Concession in Single- and Double-Blind Open Peer Review

A Corpus-Based Analysis

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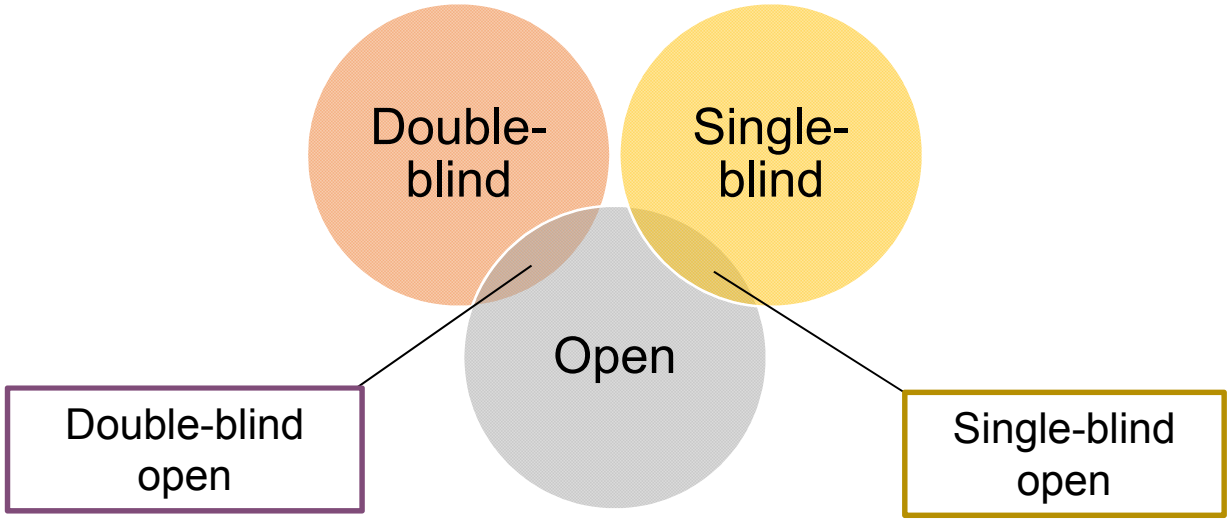
Outline

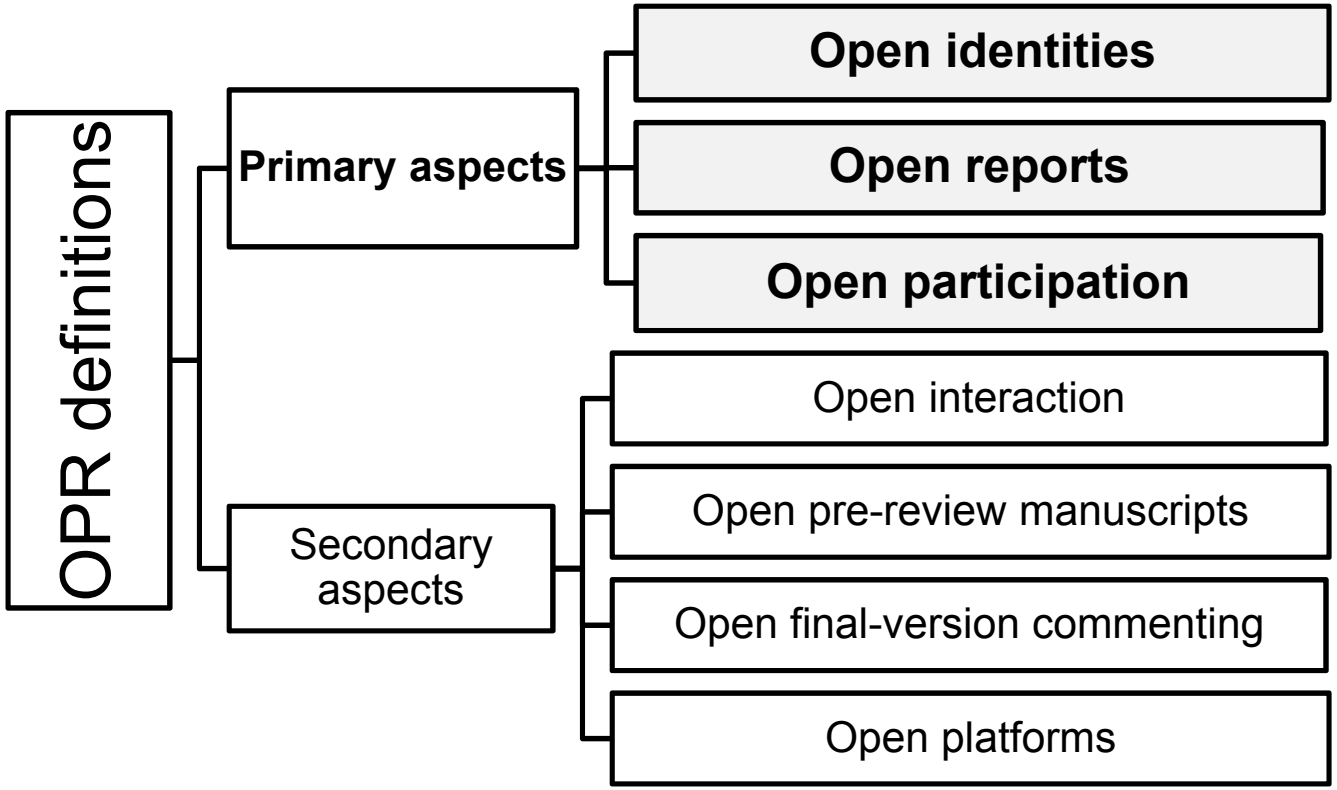
- Introduction
- Theoretical Foundations
- Research Questions and Hypotheses
- Methodology
- Preliminary Findings and Discussion
- Conclusion

