PEER REVIEW HISTORY

BMJ Open publishes all reviews undertaken for accepted manuscripts. Reviewers are asked to complete a checklist review form (http://bmjopen.bmj.com/site/about/resources/checklist.pdf) and are provided with free text boxes to elaborate on their assessment. These free text comments are reproduced below.

ARTICLE DETAILS

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<tr>
<td>AUTHORS</td>
<td>Regencia, Zypher Jude; Gouin, Jean-Philippe; Ladia, Mary Ann J.; Montoya, Jaime; Baja, Emmanuel</td>
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VERSION 1 – REVIEW

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<tr>
<th>REVIEWER</th>
<th>Al-Sarraf, Alaa</th>
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<td>University of Hertfordshire</td>
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<td>REVIEW RETURNED</td>
<td>11-Nov-2022</td>
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GENERAL COMMENTS

This manuscript examines the potential relationship among body image, skin lightening, and some mental health problems. It is an increasingly needed subject of research as it is poorly studied in the literature. The extraordinary emphasis on body appearance pressurizes people to use random, risky, and aggressive practices to enhance their appearance and to fit themselves in the society. It is an intricate interplay of different psychological and non-psychological factors which contribute to body enhancement and more specifically to skin lightening practice. This could be mainly influenced by social media which is shown to have negative effect on people’s psychological wellbeing including their body image. Such research is very important to shed light on mental health problems, promote body image acceptance, and increase public awareness of the risky behaviors associated with some body image enhancement methods such as skin lightening practices. The main strength of this manuscript, in my opinion, is that it addresses a growing problem in a specific population. This in turn will add to the growing knowledge of these topics and contribute to the current evidence about skin lightening, body image and related subjects. Also, the authors described a purposeful mixed method approach in this protocol which is necessary to understand the complex and multifactorial phenomena where quantitative and qualitative methods are essential to draw the conclusion. I specifically like how the authors identified each aim of the study in their data processing part which is very helpful to understand the implementation process of the listed aims and methods. There are some areas that need revision as listed below: • Although the focus of the study is on mental health, the physical adverse effects of some skin lightening measures should not be underestimated. Perhaps, the authors could include the common methods of skin lightening in this population and briefly describe the clinical impacts of the inappropriate use. 2 • My main point of concern, in the manuscript, is the use of the phrase “body image and/ or skin lightening” since body image is one’s mental perception about their body appearance while skin lightening is a method for body...
enhancement. Also, body image, and other mental health problems, could be the cause of skin lightening practice as have been shown in literature. Perhaps, the authors could revise the phrase to clarify the intended meaning. This phrase has been used in the title of the publication and in page 2 as outlined below:
- In the abstract introduction: "Among emerging adults, there is an increasing trend of body image and/or skin lightening practices linked with psychological distress". - Also, in the conclusion part of the abstract: "This protocol outlined the procedures for future researchers working on a similar mixed-method approach to evaluate the effect of body image and/or skin lightening practices on psychological distress". - In page 5, the following conclusion and the whole categorization need a reference: "Research focused on skin-lightening practices also identified psychological correlates. There are related psychological problems that have been highlighted and are categorized as….." • In page 7, the time frame of the study should be reviewed. • In page 9, the criteria for choosing skin lightening informants seems insufficient to me. The authors could specify more criteria, perhaps, those who have complications (mental or physical), or those who have relevant underlying causes such as body image problems, or other mental health issues could be included. • In page 10, in the exposure assessment, the authors could explain the reasons for including each of the specified indicators of body image and the rationale behind incorporating these indicators together in the study. Other areas which need rephrasing • In page 4, the following sentence would benefit from simple rephrasing, perhaps replace “their” with “participants” for easier comprehension of the sentence. 3 “A previous study presented that social media posts relating to their inspirations to be fit negatively affected body image rather than inspiring the participants to switch to healthier lifestyle choices”. • In page 5, although the general meaning of the following sentences can be concluded, rephrasing could be helpful. “The global phenomenon of using skin lightening products (SLPs) is a shepherd on the perception that lighter skin tones may result in more opportunities in life”. “Companies manufacturing SLPs utilized different marketing strategies, such as the internet, to capture racial and colorized norms or values and the class and gender differences within the White and non-White markets”. • In page 18, the second paragraph, the following sentence could be improved by rephrasing or perhaps clarify “body issues”. “A growing body of literature outlines the undesirable mental health consequences of body issues, including body image and skin lightening practices”.

**REVIEWER**
Goel, Neha J.
Virginia Commonwealth University

**REVIEW RETURNED**
21-Nov-2022

**GENERAL COMMENTS**
Summary: This manuscript describes a mixed methods design protocol for exploring the associations amongst body image, skin lightening practices, and mental health outcomes for a large sample of Filipino emerging adults residing in the Philippines. I was excited to learn that the authors are utilizing an explanatory sequential design and provided a description of how findings across the quantitative and qualitative arms would be integrated – rarely do studies claiming to be “mixed methods” studies actually utilize true mixed methods approaches! I was also excited to learn that this study would shed light on a serious, dangerous practice (i.e., skin lightening) that afflicts many formerly colonized cultures, including the Philippines. However, my enthusiasm...
for this manuscript was significantly tempered by significant gaps in the literature review and discussion, and numerous methodological questions about the quantitative arm of this study. Namely, at times I was confused as to whether the focus of the study was body image/skin lightening practices or other mental health concerns (e.g., depression, anxiety); thus, it would be helpful to clarify the protocol objectives throughout the manuscript. I have provided specific suggestions designed to improve the overall impact of this study. Please see my suggestions below.

Major Revisions:
1. Introduction.
   a. I believe that the Introduction needs to be re-organized and is missing key information. I strongly suggest that the authors include any literature that describes body image and eating pathology amongst Filipino samples (even if these samples are not living in the Philippines), provide more information about skin lightening products and norms (especially within the context of Filipino and other Asian cultures), and include more information describing how differing cultural norms and body ideals influence body image. For instance, there have been recent articles published describing the relations among skin lightening products/colorism and body dissatisfaction in South Asian samples (e.g., http://www.sciencedirect.com/science/article/pii/S1740144522001206; https://journals.sagepub.com/doi/abs/10.1177/104973232110368960). Given the way that the literature review is currently written, it was a surprise that this paper would focus on Filipino emerging adults, since there was no mention of Filipino culture or focus on body image research amongst Filipino samples.
   b. The paragraph about media influence on adolescent body image is confusing; how does this relate to skin lightening practices? How do the thin ideal and muscularity ideals relate to skin lightening practices? Also, please be mindful of your language; the media is not necessarily a causal factor. Eating disorders and body dissatisfaction have multifaceted etiologies that involve interactions between numerous biological, psychological, and sociocultural factors. In other words, there is no single causal factor for an eating disorder. Instead, I suggest that the authors describe negative media messaging as a significant risk factor implicated in multiple sociocultural theoretical models of disordered eating (e.g., tripartite influence model, dual pathway model of bulimia).

   a. I appreciate that the authors are employing a mixed methods approach and have named their specific design (i.e., explanatory sequential design). However, it would be helpful to provide more information about the a) benefits for mixed methods approaches, b) rationale for using mixed methods for the current study, and c) an explanation describing why the authors chose an explanatory sequential design over other mixed method designs, like a convergent parallel or exploratory sequential design.
   b. What constitutes an “extreme” level of depression, anxiety, or stress? Are there certain cutoff scores that the authors are using to differentiate between different categories of participants? If so, please list these scores. Also, how will the authors capture enough participants with “extreme” levels of psychopathology if individuals with self-reported diagnoses of mental health disorders are excluded from participation?
   c. Please describe and cite the concept of saturation.
   d. The authors assert that they will administer English and translated versions of their measures to participants. Please describe the
translation and back-translation process to ensure that the English and Filipino translation versions (Tagalog?) are capturing the same constructs.

e. For the qualitative data analytic strategy, how will the authors ensure the trustworthiness and credibility of findings? It also seems like only one author will be involved with the coding process; will there be any additional coders or external auditors who can verify the analysis and final themes/codes? Also, who will be transcribing the interviews?

f. It would be helpful if the authors moved the paragraph describing their recruitment plan to the beginning of the Methods section, as part of the Procedures section.

3. Discussion

a. Since the primary goal of this protocol is to study the relations among body image, SLPs, and other mental health outcomes, I think it would be helpful to focus more of the Introduction and Discussion on body image and SLPs, rather than broadly discussing mental health (depression, stress, anxiety). For instance, these sections would benefit from additional information describing the physical harms associated with SLPs, the multimillion-dollar industry that benefits from selling and marketing SLPs, how colorism and SLPs intersect with racism and colonization, and the perceived benefits of light skin.

b. Please provide citations that support your assertions that SLPs may be utilized as coping strategies, and SLPs help individuals fit in with their respective communities.

4. If your university offers English writing support, it may be helpful to consult with them and ask them to review the manuscript for grammar and diction. For instance, the following sentence does not make sense: “The global phenomenon of using skin lightening products (SLPs) is a shepherd on the perception that lighter skin tones may result in more opportunities in life.”

Minor Revisions:

1. Methods. Why are individuals with a current self-reported diagnosis of a mental health disorder excluded from participation in the current study? Also, for the inclusion criteria, can participants who identify as transgender men or women also participate? Please clarify.

2. Methods. I recommend moving the ‘Sample Size Calculation and Sampling Technique’ paragraph after the ‘Data Collection Procedure’ section so that the readers can first learn which variables/measures the authors are using.

3. Methods. For the BAS-2, please explain why 10+ of the original items were excluded from the current study.

4. Methods. Please describe the ‘minor modifications’ that were made to the media exposure questionnaire for the current study.

5. Methods. The authors assert that their SEM model is grounded in a ‘sound theoretical framework of body image and skin lightening’ – what is this theoretical framework?

6. Methods. The authors describe their intentions to utilize both R and MPlus to conduct quantitative analyses; why not conduct analyses using just one program? Please clarify.

7. Language. Unless absolutely critical to your study or a foundational article, please try to avoid citing articles that are >15 years old (e.g., Pesa et al., 2000). There are more recent articles that discuss how ideal body types differ across cultures, for example.
GENERAL COMMENTS

This manuscript proposes a mixed methods study investigating the effect of body image and skin lightening practices on mental health of Filipino emerging adults. Overall, I think this will be a significant contribution to body image literature, particularly regarding its emphasis on skin lightening products among a population that is understudied, and I think you have outlined a comprehensive approach to understanding various factors that may contribute to body image concerns among this population. I do have some concerns regarding some of the study design, particularly regarding some of the measures in the quantitative study and the interview questions in the qualitative study. I have also provided some recommendations to clarify certain sections of the manuscript for when you try to publish the results. I also have some concerns with how much you are trying to do all in one study. Given that this is the first study to explore some of these questions, I think even providing more foundational information about mental health, body image, and skin lightening among this population will still be a significant contribution. For example, I’m a bit concerned about how much is included in the structural model, as it feels a bit convoluted as is and there can still be noteworthy findings if the analyses are simplified.

