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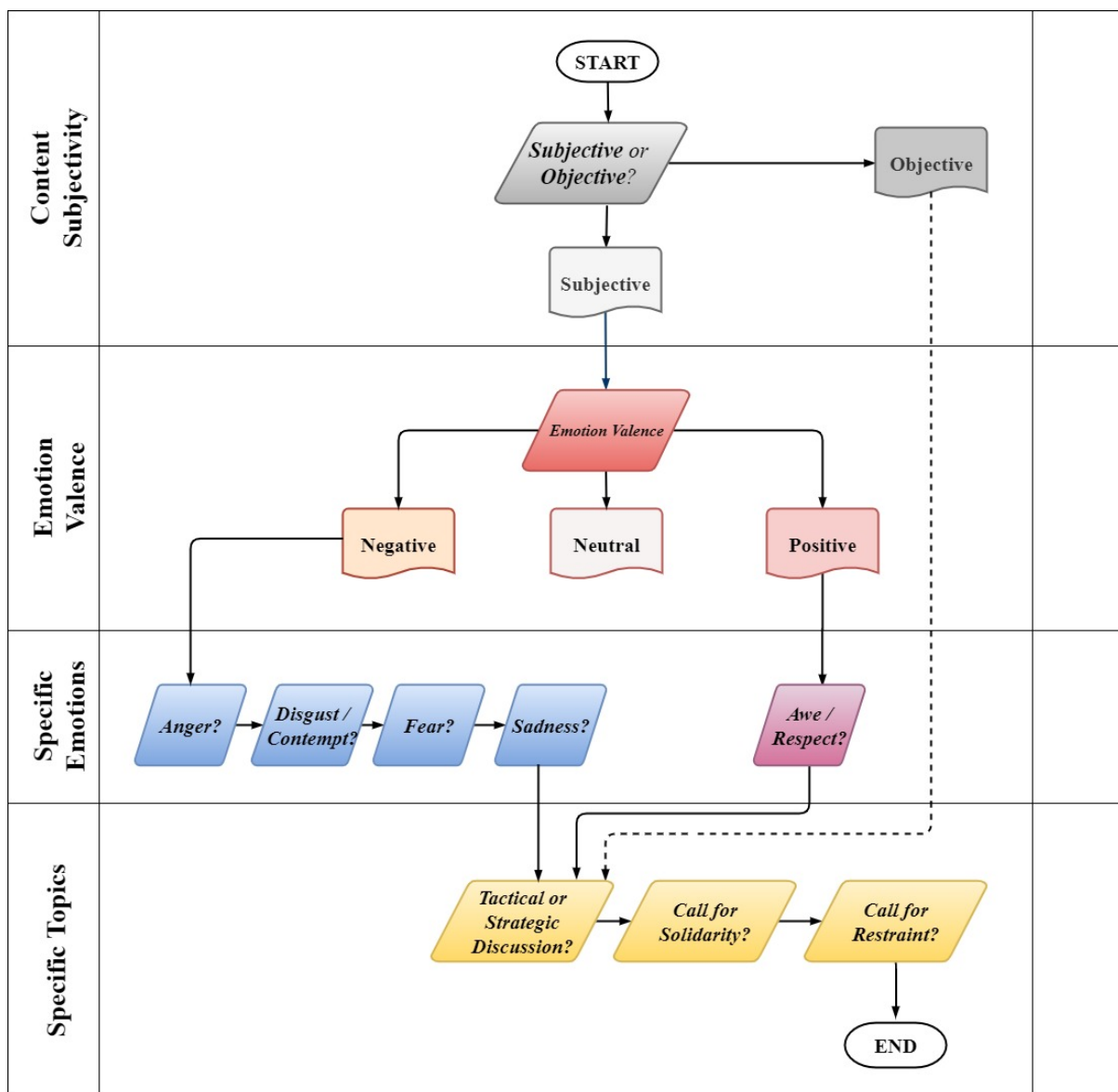
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Project Summary

Emotion is a powerful commitment device (Frank, 1988). Political psychology literature has established a persistent association between emotions and political participation behaviors. However, the question of “which emotions play what role” still remains highly debated with conflicting results derived from different contexts. Pertaining to Hong Kong’s context, previous survey data have found that fear and anger were important in mobilizing citizens to partake in the protest. The widespread fear and anger might serve as a common ground to unite people from all walks of life and bring out solidarity across the board. Against this backdrop, current project is aimed to advance our understanding of how emotions shape the solidarity on social media. The analysis draws on more than 28 million posts collected from LIHKG between April 2019 and July 2020.