Peer review and anonymity



- Double-blind peer review – the traditional method
  - (+) reduced bias
  - (-) opaqueness, reliability?, expense (Ross-Hellauer 2017: 3-4)

Open peer review (OPR) as an umbrella term for different open models (based on Ross-Hellauer 2017)



- (+) transparent, accessible, time-efficient (Ross-Hellauer 2017: 3-4)
- (-) reliable?

Questions for OPR

- How do reviewers negotiate praise and criticism in the case of open reports?
- Are there different argumentative patterns in single-blind and double-blind OPR?

Review genres, praise and criticism

- **Open**: e.g. book review (article), review article (Belcher 1995; Bondi 2009; Diani 2009, 2017; Hyland 2004; Hyland & Diani (eds.) 2009; Noguchi 2006; Salager-Meyer & Alcaraz Ariza 2004)
    - Praise-criticism pairs, hedging, personal responsibility, other attribution, metadiscoursal bracketing, indirectness (Hyland 2004: 55)
    - Praise-criticism, criticism-praise, criticism-suggestion, praise-suggestion, hedging (cf. Diani 2017: 66; Diani 2015: 177)
- **"Occluded"** (Swales, 1996): e.g. submission letter, peer review report
- Good news-bad news (Johnson 1992, Belcher 2007, Paltridge 2017)
- [peer] Reviewers pair a compliment with a face-threatening act (criticism or suggestion) to soften it (Johnson 1992: 65)
- 'Face', threat, and politeness (Brown & Levinson 1987/1999)

The logic of concession

Even though *p*, *q*

Assumption: Normally (if *p*, then not-*q*)

(König 1985: 4, 1988: 147, 2005: 820)

Although *p*, *q*

(König 1985: 4)

Concession

If P then contrary to expectation Q

(Halliday & Matthiessen 2014: 478)

"p although q" means:

a. Truth conditions: p & q

b. Presupposition: $q \rightarrow \neg p$

(Verhagen 2000: 365)

Concession

"***Even though*** the idea presented is a novel contribution and has potential [*sic*] the paper itself is highly unstructured and confusing and lacks a proper grammar check." (ICLR18_R3_R71)

- Asserts two incompatible truths (see König 2005: 821)
- Implicature can vary in strength (see Huddleston & Pullum 2006: 735)
- Matrix clause - contrary to expectation to what is said in the concessive clause (Quirk et al 1985: 1098)
- Causal-conditional enhancement relation (Halliday & Matthiessen 2014: 476)
- Contrast, obstacle, disappointed expectation, deviation from a norm, negation of a causal relation (cf. Di Meola 1997: 13)

Research Questions

1. How do reviewers of single and double-blind reviews express concession?

   1.1 In what forms does concession occur in OPR?

   1.2 What functions does concession fulfil in OPR?

Research Questions & Hypotheses

2. Is there a significant difference between the frequency of concessive clauses in single- and double-blind OPR?

→ H2: No, concession occurs as regularly in single-blind as in double-blind OPR.