Re: title, just a quick note to be consistent with language regarding “Filipino emerging adults” vs. “Emerging Filipino adults” (I recommend using the former option).

Introduction

While I recognize that this is a protocol manuscript, I strongly recommend that you re-organize this section when it is time to publish. Specifically, I recommend replacing the initial paragraph (review of adolescence) with the initial paragraph in the Discussion (review of mental health in the Philippines). This provides a much clearer rationale for conducting this study among Filipino emerging adults, which is currently barely addressed in the Introduction. The first paragraph on adolescence feels a bit out of place and unnecessary, particularly given that the study population is older.

I also recommend that you reference the Tripartite Influence Model in your discussion of pressures related to body image. Given that the study focuses on media exposure (as well as messages from peers in the qualitative study), it is a relevant (and well-established) framework to reference in the introduction.

There also should be additional attention to existing research on the effects of skin lightening on body image among other populations, as it is indeed a burgeoning area of research and there are some studies that have already addressed the detrimental effects of skin lightening on body image.

Study Aims

1. I’m not sure what you mean by this first aim. What will specifically be “described” here? For characteristics, do you mean socio-demographic variables? For psychological distress, do you mean based on total score on the DASS-21? I recommend being more specific about what will actually be described for this first aim.

2. All of these terms (e.g., body appreciation, body esteem, positive rational acceptance, well-being status) should be either defined earlier. I’m also not sure what you mean by “well-being status.” Is this different from psychological distress? I recommend
utilizing the same terminology throughout the manuscript to clarify exactly what is being assessed.

3. Again, is “mental health status” the same as “psychological distress” or “well-being status?”

4. What do you mean by “body image status?” Are you referring to body esteem, body appreciation, or body satisfaction/dissatisfaction? I don’t think it makes sense to refer to body image as a “status,” or (if so) it should be clarified.

5. Again, what do you mean by “status of skin lightening practices?” This should be clarified or rephrased.

6. I recommend that you provide more specific examples of “stressors and facilitators,” as this can mean almost anything. If this is in reference to the qualitative study, I suggest stating that explicitly.

7. Are the qualitative findings intended to truly explain the quantitative results, or are you to help provide context around such results? Generally speaking, qualitative research cannot really explain quantitative data but rather can contextualize and enrich such findings.

Study Method
Recruit
It seems like a brief period of recruitment, particularly for conducting the interviews. I’m also curious about why you are using sex assigned at birth over gender identity and whether you would consider gender minority individuals. Lastly, I am not sure what you mean by “self-reported clinically diagnosed with mental health disorders.” Is there a specific question about this or is this determined by the DASS-21? If the former, then how is the question being asked and are participants automatically excluded if they have any psychiatric diagnosis (e.g., learning disorder, ADHD, etc.)? If the latter, what about those with eating disorders or other mood disorders beyond depression and anxiety?

For the qualitative studies, how will the participants be contacted after providing your quantitative data? It sounds like there is a way to contact them, but this should be clarified.

Quantitative Study Data
Re: demographic variables, how will the questions be asked about sex and sexual orientation?

Re: SES, how will participants respond if they are college-aged? Some of the proxy variables for SES may not apply to them and, instead, parental information would be more appropriate. Also, I’m not sure what you mean by “residence.”

Re: body image assessment, is there a reason you are not considering any measures of body dissatisfaction (which is arguably distinct from body appreciation and body esteem)? Given the nature of skin lightening behaviors, wouldn’t it be beneficial to specifically assess how much participants are dissatisfied with their bodies (or at least skin tone satisfaction)?

Re: SLP assessment, please provide examples of the “perceptions” questions.

Re: assessment of media exposure, please provide examples of such questions and how the measure is scored. There are also
other measures of media exposure that have been well-validated in existing body image research that you may want to consider.

Qualitative Study Data
Some of the questions need to be more open-ended to start. One example that repeatedly occurred was “Explain if” instead of having a more open-ended question or an initial closed question followed by a more open question.

I provided some suggestions below for the body image questions that also apply to the skin lightening questions):

1. Perhaps “Tell me about what messages you’ve received about the ideal body.” I would also be careful to use common language around body image and body ideals, as the term “body image” can be interpreted differently. Perhaps even “beauty standards” or “body standards?”

2. This may be a good example of using a closed question followed by an open-ended question. Perhaps “Do you think there are different body ideals for different ethnicities or races?” and then “How do they differ?” I’m also not sure what you mean by “are there specific pages, sites, or platforms?” It sounds like the bigger question is where such standards are being displayed.

3. I’m not sure what you mean by “Describe the belief of your friends…” Perhaps “How do your friends feel regarding meeting these standards?” There should also be a question about how the participant feels regarding meeting such standards.

4. I like the question “How do individuals your age generally feel about the way you look?” but the first question sounds a bit off.

5. I’d open this question up a bit (e.g., “How has the media in general impacted body image?”)

9. In case participants haven’t already mentioned the muscular/thin ideals, I suggest keeping this more open (e.g., “Why do you think people want to change their bodies?”). Then, if they have mentioned specific ideals, you can ask about those ideals.

10. I suggest instead “Do you compare your appearance to friends/media?”

12. The word “factors” is a bit strange to use with laypeople. Perhaps “What else affects your perceptions about your body?”

14. I’m not sure what you mean by “up to what extent.” How is this question different from the previous one?

15. I’m not sure what you mean by coping with “positive reactions to your body image.” Does that mean receiving compliments from others on one’s body? If so, perhaps “cope” isn’t quite the word. Similarly, are the “negative reactions” from others or are they internal? I like the question about coping with negative reactions, but perhaps “Do you do anything to cope with negative reactions to your body?” I’m not sure what the question is about positive reactions.

Analyses
Please specify which groups will be compared on p. 13 regarding participants’ “characteristics.”

Regarding the structural model, I am concerned that it is a bit too convoluted (although this may be more indicative of my own lack of familiarity with SEM). Each path is fairly difficult to follow. It seems like you are trying to address too many factors all at once, although I certainly understand wanting to consider each of these factors. Given that this is the first study to address some of these questions more generally among this population, I wonder if
perhaps it would be better to start more generally to better understand group differences and associations among variables. Then, the structural model can focus on the variables of most interest, rather than everything all at once. This, of course, is just a suggestion.

Regarding the data integration, I am less familiar with this process but again wonder about how the qualitative data can be directly used to explain the quantitative data. I think it is fantastic to have both methods in the study, but I wonder again if it is too much all at once. Perhaps the qualitative study can be more exploratory, rather than attempting to explain the quantitative findings.

Ethical Considerations
I appreciate the consideration of screening for valid data. Would this also include a captcha or will this already be captured through the attention checkers?

Discussion
Again, I know that this is a protocol manuscript, and I know that I already mentioned including the first paragraph in the introduction. I also encourage you to consider the primary aims of the study and to focus on only details that provide support for your study rationale (e.g., what is known about mental health in the Philippines, about body image among emerging adults, about knowledge/perceptions/use of skin lightening products, and the relationships among all of the above).

Overall, I think this will be an excellent contribution to the body image research, particularly regarding the use of skin lightening products, and I look forward to reading the results.

VERSION 1 – AUTHOR RESPONSE

Reviewer 1: Dr. Alaa Al-Sarraf, University of Hertfordshire

This manuscript is very good, the authors did an outstanding job. The results of this work would be a significant contribution to the current evidence in the related fields.

This manuscript examines the potential relationship among body image, skin lightening, and some mental health problems. It is an increasingly needed subject of research as it is poorly studied in the literature. The extraordinary emphasis on body appearance pressurizes people to use random, risky, and aggressive practices to enhance their appearance and to fit themselves in the society. It is an intricate interplay of different psychological and non-psychological factors which contribute to body enhancement and more specifically to skin lightening practice. This could be mainly influenced by social media which is shown to have negative effect on people’s psychological wellbeing including their body image.
Such research is very important to shed light on mental health problems, promote body image acceptance, and increase public awareness of the risky behaviors associated with some body image enhancement methods such as skin lightening practices.

The main strength of this manuscript, in my opinion, is that it addresses a growing problem in a specific population. This in turn will add to the growing knowledge of these topics and contribute to the current evidence about skin lightening, body image and related subjects. Also, the authors described a purposeful mixed method approach in this protocol which is necessary to understand the complex and multifactorial phenomena where quantitative and qualitative methods are essential to draw the conclusion. I specifically like how the authors identified each aim of the study in their data processing part which is very helpful to understand the implementation process of the listed aims and methods.

Response: The authors would like to thank the reviewer for taking the time in reviewing our manuscript. Below are our specific responses to each of the comments/suggestions/recommendations.

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<td>Although the focus of the study is on mental health, the physical adverse effects of some skin lightening measures should not be underestimated. Perhaps, the authors could include the common methods of skin lightening in this population and briefly describe the clinical impacts of the inappropriate use.</td>
<td>Additional statements on the clinical impacts of the inappropriate use of SLPs are added to the introduction.</td>
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<td>My main point of concern, in the manuscript, is the use of the phrase “body image and/or skin lightening” since body image is one’s mental perception about their body appearance while skin lightening is a method for body enhancement. Also, body image, and other mental health problems, could be the cause of skin lightening practice as have been shown in literature.</td>
<td>Thank you very much for this comment. We have revised the specific statements based on your comment. We have also revised the title as suggested.</td>
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<td>It was revised as suggested.</td>
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<td>It was revised as suggested.</td>
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<td>In page 5, the following conclusion and the whole categorization need a reference:</td>
<td>This entire section has references. The self-esteem-related factors have references (7,22,33), body image-related factors (7,34, 35) and other potential psychological factors, such as the history of trauma and depressive symptoms (32, 36).</td>
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<td>“Research focused on skin-lightening practices also identified psychological correlates. There are related psychological problems that have been highlighted and are categorized as…..”</td>
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<td>The time frame of the study was revised.</td>
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<td>In page 9, the criteria for choosing skin lightening informants seems insufficient to me.</td>
<td>The informants for the interview will be the ones with mental health issues specifically those with high levels of depression, anxiety, and stress scores. Another 10 informants will be coming from those with low body image perception and those that are practicing the use of SLP regularly.</td>
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“Companies manufacturing SLPs utilized different marketing strategies, such as the internet, to capture racial and colorized norms or values and the class and gender differences within the White and non-White markets”.

It was revised as suggested.

It was revised as suggested.

Reviewer: 2: Neha J. Goel of Virginia Commonwealth University

Summary: This manuscript describes a mixed methods design protocol for exploring the associations amongst body image, skin lightening practices, and mental health outcomes for a large sample of Filipino emerging adults residing in the Philippines. I was excited to learn that the authors are utilizing an explanatory sequential design and provided a description of how findings across the quantitative and qualitative arms would be integrated – rarely do studies claiming to be “mixed methods” studies actually utilize true mixed methods approaches! I was also excited to learn that this study would shed light on a serious, dangerous practice (i.e., skin lightening) that afflicts many formerly colonized cultures, including the Philippines. However, my enthusiasm for this manuscript was significantly tempered by significant gaps in the literature review and discussion, and numerous methodological questions about the quantitative arm of this study. Namely, at times I was confused as to whether the focus of the study was body image/skin lightening practices or other mental health concerns (e.g., depression, anxiety); thus, it would be helpful to clarify the protocol objectives throughout the manuscript. I have provided specific suggestions designed to improve the overall impact of this study. Please see my suggestions below.

