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OPEN PEER REVIEW

# Operator Control Room Risk-taking Questionnaire (ORTQ): A Specific Risk-taking Assessment Tool Validated in Iranian Workers

omid kalatpour, Mohammad Babamiri, Rashid Heidarimoghadam, Iraj Mohammadfam, Maryam Farhadian, Mohammad Reza Tavakkol

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## About this report

This open peer review (OPR) report shows the public comments made on this article during peer review, by the reviewers, the associate editor and the editor-in-chief, for every revision round, together with the authors' replies. Comments appear only with the consent of the people who wrote them. Reviewers who chose to sign their report are named; the others are shown as "Referee". Comments are edited for language only, and confidential remarks to the editors are not included.

More about open peer review: brieflands.com/knowledgebase/opr

## Contents

1 **Original submission** Referee 1, Associate Editor, Editor-in-Chief ..... 2
2 **Revision 1** Referee 2, Hamed Aghaei, Referee 1, Associate Editor, Editor-in-Chief ..... 6
Authors' reply to reviewers ..... 7
Reviewer and editor comments ..... 15
3 **Revision 2** Referee 1, Associate Editor, Editor-in-Chief ..... 17
Authors' reply to reviewers ..... 18
Reviewer and editor comments ..... 23

## 1 Original submission

3 comments · 6 Sep 2022 – 7 Sep 2022

### Referee 1 Reviewer

REJECT 6 Sep 2022

Reviewer4
1- Please download similar published articles in our journal and write the manuscript according to that format. The results of the manuscript are poorly written.
2- Add the Iranian population to the title.
3- The manuscript is written in poor English and needs to be edited.
Abstract
1- Please mention the time and setting of the study.
2- Please mention the data analysis (statistical test).
3- Report the main result.
4- Keywords should follow MeSH and be in alphabetical order.
5- The Abstract is incomplete and inappropriate.
6- There is no Discussion heading in the Abstract.
7- Please download similar published articles in our journal and write the manuscript according to that format. The Abstract of the manuscript is poorly written.
8-

Introduction
1- The significance/necessity of the study is not clear.
2- The objectives are too long.
3- The Introduction isn't well organized.
4- The empirical background of the research has not been addressed; previous research should be briefly reviewed critically.
5- Justify the necessity for your study based on the gap in the previous findings.

Method
1- The Method isn't well organized.
2- Please download similar published articles in our journal and write the manuscript according to that format. The Method section of the manuscript is poorly written.
Result
1- Calculate sensitivity, specificity, and the cut-off point.
2- Certainly, when conducting CFA, the samples should be different from those used for EFA, because in EFA you explore factors based on people's responses, and in CFA you test the hypothesis of matching items with exploratory factors. Therefore, it is natural that the fit of the items with the factors in the same sample in which the factors have been discovered based on participants' responses will be falsely desirable. So you have two solutions: 1- report just one of the two; 2- split the sample into two sections and conduct CFA in one of them and EFA in the other.
3- Please mention the demographic characteristics precisely.

Discussion
1. Relate the explanations provided to the points you mentioned in the introduction.
2. Compare your new findings with the findings of other previous studies.
3. Mention possible explanations for the consistency and inconsistency of the results of your studies with those of other previous studies.

4. Please mention limitations and suggestions for future research.
5.

## Associate Editor

MAJOR REVISION 6 Sep 2022

Dear authors,

Reviewer 1
- First, the authors must use a diagram to explain their methodology. This section is confusing in the present format.
- Figure 2 is not of satisfactory quality. The fonts in the figure are too small. The figure must be revised.
- The results of the initial exploratory factor analysis should be added.
- CVR and CVI assessments must be explained in more detail.
- Limitations of the study and recommendations for future studies must be added at the end of the discussion section.

Reviewer 2
1- In the discussion section, the authors only addressed articles with findings consistent with those of their study. Please consider articles with findings that are not consistent with those of this study.
2- In the results section, based on which criteria was 0.3 selected as a cut point for "standardized factor loadings"?
3- At the end of the discussion section, the authors state, "To investigate the influence of brain structure on the results of this questionnaire, our team is carrying out another survey to evaluate the correlation between BART and ORTQ with EEG and GSR". What were the results of that study?
4- Considering that all GRiPS questions (except one) are included in the questionnaire designed in this study, what is the advantage of this questionnaire compared to GRiPS?
5- Provide the limitations of the study.
6- The manuscript needs English-language editing.

Reviewer3

The following problems in this manuscript need to be considered; please pay sufficient attention to answering the following comments:
1. There are many writing mistakes in the draft, which make it difficult for the reader to understand the text. It is recommended that a native English speaker review the draft.

2. The appearance and structure of the draft need to be revised to follow the format of an original article. For example, the introduction section should give the reader a brief, orderly and condensed overview.