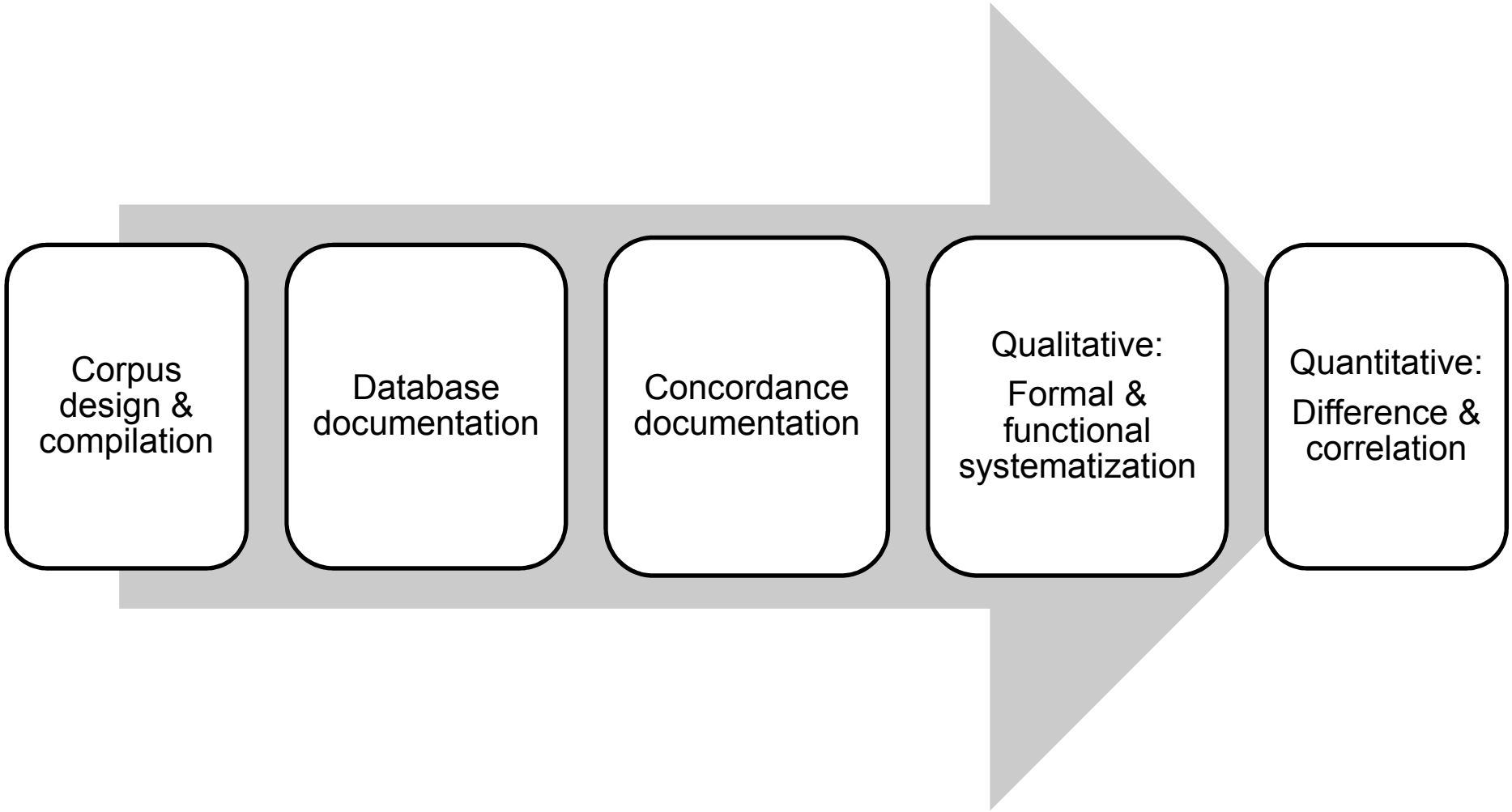
2.1 Do reviews of rejected papers contain significantly more concessive clauses than accepted papers?

→ H2.1: No, the number of concessive clauses in accepted and rejected papers does not differ significantly.