Response: The authors would like to thank the reviewer for taking the time in reviewing our manuscript. Below are our specific responses to each of the comments/suggestions/recommendations.

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<td>The introduction was revised and reorganized as suggested by you and the other reviewer to encompass these comments you have raised.</td>
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I believe that the Introduction needs to be re-organized and is missing key information. I strongly suggest that the authors include any literature that describes body image and eating pathology amongst Filipino samples (even if these samples are not living in the Philippines), provide more information about skin lightening products and norms (especially within the...
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<td>The paragraph on media influence was transferred and re-organized to include SLPs.</td>
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<td>The cut-off scores are now included in the statistics section.</td>
</tr>
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<td>What constitutes an “extreme” level of depression, anxiety, or stress? Are there certain cutoff scores that the authors are using to differentiate between different categories of participants? If so, please list these scores. Also, how will the authors capture enough participants with “extreme” levels of psychopathology if individuals with self-reported diagnoses of mental health disorders are excluded from participation?</td>
<td>Many Filipinos are unscreened for mental health disorders and we can capture those who have severe or extreme levels of depression, anxiety, or stress based on our previous research on mental health.</td>
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Please describe and cite the concept of saturation.

The description of the concept of saturation is now added in the methods section.

The authors assert that they will administer English and translated versions of their measures to participants. Please describe the translation and back-translation process to ensure that the English and Filipino translation versions (Tagalog?) are capturing the same constructs.

We have edited the SAQ to retain the English version only. Filipinos’ second language is English and based from previous researches we have done, English SAQ encompasses the entire archipelago since some of the Filipinos in the Visayas and Mindanao are well-versed in English rather than the Filipino/Tagalog language.

For the qualitative data analytic strategy, how will the authors ensure the trustworthiness and credibility of findings? It also seems like only one author will be involved with the coding process; will there be any additional coders or external auditors who can verify the analysis and final themes/codes? Also, who will be transcribing the interviews?

This part of the methods was updated to specify that three researchers will do the qualitative analysis.

It would be helpful if the authors moved the paragraph describing their recruitment plan to the beginning of the Methods section, as part of the Procedures section.

It was revised as suggested.

Discussion

Since the primary goal of this protocol is to study the relations among body image, SLPs, and other mental health outcomes, I think it would be helpful to focus more of the Introduction and Discussion on body image and SLPs, rather than broadly discussing mental health (depression, stress, anxiety). For instance, these sections would benefit from additional information describing the physical harms associated with SLPs, the multimillion-dollar industry that benefits from selling and marketing SLPs, how colorism and SLPs intersect with racism and colonization, and the perceived benefits of light skin.

As pointed out by the other reviewer, the paragraph section on the review of mental health in the Philippines was transferred to the introduction part to make a strong case on the statement of the problem.

On the other hand, the discussion part was revised and enriched.

Please provide citations that support your assertions that SLPs may be utilized as coping strategies, and SLPs help individuals fit in with their respective communities.

Citations are now provided.

If your university offers English writing support, it may be helpful to consult with them and ask them to review the manuscript for grammar and diction. For instance, the following sentence does not make sense: “The global phenomenon of using skin lightening products (SLPs) is a shepherd on the perception that lighter skin tones may result in more opportunities in life.”

The English writing was reviewed and re-checked.
<table>
<thead>
<tr>
<th>Comments/Suggestions/Recommendations</th>
<th>Responses</th>
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<tbody>
<tr>
<td><strong>Other comments</strong></td>
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</tr>
<tr>
<td>Methods. Why are individuals with a current self-reported diagnosis of a mental health disorder excluded from participation in the current study? Also, for the inclusion criteria, can participants who identify as transgender men or women also participate? Please clarify.</td>
<td>The clinically diagnosed individuals are excluded because we want to capture those that are not yet screened for psychological distress. Any genders are invited to participate. The “male or female” criterion signifies “sex at birth” not gender.</td>
</tr>
<tr>
<td>Methods. I recommend moving the ‘Sample Size Calculation and Sampling Technique’ paragraph after the ‘Data Collection Procedure’ section so that the readers can first learn which variables/measures the authors are using.</td>
<td>The “Sample Size Calculation and Sampling Technique” is under the “Population and Sampling Technique”. We have retained “Sample Size Calculation and Sampling Technique” as is.</td>
</tr>
<tr>
<td>Methods. For the BAS-2, please explain why 10+ of the original items were excluded from the current study.</td>
<td>In this study, the BAS-2 will be used, which was improved by rewording certain BAS items to remove sex-specific versions and body dissatisfaction-based language. Additional items based on positive body image research were also developed, making it a more psychometrically sound positive body image measure applicable for research and clinical setting (Tylka &amp; Wood-Barcalow, 2015). It is a 10-item BAS-2 questionnaire with two key advantages over the previous BAS. It contains one form for both women and men, and its items more closely represent current knowledge on positive body image.</td>
</tr>
<tr>
<td>Methods. Please describe the ‘minor modifications’ that were made to the media exposure questionnaire for the current study.</td>
<td>Minor medication was done to include the number of hours spent on social media and we have specifically named the biggest social media platforms being consumed today: Facebook, Instagram, Twitter and Tiktok.</td>
</tr>
<tr>
<td>Methods. The authors assert that their SEM model is grounded in a ‘sound theoretical framework of body image and skin lightening’ – what is this theoretical framework?</td>
<td>This sentence was revised.</td>
</tr>
</tbody>
</table>
Reviewer: 3: Alice S. Lowy, Harvard Medical School

This manuscript proposes a mixed methods study investigating the effect of body image and skin lightening practices on mental health of Filipino emerging adults. Overall, I think this will be a significant contribution to body image literature, particularly regarding its emphasis on skin lightening products among a population that is understudied, and I think you have outlined a comprehensive approach to understanding various factors that may contribute to body image concerns among this population. I do have some concerns regarding some of the study design, particularly regarding some of the measures in the quantitative study and the interview questions in the qualitative study. I have also provided some recommendations to clarify certain sections of the manuscript for when you try to publish the results. I also have some concerns with how much you are trying to do all in one study. Given that this is the first study to explore some of these questions, I think even providing more foundational information about mental health, body image, and skin lightening among this population will still be a significant contribution. For example, I'm a bit concerned about how much is included in the structural model, as it feels a bit convoluted as is and there can still be noteworthy findings if the analyses are simplified.

Response: The authors would like to thank the reviewer for taking the time in reviewing our manuscript. Below are our specific responses to each of the comments/suggestions/recommendations.

<table>
<thead>
<tr>
<th>Comments/Suggestions/Recommendations</th>
<th>Responses</th>
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<tbody>
<tr>
<td>Re: title, just a quick note to be consistent with language regarding “Filipino emerging adults” vs. “Emerging Filipino adults” (I recommend using the former option).</td>
<td>Revised as suggested. The entire manuscript was checked for consistency.</td>
</tr>
<tr>
<td>Introduction</td>
<td>Revised as suggested. We have edited the “adolescence” part and changed it to “emerging adults”</td>
</tr>
<tr>
<td>While I recognize that this is a protocol manuscript, I strongly recommend that you re-organize this section when it is time to publish. Specifically, I recommend replacing the initial paragraph (review of adolescence) with the initial paragraph in the Discussion (review of mental health in the Philippines). This provides a much clearer rationale for conducting this</td>
<td></td>
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<td>Comments/Suggestions/Recommendations</td>
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<tr>
<td>study among Filipino emerging adults, which is currently barely addressed in the Introduction. The first paragraph on adolescence feels a bit out of place and unnecessary, particularly given that the study population is older.</td>
<td>The discussion section on the review of mental health in the Philippines is now added in the introduction.</td>
</tr>
<tr>
<td>I also recommend that you reference the Tripartite Influence Model in your discussion of pressures related to body image. Given that the study focuses on media exposure (as well as messages from peers in the qualitative study), it is a relevant (and well-established) framework to reference in the introduction.</td>
<td>The Tripartite Influence Model is now included in the introduction part.</td>
</tr>
<tr>
<td>There also should be additional attention to existing research on the effects of skin lightening on body image among other populations, as it is indeed a burgeoning area of research and there are some studies that have already addressed the detrimental effects of skin lightening on body image.</td>
<td>We have added more evidence on the body image perceptions and skin lightening practices, particularly conducted among Filipinos. As suggested by other reviewers, we have added the clinical impacts of the inappropriate SLP use.</td>
</tr>
</tbody>
</table>

**Study Aims**

I'm not sure what you mean by this first aim. What will specifically be “described” here? For characteristics, do you mean socio-demographic variables? For psychological distress, do you mean based on total score on the DASS-21? I recommend being more specific about what will actually be described for this first aim. | It was revised as suggested. |

All of these terms (e.g., body appreciation, body esteem, positive rational acceptance, well-being status) should be either defined earlier. I’m also not sure what you mean by “well-being status.” Is this different from psychological distress? I recommend utilizing the same terminology throughout the manuscript to clarify exactly what is being assessed. | It was revised as suggested. |

Again, is “mental health status” the same as “psychological distress” or “well-being status?” | It was revised as suggested. |

What do you mean by “body image status?” Are you referring to body esteem, body appreciation, or body satisfaction/dissatisfaction? I don’t think it makes sense to refer to body image as a “status,” or (if so) it should be clarified. | It was revised as suggested. |

Again, what do you mean by “status of skin lightening practices?” This should be clarified or rephrased. | It was revised as suggested. |

I recommend that you provide more specific examples of “stressors and facilitators,” as this can mean almost anything. | It was revised as suggested. |
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<th>Comments/Suggestions/Recommendations</th>
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<tr>
<td>If this is in reference to the qualitative study, I suggest stating that explicitly.</td>
<td></td>
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<tr>
<td>Are the qualitative findings intended to truly explain the quantitative results, or are you to help provide context around such results? Generally speaking, qualitative research cannot really explain quantitative data but rather can contextualize and enrich such findings.</td>
<td>It was revised as suggested.</td>
</tr>
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</table>

**Methods**

It seems like a brief period of recruitment, particularly for conducting the interviews. I’m also curious about why you are using sex assigned at birth over gender identity and whether you would consider gender minority individuals. Lastly, I am not sure what you mean by “self-reported clinically diagnosed with mental health disorders.” Is there a specific question about this or is this determined by the DASS-21? If the former, then how is the question being asked and are participants automatically excluded if they have any psychiatric diagnosis (e.g., learning disorder, ADHD, etc.)? If the latter, what about those with eating disorders or other mood disorders beyond depression and anxiety?

