

Evaluation of Doctoral Thesis

submitted by Chun (June) Yeung, titled “Emotional Fabric of Society: Emotional Environments, Congruence, and Discrepancies from a Macro Perspective”

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Formal assessment

Doctoral thesis is submitted as series of two per-reviewed papers in JCR journals and one preprint, additionally supplemented by one paper in preparation (authors of which are not specified yet). Among them, in two papers Chun Yeung is a first author; in the third she is a second author. Her contribution is properly documented and confirmed by co-authors, indicating significant input regarding both conceptual and methodological aspects of the work. In congruence with regulations Polish Academy of Science, thesis includes 20 pages of summary of own work, where Ph.D. candidate provided necessary information about scope, theoretical introduction, research questions, method, key results, and discussion. In fact, general discussion is provided after presenting papers (presented as “chapters”), so that it is slightly inconsistent with general recommendation, yet it is rather a minor flaw (of note, this additional discussion extends 20 pages limit suggested by PAS recommendations). Paper 3 (posted on psychArchiv) was combined with unpublished paper “in preparation”, this paper is also multi-authored. I am not convinced about such a strategy, as three main papers are sufficient. However, Polish Academy of Sciences regulations provided information only about minimal number of works included in a series, so that this minimum is met. Papers are thematically connected, constituting a consistent series of publications. Therefore, from the formal aspect, thesis conforms to regulations of PAS and general Regulation of Ministry of Sciences regarding doctoral theses.

Evaluation of thesis: Specific remarks

The main scope of the thesis is an analysis of the importance of expressing so-called “negative emotions” (mostly anger and sadness) in individual well-being depending on country-level norms regulating emotional expression (referred as emotional expectations). Theoretical foundations of the work are properly presented, with clear reference to recent works in the field. Key constructs are clearly defined. Ph.D. candidate focuses mostly on classical Diener’s work, who equalizes subjective well-being with emotional balance and positive evaluation of own life, yet such conceptualization is sufficient to outline research problems. Ph.D. candidate formulated three research questions: “1. How do individual and collective emotions relate to well-being? 2. Why do people experience discrepancies between how they feel and how they express emotions? How do societal structures relate to these discrepancies? 3. What happens when individuals’ emotional experiences clash with societal expectations? And how do

collective norms interact with this incongruence, especially for negative emotions? (p. 13)". These research questions are further modified and related to specific research.

The research line is based on a cognitive approach to emotions, following sociodynamic model of emotions by Mesquita and Berger, supplemented by emotions as information model (EASI) model proposed by Van Kleef. This framework is well aligned with research questions, as they allow to interpret congruence between individual experience and cultural norms, reflected in ideal and ought emotions. In this place, I missed more in-depth explanation on the link between emotions and subjective well-being, which is defined in narrow way. At least, I would expect clarification why Diener's approach is selected as a basis of own work (with neglecting other than cognitive approaches and focus exclusively on hedonistic well-being). For instance, are emotions unnecessary to explain eudaimonic well-being (including social one)? Although research questions are well contextualized in theoretical introduction, there are some issues requiring additional clarifications:

- 1) Subjective well-being (in hedonic approach) is based on affective balance, so that emotions are strictly connected to it by definition. Thus, first research question is rather tautologic.
- 2) There is a visible imbalance in explaining what we know about macro-level well-being (as compared to really well explained cultural context for expressing emotions) – it is a vast literature, which is not introduced here. Given the limit constraints, I would expect at least some synthetic explanation how emotions relate to subjective well-being, what we know so far, and how the current work advances our knowledge about culture-person fit as prerequisite for higher individual subjective well-being (again, there is vast literature here, including works of Higgins, but also Gebauer's and Sedikides's works on congruence between personal-level and macro-level religiosity as predictors of individual-level subjective well-being);
- 3) How cultural norms are understood here? It is unclear, whether there are some macro-level cultural dimensions or objective indicators (like distributions of specific genes, climate conditions, economic development?) which are expected to shape emotional expectations on macro level? If yes, what are theoretical justification for including them? This question is related to RQ2, where Chun Yueng introduces institutional openness or structural development (new terms, not explained before, p. 20).
- 4) There is a visible focus on negative emotions, however, it would be interesting to examine both kinds of incongruence: within positive and negative emotions. Of smaller note, there is no theoretical justification provided to explain functional difference between negative and positive emotions, although Author provided good examples of possible cultural norms regulating expression of sadness or anger. Observation that WEIRD countries stress on positive emotions is not new. Also, there is a vast literature explaining the link between subjective well-being and economic development, including affective component.

In sum, theoretical introduction is sufficient and up-to-date, especially given the word limit constraints, with rather minor omissions and simplifications. The narrative is fluent, logical, and provides well evidenced rationale for formulated research questions.

