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Tracking Moral Divergence with DDR in Presidential Debates Over 60 Years

Dear Dr. Kamihigashi,

Thank you very much for sending the reviewers’ comments. We believe those comments have helped us enhance our manuscript dramatically. We appreciate the opportunity to revise and resubmit our manuscript and would like to thank all reviewers for their time, effort, and expertise. In the following pages, we will detail our responses to the comments from the reviewers.

**Reviewer 2:**  **Mediatization seems irrelevant (Overall Review).**

*Thanks for this great comment. We added explanations about why we adopted mediatization theory in Abstract (p.3), Introduction (p.4-5), and Literature Reviewer (p.9). This is because although televised presidential debates have been criticized for talking past each other for decades (Carlin, 1989, 1992; Clifford & Jerit, 2013; McKinney & Carlin, 2004), it is still unclear how this situation has been evolved over time. According to Mediatization theory (Hjarvard, 2013), media have been influencing all social actors’ acting based on media’s valuations, formats, and routines. In other words, we need to take the televising context into consideration to explore the evolution of presidential debaters’ moral divergence.*

**Reviewer 2: Comparison between moral reasoning and bargaining is not convincing as there is no operationalization of bargaining (Abstract).**

*Thank you for capturing this. We rephrased our argument as: “our results imply that televised presidential debaters have been increasingly focusing on their own issue stances and moral reasoning to build their personal images”. This argument is based on the mediatization in politics: politicians have prioritized image building over political bargaining (Hjarvard, 2013). And we keep all comparisons with bargaining within the citations of mediatization theory and its empirical findings (p. 4,5,19).*

*Additionally, we revised the whole Abstract (p.3) to focus on the moral ground as the contribution of this study.*

**Reviewer 2: Why the critiques of lack of conflict and issue discussion are inevitable and unfortunate (Introduction)?**

*Thanks for this excellent comment. First, we replaced “inevitable” with “predictable” because an individual prefers to focus on his/her own specific moral concerns from a Moral Foundation Theory perspective. We could not say “inevitable” as those moral concerns could be similar.*

*Second, we removed “unfortunate”. The lack of conflict and issue discussion could contribute to a more engaged electorate from a mediatization perspective when it’s the tradeoff for image building. It could be both fortunate and unfortunate as we explained in the Discussion part (p. 20).*

**Reviewer 2: The contribution of this study is not from a mediatization perspective but in the moral ground (Introduction).**

*Thanks for correcting us and helping us sharpen the focus of our manuscript. First, in the Introduction part, we clarified that Moral Foundation Theory is the theoretical framework and the adoption of Mediatization lens is also under the MFT framework (p. 4-5). Second, we revised the whole Abstract part to clarify our contribution is in the moral ground (p. 3). Third, in the Discussion part, we added a summarization of this study: “It quantitatively descripts presidential debaters’ moral judgments based on Moral Foundation Theory using Natural Language Processing tools based on distributed representation” (p.16) as the main thread of our discussion. And we aligned the discussion part as well.*

**Reviewer 2: The connection between mediatization and presidential debate is not clear (Literature Review).**

*Thanks for this insightful comment. First, we clarified the reason to adopting Mediatization (p. 9): media have been systematically changing politicians and we need to take the televising context into consideration to explore the evolution of moral divergence. Second, we added some empirical findings to show the changes of politicians caused by mediatization (p, 10-11): more self-focused and image focused. So, within the limited time of a debate, the more debaters talk about themselves, the less they could respond to each other.*

**Reviewer 2:** "Our results show that substantial variances in moral loading occurred at the second level (ICC = .34) and third level (ICC = .17), which indicates that the moral loadings of a given debate on the 10 moral dimensions (5 pairs) are substantially correlated,....". => please indicate more details why intraclass correlation was measured. Also, please indicate the numbers properly with desired numbers (i.e., the range could be from 0 to 1, which indicates the threshold for good correlation).