<table>
<thead>
<tr>
<th>Methods</th>
<th>Responses</th>
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<tbody>
<tr>
<td>The period of recruitment was revised.</td>
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<tr>
<td>Gender minorities are also encouraged to join and are not less prioritized. The sexual orientation is also a variable to be asked in the SAQ.</td>
<td></td>
</tr>
<tr>
<td>There are cases that respondents may be clinically diagnosed with mental health disorder, specifically depression, anxiety, and stress, and we are excluding them to capture those Filipino emerging adults that are not yet screened for psychological distress. The question on this was specifically designed to capture those that are clinically diagnosed with depression, anxiety, and stress. The inclusion criterion on this was revised.</td>
<td></td>
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</table>

For the qualitative studies, how will the participants be contacted after providing your quantitative data? It sounds like there is a way to contact them, but this should be clarified.

| For the qualitative studies, how will the participants be contacted after providing your quantitative data? It sounds like there is a way to contact them, but this should be clarified. | They will be contacted via the cellphone number or email address that they will provide in the SAQ. |

Quantitative Study Data

Re: demographic variables, how will the questions be asked about sex and sexual orientation?

<table>
<thead>
<tr>
<th>Quantitative Study Data</th>
<th>Responses</th>
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<tr>
<td>The questions are straight forward. Based from our previous research experiences with these types of question. It is much better to be straight forward.</td>
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Re: SES, how will participants respond if they are college-aged? Some of the proxy variables for SES may not apply to

<table>
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<tr>
<th>Re: SES, how will participants respond if they are college-aged? Some of the proxy variables for SES may not apply to</th>
<th>For the SES of the college-age, the question is phrased to be “household</th>
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<td>Comments/Suggestions/Recommendations</td>
<td>Responses</td>
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<tr>
<td>them and, instead, parental information would be more appropriate. Also, I’m not sure what you mean by “residence.”</td>
<td>monthly income” to include their parents’ income. For the residence, it is either rural or urban area.</td>
</tr>
<tr>
<td>Re: body image assessment, is there a reason you are not considering any measures of body dissatisfaction (which is arguably distinct from body appreciation and body esteem)? Given the nature of skin lightening behaviors, wouldn’t it be beneficial to specifically assess how much participants are dissatisfied with their bodies (or at least skin tone satisfaction)?</td>
<td>We have concentrated on the questionnaires that are positive in nature. During the conduct of review of related literature, we have read that the measurement of positive body image gives a comprehensible understanding of body image compared with the negative body image scale.</td>
</tr>
<tr>
<td>Re: SLP assessment, please provide examples of the “perceptions” questions.</td>
<td>Examples of these questions include:</td>
</tr>
<tr>
<td>• A lighter skin tone is more beautiful.</td>
<td></td>
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<tr>
<td>• Lighter skin tone provides higher self-esteem.</td>
<td></td>
</tr>
<tr>
<td>• People consider lighter skin tone more beautiful.</td>
<td></td>
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<tr>
<td>Response options will range from 1 = strongly agree to 4 = strongly disagree.</td>
<td></td>
</tr>
<tr>
<td>Re: assessment of media exposure, please provide examples of such questions and how the measure is scored. There are also other measures of media exposure that have been well-validated in existing body image research that you may want to consider.</td>
<td>Examples of these questions include:</td>
</tr>
<tr>
<td>• I watch more than nine movies in a month.</td>
<td></td>
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<tr>
<td>• I copy an actor’s/actress’ clothes, hairstyle, and/or lines in the movie because it would make me look cool or feel good.</td>
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<tr>
<td>• I immediately try any new product that I saw in a commercial.</td>
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<tr>
<td>• I search tips, advices and/or procedures from the Internet that would improve my outward appearance.</td>
<td></td>
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<tr>
<td>• I feel handsome or beautiful when my solo picture gets a lot of likes or comments.</td>
<td></td>
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<tr>
<td>• I compare my appearance with the photos of my Facebook friends, Instagram/Twitter mutuals, and other photo posts on social media.</td>
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</table>
The level of media exposure will be ascertained using a questionnaire adapted from a study done in the Philippines with a few modifications.

<table>
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<tr>
<th>Comments/Suggestions/Recommendations</th>
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<tbody>
<tr>
<td>Qualitative Study Data:</td>
<td>These comments were considered and modifications were done as per your suggestion.</td>
</tr>
<tr>
<td>Some of the questions need to be more open-ended to start. One example that repeatedly occurred was “Explain if” instead of having a more open-opened question or an initial closed question followed by a more open question.</td>
<td></td>
</tr>
<tr>
<td>Qualitative Questionnaire</td>
<td>These comments were taken into consideration and modifications were done as per your suggestion.</td>
</tr>
<tr>
<td>I provided some suggestions below for the body image questions that also apply to the skin lightening questions):</td>
<td>Supplemental File No. 1 is simply a guide and may not be asked accordingly; it depends on the flow of the discussion but all questions should be answered.</td>
</tr>
<tr>
<td>1. Perhaps “Tell me about what messages you’ve received about the ideal body.” I would also be careful to use common language around body image and body ideals, as the term “body image” can be interpreted differently. Perhaps even “beauty standards” or “body standards?”</td>
<td></td>
</tr>
<tr>
<td>2. This may be a good example of using a closed question followed by an open-ended question. Perhaps “Do you think there are different body ideals for different ethnicities or races?” and then “How do they differ?” I’m also not sure what you mean by “are there specific pages, sites, or platforms?” It sounds like the bigger question is where such standards are being displayed.</td>
<td></td>
</tr>
<tr>
<td>3. I’m not sure what you mean by “Describe the belief of your friends…” Perhaps “How do your friends feel regarding meeting these standards?” There should also be a question about how the participant feels regarding meeting such standards.</td>
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<tr>
<td>4. I like the question “How do individuals your age generally feel about the way you look?” but the first question sounds a bit off.</td>
<td></td>
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<tr>
<td>5. I’d open this question up a bit (e.g., “How has the media in general impacted body image?”)</td>
<td></td>
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<tr>
<td>6. In case participants haven’t already mentioned the muscular/thin ideals, I suggest keeping this more open (e.g., “Why do you think people want to change their bodies?”). Then, if they have mentioned specific ideals, you can ask about those ideals.</td>
<td></td>
</tr>
<tr>
<td>7. I suggest instead “Do you compare your appearance to friends/media?”</td>
<td></td>
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<tr>
<td>8. The word “factors” is a bit strange to use with laypeople. Perhaps “What else affects your perceptions about your body?”</td>
<td></td>
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<tr>
<td>9. I’m not sure what you mean by “up to what extent.” How is this question different from the previous one?</td>
<td></td>
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<tr>
<td>10. I’m not sure what you mean by coping with “positive reactions to your body image.” Does that mean receiving compliments from others on one’s body? If so, perhaps “cope” isn’t quite the word. Similarly, are the “negative reactions” from others or are they internal? I like the</td>
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<td>Comments/Suggestions/Recommendations</td>
<td>Responses</td>
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<tr>
<td>question about coping with negative reactions, but perhaps “Do you do anything to cope with negative reactions to your body?” I’m not sure what the question is about positive reactions.</td>
<td></td>
</tr>
<tr>
<td>Analyses Please specify which groups will be compared on p. 13 regarding participants’ “characteristics.”</td>
<td>It was revised as suggested.</td>
</tr>
<tr>
<td>Regarding the structural model, I am concerned that it is a bit too convoluted (although this may be more indicative of my own lack of familiarity with SEM). Each path is fairly difficult to follow. It seems like you are trying to address too many factors all at once, although I certainly understand wanting to consider each of these factors. Given that this is the first study to address some of these questions more generally among this population, I wonder if perhaps it would be better to start more generally to better understand group differences and associations among variables. Then, the structural model can focus on the variables of most interest, rather than everything all at once. This, of course, is just a suggestion.</td>
<td>Thank you very much for your comment. The simple associations of the variables will be considered in the Specific Aim No. 4. The SEM was built based on sound theoretical framework of body image perception and skin lightening practices from published literatures.</td>
</tr>
<tr>
<td>Regarding the data integration, I am less familiar with this process but again wonder about how the qualitative data can be directly used to explain the quantitative data. I think it is fantastic to have both methods in the study, but I wonder again if it is too much all at once. Perhaps the qualitative study can be more exploratory, rather than attempting to explain the quantitative findings.</td>
<td>As per your suggestion, we have edited this Specific Aim in the objectives section. Rather than “explain”, the qualitative data will contextualize and enrich the quantitative findings.</td>
</tr>
<tr>
<td>Ethical Considerations I appreciate the consideration of screening for valid data. Would this also include a captcha or will this already be captured through the attention checkers?</td>
<td>We will just use attention checkers and will not include captcha.</td>
</tr>
<tr>
<td>Discussion Again, I know that this is a protocol manuscript, and I know that I already mentioned including the first paragraph in the introduction. I also encourage you to consider the primary aims of the study and to focus on only details that provide support for your study rationale (e.g., what is known about mental health in the Philippines, about body image among emerging adults, about knowledge/perceptions/use of skin lightening products, and the relationships among all of the above).</td>
<td>As per your comments and suggestions and the other reviewers as well the discussion part was revised.</td>
</tr>
<tr>
<td>Overall, I think this will be an excellent contribution to the body image research, particularly regarding the use of skin lightening products, and I look forward to reading the results.</td>
<td>Thank you very much and we appreciate your wonderful feedback on our protocol manuscript.</td>
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</table>
GENERAL COMMENTS

Goel, Neha J.
Virginia Commonwealth University

20-Feb-2023

Summary: I thank the authors for taking the time to substantially revise this manuscript and attend to each reviewer’s suggestions. I am satisfied with the majority of their revisions, however, would ask that they address the following concerns within the Methods section:

1. I see that the authors added new cut-off scores to distinguish between differing severity levels for depression, anxiety, and stress. However, it is unclear whether these scores are derived from the scoring manual (e.g., does the original scoring instructions for the DASS-21 indicate that scores from 0-9 constitute “normal” levels of depression?), from the literature, or elsewhere. Please explain.
2. For the inclusion criteria, please specify that “male or female” refers to sex-assigned-at birth and that individuals from all gender identities are welcome to participate.
3. I thank the authors for including their rationale for excluding 10+ items from the BAS-2. Please include this explanation within the manuscript itself.

Lowy, Alice S.
Harvard Medical School

05-Mar-2023

General Comments:
The authors did an excellent job addressing many of our questions and concerns, and I appreciate their elaboration on several core concepts in both the Introduction and Discussion sections of the manuscript. I do still have some concerns about the phrasing/conceptualization of certain terms, as well as the overall model and study design. I have also gone through the manuscript thoroughly to identify sections that are either unclear or require further elaboration, which I recognize can feel overwhelming to see all at once. Major recommendations are included below, followed by a (lengthy) list of minor suggestions. These suggestions are provided to further strengthen the study and manuscript as a whole, as I still believe this is an important topic of research and that it will be a significant contribution to body image literature.