Particularly, we will adopt a supervised machine learning approach to evaluating emotion-related features of the LIHKG posts. Supervised machine learning includes human knowledge in the training process and therefore can come up with more interpretable and theoretically more interesting results. To obtain the human knowledge, we will conduct three runs of manual coding. In the first two runs, our task is to establish intercoder reliability based on a small number of sentences (N=500) and in the third run, with the IRR guaranteed, one or two coders will continue to code the remaining sentences (N=4,500).

The workflow of manual coding is as follows:



Rationale for Manual Coding

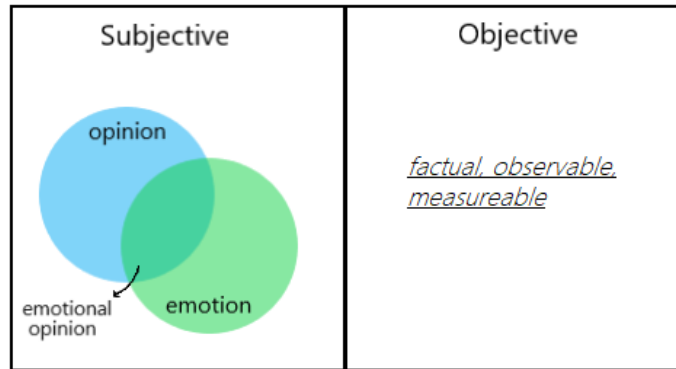
We are going to annotate the content in four aspects: Content Subjectivity; Emotion Valence; Specific Emotions; Specific Topics. The unit of analysis is sentence. However, given that sentences are extracted from user-generated content, they could be ungrammatical, colloquial, and even uncivil. Deciphering their meaning requires a more thorough reading of the context. Therefore, the focus sentence that you are required to code will be embedded in its original context, which is composed of two sentences, one before the focus sentence and one after it. The focus sentence will be highlighted in **RED** as follows:

有人話佢衝動、唔理智甚至傻。但我認為，佢好冷靜，好清晰。佢知道
Context (Before) Focus Sentence
香港人缺少啲乜。
Context (After)

Please be noted that the focus sentence is more important than contextual sentences. You must first try making judgements solely based on the focus sentence out of the context. Only if the focus sentence is confusing or can be interpreted in very different ways, you can consult the contextual sentences for disambiguation.

i. Content Subjectivity

- i. *Definition*: Objective content presents only factual information, while subjective content conveys non-factual information, such as **opinions, emotions, speculations, evaluations, or other private states**.



ii. Reminder

- a) **We DO NOT distinguish different sources of subjectivity.** The posts that convey either the author's opinion or others' opinions are considered as subjective. As long as non-factual information is present in the text, we should regard the text as subjective.
 - No comments 「XX 對 XX 問題不予回復」 is objective.
- b) **Factual = Observable. Action is observable yet intent is not observable.** To be considered as objective, the speaker should only depict what has happened while not suggesting the intent of actors, **UNLESS** quoting scientific reports, law or observable evidences. For example, 「香港人都不希望香港變成中國的一個城市」 is subjective, yet 「XX 調查發現多數香港人都不希望香港變成中國的一個城市」 is objective. 「我地面對嘅事想殺死我地嘅人」 is subjective, as the intent to kill cannot be directly observed unless the person poses apparent death threats.
- c) **Please pay EXTRA ATTENTION to the adjectives and adverbs, while DOWNPLAYING the importance of verbs.** A complete sentence is composed of two parts: subjects and predicates. Predicate always includes a verb. That is, the verb is an essential component of a sentence while the adjectives and adverbs are not. The misuse of verbs and nouns is acceptable since people might lack energy, literacy, or training in finding the most accurate verbs and nouns to depict a situation. For example, 「三個大漢係旺角搗亂」 and 「地鐵站塞爆」. Although the **verbs** 「搗亂」 (disrupt, make trouble) and 「塞爆」 (explode with crowds) could appear to be subjective and less accurate statements of the realities, compared with more factual counterparts like 「三名男子於旺角持 XX 襲擊在場人士」, the conflict did happen and the crowded MTR station was observable. Therefore, we consider these two sentences as objective. To the contrary, adjectives and adverbs are used to depict the **EXTENT** of an activity, which in the most scenarios is hard to be directly measured

or observed. So, if speakers do use adjectives or adverbs in their utterances, it would be a more telling cue to their subjectivity than the use of verbs.

d) Posts with emoji are more often than not subjective.

iii. Examples:

