you ever had gastric bypass surgery?	[Yes; No]	
11	Are you pregnant?	[Yes; No]	
12	Please enter your weight (in lbs)	Current weight [box to type in (numeric)] Your weight one year ago [box to type in (numeric)] Your weight at age 20 [box to type in (numeric)]	BMI was calculated.
13	How tall are you in feet and inches?	[boxes to type in (numeric)]	
14	If you were offered (e.g., by your health care provider, employer, etc.) enrollment in a weight loss program at no cost that was delivered either in person or by videoconference, how likely would you be to participate?	[I'd be very likely to enroll; I'd be somehow likely to enroll; My decision would depend on the features of program; I'd be unlikely to enroll; I'd be very unlikely to enroll]	Those with obesity who were very unlikely to enroll in a cost-free weight loss program (regardless of program characteristics) were excluded.

15	Research has suggested that a person's favorite color can tell us a lot about the way that they think about other people. In this case, however, we would like you to ignore the favorite color question entirely. Instead, please choose all of the response options provided. In other words, regardless of your actual favorite color, click all of the answers.	[Red; Blue; Green; Purple; Yellow]	This was an attention check question. **Those who did not select all five colors were excluded.**
	Unfortunately, you are not qualified at this time. Do not forget to return your HIT. Thanks for your interest in this survey.	Those with one or more excluding (red) response will be stopped at this block. Participants who are stopped at this point (i.e., 'workers' who are not eligible) will not be paid. Those without any excluding (red) response will continue to question #15.	
16	Have you ever tried to lose weight?	[Yes; No]	If "Yes", next two questions were displayed, if "No", next was question 17
	How many times have you tried to lose weight since age 20?	[box to type in (numeric)]	
	Which of the following weight loss programs you have tried in the past? (IMPORTANT: select all that apply)	o Online platform without counseling o Hospital-based with a physician or dietician o Commercial program with a coach o Commercial program with a coach and provided food. o Worksite program with a coach o Worksite online program without a coach o A program of your own design o Program of any kind including group support. o Program of any kind involving individual coaching	
17	What best describes your employment status, if any?	[I work full time for an employer; I work part time for an employer; I am self-employed; I do not work; I am retired; I do not work]	
18	Which of these describes your monthly household income?	[Less than $1,000 $1,000-$1,999 $2,000-$2,999 $3,000-$3,999	

		$4,000-$4,999 $5,000 and above]	
19	How would the cost influence your interest in participation in a weight loss program? (IMPORTANT: select as many as apply)	**[I would be most interested if the program was offered cost free;** **I would be still wanting to enroll if there was a co-payment for the program;** **I would not do this program unless it was offered cost free]**	

Imagine you are given a hypothetical choice between the two following weight loss programs to enroll in. Please read through the features of the two programs before clicking on the Next button. We will ask you some questions about these programs based on their features.

20	**The two programs are <u>similar</u> in the following aspects:** Length (both 24 weeks), Both reducing calorie intake and increasing physical activity, Similar expected weight loss rate (1-2 Ibs/week), In both programs, you purchase and prepare all your own food, and can incorporate different dietary patterns (vegetarian, gluten-free, etc.)