First, I appreciate your attention to changing the phrasing of “body image” throughout the manuscript. However, I don’t believe “body image perception” makes the most sense, as the phrasing feels a bit redundant and still vague. While body image is indeed one’s perception of their body, it seems that your conceptualization of body image focuses on exclusively positive body image. If this is indeed the case, I strongly suggest that you phrase it as such and focus your discussion of body image on research summarizing positive body image. In addition, I encourage you to consider the potential benefit of including a measure of body dissatisfaction (e.g., EDE-Q Weight/Shape Concerns subscales, EDI-Body Dissatisfaction subscale), particularly if you are discussing body dissatisfaction as a potential risk related to skin-lightening practices for emerging adults. While I understand the important
shift toward positive body image, you are also frequently discussing how body image concerns are related to other
important constructs in the study. If you do not include such a measure, I recommend focusing more explicitly on the construct of
positive body image and how it is associated with body image concerns and skin tone satisfaction.

Second, there are also still many instances of words/phrases that are unclear. I tried to provide examples of them throughout the
manuscript, but I also strongly recommend having someone review the manuscript thoroughly for appropriate vocabulary and
grammar. Also, I noticed that you often use the phrase “On the other hand.” This does not always feel appropriate, as to me it
suggests that the sentence differs from the previous sentence (e.g., p. 5 last sentence). I recommend reviewing the use of this
phrase and whether you are, in fact, implying that there is a distinction (vs. additionally, in addition, furthermore, etc.).

Third, I’m still unclear about how “stress” is conceptualized as a variable. It seems like it is more of a total score of depression and
anxiety, which does not necessarily mean “stress.” If there is a separate “stress” subscale, what exactly does this mean? Does it
evaluate post-traumatic stress (since you mention trauma), more general stress, or both? I may just not be familiar with this
measure, but this needs further clarification throughout the manuscript as a core variable.

Re: Introduction
1. While I appreciate your responsiveness to our suggestions regarding the Introduction, the section feels a bit disjointed and
could benefit from further editing. One suggestion is perhaps to include subheadings for this section, which can help organize the
primary concepts and clarify whether any parts are beyond the scope of the study. It seems that some subheadings could be (1)
mental health concerns among emerging adults, (2) mental health concerns among Filipinos, (3) body image concerns among
emerging adults, (4) body image concerns among Filipinos, (5) positive body image among emerging adults, (6) positive body
image among Filipinos, (7) skin lightening practices among emerging adults within distinct cultures, (8) skin lightening
practices among Filipinos. These certainly do not have to be the specific subheadings, but it may be helpful to think about which
core concepts are included in your structural model, what do we know about such concepts among emerging adults, and then what
do we know about such concepts in the Philippines?
2. Although body image concerns are certainly related to disordered eating, it may not be necessary (and, in fact, can be a bit confusing) to include studies summarizing disordered eating outcomes if that is not a variable of interest for your study (e.g., summary of citation #10 on p. 4).
3. While I appreciate your inclusion of the tripartite influence model, the summary of the theory is a bit off and requires citations. I recommend reading other summaries of the theory and providing a more thorough discussion about how it pertains to Filipino emerging adults.
4. I would also clarify that skin lightening is prevalent within certain cultural populations. For example, it is not common among those who already have white/light skin (and, in fact, there are opposite practices within other cultures that value tan skin tones). The social implications of skin tone are certainly complex and important
to highlight, but I would be mindful of clarifying which populations are specifically engaging in skin lightening practices.

Re: Methods
5. I continue to find the model to be quite complex and difficult to follow (e.g., following each line to see which associations will be examined). If this is just me, I will let it go and accept that it’s my own shortcomings as a statistician. My concern, however, is that perhaps others will also find it too convoluted and difficult to follow. While I understand why you want to include so many variables (including many important sociodemographic ones), I do have some concerns about how much is being addressed in this one model. I would like to see more support for why you are including so many variables in this model.

Re: Discussion
6. The Discussion should include an overview of each core concept included in your study, connected with how you plan to address this concept. We should not see the first mention of the study as the last paragraph of the section. Rather than providing a scoping overview all at once and then discussing how your study will address these topics, I recommend again structuring it similarly to the Introduction to weave a more connected narrative. Subheadings may be helpful to start with just to organize the core concepts that you address, although not be necessary in the final manuscript.
7. Along those lines, while I appreciate your expansion of the effects of skin lightening, the third and fourth paragraphs of the Discussion seem better suited for the Introduction (perhaps with less detail). It feels a bit out of place to be at the end of the manuscript and certainly would nicely frame the rationale for your study.
8. I also strongly recommend combining some sentences so that there are more complex sentences that tell more of a narrative, rather than providing a string of simple sentences. This may be a matter of preference, but I feel it otherwise feels somewhat disjointed.

Minor Comments
More generally, I again recommend remaining consistent with certain terms (e.g., SLP vs. SLPS, mental well-being vs. mental health problems vs. psychological distress vs. psychological problems vs. mental health status, body image perception vs. positive body image vs. body issues vs. body appearance). It seems that you use SLP to abbreviate both “skin lightening practice” and “skin lightening products.” I instead recommend using SLP only for one, or clarifying that skin lightening practice = SLP and skin lightening products = SLPS.

Re: Interview Questions, thank you for modifying and clarifying the interview questions to be more open-ended. Your modifications are generally fantastic, and I look forward to seeing how participants will respond. My only other suggestions are to possibly change “perception of body image” to “how you see your body” or “how you feel about your body,” as well as change the phrase “negative reactions to” to perhaps “negative feelings toward” your body. Otherwise, these are great questions that will hopefully yield rich qualitative data.
<table>
<thead>
<tr>
<th>Page</th>
<th>Comments</th>
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<tr>
<td>3</td>
<td>The first two sentences of the Introduction feel unnecessary and a bit too simple. I think it is safe to assume that most readers will already know the definition of emerging adulthood, so I suggest instead focusing on the increased risks for mental health and body image concerns within this specific developmental period.</td>
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<td>3</td>
<td>The second sentence isn’t quite accurate, as weight gain does not occur for all emerging adults.</td>
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<td>3</td>
<td>The third sentence is the most important and could benefit from additional detail about how emerging adults experience body image concerns or body dissatisfaction.</td>
</tr>
<tr>
<td>3</td>
<td>Please rephrase some terms (e.g., “body changes” and “depression symptoms”)</td>
</tr>
<tr>
<td>3</td>
<td>I recommend using a different phrase than “mediational links.”</td>
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- I truly appreciate your responsiveness to my suggestion about moving the paragraph about the Mental Health Act in the Philippines to the Introduction. However, I don’t know how much this section fits, particularly so late in the section. Rather than focusing on specific numbers, I recommend refocusing on the biggest takeaways and how they apply to your study (e.g., mental health concerns are prevalent, yet mental health programs are poorly funded).
- Please rephrase "owing" in the last paragraph, and change "a growing body of evidence" to "growing evidence." Also clarify that you are specifically evaluating Filipino emerging adults, rather than just "men and women."
- The section about body image and skin lightening practices is a great one, but it does not belong with the summary of the study. Instead, it should be with the general overview of body image and skin lightening practices earlier in the Introduction, and there should be citations supporting your statements.

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- Please omit the apostrophe after "adults" in Aim 3 and "structural" from "structural relationships" for Aim 5 (it feels redundant with "testing a structural model").

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- Re: Study Design, please consider rephrasing the following:
  - "in-depth overview of this topic numerically and narratively" (sounds a bit off)
  - "to understand closely the research problems" (too vague—entire sentence can probably be omitted)
  - "researchers expect" to "we expect"
  - "capture the complexity of human phenomena, such as the main interests of this research" to "capture the complexity of body image concerns and skin lightening practices"
  - "seeking corroboration between the gathered quantitative and qualitative data" (too vague—entire sentence can probably be omitted)
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Re: Study Setting, I’m not sure you need an entire section for this. The first sentence could probably fit either with the previous section (Study Design) or the Recruitment Plan, and the second sentence feels a bit redundant and could likely be incorporated in the General Aims section.

Re: Study Population, please address the following:
- Please consider omitting the sentence summarizing the population of Filipino emerging adults, as it is not necessary and feels a bit out of place.
- Please omit “and” from each of the Inclusion Criteria
- Re: gender/sex assigned at birth, does this mean you would exclude individuals who identify as non-binary or gender fluid? I understand that you are using sex assigned at birth (for which I do have some concerns), but I am again wondering about whether you are planning to exclude individuals who do not identify as either male or female.
- Re: understanding English and/or Filipino, did I understand correctly that you changed the measures to only be in English? If so, please change the criteria accordingly.
- Re: exclusion criteria, I appreciate your clarification of excluding those with clinical depression and anxiety, although I’m still confused about how this is being confirmed/asked. Also, when you say “stress,” do you mean post-traumatic stress? Adjustment disorder? Stress feels a bit vague, particularly as a clinical diagnosis.

p. 10 (Recruitment Plan)
- Please specify how online tools will be utilized to disseminate the online survey questionnaire. Also, “online survey questionnaire” is a bit redundant. Consider using either survey or questionnaire.
- I personally feel that giving an acronym to the self-administered questionnaire is confusing and unnecessary, as it’s not a specific measure but rather the entire survey that includes all the measures. I recommend omitting “SAQ” and replacing with “survey” throughout.

p. 11 (Data Collection)
- Please specify how you will collect information about sex assigned at birth (which I still have some concerns about), sexual orientation, and socioeconomic status variables. For example, are you providing options for participants to select or do they have an opportunity to select/specific “other?” Regarding gender, if you are
planning to include gender minority individuals, why wouldn’t you ask about gender identity (vs. sex assigned at birth)? This is more inclusive phrasing, particularly if you will provide options beyond male or female only.

- I appreciate your clarification of what you mean by “residence,” but it should be included in the actual manuscript (e.g., “rural/urban residence”).

- I’m not sure “exposure assessment” makes the most sense, as one cannot be “exposed” to body image concerns. Is there a reason you do not want to include them as part of the outcome variables? I would consider relabeling, as “exposure” implies that there is a level of exposing individuals to a stimulus. Furthermore, although you are hypothesizing the associations among body image, skin lightening practices, and psychological distress, they are all variables of interest.

- Please omit “twenty” and only keep the number, as it’s redundant as is.

- Please provide citations at initial mention of each body image measure. I also recommend using a different phrase than “observed indicators,” as they are really measures/assessments.

- I recommend having one paragraph for each measure, including a brief summary of the main construct that the measure is evaluating, description of types of items (ideally with an example item to demonstrate), and (as you provided) psychometric properties.

- The summary about the “dynamic arrangements” is confusing and does not seem relevant to the summary of measures.

- Re: BAS, it was not one of the first measures developed for body image, but instead a well-validated measure of positive body image (or, specifically, body appreciation). Also, I recommend omitting the statement about the BAS-2 being easy to administer and score, as it is unnecessary.