3. In line 32: "Risk-taking is associated with mental development …", what information has been discovered about the relationship between risk-taking and these variables (mental development, genetic and neurological factors, as well as personality traits …)? For example, cognitive development can lead to lower risk-taking.

4. In lines 50 and 51: "…, some personality traits and higher order temperament dimensions in six domains of risk-taking were proposed." Please briefly mention these six areas in the text.

5. What is the difference between your proposed questionnaire (Risk-Taking Questionnaire (ORTQ)) and other risk-taking questionnaires? Also, can this difference address any research gap in this field? Please explain the necessity of conducting your research.

6. In line 90: "…the selected specialists have to experience in at least two scientific fields." What does "have experience in at least two scientific fields" mean?

7. In the Method section, please mention the ethics committee code.

8. As written in the methodology section, validation of the ORTQ has been achieved by comparing the ORTQ to GRiPS. It is necessary to mention the validity and reliability of the GRiPS tool in the text.

9. It is recommended that you briefly describe the cognitive tasks for control room operators in the first paragraph of the methodology section.

10. In lines 104 and 105: "The questionnaire was completed at several industries by operator workers working in control rooms." How many operators?

11. Some parts of the method (The first version of the questionnaire was completed by 208 males …) or discussion (An structure equation model (SEM) … suggested by Raue et al.(20) …) are written in the results section; please correct their placement.

12. In line 203: "the question "I am a believer of taking chances" conveys no special meaning among Persian speakers". I cannot entirely agree with your claim; this term is widespread among Farsi speakers …

13. To improve the discussion section, you can compare the validity and reliability results of your developed questionnaire with those of other risk-taking questionnaires. Please point out the similarities and differences between ORTQ and the other questionnaires and then describe the possible reasons for these differences.

14. Finally, some sentences in the text need a valid and up-to-date reference.

15. As a last point, it is necessary to mention the study's limitations and describe their possible influences on the study's results to clarify the direction of future studies.

Reviewer4
1- Please download similar published articles in our journal and write the manuscript according to that format. The results of the manuscript are poorly written.
2- Add the Iranian population to the title.
3- The manuscript is written in poor English and needs to be edited.
Abstract
1- Please mention the time and setting of the study.
2- Please mention the data analysis (statistical test).
3- Report the main result.
4- Keywords should follow MeSH terminology and be listed in alphabetical order.
5- The abstract is incomplete and inappropriate.
6- We do not use the Discussion heading in the Abstract.
7- Please download similar published articles in our journal and write the manuscript according to that format. The abstract of the manuscript is poorly written.
8-

Introduction
1- The significance/necessity of the study is not clear.
2- The objectives section is too long.
3- The introduction isn't well organized.
4- The empirical background of the research has not been addressed; previous research should be briefly reviewed critically.
5- Justify the necessity for your study based on the gap in the previous findings.

Method
1- The method isn't well organized.
2- Please download similar published articles in our journal and write the manuscript according to that format. The method section of the manuscript is poorly written.
Result
1- Calculate sensitivity, specificity and the cutoff point.
2- Certainly, when conducting CFA, the sample should be different from that used for EFA, because in EFA you explore factors based on people's responses, and in CFA you test the hypothesis that the items match the exploratory factors. Therefore, it is natural that the fit of the items with the factors in the same sample in which the factors were discovered based on participants' responses will be falsely favorable. So you have two solutions: 1- report just one of the two; 2- split the sample into two groups and conduct CFA in one of them and EFA in the other.
3- Please mention demographic characteristics in a precise manner.

Discussion
1. Relate the explanations provided to the points you mentioned in the introduction.
2. Compare your new findings with the findings of other previous studies.
3. Mention possible explanations for the consistency and inconsistency between the results of your study and those of previous studies.
4. Please mention limitations and suggestions for future research.

**Editor-in-Chief** MAJOR REVISION 7 Sep 2022

Your paper has been evaluated by external peer reviewers. Please make your revisions according to the reviewers' comments. I would appreciate your making the revisions as soon as possible using Track Changes mode in MS Word and colored text.

After revising the manuscript, authors are obliged to upload a Word file containing the reviewers' comments and their responses to all comments, one by one.

Besides, please pay attention to the word count limitation:
Word count limits are declared in this link: http://kowsarpub.com/en/index.php/services/for-authors/895-word-count

We look forward to receiving your revised manuscript. Thank you for sending your work to the Iranian Journal of Psychiatry and Behavioral Sciences.

2

# Revision 1

AUTHORS' RESPONSE TO REVIEWERS

Authors' reply to reviewers

The next pages contain the authors' point-by-point reply to the comments of this revision round, as submitted with the revised manuscript. It is published as the authors wrote it.