*Unfortunately, there is no threshold such as p value. But we provide more explanations about ICC to give the readers a clearer picture. Please see our revisions below:*

*Our results show that the intraclass correlations (ICC, ranged from 0 to 1) in the multilevel model are relatively high at the second (debate rounds; ICC = .343) and third (election years; ICC = .173) level groups. ICC is the ratio of the between group variance to the total variance; it can also be regarded as the correlation among observations within the same group. The second level ICC in our model shows that 34.3% of the variance in the outcome was accounted for by the debate rounds, and the third level ICC shows that 17.3% of the variance was accounted for by the election years, indicating that substantial variances in moral loading in our model occurred can be explained by debates rounds and election years. In other words, it indicates that the moral loadings of a given debate on the 10 moral dimensions (5 pairs) are correlated (r = .343), suggesting that individuals are likely to simultaneously invoke several moral domains. We further tested the correlations between every two moral dimensions and found that among 45 pairs of correlations, only four correlation coefficients were below .25 and therefore non-significant, further supporting the above argument. This finding aligns with Hoover and associates’ (2018) study about the moral loading embedded in donation messages on social media.*

**Reviewer 2:** "In addition, we examined the moral loading change in each moral dimension. We used the moral loading of each dimension as a dependent variable and year, party and their interaction as independent variables." =>  How did you obtain the interactions? Since you mentioned the unit of analysis is the debate - and I assumed you filtered the democratic candidate speech and republican candidates speech separately, but none of the details are explained.

Thank you for pointing out this unclearness. We revised this section to make it clear. We did not separate democratic and republican candidates’ speech. Our data look like this:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Moral loading (DV) | Moral dimension | Debate rounds | Party | Year |
| 0.456 | care | Round 1 | R | 1960 |
| 0.487 | fairness | Round 1 | R | 1960 |
| 0.498 | care | Round 1 | D | 1960 |
| 0.587 | fairness | Round 1 | D | 1960 |
| 0.432 | fairness | Round 2 | R | 1960 |
| 0.543 | betrayal | Round 3 | R | 1976 |

Our regression formula is like: moral loading = b1\*moral dimension (dummy variable) + b2\*party (dummy variable) + b3\*moral dimension (dummy variable)\*party (dummy variable)

We also added our regression table in the paper, which should further explain our model.

**Reviewer 2: How our results relate and contribute to mediatization theory is not clear (Discussion).**

*We removed all the arguments about how this study could contribute to mediatization literature and clarify that the contribution of this study is in the moral ground. We propose the mediatization as an important attributor of the increase of moral divergence (p.19-21). This explanation echoes previous presidential debate research we added (p.21) that connected debate strategies – less facts and more image – with media.*

**Reviewer 2: Differentiating virtue and vice (Discussion).** "Secondly, Democrat candidates' moral loadings are almost always higher than Republican candidates' moral loadings across all five moral foundations." => Is it in virtue or vice that is higher?

*A higher score only indicates that candidates talked more about those moral issues. It does not reflect their own moral status. For example, if one candidate has a high score on fairness, it indicates that this candidate’s speech focuses on discussing fairness. It does not show whether he or she is pro-fairness or anti-fairness.*

**Reviewer 2: How moral loadings could be discussed beyond the moral dimensions is not convincing (Discussion).**

*Thanks for this comment and we improved our discussion based on it. First, as aforementioned, we proposed mediatization as an important attributor of the increase of moral divergence. So, the increase of moral divergence could reflect mediatization. We added some empirical evidence to strengthen this connection: Politicians have to increasingly focus on what media want instead of what society needs in order to be regarded in as promising a way as possible in news coverage (Lowry, Bridges, & Barefield, 1990; McKinnon & Tedesco, 1996; McKinnon, Tedesco, & Kaid, 1993; Steeper, 1978). We argue consequently, the more politicians adapted to media, the more they would focus on themselves, the less they could focus on how to collaborate with each other, especially within the limited time of a televised debate, therefore, the more difference among their moral judgments would ensue. (p. 20)*

*Second, we added citations claiming that media could determine debate strategies – prioritize image over issues (p. 21. Our findings about the moral loading echo their arguments and could reflect the mediatization process in politics.*

*Third, as we did not operationalize the political bargaining, we keep all the comparisons of image over political bargaining within the citation of the empirical evidence of mediatization in politics (p. 19).*

**Reviewer 3: Mediatization seems unnecessary.**

*Thanks for pointing this out. We improved our manuscript mainly based on this comment.*

*For the Abstract part (p. 3). We revised the whole abstract to clarify that Moral Foundation Theory is our theoretical framework and the contribution of this study is descriptive and in the moral ground. From a mediatization perspective, politicians have become more self-focused, and more image focused. Therefore, our findings could reflect the medialization in politics: more about self-moral reasonings rather than responding to others.*