2.2 Is there a correlation between reviewer ranking and the number of concessive clauses used?

→ H2.2: Generally no, though concession may cluster in reviews with comparatively lower ranking

Methodology



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The OPR Corpus

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Neural Causal Discovery with Learnable Input Noise

Tailin Wu, Thomas Breuel, Jan Kautz

28 Sep 2018 (modified: 21 Dec 2018) ICLR 2019 Conference Blind Submission Readers: Everyone 7 Replies

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RETHINKING SELF-DRIVING : MULTI -TASK KNOWLEDGE FOR BETTER GENERALIZATION AND ACCIDENT EXPLANATION ABILITY

Zhihao LI, Toshiyuki MOTOYOSHI, Kazuma SASAKI, Tetsuya OGATA, Shigeki SUGANO

28 Sep 2018 (modified: 21 Dec 2018) ICLR 2019 Conference Blind Submission Readers: Everyone 6 Replies

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The OPR Corpus

- ICLR: Open reviews, open participation, open interaction

Section	Type	Reviews	Words
2017	Single-blind	242	70 784
2018	Double-blind	198	80 941
2019	Double-blind	102	45 900
Total		542	197 625

- + 178 Program Chair decisions (19 960 words) & 500 author's responses (200 606 words)

OPR Submission Example

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Neural Causal Discovery with Learnable Input Noise

Tailin Wu, Thomas Breuel, Jan Kautz

28 Sep 2018 (modified: 21 Dec 2018) ICLR 2019 Conference Blind Submission Readers: Everyone Show Bibtex Show Revisions

Abstract: Learning causal relations from observational time series with nonlinear interactions and complex causal structures is a key component of human intelligence, and has a wide range of applications. Although neural nets have demonstrated their effectiveness in a variety of fields, their application in learning causal relations has been scarce. This is due to both a lack of theoretical results connecting risk minimization and causality (enabling function approximators like neural nets to apply), and a lack of scalability in prior causal measures to allow for expressive function approximators like neural nets to apply. In this work, we propose a novel causal measure and algorithm using risk minimization to infer causal relations from time series. We demonstrate the effectiveness and scalability of our algorithms to learn nonlinear causal models in synthetic datasets as comparing to other methods, and its effectiveness in inferring causal relations in a video game environment and real-world heart-rate vs. breath-rate and rat brain EEG datasets.

Keywords: neural causal learning, learnable noise

7 Replies

Program/Area Chair Decision

[−] **unconvincing experiments; original theorem statement incorrect**

ICLR 2019 Conference Paper594 Area Chair1

17 Dec 2018 (modified: 21 Dec 2018) ICLR 2019 Conference Paper594 Meta Review Readers: Everyone

Metareview: Granger Causality is a beautiful operational definition of causality, that reduces causal modeling to the past-to-future predictive strength. The combination of classical granger causality with deep learning is very well motivated as a research problem. As such the continuation of the effort in this paper is strongly encouraged. However, the review process did uncover possible flaws in some of the main, original results of this paper. The reviewers also expressed concerns that the experiments were unconvincing due to very small data sizes. The paper will benefit from a revision and resubmission to another venue, and is not ready for acceptance at ICLR-2019.

Confidence: 4: The area chair is confident but not absolutely certain

Recommendation: Reject

Review and Author's Response

An interesting approach ; some concerns regarding assumptions and experiments

ICLR 2019 Conference Paper594 AnonReviewer1

07 Nov 2018 ICLR 2019 Conference Paper594 Official Review Readers: Everyone

Review: The paper proposes an approach to learn nonlinear causal relationship from time series data that is based on empirical risk minimization regularized by mutual information. The mutual information at the minimizer of the objective function is used as causal measure.
The paper is well written and the proposed method well motivate and intuitive.

However I am concerned by the assumption that the lagged variables X_{t-1}^{(j)} follow a diagonal gaussian distribution. This appears to be very restrictive, since typically the values of time series j at time t-1 are typically depending say of those that time t-2, t-3 etc.

Another key concern concerns scalability. The authors mention gene regulatory networks , neuroscience etc as key applications. Yet the experiments considered in the paper are limited to very few time series. For instance the simulation experiments use N=30, which is much smaller than the number of time series usually involved say in gene regulatory network data. The real data experiments use N= 6 or N=2. This is way to small.

The real data experiments (sections 4.2 and 4.3) are not very convincing, not only because of the very small size of N, but also because there is no comparison with the other approaches. How do these compare? Does the proposed approach offer insights on these datasets which are not captured by the comparison methods?