Dear editor

We would like to thank you for considering our manuscript entitled "Operator control room Risk-Taking Questionnaire (ORTQ), a specific risk-taking assessment tool" submitted to the Iranian Journal of Psychiatry and Behavioral Sciences journal. Meanwhile, all comments from the editorial office and the reviewer were answered one by one. All changes are highlighted in yellow. All files required by the journal were prepared and uploaded separately.

| Reviewer's comment | Author's response |
|---|---|
| *Reviewer 1:* | |
| *This study developed a new tool for assessing risk-taking behavior among control room operators. the study is merit and is recommended to be published in the journal. however, there is need for minor revision on the MS.* | We would like to thank the reviewer for reviewing this paper and for constructive and helpful comments that helped us to improve the quality of the paper significantly. |
| *- First, authors must use a diagram to explain their methodology. this section is confusing in the present format.* | We would like to thank the reviewer for this constructive comment. We draw a diagram to show the methodology and remove related text from the manuscript. |
| *- Figure 2 is not of satisfactory quality. fonts in the figure are too small. the figure must be revised,* | Thank you very much for this constructive and helpful comment which helped us to improve the quality of the paper. It is done again and changed diagrams. |
| *- the results of initial exploratory factor analysis should be added,* | We would like to thank the reviewer for this constructive comment. It added results from EFA and CFA and BCFA. |
| *- CVR and CVI assessment must be explained in more details,* | Thank you very much for this constructive and helpful comment. We improved the manuscript based on this comment and highlight. |
| *- limitation of the study and recommendation for future studies must be added at the end of discussion section.* | We would like to thank the reviewer for this constructive comment. We improved the manuscript based on this comment. Changes are highlighted. |
| *Reviewer 2:* | |
| *Thank you for providing me the opportunity to review this manuscript. The research has certain practical significance, however, there are some limitations to improve, as follows:* | We would like to thank the reviewer for reviewing this paper and for constructive and helpful comments that helped us to improve the quality of the paper significantly. |
| *1- In the discussion section, the authors only addressed the articles in line with their article. Please consider articles that are not in line with this study.* | Thank you very much for this constructive and helpful comment which helped us to improve the quality of the paper. We use Raue et al.‘s(15) conceptual model that is |

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| | based on the review of a very large number of articles. Some of our results cannot be fitted to the previous study for example our FCA shows GRiPS p-value is not significant. It is added to the discussion and highlighted in yellow color. |
| *2- In the result section, based on which criteria, 0.3 was selected as a cut point of "standardized factor loadings"?* | We would like to thank the reviewer for reviewing this paper and for constructive and helpful comments. Added reference for it and highlighted with yellow color. |
| *3- At the end of the discussion section, the authors state "To investigate the influence of brain structure on the results of this questionnaire, our team is carrying out another survey to evaluate the correlation between BART and ORTQ with EEG and GSR", What were the results of that study?* | We would like to thank the reviewer for reviewing this paper and for constructive and helpful comments. That study is large and cannot be fitted to this paper. However, this text changed and was located for future studies and highlighted. |
| *4- Considering that all GRiPS questions (except one) included in the designed questionnaire in this study, what is the advantage of this questionnaire compared to GRiPS?* | We would like to thank the reviewer for reviewing this paper and for constructive and helpful comments. A reviewer on this manuscript commented that CFA and EFA cannot be tested by one data. We divided the data and calculated again. So 2 questions were deleted from GRiPS. And CFA p-value for GRiPS was not meaningful. This text is added and it is highlighted. So our model shows us ORTQ is meaning and fit of goodness is valid. |
| *5- Provide the limitations of the study.* | We would like to thank the reviewer for this constructive comment. We improved the manuscript based on this comment. Changes are highlighted. |
| *6- The manuscript needs editing in English.* | Thank you very much for this constructive and helpful comment which helped us to improve the quality of the paper. We executed this advice. Based on this comment all manuscripts wrote again. But because it changed very much it is not good to highlight it. |
| *Reviewer 3:* | |
| There are many writing mistakes in the draft, which make it difficult for the reader to understand the text. It is recommended that a native review the draft. | We would like to thank the reviewer for reviewing this paper and for constructive and helpful comments that helped us to improve the quality of the paper significantly. This text was reviewed by a native English language |

