Appendix S1. BAITS

This Appendix describes the original Behavioral Addiction Indoor Tanning Screener (BAITS) items and the preliminary analyses used to create the final version found in the article.

The BAITS

The BAITS was originally designed as an 11-item screener survey (items shown in the first column of STable I) to reflect indoor tanning-specific behavioral addition symptoms including diminished control (items 1–4, 6), urges to use indoor tanning (items 5, 7), and tension relief with indoor tanning (items 8–11). BAITS items were chosen *a priori* from earlier iterations of a 30-item measure designed to capture a wide range of the physiological and psychological motives for indoor tanning (S1).

Participants indicated their level of agreement to items on 5-point Likert-type scales (from 1 = strongly disagree to 5 = strongly agree). Data screening revealed responses to items 1–7 were skewed with a high proportion of "strongly disagree" and "disagree" responses and items 8–11 had bimodal distributions. Accordingly, all item responses were recoded as dichotomous with any disagreement or neutral response coded as "0" and any agreement response coded as "1" for subsequent analyses (and for the BAITS version presented in the article).

Preliminary analyses

We sought to determine if latent class analysis (LCA) would identify a small subgroup, or latent class, of indoor tanners who were distinct from other indoor tanners in responding positively to BAITS items. LCA can be used to determine how many distinct latent classes exist in the data, estimate the number of participants with responses that approximate each latent class, and the mean probability of a positive response (i.e., a response of agree or strongly agree) to each survey item within each class (S2, S3). A model with two latent classes is first tested and the model fit indices are compared to a subsequent model with 3 latent classes. The process of comparing a model with k-classes with a model with $k+1$-classes continues until fit indices fail to improve. We used the standard AIC and BIC fit indices to evaluate model fit (S2, S3).

A decrease in value of the AIC and BIC for the 3-class model (AIC/BIC=983.14/1091.64, df=35) compared to the 2-class model (AIC/BIC=1131.34/1202.64, df=23) indicated better model fit for the 3-class model. Fit indices values increased in the 4-class model AIC/BIC=992.84/1138.53, df=47), which indicates poorer model fit compared to the 3-class model. The entropy value for the retained 3-class model was 0.96, indicating well-separated classes (S4), and the bootstrap likelihood ratio test indicated the 3-class solution should not be rejected in favor of the 4-class (p=0.24) (S5).

Participants in latent class 1 (90 participants, 55% of sample) were unlikely to respond positively to any BAITS items (Table I) (as evidenced by item response probabilities at or near 0.00). Class 2 participants (n=61, 37%) had a low probability of endorsing items related to diminished control and urges to use IT but high probabilities of responding positively to items related to mood enhancement and tension relief. Class 3 participants (n=13, 8%) were the most likely to indicate positive responses to BAITS items and may represent indoor tanning users who are experiencing symptoms of tanning addiction.

The two largest tanner subpopulations were either unlikely to respond to any items or responded to only mood enhancement and tension relief items. Latent class 3 participants had the highest probabilities of endorsing diminished control and urges items (1–7) in addition to the mood enhancement and tension relief items. Thus, the diminished control and urges items appeared to be distinct indoor tanning addictive symptoms and we retained only those items as important for identifying symptoms and developed screening criteria based on them.

SUPPLEMENTARY REFERENCES

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S2. Lanza ST, Collins LM, Lemmon DR, Schafer JL. PROC LCA: A SAS Procedure for latent class analysis. Struct Equ Modeling 2007; 14: 671–694.

S3. Muthén B. Latent variable analysis: growth mixture modeling and related techniques for longitudinal data. In: Kaplan D, editor. The SAGE Handbook of Quantitative Methodology for the Social Sciences. Newbury Park (CA): Sage Publications; 2004: 345–368.

S4. Celeux G, Soromenho G. An entropy criterion for assessing the number of clusters in a mixture model. J Classification 1996; 13: 195–212.

S5. Nylund K, Asparouhov T, Bengt OM. Deciding on the number of classes in latent class analysis and growth mixture modeling: A Monte Carlo simulation study. Struct Equ Model 2007; 14: 535–569.

STable I. *Preliminary Items from the Behavioral Addiction Indoor Tanning Screener (BAITS) and results from latent class analysis*

Preliminary BAITS items	Item response probabilities		
	Class 1 (55%)	Class 2 (37%)	Class 3 (8%)
1. I think about indoor tanning too much.	0.01[a]	0.00	0.46
2. At times I have used money intended for something else such as bills or school fees to pay for my indoor UV tanning sessions.	0.00	0.07	0.31
3. I would continue to indoor tan, even if it meant I could spend less time on my hobbies and other interests.	0.00	0.00	0.69
4. I would be greatly distressed if I could not indoor tan anymore.	0.00	0.05	0.77
5. My urges to indoor tan keep getting stronger if I don't indoor tan.	0.02	0.05	0.92
6. Sometimes I think about indoor tanning as soon as I wake up.	0.02	0.03	0.77
7. It's hard to ignore an urge to indoor tan.	0.02	0.05	1.00
8. Indoor tanning helps me deal with stress.	0.01	0.80	1.00
9. Indoor tanning is a good way to improve my mood.	0.00	0.90	1.00
10. I usually feel much better after an indoor tanning session.	0.08	0.87	1.00
11. I feel tranquil after an indoor tanning session.	0.22	0.84	0.85

The 5-point likert-type item responses were recoded based on preliminary analyses as: 0 = strongly disagree, disagree, or neither – or – 1 = agree or strongly agree.
[a]Each item response probability represents the mean probability of participants' response of 1 (i.e., agree or strongly agree) to the corresponding item within each latent class.