- Re: BES, rather than “multiple dimensions that differ for men and women,” I recommend “distinct dimensions for men and women,” with example subscales provided.

- Re: PRAS, I recommend describing how positive rational acceptance contributes to your conceptualization of positive body image earlier in the manuscript (e.g., the Introduction). I also recommend spelling out the variable of positive rational acceptance instead of “PRA,” as it’s a bit confusing to see PRAS (the measure) and PRA (the variable). I am also a bit confused by the phrase “negative body image-related feelings.” Do you mean “body image concerns?” Lastly, what exactly do you mean by a “threat” and “nature exposure” (p. 13).

- Re: DAS, I’m still confused about what the “stress” subscale entails. Is it the summed total of depression and anxiety subscales, or is it its own subscale? This needs to be clarified, as “stress” feels a bit vague. I recognize that I am not as familiar with the scale, but neither will other readers and therefore could benefit from additional clarification.

- I’m not sure why there are citations for each of the sociodemographic variables. Again, please specify whether these questions will be forced choice, or if there are opportunities for participants to select and specify “other.” I again strongly recommend using gender identity instead of sex assigned at birth, unless you are planning to exclude gender minority individuals. Similarly, for sexual orientation, I recommend providing as many
options as possible, given the wide spectrum of sexual identities that exist.
- Re: media exposure, please provide the examples in the manuscript (not just in response to my previous comment). It would be helpful to provide a brief summary of the measure that you are adapting, and how it was specifically modified.
- Please consider changing “mental health status”
- Please consider removing “a standard method for analyzing data in cross-sectional studies,” as it does not seem necessary. I also recommend using a different word than “rare” in the following sentence.
- I appreciate the additional elaboration regarding analyses and am glad to see that multiple researchers will be analyzing the data. My only question is how will interviews be transcribed? Will it be only one researcher or multiple? How will you ascertain reliable transcriptions?
- I’m less familiar with data triangulation, but is there a reason only the primary researcher will be responsible for bringing the data together? Is there potential benefit of having another researcher to confirm reliability?
- Please consider omitting “However, there are instances…when all items on a multi-item instrument are missing,” as I do not think such details are necessary. If a participant misses a few items from a measure but completes the others, will you be removing their entire case? Also, please provide a citation supporting guidelines about less than 10% missing data, and please specify which imputations will be used for incomplete/missing data.
- Rather than providing broader statements about literature on mental health and depressive disorders, I recommend focusing specifically on mental health among emerging adults (globally) and then in the Philippines (or even other non-Western cultures).
- I would be careful about how often you use the word “body” in the third sentence of the Discussion (e.g., “body of literature”, “body issues”, “body image perception”). I also suggest using a different word than “issues,” as it feels a bit pejorative (although this may be a personal preference). This is also again where the meaning of “body image perception” isn’t quite clear. Are you implying body image concerns or positive body image? This is further muddled with the following sentence (“issues of body appearances”).
- Please provide examples of “unhealthy weight control behaviors” and consider rephrasing “sometimes excessive or detrimental to one’s mental health.” The word “unhealthy” already implies harmful (even if not excessive) and can be detrimental to both one’s physical and mental health.
- Again, please rephrase “poor mental health status” to perhaps “mental health concerns,” and please elaborate on the relationship between mental health concerns and SLP use in the last sentence of the first paragraph.
- Please rephrase or specify what you mean by “psychological determinants” of skin lightening practices, and elaborate on what you mean by “poor mental health” (see above suggestion) being linked with “deficits in self-esteem or body image.” There is also no such thing as a “deficit” in body image, so consider rephrasing to “low self-esteem or body image concerns.”
Please consider rephrasing the second sentence in the second paragraph. Specifically, please provide cultural context of skin lightening within the "larger society’s definition of beauty" and elaborate on the "psychological effect" for certain populations.
- Please elaborate on what you mean by “acceptance of beauty standards is inevitable” and explain how this connects to skin lightening as a coping mechanism (I recommend omitting the word “destressing”).
- Please rephrase the first sentence in the third paragraph, as the following phrases feel a bit off:
  - “it” in “motivation to do it”- I recommend “motivation to engage in skin lightening” or “motivation to use SLPs.”
  - “practice” being mentioned twice in the same clause- I recommend “the different practices of skin lightening and related effects”
  - “even” and “(support)”- I recommend omitting both.
- Please elaborate on what you mean by “the physical and social realities are present in human skin.” I also don’t know how relevant the anthropological perspective is here. Your point about how skin color is perceived in society is an important one, but there are many other publications that address skin as social status and related colorism.
- Please provide citations in your discussion of Turner’s concept of “social skin” and consider including other citations that address this concept in body image literature.
- Please consider rephrasing “extreme dislike or hatred against oneself drives one to lighten the skin” and provide supporting citations. While the statement can certainly be accurate, it feels a bit too strong and ignores the sociocultural factors that contribute to such dislike/hatred.
- I would consider rephrasing “residual after-effects” of discrimination, etc. Are they, in fact, after-effects if discrimination and colorism is ongoing?
- Please consider rephrasing the first sentence of the second paragraph (“However, little is known… beauty standard problems”), as the statement is not necessarily accurate. While there is certainly a lot more to understand, body image research has been attempting to explore this exact question for quite a while. I would clarify what you mean here and elaborate.
- I would specify what you mean by “local studies.”

In addition to “safe skin-lightening practices,” isn’t action needed to challenge the need for skin-lightening practices altogether? It sounds like there is a need to promote positive body image in general, but particularly societal acceptance of all skin tones and challenging practices that promote colorism.
- Please consider rephrasing “our” bodies.
- Please elaborate on what you mean by “regulating body image” or rephrase.

**VERSION 2 – AUTHOR RESPONSE**

**Reviewer: 2: Neha J. Goel, Virginia Commonwealth University**

Comments to the Authors:
Summary: I thank the authors for taking the time to substantially revise this manuscript and attend to each reviewer’s suggestions. I am satisfied with the majority of their revisions, however, would ask that they address the following concerns within the Methods section:
1. I see that the authors added new cut-off scores to distinguish between differing severity levels for depression, anxiety, and stress. However, it is unclear whether these scores are derived from the scoring manual (e.g., does the original scoring instructions for the DASS-21 indicate that scores from 0-9 constitute “normal” levels of depression?), from the literature, or elsewhere. Please explain.
   Response: The cut-off scores were derived from previous studies as indicated in the references cited.

2. For the inclusion criteria, please specify that “male or female” refers to sex-assigned-at birth and that individuals from all gender identities are welcome to participate.
   Response: This section was revised as suggested.

3. I thank the authors for including their rationale for excluding 10+ items from the BAS-2. Please include this explanation within the manuscript itself.
   Response: The justification on the exclusion of 10+ items from the BAS-2 was added in the manuscript.

Reviewer: 3: Alice S. Lowry, Harvard Medical School

General Comments
The authors did an excellent job addressing many of our questions and concerns, and I appreciate their elaboration on several core concepts in both the Introduction and Discussion sections of the manuscript. I do still have some concerns about the phrasing/conceptualization of certain terms, as well as the overall model and study design. I have also gone through the manuscript thoroughly to identify sections that are either unclear or require further elaboration, which I recognize can feel overwhelming to see all at once. Major recommendations are included below, followed by a (lengthy) list of minor suggestions. These suggestions are provided to further strengthen the study and manuscript as a whole, as I still believe this is an important topic of research and that it will be a significant contribution to body image literature.

1. First, I appreciate your attention to changing the phrasing of “body image” throughout the manuscript. However, I don’t believe “body image perception” makes the most sense, as the phrasing feels a bit redundant and still vague. While body image is indeed one’s perception of their body, it seems that your conceptualization of body image focuses on exclusively positive body image. If this is indeed the case, I strongly suggest that you phrase it as such and focus your discussion of body image on research summarizing positive body image. In addition, I encourage you to consider the potential benefit of including a measure of body dissatisfaction (e.g., EDE-Q Weight/Shape Concerns subscales, EDI-Body Dissatisfaction subscale), particularly if you are discussing body dissatisfaction as a potential risk related to skin-lightening practices for emerging adults. While I understand the important shift toward positive body image, you are also frequently discussing how body image concerns are related to other important constructs in the study. If you do not include such a measure, I recommend focusing more explicitly on the construct of positive body image and how it is associated with body image concerns and skin tone satisfaction.
   Response: We thank you for this recommendation. However, we opted to retain the set of questionnaires. We have revised the discussion part to only focus on positive body image.

2. Second, there are also still many instances of words/phrases that are unclear. I tried to provide examples of them throughout the manuscript, but I also strongly recommend having someone review the manuscript thoroughly for appropriate vocabulary and grammar. Also, I noticed that you often use the phrase “On the other hand.” This does not always feel appropriate, as to me it suggests that the sentence differs from the previous sentence (e.g., p. 5 last sentence). I recommend reviewing the use of this phrase and whether you are, in fact, implying that there is a distinction (vs. additionally, in addition, furthermore, etc.).
   Response: We thank you for this suggestion. The use of this phrase was reviewed thoroughly.
3. Third, I’m still unclear about how “stress” is conceptualized as a variable. It seems like it is more of a total score of depression and anxiety, which does not necessarily mean “stress.” If there is a separate “stress” subscale, what exactly does this mean? Does it evaluate post-traumatic stress (since you mention trauma), more general stress, or both? I may just not be familiar with this measure, but this needs further clarification throughout the manuscript as a core variable.

Response: The stress scale is a subscale in DASS-21 is sensitive to levels of chronic nonspecific arousal. It assesses difficulty relaxing, nervous arousal, and being easily upset / agitated, irritable /over-reactive and impatient. The definition of DASS-21 was revised in the Outcome Measurements section.

Introduction

1. While I appreciate your responsiveness to our suggestions regarding the Introduction, the section feels a bit disjointed and could benefit from further editing. One suggestion is perhaps to include subheadings for this section, which can help organize the primary concepts and clarify whether any parts are beyond the scope of the study. It seems that some subheadings could be (1) mental health concerns among emerging adults, (2) mental health concerns among Filipinos, (3) body image concerns among emerging adults, (4) body image concerns among Filipinos, (5) positive body image among emerging adults, (6) positive body image among Filipinos, (7) skin lightening practices among emerging adults within distinct cultures, (8) skin lightening practices among Filipinos. These certainly do not have to be the specific subheadings, but it may be helpful to think about which core concepts are included in your structural model, what do we know about such concepts among emerging adults, and then what do we know about such concepts in the Philippines?

Response: Subheadings in the Introduction were added.

2. Although body image concerns are certainly related to disordered eating, it may not be necessary (and, in fact, can be a bit confusing) to include studies summarizing disordered eating outcomes if that is not a variable of interest for your study (e.g., summary of citation #10 on p. 4).

Response: The citations on eating disorder were removed. However, the study on the eating attitudes among the Filipinos was retained as the studies on body image perceptions among Filipinos are very limited.