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| | and revised. |
| The appearance and structure of the draft need to be rewritten as an original article. For example, the introduction section should give the reader a brief, orderly and condensed overview. | We would like to thank the reviewer for this constructive comment. We improved the manuscript based on this comment. But because it changed very much it is not good to highlight it. |
| In line 32: "Risk-taking is associated with mental development …", what information have discovered between risk taking and these variables (mental development, genetic and neurological factors, as well as personality traits …)? For example, cognitive development can lead to lower risk-taking. | This part of the introduction aims to make the reader understand that risk-taking depends on genetics and brain structure, so although it changes over time(very little), it is generally relatively stable. This study focuses on psychological and behavioral aspects, so although memory and attention are related to risk-taking, it is not the aim of this study. |
| In lines 50 and 51: "…, some personality traits and higher order temperament dimensions in six domains of risk-taking were proposed.". Please briefly mention these six areas in the text. | We would like to thank the reviewer for this constructive comment. We improved the manuscript based on this comment and highlight it in yellow. |
| What is the difference between your proposed questionnaire (Risk-Taking Questionnaire (ORTQ)) and other risk-taking questionnaires? Also, can this difference cover any research gap in this field? Please explain the necessity of conducting your research. | Thank you very much for this constructive and helpful comment which helped us to improve the quality of the paper. We revised the whole discussion section. Changes are highlighted in yellow. |
| In line 90: "…the selected specialists have to experience in at least two scientific fields.". What does "have experience in at least two scientific fields" mean? | We would like to thank the reviewer for this constructive comment. We improved the manuscript based on this comment and highlighted it. |
| In the Method section, please mention the ethics committee code. | It is mentioned in a relevant field at the time of submission and cannot be seen by blinded review. It is added because methods are rewritten again and have numerous changes it isn't good to highlight. |
| As written in the methodology section, validation of the ORTQ has been achieved compared to ORTQ to GRiPS method. It is necessary to mention the validity and reliability of the GRiPS tool in the text. | We would like to thank the reviewer for this constructive comment. We improved the manuscript based on this comment and highlight it in yellow. (FCA p-value) |
| It is recommended to briefly describe the | Thank you for your attention; The purpose of |

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| cognitive tasks for control room operators in the first paragraph of the methodology section. | this research was to prepare a questionnaire based on psychological, personality, and behavioral dimensions. Therefore, the orientation of this questionnaire is to select people with this characteristic, although the cognitive tasks of control room operators have caused industrial accidents, it is not within the scope of this research. |
| In lines 104 and 105: "The questionnaire was completed at several industries by operator workers working in control rooms.". How many operators? | Thank you very much for this constructive and helpful comment which helped us to improve the quality of the paper. We revised and changes are highlighted. |
| Some parts of the method (The first version of the questionnaire was completed by 208 males …) or discussion (An structure equation model (SEM) … suggested by Raue et al.(20) …) are written in the result section; please correct them. | Thank you very much for this constructive and useful comment that helped us improve the quality of the article. We have modified and the changes are highlighted in yellow color. |
| In line 203: "the question "I am a believer of taking chances" conveys no special meaning among Persian speakers". I cannot entirely agree with your claim; this term is widespread among Farsi speakers ... | Thank you very much for your detailed review of this text. A reviewer on this manuscript commented that CFA and EFA cannot be tested by one data. We divided the data and calculated again. So 2 questions were deleted from GRiPS. And CFA p-value for GRiPS was not meaningful. This text is added and it is highlighted. |
| To improve the discussion section, you can compare the validity and reliability results of your developed questionnaire with other risk-taking questionnaires. Please point out the similarities and differences between ORTQ and them and then describe the possible reasons for these differences. | Thank you very much for this constructive and helpful comment which helped us to improve the quality of the paper. We add some sentences discussion section. Changes are highlighted in yellow. (CFA p-value for GRiPS & reliability for GRiPS and DOSPERT) |
| Finally, some text sentences need a valid and updated reference. | Thank you very much for this constructive and helpful comment which helped us to improve the quality of the paper. We add references. Changes are highlighted in yellow. |
| As a last point, it is necessary to mention the study's limitations and describe their possible influences on the study's results to clarify the direction of future studies. | We would like to thank the reviewer for this constructive comment. We improved the manuscript based on this comment. Changes are highlighted in yellow. |
| *Reviewer4* | Thank you very much for this constructive |

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| *1- Please download similar published articles in our journal and write the manuscript according to that format. Results of the manuscript wrote in a poor manner.* | and helpful comment which helped us to improve the quality of the paper. We executed this advice. Based on this comment the manuscript was rewritten again. But because it changed very much it is not good to highlight it. |
| *2- add Iranian population in title* | Thank you for your attention; The purpose of this research was to prepare a questionnaire for the operator who works in industries faced with high risk. Although it was done by the Iranian people; the main aim is not to translate to the Persian language for culture and language adoption. However, it was added to the title. |
| *3- The manuscript is written in poor English and needs to be edited.*<br>*Abstract* | Thank you very much for this constructive and helpful comment which helped us to improve the quality of the paper. We executed this advice. Based on this comment the manuscript wrote again. But because it was done very changes not good to highlight it. |
| *1- Please mention time and setting of study* | Thank you very much for this constructive and helpful comment which helped us to improve the quality of the paper. We add this. Changes are highlighted in yellow. |
| *2- Please mention the data analysis (statistical test)* | Thank you very much for this constructive and helpful comment which helped us to improve the quality of the paper. We added it. Changes are highlighted in yellow. |
| *3- Report main result* | Thank you for this comment. We add EFA & CFA results and highlighted them. |
| *4- Keywords should be according to MeSH and alphabets* | Thank you very much for this constructive and helpful comment which helped us to improve the quality of the paper. It did. Changes are highlighted in yellow. |
| *5- Abstract is incomplete and inappropriate* | Thank you for this comment. We try to rewrite and highlighted. |
| *6- We haven't Discussion title in Abstract* | Thank you very much for this constructive and helpful comment which helped us to improve the quality of the paper. We did this advice. |
| *7- Please download similar published articles in our journal and write the manuscript according to that format. Abstract of the manuscript wrote in a poor manner.* | Thank you very much for this constructive and helpful comment which helped us to improve the quality of the paper. We executed this advice. Based on this comment the manuscript was rewritten again. But because it changed very much it is not good to |