*For the Introduction part (P4-5). We added explanations and citations to justify the adoption of mediatization under the MFT framework: although televised presidential debates have been criticized for talking past each other for decades (Carlin, 1989, 1992; Clifford & Jerit, 2013; McKinney & Carlin, 2004), it is still unclear how this situation has been evolved over time. According to Mediatization theory (Hjarvard, 2013), media have been influencing all social actors’ acting based on media’s valuations, formats, and routines. In other words, we need to take the televising context into consideration to explore the evolution of presidential debaters’ moral divergence.*

*For the Literature Review part, we first clarified the reason to adopting Mediatization (p. 9): media have been systematically changing politicians and we need to take the televising context into consideration to explore the unkown evolution of moral divergence. Second, we added some empirical findings to show the changes of politicians caused by mediatization (p, 10-11): more self-focused and image focused. So, within the limited time of a debate, the more debaters talk about themselves, the less they could respond to each other.*

*For the Discussion part, we propose the mediatization as an important attributor of the increase of moral divergence (p.19-21). First, we added some empirical evidence of the mediatization in politics: Politicians have to increasingly focus on what media want instead of what society needs in order to be regarded in as promising a way as possible in news coverage (Lowry et al., 1990; McKinnon & Tedesco, 1996; McKinnon et al., 1993; Steeper, 1978); Consequently, the more politicians adapted to media, the more they would focus on themselves, the less they could focus on discussing with each other, especially within the limited time of a televised debate, therefore, the more difference among their moral judgments would ensue. (p. 20). Second, we added citations claiming that media could determine presidential debate strategies – prioritize image over issues (p. 21). Our findings about the moral loading echo their arguments and reflect the mediatization process in politics.*

**Reviewer 3: Text preprocessing.**

*Thanks for pointing this out. We did not include the explanation in our manuscript for space consideration. For DDR and Distributed Representation (Embedding), there is no need to remove stop words, rare words, and so forth. We need to remove them for word count based algorithms, as those words collectively would affect frequency calculation of our target words. For deep learning algorithms including Distributed Representation, how we preprocess our text depends on how the algorithm has been trained. For Natural Language Processing tasks, Distributed Representation algorithms are usually trained with natural language without removing any specific kind of words. The package we adopted, Word2Vec (Mikolov, Sutskever, Chen, Corrado, & Dean, 2013) was trained with Google News corpus. So, we could keep everything (word, punctuation, and so forth) that has appeared in Google News.*

**Reviewer 3: Regression Tabel?.** \* I would prefer a regression table displaying the main regression results (perhaps in an appendix). It would have helped me think through the data structure and model and better understand Figure 1.

Response: regression table are included.

**Reviewer 3: The weight of each moral foundation should be considered.**

*We really wish we could find some resource to help us take the different weights into consideration. We re-visited MFT, and we think the theory founders did not take weight into consideration, at lease from a statistical perspective. The founders compared the score of every moral foundation collected from massive survey without weighing the score of each foundation when developing MFT. Consequently, other methods to operationalize MFT such as Moral Foundation Dictionary and DDR do not take weight into consideration either.*

**Reviewer 3: There are other attributors of moral loading besides speaker’s true morality.**

*Thanks for this great comment. To prevent overstating, on the one hand we emphasized that mediatization is just one of the attributors as aforementioned (p. 20); on the other hand, we added empirical evidence showing presidential debate strategies could be influenced by lots of factors such as debate format and the poll, and those strategies would affect debaters’ arguments as well (p.21).*

**Reviewer 3: Over-statements such as “inevitable”.**

*Thanks for pointing this out. First, we replaced “inevitable” with “predictable” because an individual prefers to focus on his/her own specific moral concerns from a Moral Foundation Theory perspective (p. 4). We could not say “inevitable” as those moral concerns could be similar.*

*Second, we removed “unfortunate” (p. 4). The lack of conflict and issue discussion could contribute to a more engaged electorate from a mediatization perspective when it’s the tradeoff for image building. It could be both fortunate and unfortunate as we explained in the Discussion part (p. 20).*

*Last, we revise the whole manuscript to avoid over-statements and over-confident tone.*

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