Analytical approach is well explained and it is aligned to research questions. Ph.D. candidates proposed proper analyses, especially multilevel analysis, as suitable for testing interaction between individual-level and macro-level [country-level in this case] variables, with nested data. The work met transparency standards regarding reporting the source of datasets and own contribution. What is especially important here, the Author of the thesis demonstrated high methodological and analytical skills, both in terms of statistical proficiency and reporting results following APA style.

On critical note, there is no information about participants – there are only numbers, however, it is unclear whether there were samples of convenience. The numbers of participants and number of countries are impressive, they come from Kuba Krys two large international projects, so that they are suitable for answering research questions.

Regarding specific papers, two of them were already peer-reviewed and they are published in good outlets, although they are not specialized in cross-cultural psychology. Therefore, I do not comment on formal aspects, as they undoubtedly met the requirements for scientific works in psychology. Specific papers (presented as “chapters”) provide further details. From conceptual perspective they provide up-to-date review of former works and explain research questions sufficiently. Unfortunately, supplemental materials are not provided for paper 1 (although they are available online, it makes reading the thesis uncomfortable). From methodological point I have two main concerns: (1) there were no alternative models tested, so that emotions were just clustered as negative and positive. It makes sense from the perspective of research questions, however these categories included various emotions – some of them refer to internal states (happiness), some are interpersonal (being in love); (2) mapping based on scores are inappropriate, because scalar levels of invariance was not indicated (and not tested). MGCFA was performed across cultural clusters in Paper 2 (there is no such information provided in paper 1). Such a decision is indeed rational in large datasets, however, it is a pity that Ph.D. candidate did not use less restrictive alignment procedure and did not test for scalar invariance. Given that multilevel modelling also requires scalar levels of invariance, such analyses should be interpreted with caution. Any between-country comparisons were not justified – so that this part of work is problematic.

The research aim of paper 2 is clearly stated. Paper 2 is based on more narrow scales, so that it successfully deals with problem of too high heterogeneity within factors, however including such emotions as happiness and sadness in predicting SWB still seems tautological. Again, there are both intra- and interpersonal emotions clustered together. Although they can form one factor, conceptually they seem ambiguous. There is no information on how these specific emotions were selected. Main hypothesis is well introduced, based mostly on former findings, so that its theoretical refinement is limited. Of smaller note, “meta-analysis” term is used in atypical meaning, as Paper 2, Study 1 is just re-analysis of existing data. Meta-regression is based on similar statistical approach to that used in classical metaanalysis. There is the very same dataset as in Paper 1, so that it is simply follow-up study, explaining results by searching for specific cultural moderators of discrepancy between emotional expression and experience. Hypothesis refers to societal development which was used as umbrella term, comprised by carefully selected macro-level indicators of societal functioning. Some other cultural variables were included as exploratory correlates, however, they were not well explained. Overall, selected correlates and moderators indicate good orientation of the Candidate in contemporary studies on cultural dimensions, however, including collectivism-individualism indicator from Hofstede project is not an optimal choice, given the problems with its operationalization. In sum, Paper 2 is based on solid methodology, with clear theoretical rationale, and it has rather minor shortcomings. Meta-regression overcomes problem with measurement invariance (metric invariance is sufficient to perform this analysis), on the other hand, it prioritizes bigger samples (what is also the case in multilevel analysis) – effects are weighted by sample size, so that effect from bigger sample “is worth” more than from smaller one. In case of uneven distribution of samples between countries, it can bias the general results. However, general interpretation of the results was done correctly. Especially, I highly value both replication the findings by using alternative statistical analysis (multilevel analysis), and another dataset. Although based on the same network of collaborators, it was collected in another point of time, so that results seems to be robust. Interpretation of the results is well contextualized and mature. The last chapter of the thesis (combined Paper 3 & 4) is based on

clear rationale, grounded in cognitive dissonance theory and Higgins's self-discrepancy theory, extended into cultural level. In this work, again, Candidate focuses on negative emotions. The rationale is logical, however, I lacked more in-depth explanation on how specific emotions are regulated and why. There are different functional meaning of sadness (as clearly connected to emotional stability and psychological functioning) and anger (as being indicative for conflicts and interpersonal aggression), so that they are regulated by cultural norms for different reasons and high level of aggression and high level of mental instability within society can have different sources. One of possible confounding factor is arousal. In fact, people who do not feel what they are expected to feel can have preference for avoiding any stronger feelings, so that they are unlikely to express both negative and positive emotions, still reporting high life satisfaction. Thus, connection between their emotions and well-being are lower independently from cultural match. On the other hand, Table 9 present well formulated expectations regarding congruence and incongruence between experienced and expected negative emotions. The question arises, whether the same pattern can be expected from positive emotions, or it is conceptually different?