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| | highlight it. |
| *Introduction* | |
| *1- The significances/necessity of study is not clear* | Thank you very much for this constructive and helpful comment which helped us to improve the quality of the paper. We executed this advice. Based on this comment the manuscript was rewritten again. It is highlighted. |
| *2- Objectives is too long* | Thank you very much for this constructive and helpful comment which helped us to improve the quality of the paper. We executed this advice. |
| *3- Introduction isn't well organized* | Thank you very much for this constructive and helpful comment which helped us to improve the quality of the paper. We executed this advice. Based on this comment the manuscript was rewritten again. It is highlighted. |
| *4- The empirical background of the research has not been addressed, previous researches should be critically reviewed briefly.* | Thank you very much for this constructive and helpful comment. Because our study aimed to develop a new questionnaire we mention only some studies about the risk-taking questionnaire. |
| *5- Justify the necessity for your study based on the gap in the previous findings* | We would like to thank the reviewer for this constructive comment. Based on this comment some text wrote and highlighted. |
| *Method* | |
| *1- Method isn't well organized* | We would like to thank the reviewer for this constructive comment. We improved the manuscript based on this comment. We removed text and draw a diagram that can show method sequences. And based on another article on the journal site divided to some sections. |
| *2- Please download similar published articles in our journal and write the manuscript according to that format. Method of the manuscript wrote in a poor manner.* | Thank you very much for this constructive and helpful comment which helped us to improve the quality of the paper. We executed this advice. Based on this comment the manuscript was rewritten again. But because it changed very much it is not good to highlight it. |
| *Result* | |
| *1- Calculate sensitivity and specificity and cut off point* | Thank you very much for this constructive and helpful comment which helped us to |

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| | improve the quality of the paper. To the best of our knowledge, no specific risk-taking golden standard has been proposed. Although some statistical methods can generate it; needs another article to study it. However, we proposed these gaps in future studies and highlighted them. |
| *2- Certainly, in doing CFA, the samples should be different from EFA, because in doing EFA you explore factors based on people's responses, and in CFA you test the hypothesis of matching items with exploratory factors. Therefore, it is natural that the fit of the items with the factors in the same sample in which the factors have been discovered based on their response will be falsely desirable. So you have two solutions 1- report just one of the two 2- spit sample in two sections and analysis CFA in one of them and EFA in another.* | Thank you very much for this constructive and helpful comment which helped us to improve the quality of the paper. It is a very good comment. Based on this comment the manuscript and tables and graph must be revised. All results changed and were calculated again. And our questionnaire changed to 12 questions. We did the second suggestion because we like to use the modeling to show better results on validity. We used Bayesian Confirmatory Factor Analysis and Bayesian Structural Equitation Model because the decrease in size may be effected on results.<br>We done this comment and highlighted changed texts. |
| *3- Please mention demographic characteristics in precise manner* | Thank you very much for this constructive and helpful comment which helped us to improve the quality of the paper. But the only demographic in this study was age and duration of the experience. Because all of them were male and their educations must be bachelor's degree to hire them and all of them worked in operator industries. However, age and duration of experience were moved to the method participant section and highlighted. |
| *Discussion* | |
| *1. Relate the explanations provided to the points you mentioned in the introduction.* | Thank you very much for this constructive and helpful comment which helped us to improve the quality of the paper. |
| *2. Compare your new findings with the findings of others previous studies.* | We would like to thank the reviewer for this constructive comment. The best section of our finding was that impulsivity and venturesomeness correlated to risk-taking like in other studies reviewed in the discussion. Another text was added and highlighted. |
| *3. Mention possible explanations for consistency and inconsistency results of your* | We would like to thank the reviewer for this constructive comment. In the discussion section; some texts were added and |

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| *studies with others previous studies.* | highlighted. |
| *4. Please mention limitation and suggestion for future research* | We would like to thank the reviewer for this constructive comment. We improved the manuscript based on this comment. Changes are highlighted in yellow. |