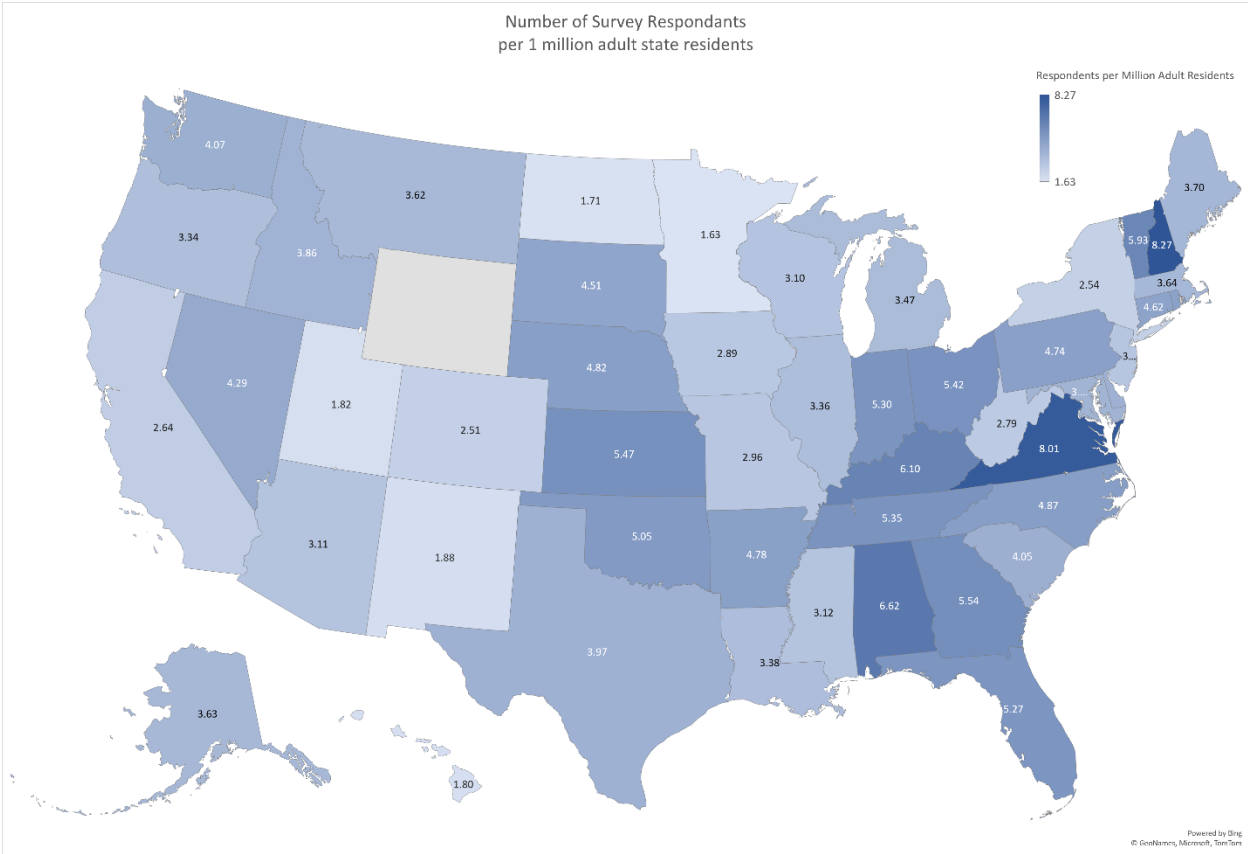| Program A	Program B
(1) There is a weekly group meeting with a weight loss coach.	(1) There is a weekly group meeting with a weight loss coach and a mid-week email check-in.
(2) This program's focus is to lose weight by reducing energy intake, fat intake, and increasing exercise, using self-set goals agreed with the coach.	(2) This program's focus is to lose weight by reducing calorie intake through improved management of hunger and food cravings.
(3) Daily food and physical activity logging are core activities; participants can choose to eat ANY foods and show their food and activity logs to the coach weekly.	(3) Participants are not required to log food and physical activity. They select foods based on preference from nutritionally balanced menus personalized for portion sizes, no-cook meals, and recipes to reduce calorie intake.
(4) Weight is self-measured weekly.	(4) Weight is self-measured daily.
(5) Other features: training is given for mindful eating and stress management.	(5) Other features: additional low-calorie foods are used for active hunger management, and training is given to reduce food cravings and increase preferences for healthy food.

	To confirm you understand the differences between the two programs: 20.a. In which program do participants fill in daily food and physical activity logs? **Program A** ◯ **Program B** ◯		
	20.b. Which program focuses on reducing hunger and food cravings? **Program A** ◯ **Program B** ◯		
	20.c. Which of the statements below is accurate? (IMPORTANT: select all that apply) **Program B provides portion-controlled menus and recipes to reduce calorie intake.** ◯ **Program A focuses on reducing energy intake and fat intake and increasing exercise.** ◯ **Participants in both programs should log food and physical activity.** ◯		
	20.d. If I had the choice to enroll in one of the two, I would choose: **Program A** ◯ **Program B** ◯		
21	Considering the different features of Program A and Program B, which do you think you would be most adherent to?	○ **Program A** ○ **Program B**	
	which do you think would give you the greatest weight loss?	○ **Program A** ○ **Program B**	
	which do you think you would be more likely to drop out of?	○ **Program A** ○ **Program B**	
22	If both programs were offered to you at no cost by your health care provider or worksite, which would you be most likely to enroll in?	○ **Much more likely A** ○ **Somewhat more likely A** ○ **Somewhat more likely B** ○ **Much more likely B** ○ **I would not have a preference**	
23	Thinking about the program of your choice (A or B), list the following in order of your preference. (with the most attractive on top and the least attractive on the bottom)	➢ **Group class led by coach in person** ➢ **Group class led by coach via videoconference** ➢ **Individual sessions with a coach in person** ➢ **Individual sessions with a coach via videoconference** ➢ **Web based without coach**	