Candidate tested two precisely formulated hypotheses, which are interdependent. Paper 3 (the US study) in fact tests discrepancies between experienced and ought emotions (so that it is about injunctive norms), while international study uses frequency of negative emotions, so that it refers to descriptive norms. Therefore, there is a mismatch between these two studies. Also, as a pilot study, general pattern was tested in the US society (sample of convenience). The selection of this country was not explained. In the first study both positive and negative emotions were examined, however, I missed information about the purpose of studying positive emotions. Although from analytical point of view it was a valuable decision, allowing for comparing the pattern of results for positive and negative emotions, however, it would be beneficial to clearly state what is expected. In both studies Candidate again indicated high levels of statistical proficiency, although measurement invariance issues were only partially addressed (scalar invariance was not tested, however, key analyses required metric invariance with except for MLM). I appreciate both transparency and clarity of reporting. Because there was no theoretical predictions regarding functional difference between positive and negative emotions, interpretation of results is rather technical, although Candidate correctly refers to pressure for positivity while explaining results for mismatch among experienced and expected positive emotions (related to lower well-being). Of smaller note, in correlational studies there is no rationale to use causal formulations, suggesting that emotions influence well-being. Unfortunately, Figure 5 was not too much helpful (both graphs are not adjusted to reading format, the same problem applies for many tables in the thesis). Interpretation of the US study ignores cultural context. Candidate makes far reaching conclusions about general pattern regarding protective mismatch basing on single-country study. Limitations regarding constraints for generality were discussed in a vague manner. In the follow-up cross-cultural Study Author used two new scales measuring subjective well-being, although both of them measure eudaimonic well-being. The selection of these scales was not explained, as well as a decision on focusing only on negative emotions. Therefore, from conceptual and methodological point of view, this study is not a perfect follow-up study to Paper 3. Again, statistical analyses were well justified and professionally reported. Results are correctly discussed, although they are not offer deepen insight. Both studies are not fully consistent with each other, so that Candidate focused mostly on cross-cultural study. From methodological point of view, it is well done study, with some smaller conceptual flaws. The most serious is rather simplistic understanding of subjective well-being and technical summary of main findings. Conclusions are correctly formulated and limitations are sufficiently identified.

Chapter 5 presents general discussion. I have read this part of thesis with the highest interest, as it is that part of the thesis, which presents Candidate own interpretation of all results,

without co-authors, who were involved in preparing papers submitted for evaluation. This part is in fact rather technical, suggesting that Candidates can formulate precise research questions (based on some general well established theories, like self-discrepancy theory) and test them empirically. She is undoubtedly highly capable young researcher, demonstrating high levels of statistical proficiency and high skills in reporting results. She formulates correct conclusions, although these conclusions are rather common-sense based. Among others, I missed lack of reference to evolutionary approach or broader studies on cultural diversity in experiencing emotions and happiness (like Human Development Theory by Welzel or Ruth Veenhoven works). I value much more practical implications and methodological suggestions for future studies, which indicates that Candidates undoubtedly demonstrates ability to design, conduct and interpret independent studies. Theoretical maturity is a weaker point, but despite this limitation, Chun Yeung demonstrates ability of clear presentation.

Concluding remarks

There is a lot to like in this thesis. It is based on consistent line of research, which built one on the another. The hypotheses are precisely formulated and well grounded in existing theories. Analytical strategy is well justified and met high methodological standards. Two papers are already published in good international outlets and I don't doubt that all of them will be finally published as well. My overall evaluation is positive, although I see some weaker points like (1) incorrect decisions regarding testing measurement invariance (lack of consistency, misinterpretation of cross-country comparisons); (2) lack of consistency across used scales and variables between studies, especially inconsistent including (or not) positive emotion, as well as problematic selection of positive and negative emotions (by ignoring aspect of arousal or distinction between intra- and interpersonal focus); (3) theoretical imprecision in defining subjective well-being, accompanied by using various scales without proper justification. Despite these limitations, Chun Yeung presented interesting findings, which are of high practical importance and contribute to broader theories on the meaning of culture-person fit, demonstrating it limitations. Overall, I congratulate good work.

Conclusion and final recommendation

In Polish: Rozprawa doktorska spełnia warunki określone w art. 187 Ustawy z dnia 20 lipca 2018 r. Prawo o szkolnictwie wyższym i nauce (Dz. U. z 2021 r. poz. 478, 619, 1630).

In English: The doctoral dissertation meets the conditions specified in Article 187 of the Act of 20 July 2018, the Law on Higher Education and Science (Journal of Laws of 2021, items 478, 619, 1630). Therefore, I recommend Ph. D. Candidate, Miss **Chun (June) Yeung to accept her for further steps in the procedure.**

Moreover, I recommend awarding distinction to the doctoral dissertation.

Prof. dr hab. Magdalena Żemojtel-Piotrowska