3. While I appreciate your inclusion of the tripartite influence model, the summary of the theory is a bit off and requires citations. I recommend reading other summaries of the theory and providing a more thorough discussion about how it pertains to Filipino emerging adults.

Response: This part of the introduction was revised to make it coherent. The addition of subheadings as suggested by you in the introduction part provided a clearer vision of the flow of the study background.

4. I would also clarify that skin lightening is prevalent within certain cultural populations. For example, it is not common among those who already have white/light skin (and, in fact, there are opposite practices within other cultures that value tan skin tones). The social implications of skin tone are certainly complex and important to highlight, but I would be mindful of clarifying which populations are specifically engaging in skin lightening practices.

Response: Thank you very much for the clarification and the introduction was reviewed.

Methods

5. I continue to find the model to be quite complex and difficult to follow (e.g., following each line to see which associations will be examined). If this is just me, I will let it go and accept that it’s my own shortcomings as a statistician. My concern, however, is that perhaps others will also find it too convoluted and difficult to follow. While I understand why you want to include so many variables (including many important sociodemographic ones), I do have some concerns about how much is being addressed in this one model. I would like to see more support for why you are including so many variables in this model.
Response: The variables included are a priori in nature that is why they were selected. We apologize if the SEM figure is hard to follow. However, this is the simplest way to depict how the latent and the observed variables interact with each other.

Discussion

6. The Discussion should include an overview of each core concept included in your study, connected with how you plan to address this concept. We should not see the first mention of the study as the last paragraph of the section. Rather than providing a scoping overview all at once and then discussing how your study will address these topics, I recommend again structuring it similarly to the Introduction to weave a more connected narrative. Subheadings may be helpful to start with just to organize the core concepts that you address, although may not be necessary in the final manuscript.

Response: The Discussion section was reviewed and revised.

7. Along those lines, while I appreciate your expansion of the effects of skin lightening, the third and fourth paragraphs of the Discussion seem better suited for the Introduction (perhaps with less detail). It feels a bit out of place to be at the end of the manuscript and certainly would nicely frame the rationale for your study.

Response: The Discussion section was reviewed and revised.

8. I also strongly recommend combining some sentences so that there are more complex sentences that tell more of a narrative, rather than providing a string of simple sentences. This may be a matter of preference, but I feel it otherwise feels somewhat disjointed.

Response: The Discussion section was reviewed and revised. Major changes made can be seen in the succeeding responses.

Minor Comments

9. More generally, I again recommend remaining consistent with certain terms (e.g., SLP vs. SLPs, mental well-being vs. mental health problems vs. psychological distress vs. psychological problems vs. mental health status, body image perception vs. positive body image vs. body issues vs. body appearance). It seems that you use SLP to abbreviate both “skin lightening practice” and “skin lightening products.” I instead recommend using SLP only for one, or clarifying that skin lightening practice = SLP and skin lightening products = SLPs.

Response: The use of SLP as an acronym was reviewed all throughout.

10. Re: Interview Questions, thank you for modifying and clarifying the interview questions to be more open-ended. Your modifications are generally fantastic, and I look forward to seeing how participants will respond. My only other suggestions are to possibly change “perception of body image” to “how you see your body” or “how you feel about your body,” as well as change the phrase “negative reactions to” to perhaps “negative feelings toward” your body. Otherwise, these are great questions that will hopefully yield rich qualitative data.

Response: The supplemental file was revised as suggested.

11. Re: Figure 1, rather than having readers refer to the legend, I wonder if it would be possible to spell out variables on the model itself.

Response: The legends are included in the Figure title.

12. On page 3

• The first two sentences of the Introduction feel unnecessary and a bit too simple. I think it is safe to assume that most readers will already know the definition of emerging adulthood, so I suggest instead focusing on the increased risks for mental health and body image concerns within this specific developmental period.

• The second sentence isn’t quite accurate, as weight gain does not occur for all emerging adults.
• The third sentence is the most important and could benefit from additional detail about how emerging adults experience body image concerns or body dissatisfaction.
• Please rephrase some terms (e.g., “body changes” and “depression symptoms”)
• I recommend using a different phrase than “mediational links.”

Responses: The term emerging adulthood is not a common term, especially in the Philippines. The second sentence was revised as per suggestion. The third sentence was expounded by the addition of another sentence after it. The terms “body changes” and “depression symptoms” were modified as well as the phrase “mediational links”.

13. On page 4
• What do you mean by “fixation?” I suggest using a different word.
• What do you mean by “as part of developmental phase?” Emerging adults are certainly not the only ones at risk for engaging in skin lightening practices, so I would clarify what you mean by its relation to emerging adulthood.
• Please provide citations for statement about SLPs being “rooted in perception that lighten skin tones may result in more opportunities in life.”
• I suggest using a different word than “led” (“This perception led to growing consumptions of SLPs…”) and please clarify/rephrase what you mean by “in between and within ethnic/racial groups,” as not all ethnic/racial groups are engaging in skin lightening practices.
• Please clarify which cultures value lighter skin tones as symbols of “beauty, attractiveness, and desirability,” as this is not universal.
• I suggest clarifying what you mean by “the interplay of historical, cultural, sociopolitical, and psychological influences.”
• What do you mean by “these motivations?”
• What do you mean by “racial and colorized norms or values, class, and gender differences?”

Responses: Changes recommended for page 4 were followed accordingly.

14. On page 5
• While I appreciate the information about dangerous effects of SLPs, I do not think the level of detail regarding ochronosis is necessary. Perhaps just “such as ochronosis (i.e., hyperpigmentation of the skin).” I also recommend either omitting the details about “hydroquinone-containing cream” or providing a brief definition (in parentheses) of hydroquinone, as not all readers will be familiar with the term.
• Please rephrase and clarify what you mean by “damaged psychological state of the Filipino people brought on by American colonial rule.” This is certainly an important point, but it requires more elaboration and supporting citations.
• While the tripartite influence model certainly connects to your statement about “global pop culture,” it doesn’t quite fit and likely belongs with the initial summary of the tripartite influence model.
• Please omit “mental” from “mental perception,” as it is redundant, and please rephrase “measure up to the impossible goal set.” Please also provide appropriate citations to support such statements.
• Please omit “even” from “sexual risk behaviors,” as it is not necessary. Sexual risk behaviors may even go beyond the scope of the manuscript and may not be necessary to include.

Response: Changes recommended for page 5 were followed accordingly.

15. On page 6
• Please change the tense of “portrayed” to present tense, and provide accompanying citation for your statement about lightness of skin tone as “an epitome and a standard for beauty” (in some cultures).
• Please consider rephrasing “essence” and clarify what you mean by “the central theme of information dissemination.”
• I truly appreciate your responsiveness to my suggestion about moving the paragraph about the Mental Health Act in the Philippines to the Introduction. However, I don’t know how much
this section fits, particularly so late in the section. Rather than focusing on specific numbers, I recommend refocusing on the biggest takeaways and how they apply to your study (e.g., mental health concerns are prevalent, yet mental health programs are poorly funded).

- Please rephrase “owing” in the last paragraph, and change “a growing body of evidence” to “growing evidence.” Also clarify that you are specifically evaluating Filipino emerging adults, rather than just “men and women.”
- The section about body image and skin lightening practices is a great one, but it does not belong with the summary of the study. Instead, it should be with the general overview of body image and skin lightening practices earlier in the Introduction, and there should be citations supporting your statements.

Response: Changes recommended for page 6 were followed accordingly.

16. On page 7

- Please change the tense of “remained” to “remains” and consider rephrasing “unfolding” (possibly “burgeoning?”) and “social-media-induced trying times.”
- Please omit the apostrophe after “adults” in Aim 3 and “structural” from “structural relationships” for Aim 5 (it feels redundant with “testing a structural model”).

Response: Changes recommended for page 7 were followed accordingly.

17. On page 8

- While I appreciate your elaboration for Aim 6, I’m not sure what you mean by “facilitators”, “modified their levels of…”, and “as influenced by their…”. Is Aim 6 more to identify factors that contribute to or protect from depression, anxiety, stress, body image concerns, and skin lightening practices?
- Re: Study Design, please consider rephrasing the following:
  - “in-depth overview of this topic numerically and narratively” (sounds a bit off)
  - “to understand closely the research problems” (too vague-entire sentence can probably be omitted)
  - “researchers expect” to “we expect”
  - “capture the complexity of human phenomena, such as the main interests of this research” to “capture the complexity of body image concerns and skin lightening practices”
  - “seeking corroboration between the gathered quantitative and qualitative data” (too vague-entire sentence can probably be omitted)
  - Summaries of quantitative and qualitative parts of the study to the following: “This mixed-method approach includes (1) a cross-sectional study involving… (Quantitative Study); and (2) individual interviews of selected participants from quantitative study (Qualitative Study).” This is just a suggestion and does not have to be changed verbatim, but it feels a bit off as is. I also recommend omitting the term “a case study,” as that usually has clinical applications and offers only one participant (unless I’m mistaken).

Responses: Changes recommended for page 8 were followed accordingly. However, for the case study, it was retained as “case study” is a type of study design in qualitative research.

18. On page 9

- Re: Study Setting, I’m not sure you need an entire section for this. The first sentence could probably fit either with the previous section (Study Design) or the Recruitment Plan, and the second sentence feels a bit redundant and could likely be incorporated in the General Aims section.
- Re: Study Population, please address the following:
  - Please consider omitting the sentence summarizing the population of Filipino emerging adults, as it is not necessary and feels a bit out of place.
  - Please omit “and” from each of the Inclusion Criteria
- Re: gender/sex assigned at birth, does this mean you would exclude individuals who identify as non-binary or gender fluid? I understand that you are using sex assigned at birth (for which I do have some concerns), but I am again wondering about whether you are planning to exclude individuals who do not identify as either male or female.
- Re: understanding English and/or Filipino, did I understand correctly that you changed the measures to only be in English? If so, please change the criteria accordingly.
- Re: exclusion criteria, I appreciate your clarification of excluding those with clinical depression and anxiety, although I’m still confused about how this is being confirmed/asked. Also, when you say “stress,” do you mean post-traumatic stress? Adjustment disorder? Stress feels a bit vague, particularly as a clinical diagnosis.

Responses: Changes recommended for page 9 were followed accordingly. For the sex at-birth, the other reviewer recommended: please specify that “male or female” refers to sex-assigned-at-birth and that individuals from all gender identities are welcome to participate. Hence, this part of the inclusion criteria was modified. For the exclusion criteria, this part was revised. Only clinically diagnosed with depression or anxiety will be excluded. Similar to our previous research, this part was asked as simple as: “Are you clinically diagnosed with depression or anxiety?”.