24	How likely are you to enroll in Program A if offered at no cost through your health care provider?	o **Very Unlikely** o **Unlikely** o **Undecided** o **Likely** o **Very Likely**	**Displayed only to those answered "Program B" in item 20.d.**
25	How likely are you to enroll in Program A if offered at no cost through your employer?	o **Very Unlikely** o **Unlikely** o **Undecided** o **Likely** o **Very Likely**	**Displayed only to those answered "Program B" in item 20.d.**
26	How likely are you to enroll in Program B if offered at no cost through your health care provider?	o **Very Unlikely** o **Unlikely** o **Undecided** o **Likely** o **Very Likely**	**Displayed only to those answered "Program A" in item 20.d.**
27	How likely are you to enroll in Program B if offered at no cost through your employer?	o **Very Unlikely** o **Unlikely** o **Undecided** o **Likely** o **Very Likely**	**Displayed only to those answered "Program A" in item 20.d.**
28	Would having both programs offered at the same time affect your decision of enrolling in one of them?	o **Very unlikely that it would affect my decision.** o **Somewhat unlikely that it would affect my decision.** o **I cannot say.** o **Likely that it would affect my decision.** o **Very Likely that it would affect my decision.**	
29	Have you ever experienced praise or positive comments for weight loss or things you do to manage your weight?	o **Yes** o **No**	**If "yes" next two questions were displayed**
-	Which categories of people praised your weight loss efforts? (select all that apply)	o**Strangers** o**Co-workers** o**Friends** o**Immediate family** o**Extended family** o**Neighbors** o**Health care professional**	
-	What are those positive comments about? (select all that apply)	o **Your appearance** o **Your success** o **The food you eat when you are managing your weight** o **Your eating habits when you are managing your weight** o **The amount of time you spend exercising** o **Your psychology or mood while you are managing your weight** o **A positive impact of your weight loss and related activities on those around you** o **Other**	

| 30	Have you ever experienced somebody making shaming or stigmatizing comments about your weight loss efforts?	○ **Yes** ○ **No**	**If "yes" next four questions were displayed**
-	What are those negative comments about? (<u>select all that apply</u>)	**Your appearance** **Your lack of success** **The food you eat when you are managing your weight.** **Your eating habits when you are managing your weight.** **The amount of time you spend exercising.** **Your psychology or mood while you are managing your weight.** **A negative impact of your weight loss and related activities on those around you** **Other**	
-	Which categories of people made negative comments about your weight loss efforts? (<u>select all that apply</u>)	○**Strangers** ○**Co-workers** ○**Friends** ○**Immediate family** ○**Extended family** ○**Neighbors** ○**Health care professional**	
-	How did you feel during the worst experience you have had in somebody making negative comments about your weight loss efforts?	**I was NOT upset by negative comments.** **The negative comments upset me but did not influence what I was doing.** **The negative comments upset me and caused me to stop losing weight or hide my weight loss efforts.**	
-	Would you like to describe in the box below the negative experience you had with people making negative comments about your weight loss efforts?	**[box to type in]**	
Thanks for participating in our survey. Your survey code is:			

Supplemental Figure S1: Number of participants (N=1005) normalized per million adult state residents

Number of Survey Respondants
per 1 million adult state residents

Respondents per Million Adult Residents

8.27

1.63

4.07
3.62
1.71
1.63
3.70
3.34
3.86
4.51
3.10
3.47
2.54
3.64
4.62
4.74
4.29
1.82
2.51
4.82
2.89
3.36
5.30
5.42
3...
2.64
2.79
8.01
5.47
2.96
6.10
4.87
3.11
5.05
4.78
5.35
4.05
1.88
3.12
6.62
5.54
3.97
3.38
3.63
5.27
1.80

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Supplemental Figure S2: Choice of Program By Delivery Format Ranking