Rating: 4: Ok but not good enough - rejection

Confidence: 5: The reviewer is absolutely certain that the evaluation is correct and very familiar with the relevant literature

Response

ICLR 2019 Conference Paper594 Authors

27 Nov 2018 ICLR 2019 Conference Paper594 Official Comment Readers: Everyone

Author's Response

[−] **Response**

ICLR 2019 Conference Paper594 Authors

27 Nov 2018 ICLR 2019 Conference Paper594 Official Comment Readers: Everyone

Comment: Thank you for the instructive review!

Our algorithm 1 minimizes the empirical learnable noise risk (Eq. 4), which does not assume that X_{t-1}^{(j)} follows a diagonal gaussian distribution. Originally, to justify the I^u=1/2 \sum_l log(1+Var(X^(j)_{t-1,l})/ \eta_{j,l}^2) term used in our experiments for estimating mutual information, we used diagonal Gaussian assumption for X_{t-1}^(j) in the experiment. In fact, a better way to justify this is to note that I^u provides an upper bound for the mutual information subject to the constraint of known variance of marginal distributions of X^(j)_{t-1}, and the upper bound is reached with the diagonal Gaussian distribution, as is proved in Appendix C in the revision. Therefore, the assumption of diagonal Gaussian assumption is dropped for the experiments in the revision. Practitioners can choose to optimize an upper bound of the learnable noise risk for better efficiency (as is also used in the experiments in this paper), or use differentiable estimate of mutual information for better accuracy, as has also been pointed out in the paper.

In the revision, we have also added a more detailed comparison with other methods in sections 4.2 and 4.3, showing the strength of our method. For example, in section 4.2, our method correctly identifies important causal arrows, while the four other comparison methods either have more false positives and false negatives, or completely fail to discover causal arrows. In section 4.3, we compare with the results in previous literature. We note that although all compared methods correctly identify the causal relations, our method have the advantage that the inferred causal strength does not decay with increasing history length (we also analyzed that in the original submission).

Categories of enhancement and principal markers (Halliday & Matthiessen 2014: 478)

	Category	Meaning	Paratactic	Hypotactic		
				finite	non-finite: conjunction	non-finite: preposition
(iv) causal-conditional	condition: concessive	if P then contrary to expectation Q	[concession ^ consequence] *but*; (*and*) *yet*, *still*; *but* + *nevertheless*	*even if*, *even though*, *although*, *while*	*even if*, *even though*, *although*, *while*	*despite*, *in spite of*, *without*
			[consequence ^ concession] (*though*)			

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Concessive clauses
(based on Halliday & Matthiessen 2014)

Concessive circumstantials	**Paratactic**	**Hypotactic**		
		Finite	**Non-finite: conjunctions**	**Non-finite: prepositions**
In spite of these limitations, the experiments provide appropriate comparisons to prior work, and form a reasonable initial evaluation. (ICLR17_R1_R126)	This paper could be interesting, ***but*** substantial editing is needed before it is sufficient for publication. (ICLR18_R2_R289) Presentation is in general good ***although*** at parts readability is hindered. (ICLR17_R1_R357)	***Although*** I share enthusiasm for your results, please recognize that stating that your results are 'conclusive' is premature and not appropriate. (ICLR19_R1_O73)	A high-level downside of this paper is that, ***while*** studying a relevant application of deep learning, it presents no technical contributions or novel insights (…) (ICLR17_PC_R379)	***In spite of*** the paper being an outstanding work, I have two criticisms about the accessibility and impact of the paper on the broader ICLR audience. (ICLR19_R2_O1020)

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Concessive clauses, praise and criticism

('praise-criticism' based on Hyland 2004; 'paratactic-hypotactic' see Halliday and Matthiessen 2014: 452)

Paratactic	**Hypotactic**
"Presentation is in general good ***although*** at parts readability is hindered." (ICLR17_R1_R357) • Praise + concession • Equal status, logically symmetrical	***"Although*** the experimental results are not quite persuasive, the method is nice and promising." (ICLR18_R3_R118) • Concession + praise • Unequal status, logically non-symmetrical→ Emphasis on praise
"It is not clear why the Bi-Ans-Ptr in Table 2 is not used for the ensemble ***although*** it achieves the best performance." (ICLR17_R3_P174) • Criticism + concession • Equal status, logically symmetrical	***"Although*** I get the high-level goal of the paper, I find Sec. 3.1, which describes the technical approach, nearly incomprehensible. (ICLR18_R2_R748) • Concession + criticism • Unequal status, logically non-symmetrical→ Emphasis on criticism