- a) 「任內派一兩次糖, 之後就可以同中央講成功修補社會挪裂」 → Answer: Subjective (Expressing one's own opinion)
- b) 「文章指出, 每當有新社運形式出現, 總有知識分子或社運人抱持懷疑眼光, 然後引用傳統的社運理論指指點點, 以前輩經驗教導新人甚麼才是『真正』社運」 → Answer: Subjective (Citing opinions from an article)
- c) 「民陣發起遊行反對修訂《逃犯條例》, 當港島銅鑼灣和天后等多個地鐵站塞爆、附近維園和灣仔路面也擠滿人時, 香港科技大學經濟系前主任雷鼎鳴稱, 經他採用『科學方法估算遊行人數』, 於下午 3 時 10 分, 經過點算站所錄得的遊行人數是 8510 人; 至下午 3 時 45 分, 則有 21,020 人」 → Answer: Objective (Factual account of an event)

ii. Emotion Valence

- i. *Definition:* Emotions can be generally divided into two big categories: positive emotions and negative emotions. Positive emotions are the psychological responses to pleasant experiences, including joy, anticipation, and gratitude, while negative emotions are the psychological reactions triggered by unpleasant experiences, such as hate, fear and anger.
- ii. *Three valences:* Positive; Neutral (no apparent emotion); Negative.
- iii. *Reminder:* Again, **we DO NOT distinguish author's emotions and other person's emotions.** As long as the sentence is emotional, you should label it as such. However, if the author's emotion and other person's emotions are concurrently mentioned in the same sentence, we should prioritize the author's emotion. For example, "I am so happy to see his frustration about the decision." This sentence should be classified as "positive" in emotion valence. If you cannot directly read the emotion from the text, you should label it as **NEUTRAL**.

iv. *Examples:*

- a) 「彭定康斥港府分裂社會」 → Answer: Negative (Citing other person's negative emotion)
- b) 「香港一失守 我諗好快會變死城 周街屍體」 → Answer: Negative (Expressing one's own fear)
- c) 「香港人 崛起！」 or 「光復香港，時代革命！」 → Answer: Positive (spirited words expressing excitement and hope)
- d) 「小弟真係好開心擺到咁多席，多謝大家」 → Answer: Positive (Expressing one's own gratitude and joy)
- e) 「口罩...身上危險物品要棄置、必要時換埋衫」 → Answer: Neutral (Tactical discussion)
- f) 「有 Petition 請 share」 → Answer: Neutral (imperative sentence, tactics)

iii. **Specific Emotions**

- i. *Discrete Emotions:* (a) Negative: Anger, Disgust/Contempt, Fear, Sadness/Compassion;
(b) Positive: Awe/Respect.

ii. *Reminder:* Again, **we DO NOT distinguish author's or other people's emotions.**

iii. *Definitions:*

- a) **Anger:** Anger is a typical response to an insult to justice or one's self-esteem. One will feel angry if he or she perceives the negative events as predictable and brought by others, and others need to be held accountable. In other words, anger arises from appraisals of **other-condemning (other-responsibility) and a sense of certainty of what happened.**
 - *Example:* 「司機義載抗爭者：政府爛透」 (citing the driver's anger at government), 「非民選的港府一事無成卻毫無民望負擔」 (expressing his or her own anger at government)
- b) **Disgust/Contempt:** Disgust and contempt are similar to anger in that they all condemn others for bringing out negative events. However, they are weaker than anger. Besides, they indicate an underlying hierarchy where people who feel disgust and contempt are on the top of the ladder and looking down on lower-status others. Generally speaking, disgust

and contempt arise from appraisals of **other-condemning** (other-responsibility) and **other-belittling**.

- *Example*: 「開實彈個下，猶如入球一刻，班藍絲廢老支持警方開始用更強硬手段」 (廢老廢青, the useless elderly and youth, when being used to depict others, should be regarded as a word with *contempt*. However, if people refer to themselves as 廢青 for self-mockery, we should regard these words as *neutral*.) 「離開香港仲唔係 freeride 抗爭？」 (showing contempt for freeriders) 🙄, contempt emoji

c) **Fear**: Fear arises from a **strong sense of uncertainty and situational control**. People will feel fear if they perceive the negative events are unpredictable and are dependent on the situation, instead of specific individuals.

- *Example*: 「問題來了，如果裡面既人和學生，無野食或飲，餓死左，點算？」 (fear of uncertainty) 「驚㗎，因為仲唔知個打壓有幾大！」 (fear of uncertainty)

d) **Sadness/Compassion**: Sadness might arise from one's own miserable experience or their empathy for other people's miserable situation.

- *Example*: 「佢無戴任何口罩 眼鏡 頭盔，都俾啲煙搞到呼吸困難不斷話好辛苦，我講到佢真係覺得好傷心」

e) **Awe**: Awe is a response to human perfection. People will feel awe, when exposed to moral exemplars, holy persons. Out of awe, they will possibly be motivated to imitate these exemplars. Awe should not be reduced to simple agreement or praise. Agreement and praise are emotions elicited from an equal view of point. But awe and respect are emotions elicited from below. People are looking up to someone and feel inferior to someone when they have awe and respect on them.