CHOICE OF PROGRAM BY DELIVERY FORMAT RANKING
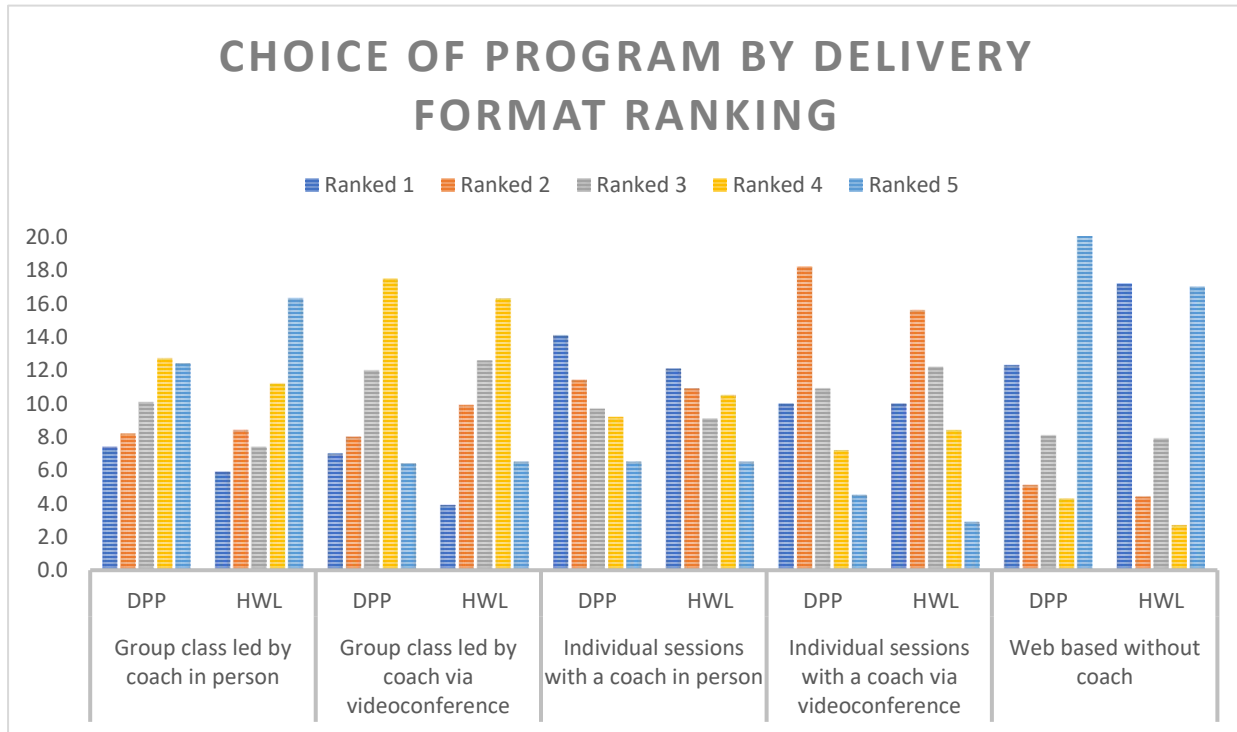
STROBE Statement—Checklist of items that should be included in reports of *cross-sectional studies*

	Item No	Recommendation	Page No
Title and abstract	1	(*a*) Indicate the study's design with a commonly used term in the title or the abstract	3
		(*b*) Provide in the abstract an informative and balanced summary of what was done and what was found	3
Introduction			
Background/rationale	2	Explain the scientific background and rationale for the investigation being reported	4
Objectives	3	State specific objectives, including any prespecified hypotheses	5
Methods			
Study design	4	Present key elements of study design early in the paper	5
Setting	5	Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection	5
Participants	6	(*a*) Give the eligibility criteria, and the sources and methods of selection of participants	5
Variables	7	Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable	6 and Supplemental Table S1
Data sources/ measurement	8*	For each variable of interest, give sources of data and details of methods of assessment (measurement). Describe comparability of assessment methods if there is more than one group	5 and Supplemental Table S1
Bias	9	Describe any efforts to address potential sources of bias	5 and 6
Study size	10	Explain how the study size was arrived at	5 and 7
Quantitative variables	11	Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen and why	6
Statistical methods	12	(*a*) Describe all statistical methods, including those used to control for confounding	6
		(*b*) Describe any methods used to examine subgroups and interactions	6
		(*c*) Explain how missing data were addressed	NA

		(*d*) If applicable, describe analytical methods taking account of sampling strategy	NA
		(*e*) Describe any sensitivity analyses	NA

Results

Participants	13*	(a) Report numbers of individuals at each stage of study— eg numbers potentially eligible, examined for eligibility, confirmed eligible, included in the study, completing follow-up, and analysed	7 and Figure 1
		(b) Give reasons for non-participation at each stage	7 and Figure 1
		(c) Consider use of a flow diagram	Figure 1
Descriptive data	14*	(a) Give characteristics of study participants (eg demographic, clinical, social) and information on exposures and potential confounders	7 and Table 1
		(b) Indicate number of participants with missing data for each variable of interest	NA
Outcome data	15*	Report numbers of outcome events or summary measures	NA
Main results	16	(*a*) Give unadjusted estimates and, if applicable, confounder-adjusted estimates and their precision (eg, 95% confidence interval). Make clear which confounders were adjusted for and why they were included	7-9
		(*b*) Report category boundaries when continuous variables were categorized	7-9
		(*c*) If relevant, consider translating estimates of relative risk into absolute risk for a meaningful time period	7-9
Other analyses	17	Report other analyses done—eg analyses of subgroups and interactions, and sensitivity analyses	NA

Discussion

Key results	18	Summarise key results with reference to study objectives	10
Limitations	19	Discuss limitations of the study, taking into account sources of potential bias or imprecision. Discuss both direction and magnitude of any potential bias	13
Interpretation	20	Give a cautious overall interpretation of results considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence	11-13
Generalisability	21	Discuss the generalisability (external validity) of the study results	11

Other information

Funding	22	Give the source of funding and the role of the funders for the present study and, if applicable, for the original study on which the present article is based	1