Some functions of concession in OPR
('praise-criticism' based on Hyland 2004)

- **Criticism mitigation → "**I very much like the idea of the paper, ***but*** I am simply not convinced by its claims." (ICLR17_R3_R279)
- **Criticism reinforcement →** "The paper has a laundry list of related results (page 2) ***but*** no clear message." (ICLR17_R2_R363)
- **Praise mitigation → "*Even though*** no conclusive section is provided, the paper is not missing any information." (ICLRC_R3_O785)
- **Praise reinforcement →** "I found the paper very well written ***despite*** its level of mathematical depth (the authors provide many helpful pictures) and strongly recommend accepting this paper." (ICLRC_R1_O76)

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Concessive clauses in the OPR corpus (per 100 000 words)

	Concessive circumstantials		Paratactic					
	despite	*in spite of*	*but*	*yet*	*still*	*though*	*even though*	*although*
Single-blind	11.30	1.41	230.28	5.65	0	9.89	8.48	11.30
Double-blind	4.73	0	117.47	10.25	0	11.04	7.10	7.88

Table 1 Normalized distribution of concessive clauses in single- and double-blind review (per 100 000 words)

- **Concessive circumstantials**: "***Despite*** claims to the contrary, the experiments are far from extensive; (…)." (ICLR18_R3_Wd265)
- **Paratactic**:
  - "The paper is relatively clear, ***though*** there are many grammatical mistakes." (ICLR18_R1_Wd265)
  - "As such the impact of the contributions appears rather limited ***even though*** the experimental results show a better stability of the method compared to competitors." (ICLR18_R2_R487)
  - "The paper is very well written and provides most necessary details, ***although*** some more details on the training (…) would be helpful for reproducing the results." (ICLR17_R3_P97)

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Concessive clauses in the OPR corpus (per 100 000 words)

	Hypotactic: Finite			Hypotactic: Non-Finite				
	although	*even though*	*while*	*although*	*even though*	*while*	*despite*	*in spite of*
Single-blind	26.84	4.24	67.81	0	0	0	0	0
Double-blind	27.59	10.25	41.78	0	0	0	3.15	0.79

Table 1 (Cont.) Normalized distribution of concessive clauses in single- and double-blind review (per 100 000 words)

- **Hypotactic (F):** "***Although*** this paper contains several strong points, the weaknesses of this paper are also very obvious." (ICLR18_R1_IW439)
- **Hypotactic (N-F)**
  - **Conjunction**: "Such activities, ***although*** challenging the perceived ideals of female behaviour, did not challenge the patriarchal constructs that placed the authority of men above themselves." (**BAWE** 0144a)
  - "In any case managers, ***even though*** holding more power than the applicant, need to recognise that the recruitment and selection process should lead to a mutual agreement" (**BAWE** 3020a)
  - **Preposition**: "***Despite*** being often done in VAE papers, it feels strange to me to introduce the inference model (4.1) before the generative model (4.2), as (…)" (ICLR19_R1_R239)

Possible reasons for the tendencies

- Paratactic *but*: simple, versatile (most often epistemic and speech act meanings (see Sweetser 1990))

"The paper is good ***but*** does not address some important issues." (ICLR18_R2_R876)

- Finite hypotactic *while*: duration implies coexistence; asymmetric logical structure allows emphasis

"***While*** the overarching problem is potentially interesting, the authors seem to make very little effort to draw conclusions from their results." (ICLR18_R3_P132)

- Single blind > double blind: higher threat to 'face'

Conclusion

- Concession as a common argumentative strategy in OPR
  - Can combine positive and negative evaluation → protects ‘face’
  - Two contradictory truths
  - Sheds light on the (unmet) expectations of the community
- Concession as a component of good academic practice

Limitations and outlook

- Small specialized corpus → Not generalizable
- Only exploration of ICLR and an IT-related field

- Concession in author's responses and Program Chair decisions
- Different OPR formats
- Other venues & fields
- Other features in concessive clauses

(e.g. hedging, evaluative language: "***While*** it is **plausible** that the **proposed** approach **might** excel given the **small** data sets used in the experiments, there is **not sufficient evidence and detail** to support this **claim**." (ICLR17_R2_P160))

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Concession in Single- and Double-Blind Open Peer Review

A Corpus-Based Analysis

(Open) peer reviewers mostly use concession as a politeness strategy when negotiating praise and criticism and to point at (unmet) expectations of the scholarly community.

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