19. On page 10 (Recruitment Plan)
- Please specify how online tools will be utilized to disseminate the online survey questionnaire. Also, “online survey questionnaire” is a bit redundant. Consider using either survey or questionnaire.
- I personally feel that giving an acronym to the self-administered questionnaire is confusing and unnecessary, as it’s not a specific measure but rather the entire survey that includes all the measures. I recommend omitting “SAQ” and replacing with “survey” throughout.
- Please elaborate on what you mean by “power dynamics will not be used to recruit respondents.”
- In your discussion of “saturation,” I recommend combining the first two sentences (e.g., “saturation, the point in the data collection...”) and condensing the paragraph as much as possible.
- What do you mean by “it will continue adding more informants?” This sentence may not be necessary.
- How will you be conducting random sampling to select interview participants? You must specify (a) that participants completing the survey will provide phone number and email address (hopefully as a separate survey to prevent identifiable information connecting to the data) and (b) how randomization will occur.
- Please consider rephrasing “low body image perception,” as it does not make sense.
- Given that you do not yet provide criteria for how to determine “extremely depressed/anxious/stressed,” I would perhaps rephrase. One suggestion is changing it to “indicating high levels of depression, anxiety, and stress.”
- Please consider rephrasing “Suppose the selected...”

Responses: Changes recommended for page 10 were followed accordingly. Power dynamics within research is an interaction between the implementer and those who participate in the process of developing the research. Therefore, those with prior interactions with the researchers that may fit with the inclusion criteria will not be recruited. The sentence with “it will continue adding more informants” was deleted.

This is an explanatory sequential mixed method research therefore, the responses from the quantitative findings may be used for the qualitative research. The criteria provided for the qualitative part of the study will be coming from the results of the quantitative findings. For the randomization, the scores of the participants in the outcome measurements will be tallied, and those participants with high levels of depression, anxiety, and stress will be taken from the pool of participants. From this pool of participants, informants will be randomly selected for the in-depth interview, in order to minimize biases.

20. On page 11 (Data Collection)
- Please specify how you will collect information about sex assigned at birth (which I still have some concerns about), sexual orientation, and socioeconomic status variables. For example, are you providing options for participants to select or do they have an opportunity to
select/specify “other?” Regarding gender, if you are planning to include gender minority individuals, why wouldn’t you ask about gender identity (vs. sex assigned at birth)? This is more inclusive phrasing, particularly if you will provide options beyond male or female only.

- I appreciate your clarification of what you mean by “residence,” but it should be included in the actual manuscript (e.g., “rural/urban residence”).
- I'm not sure “exposure assessment” makes the most sense, as one cannot be “exposed” to body image concerns. Is there a reason you do not want to include them as part of the outcome variables? I would consider relabeling, as “exposure” implies that there is a level of exposing individuals to a stimulus. Furthermore, although you are hypothesizing the associations among body image, skin lightening practices, and psychological distress, they are all variables of interest.
- Please omit “twenty” and only keep the number, as it’s redundant as is.
- Please provide citations at initial mention of each body image measure. I also recommend using a different phrase than “observed indicators,” as they are really measures/assessments.

Responses: Changes recommended for page 11 were followed accordingly. For the data collection part (information about sex assigned at birth, sexual orientation, and socioeconomic status variables) participants will be given options. For the exposure, it was used as an epidemiological term (which can be broadly applied to any factor that may be associated with an outcome of interest). For the observed indicators, this a term used in structural equation modelling. Observed variables or indicators are the data that actually exists in the data file that has been measured and recorded.

21. On page 12
- I recommend having one paragraph for each measure, including a brief summary of the main construct that the measure is evaluating, description of types of items (ideally with an example item to demonstrate), and (as you provided) psychometric properties.
- The summary about the “dynamic arrangements” is confusing and does not seem relevant to the summary of measures.
- Re: BAS, it was not one of the first measures developed for body image, but instead a well-validated measure of positive body image (or, specifically, body appreciation). Also, I recommend omitting the statement about the BAS-2 being easy to administer and score, as it is unnecessary.
- Re: BES, rather than “multiple dimensions that differ for men and women,” I recommend “distinct dimensions for men and women,” with example subscales provided.

Responses: Changes recommended for page 12 were followed accordingly.

22. On page 13
- Re: PRAS, I recommend describing how positive rational acceptance contributes to your conceptualization of positive body image earlier in the manuscript (e.g., the Introduction). I also recommend spelling out the variable of positive rational acceptance instead of “PRA,” as it's a bit confusing to see PRAS (the measure) and PRA (the variable). I am also a bit confused by the phrase “negative body image-related feelings.” Do you mean “body image concerns?” Lastly, what exactly do you mean by a “threat” and “nature exposure” (p. 13).

Responses: Changes recommended for page 13 were followed accordingly. There is a sentence in first paragraph of the exposure assessment section: The BAS and BES measure how a person accepts each body feature, while PRAS assesses how a person responds to threats to these body features; to tie up the three body image scales.

23. On page 14
- Re: DAS, I’m still confused about what the “stress” subscale entails. Is it the summed total of depression and anxiety subscales, or is it its own subscale? This needs to be clarified, as “stress” feels a bit vague. I recognize that I am not as familiar with the scale, but neither will other readers and therefore could benefit from additional clarification.
- I’m not sure why there are citations for each of the sociodemographic variables. Again, please specify whether these questions will be forced choice, or if there are opportunities for participants to select and specify “other.” I again strongly recommend using gender identity instead of sex assigned at birth, unless you are planning to exclude gender minority individuals.
Similarly, for sexual orientation, I recommend providing as many options as possible, given the wide spectrum of sexual identities that exist.

- Re: media exposure, please provide the examples in the manuscript (not just in response to my previous comment). It would be helpful to provide a brief summary of the measure that you are adapting, and how it was specifically modified.
- Please consider changing “mental health status”

Responses: Changes recommended for page 14 were followed accordingly. For the DASS-21, there is a subscale for stress and it is not just a summed total of depression and anxiety subscales. Each sociodemographic variable was chosen “a priori” hence, the citations are needed to substantiate the inclusion of each variable. This is a normal practice in epidemiological research. All questions will be forced choice. There will be choices for each of the questions.

24. On page 15
- Please consider removing “a standard method for analyzing data in cross-sectional studies,” as it does not seem necessary. I also recommend using a different word than “rare” in the following sentence.

Response: Changes recommended for page 15 were followed accordingly.

25. On page 16 (Qualitative Part)
- I appreciate the additional elaboration regarding analyses and am glad to see that multiple researchers will be analyzing the data. My only question is how will interviews be transcribed? Will it be only one researcher or multiple? How will you ascertain reliable transcriptions?

Response: One researcher will transcribe the interview while two other researchers will validate the transcription by checking the transcript vis-à-vis with the interview recordings.

26. On page 17 (Data Integration)
- I’m less familiar with data triangulation, but is there a reason only the primary researcher will be responsible for bringing the data together? Is there potential benefit of having another researcher to confirm reliability?

Response: Two researchers will be involved in the quantitative and qualitative data triangulation. Should there be disagreements, again the principal investigator together with the multi-disciplinary research team will resolve the issue.

27. On page 18 (Missing Data)
- Please consider omitting “However, there are instances…when all items on a multi-item instrument are missing,” as I do not think such details are necessary. If a participant misses a few items from a measure but completes the others, will you be removing their entire case? Also, please provide a citation supporting guidelines about less than 10% missing data, and please specify which imputations will be used for incomplete/missing data.

Responses: Changes recommended for page 18 were followed accordingly. We expect that most participants will not miss a few items as questions are all labelled as “forced”.

28. On page 20
- Rather than providing broader statements about literature on mental health and depressive disorders, I recommend focusing specifically on mental health among emerging adults (globally) and then in the Philippines (or even other non-Western cultures).
- I would be careful about how often you use the word “body” in the third sentence of the Discussion (e.g., “body of literature”, “body issues”, “body image perception”). I also suggest using a different word than “issues,” as it feels a bit pejorative (although this may be a personal preference). This is also again where the meaning of “body image perception” isn’t quite clear. Are you implying body image concerns or positive body image? This is further muddled with the following sentence (“issues of body appearances”).
- Please provide examples of “unhealthy weight control behaviors” and consider rephrasing “sometimes excessive or detrimental to one’s mental health.” The word “unhealthy” already
implies harmful (even if not excessive) and can be detrimental to both one’s physical and mental health.

- Again, please rephrase “poor mental health status” to perhaps “mental health concerns,” and please elaborate on the relationship between mental health concerns and SLP use in the last sentence of the first paragraph.

- Please rephrase or specify what you mean by “psychological determinants” of skin lightening practices, and elaborate on what you mean by “poor mental health” (see above suggestion) being linked with “deficits in self-esteem or body image.” There is also no such thing as a “deficit” in body image, so consider rephrasing to “low self-esteem or body image concerns.”

- Please consider rephrasing the second sentence in the second paragraph. Specifically, please provide cultural context of skin lightening within the “larger society’s definition of beauty” and elaborate on the “psychological effect” for certain populations.

- Please elaborate on what you mean by “acceptance of beauty standards is inevitable” and explain how this connects to skin lightening as a coping mechanism (I recommend omitting the word “destressing”).

- Please rephrase the first sentence in the third paragraph, as the following phrases feel a bit off:
  - “it” in “motivation to do it”—I recommend “motivation to engage in skin lightening” or “motivation to use SLPs.”
  - “practice” being mentioned twice in the same clause—I recommend “the different practices of skin lightening and related effects”
  - “even” and “(support)”—I recommend omitting both.
  - Please elaborate on what you mean by “the physical and social realities are present in human skin.” I also don’t know how relevant the anthropological perspective is here. Your point about how skin color is perceived in society is an important one, but there are many other publications that address skin as social status and related colorism.

Response: Changes recommended for this part were followed accordingly. Discussion part was revised as per your suggestion and subheadings were added.

29. On page 21

- Please provide citations in your discussion of Turner’s concept of “social skin” and consider including other citations that address this concept in body image literature.

- Please consider rephrasing “extreme dislike or hatred against oneself drives one to lighten the skin” and provide supporting citations. While the statement can certainly be accurate, it feels a bit too strong and ignores the sociocultural factors that contribute to such dislike/hatred.

- I would consider rephrasing “residual after-effects” of discrimination, etc. Are they, in fact, after-effects if discrimination and colorism is ongoing?

- Please consider rephrasing the first sentence of the second paragraph ("However, little is known...beauty standard problems"). As the statement is not necessarily accurate. While there is certainly a lot more to understand, body image research has been attempting to explore this exact question for quite a while. I would clarify what you mean here and elaborate.

- I would specify what you mean by “local studies.”

Response: Most of the parts you suggested to edit were deleted. However, some changes recommended for this part were followed accordingly. The “local studies” we mentioned were cited within the sentence. Discussion part was revised as per your suggestion and subheadings were added.

30. On page 22

- In addition to “safe skin-lightening practices,” isn’t action needed to challenge the need for skin-lightening practices altogether? It sounds like there is a need to promote positive body image in general, but particularly societal acceptance of all skin tones and challenging practices that promote colorism.

- Please consider rephrasing “our” bodies.

- Please elaborate on what you mean by “regulating body image” or rephrase.

Response: Discussion part was revised as per your suggestion and subheadings were added.