## 2 Revision 1

5 comments · 4 Oct 2022 – 27 Oct 2022

### Referee 2 Reviewer

MAJOR REVISION 4 Oct 2022

The whole body of the article needs further language revision. It is essential to revise the article for comprehensibility and the systematic presentation of information regarding the matter. The article is not well written scientifically.
What research document supports Lermeret et al.'s conceptual model? You have to discuss it briefly.
You stated that some instruments were designed to assess risk-taking behavior in specific settings. It seems obvious that some occupations are unique and logically need specific tools to evaluate behaviors of interest. So please explain what the advantages and disadvantages of YOUR approach are in this regard.
I did not understand the methods of sampling and calculating the sample size.
From which jobs and industries was the sample enrolled? What levels of complexity or danger did these involve? This information is necessary to estimate the generalizability of your results.
Please mention the education, years of experience, and related competency variables for the experts.
It is not clear in the article from which instruments you extracted your items.
As far as I understand, you translated and back-translated GRiPS, which means it is a new scale in the Persian language, and its validity and reliability have not been investigated in the Persian population. So how could you use it as a validation criterion for the accuracy of your tool?

"168 Disinhibition Vs constraint, calculated by the sum of impulsivity, sensation seeking, and 169 conscientiousness, correlated with GRiPS with a coefficient 0.69 ($p<0.001$)": What is Disinhibition Vs constraint? Is it a dimension or a subscale? It is somewhat strange that you sum conscientiousness and impulsivity scores under the same subscale/dimension.
"The final version of the questionnaire showed that safety-associated risk-taking tends181 to be more related to impulsivity, venturesome, and GRiPS. Nonetheless, all other traits including 182 conscientiousness (Q3, Q4) emotionality (Q27) need for complexity, and novelty (Q2) were poorly 183 related or completely unrelated (no significant p-value) to other questions especially with GRiPS 184 and impulsivity": Did you expect otherwise? How could you achieve a significant relationship between risk-taking and emotionality when you have just one item for emotionality in your tool? Other traits found to be unrelated suffer from this bias as well.

### Hamed Aghaei Reviewer

ACCEPT 13 Oct 2022

Hello;

The manuscript was reviewed and approved.

### Referee 1 Reviewer

MINOR REVISION 23 Oct 2022

Certainly, when conducting CFA, the sample should be different from the sample used for EFA, because in EFA you explore factors based on people's responses, and in CFA you test the hypothesis that the items match the exploratory factors. Therefore, it is natural that the fit of the items with the factors in the same sample in which the factors were discovered based on participants' responses will be artificially favorable. So you have two solutions: 1- report just one of the two (preferably CFA); 2- split the sample into two parts and conduct CFA in one and EFA in the other.

The whole body of the article needs more language revision. It is essential to revise the article to improve comprehensibility and ensure the systematic presentation of information regarding the matter. The article is not well written scientifically.

## Associate Editor

MINOR REVISION 23 Oct 2022

Certainly, when conducting CFA, the sample should be different from the one used for EFA, because in EFA you explore factors based on people's responses, and in CFA you test the hypothesis that the items match the exploratory factors. Therefore, it is natural that the fit of the items with the factors will be artificially favorable in the same sample whose responses were used to discover the factors. So you have two solutions: 1- report just one of the two (preferably CFA) 2- split the sample into two groups and conduct CFA in one and EFA in the other.
The whole body of the article needs further language revision. It is essential to revise the article for comprehensibility and the systematic presentation of information on the subject. The article is not well written scientifically.
What research evidence supports Lermeret et al.'s conceptual model? You have to discuss it briefly.
You stated that some instruments were designed to assess risk-taking behavior in specific settings. It seems obvious that some occupations are unique and logically need specific tools to evaluate behaviors of interest. So please explain what the advantages and disadvantages of YOUR approach are in this regard.
I did not understand the sampling method or the sample size calculation.
From which jobs and industries was the sample recruited? What were their levels of complexity or danger? This information is necessary to estimate the generalizability of your results.
Please mention the experts' education, years of experience, and related competency variables.
It is not clear in the article from which instruments you extracted your items.
As far as I understand, you translated and back-translated GRiPS, which means it is a new scale in the Persian language, and its validity and reliability have not been investigated in the Persian population. So how could you use it as a validation criterion for the accuracy of your tool?
.
"168 Disinhibition Vs constraint, calculated by the sum of impulsivity, sensation seeking, and 169 conscientiousness, correlated with GRiPS with a coefficient 0.69 ($p<0.001$)": what is Disinhibition Vs constraint? Is it a dimension or a subscale? It is somewhat strange that you sum conscientiousness and impulsivity scores under the same subscale/dimension.
"The final version of the questionnaire showed that safety-associated risk-taking tends181 to be more related to impulsivity, venturesome, and GRiPS. Nonetheless, all other traits including 182 conscientiousness (Q3, Q4) emotionality (Q27) need for complexity, and novelty (Q2) were poorly 183 related or completely unrelated (no significant p-value) to other questions especially with GRiPS 184 and impulsivity": did you expect otherwise? How could you achieve a significant relationship between risk-taking and emotionality when you have just one item for emotionality in your tool? Other traits found to be unrelated suffer from this bias as well.

## Editor-in-Chief

MINOR REVISION 27 Oct 2022

Thank you for your recent revisions.
Your paper has now been evaluated again. According to the reviewers' and associate editor's comments, it needs some more revisions. Please make your revisions according to these comments. I would appreciate it if you could make the revisions as soon as possible. Revised text must be highlighted in the full manuscript file.

3

# Revision 2

AUTHORS' RESPONSE TO REVIEWERS

Authors' reply to reviewers

The next pages contain the authors' point-by-point reply to the comments of this revision round, as submitted with the revised manuscript. It is published as the authors wrote it.

Dear editor

We would like to thank you for considering our manuscript entitled "Operator control room Risk-Taking Questionnaire (ORTQ), a specific risk-taking assessment tool" submitted to the Iranian Journal of Psychiatry and Behavioral Sciences journal. Meanwhile, all comments from the editorial office and the reviewer were answered one by one. All changes are highlighted in yellow. All files required by the journal were prepared and uploaded separately.

| Reviewer's comment | Author's response |
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| *Reviewer 1:* | |
| The whole body of the article needs more literal revision. It is essential to revise the article based on comprehensibility and the systematic presentation of information regarding the matter. The article is not well written scientifically. | Thank you very much for this constructive and helpful comment which helped us improve the paper's quality. We executed this advice. Based on this comment the manuscript was rewritten again. But because it has changed very much it is not good to highlight it.<br>It was done by downloading similar published articles in this journal and writing the manuscript according to that format. |
| What is the research document supporting the Lermer et al.'s conceptual model? You have to discuss it briefly. | We would like to thank the reviewer for this constructive comment.<br>It is in background paragraph 2 discussed and highlighted.<br>These documents gathered in a book were written by Lermer et al. and referenced (14).<br>Another note is that the conceptual model is theoretical and must be checked in the real world. (Top-Down)<br>It is relatively new and may be worked on in the future. |
| You stated that some instruments were designed to assess risk-taking behavior in specific settings, it seems obvious that some occupations are unique and logically need specific tools to evaluate behaviors of interest. So please explain what are advantages and disadvantages of YOUR approach in this regard. | Thank you very much for this constructive and helpful comment.<br>As discussed in the background "… these questionnaires are limited to the specific job which they were designed for and could not be used in other settings." and "we aimed to design a questionnaire applicable for more settings based on Lermer et al.'s conceptual model, which is the first one to the best of our knowledge".<br>It is more general risk-taking and based on the well-known questionnaire. Those questionnaires were designed for a specific job but before hiring any |

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| | employee they don’t know about the technical properties of the job. We emphasize it with this “ … because mental, psychological, and genetic characteristics are important in risk-taking, it is necessary to check whether the person has acceptable risk-taking personality traits before employing them …” |
| I did not get the method of sampling and calculating the sample. | We would like to thank the reviewer for this constructive comment.<br>It done and highlighted.<br>“ … using convenience sampling method “ and<br>“ … The study group’s mean age was 39.81±10.78 (22-66) years with the mean duration of experience of 15.09±11.24 (1-35) years, and all of them is bachelor degrees or higher because it is technical job and needs high level of education. …” |
| From which jobs and industries the sample was enrolled? with which level of complexities or danger? it is necessary for having an estimation of the generatability of your results. | Thank you very much for this constructive and helpful comment.<br>As discussed in section 3.1 (it is highlighted) all participants are control room operators and they were selected from a wide range of industries. The level of complexities or danger that needs to be investigated in every job with a valuable method like HTA, needs a huge time and cost and is not of the object of this research. (because it is a wide range and variety) However, the main task of the operator working in control rooms is to stop any process that can start an accident.<br>We selected this group of workers because they are very important people who can decide about accidents (like the **Chornobyl** disaster, the **Bhopal** disaster, and so on). |
| Please mention the education, years of experience and related competency variables for the experts. | We would like to thank the reviewer for this constructive comment. It was in section 3.1 and highlighted.<br>It is a technical job and needs a high level of education (as presented in **discussion** “ … study group had at least a bachelor's degree of education …”) |

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| It is not clear in the article that from which instruments you extracted your items. | We would like to thank the reviewer for this constructive comment.<br>As discussed in **section 3.2** items were gathered from **well-known scales** and referenced at the end of the first paragraph. It is highlighted.<br><br>The questions were collected following the pattern of well-known psychological scales like the sixteen personality factor questionnaire (16PF) (21), functional and dysfunctional impulsivity, personality and cognitive correlates(22), impulsiveness and venturesomeness proposed by Eysenck(23), the HEXACO personality inventory-revised(24), the UPPS impulsive behavior scale(25), Jackson personality inventory-revised(26), multidimensional attitude towards ambiguity scale (MAAS)(27), Neo personality inventory-revised (NEO PI-R)(28), the factor structure of the Barratt impulsiveness scale(29), self-control(30), domain-specific risk-taking (DOSPERT) scale(17), general risk propensity scale (GRiPS)(4), the five-factor model and impulsivity(25), sensation seeking proposed by Zukerman(31). |
| As far as I got the point, you translated and back-translated GRiPS which means it is a new scale in Persian language and its validity and reliability is not investigated in Persian population, so how could you use it as a validation criterion for accuracy of your tool? | Thank you very much for this constructive and helpful comment.<br>In the first stage of developing this questionnaire based on our team's experience, we supposed indirect questions are better than direct ones. When data were analyzed we found GRiPS questions very well convergent. As shown in the results GRiPS questions (table 2) can be valid and pass factor analysis (except Q21 didn't pass factor analysis).<br>However, we found mixing GRiPS and better of our questions can be achieved with the best selection. And we changed the method to develop the mixed model.<br>At the end of the conclusion section, we emphasized "… ORTQ is akin to GRiPS and complements it." |

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| “168 Disinhibition Vs constraint, calculated by the sum of impulsivity, sensation seeking, and 169 conscientiousness, correlated with GRiPS with a coefficient 0.69 ($p<0.001$)”: what is Disinhibition Vs constraint? Is it a dimension, or a subscale? It is somehow strange that you sum conscientiousness and impulsivity scores under the same subscale/dimension. | We would like to thank the reviewer for this constructive comment.<br>As shown in the conceptual model (figure 1.a) it is purposed by Lermer et al. and based on this model we reported it.<br>It is from Lermer et al.: “Adult temperament models stress that the broadest dimensions, extraversion/positive emotionality (extraversion), neuroticism/negative emotionality (neuroticism), and **disinhibition vs. constraint (disinhibition),** are affect-relevant traits.”<br>In ref 14 **disinhibition** is defined. |
| “The final version of the questionnaire showed that safety-associated risk-taking tends181 to be more related to impulsivity, venturesome, and GRiPS. Nonetheless, all other traits including 182 conscientiousness (Q3, Q4) emotionality (Q27) need for complexity, and novelty (Q2) were poorly 183 related or completely unrelated (no significant p-value) to other questions especially with GRiPS 184 and impulsivity”: did you expect otherwise? How could you achieve a significant relationship between risk-taking and emotionality when you have just one item for emotionality in your tool? Other traits found to be unrelated suffer from this bias as well. | Thank you very much for this constructive and helpful comment.<br>With regard to Lermer et al. conceptual model, we expected to see a correlation between these questions and GRiPS. If we thought it is not correlated, we would not use these questions in our questionnaire. It's true that one or two questions don’t show a personality dimension but factor analysis uses the correlation between any question and other questions to show convergence between questions and if any question doesn’t have convergence or poor convergence must be removed. Based on CVI and CVR we expect these questions related to risk-taking. But these questions were selected from another questionnaire that was used for other dimensions. |
| Reviewer 2: | |
| Certainly, in doing CFA, the samples should be different from EFA, because in doing EFA you explore factors based on people's responses, and in CFA you test the hypothesis of matching items with exploratory factors. Therefore, it is natural that the fit of the items with the factors in the same sample in which the factors have been discovered based on their response will be falsely desirable. So you have two solutions 1- report just one of the two (Preferred | Thank you very much for this constructive and helpful comment. This comment was done on review 1.<br>We did the second suggestion because we must to use the modeling to show better results on validity. We used Bayesian Confirmatory Factor Analysis and Bayesian Structural Equitation Model because the small size may be effected on results.<br>It is highlighted. It can be found in the second paragraph in section 3.2 with |

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| CFA) 2- spit samples in two sections and analysis CFA in one of them and EFA in another | this text: "The data were randomly divided into two groups 100 questionnaires for EFA, and 108 for modeling (CFA, BCFA, SEM, and BSEM)." |
| The whole body of the article needs more literal revision. It is essential to revise the article based on comprehensibility and the systematic presentation of information regarding the matter. The article is not well written scientifically. | Thank you very much for this constructive and helpful comment which helped us to improve the quality of the paper. We executed this advice. Based on this comment the manuscript was rewritten again. But because it changed very much it is not good to highlight it.<br>It is done with download similar published articles in this journal and write the manuscript according to that format. |

## 3 Revision 2

3 comments · 1 Nov 2022 – 12 Nov 2022

**Referee 1** Reviewer — ACCEPT 1 Nov 2022

Accepted

**Associate Editor** — ACCEPT 1 Nov 2022

ACCEPT

**Editor-in-Chief** — ACCEPT 12 Nov 2022

We have completed our review of your manuscript and are pleased to inform you that it is being considered for publication in the IJPBS. Note that the publication of your article will only be finalized with your cooperation in the editorial process.
Thank you for your fine contribution. On behalf of the Editors of IJPBS, we look forward to your continued contributions to the Journal.