- *Example*: 「記唔記得 我們有 200 萬戰友 無懼烈日當空 一齊出黎」 「記唔記得 我們有良心醫生護士站出來掙揭破黑警謊言」 「呢一 d 壯舉 呢一 d 感動 呢一 d 義行 唔會磨滅」 「鄭神辛苦了」

※ Emoji

Emoji provides us a shortcut to people's emotion. I compiled a full list of 425 emojis that have ever appeared in our LIHKG dataset and labeled their emotional orientation. Please

refer to the Google sheet (https://docs.google.com/spreadsheets/d/1XZoWsY5TkjloYFc-F1d2klN7kB_D3nMWrjGQMwThzmY/edit?usp=sharing).

iv. Specific Topics

- i. *Tactical/Strategic Discussion:* Does the post discuss protest strategies or tactics? Protest strategies and tactics here refer to **WHAT** the **protest** is for, **HOW** the **protest** **SHOULD** be carried out to accomplish its task, and **WHAT** the **protesters** need to do. The tactical discussion has to be supportive of protest. Discussion about any other actors' responses or tactics are not included in this category.
- ii. *Call or Support for Solidarity:* Does the post call for or support for solidarity among the **protesters**? Does it call for the public support to the **protest**? The public support could be anywhere, from local community, from Mainland, from blue ribbon camp, or from international community.
 - *Example:* 「全港 18 區行動」 or 「18 區開花」 is calling for solidarity. 「我地亦都會支持罷工嘅警察」 is also considered as a call for solidarity with HK police.
- iii. *Call or Support for Restraint:* Does the post call for or support restraint over the use of violence?
- iv. *Call or Support for Violent Actions:* Does the post call for or support violent actions, i.e. the use of violence or other aggressive/more conflicting means like assault, fight, fire, vandalism and other means that could cause damages? 「香港獨立」 or 「攞炒」 are NOT regarded as calls for violent actions.
 - Radical actions include: Disruptive actions and Violent actions. Strike, sit-in, roadblock or flash mob are disruptive, and sometimes even illegal but not violent. Violent actions include the physical assault, using fire, storm in the building, and vandalism.

Memo

1. When the focus sentence is ambiguous, we look into contextual sentences to clarify the ambiguity and to help you better grasp the meaning of the focus sentence. However, the coding decision should be made based on the focus sentence.
 - *Example 1:* 「意外既野真係電光火石。當你要諗對策已經 gg 祝大家好運。」 Despite the contextual sentence (first sentence) expresses some fear of the uncertain incidents, the focus sentence does not have such strong evidence of fear. Therefore, the focus sentence is labeled as negative valence with no fear.
 - *Example 2:* 「元朗白衫黑幫，是無差別攻擊香港市民，他們不可能知道誰有遊行，誰是黃絲，他們只是無差別的攻擊市民，所以，這是恐怖襲擊。任何反擊行動，不單是示威，而是反恐。」 Despite the contextual sentence (second sentence) justifies the use of violence, the focus sentence does not have such intent. Therefore, the focus sentence should be labeled as negative valence without calling for violent actions.
2. Questions are **SUBJECTIVE** and **NEUTRAL**.
 - *Example:* 「宜家想買按摩槍舒緩下啲肌肉，有冇巴打好推介」 is **SUBJECTIVE** and **NEUTRAL**.
3. Disgust/Contempt and Anger could co-exist.
4. **Communicative strategies** are also considered as a type of protest strategies. So, if a sentence says “我哋有辦法、亦唔再需要反駁佢哋 don’t argue with them” or “you should persuade them with XXX”, it should be labeled as “discussing protest strategies or tactics.”
5. **Persistency** is considered as a critical element of protest strategy, which is related to the “rhythm or tempo of the protest”. “We should persist on protesting/demonstrating/striking” is an expression about protest strategy. At the same time, calling for a pause, like “we might better stop and rest for a while,” is also an expression about protest strategy.
6. **Constructive dismissal**, defined as the situation where people are forced to quit the job against their will (被離職), is considered as a **negative** (other-condemning) description.

7. **Brotherhood** (手足), **we** (我哋), **HKers** (香港人) are usually related to calls for solidarity.
 - *Example:* 「我地每個人都要做連儼人」 calls for solidarity and it is also an imperative sentence with neutral emotion valence.
8. **Contemptuous titles**, like 柴婆, 黑警, 狗, 支那, 何君妖, 港豬, and 左膠, are only weak evidence of contempt. That is, sentences with contemptuous titles are more **LIKELY** to express contempt emotion. Yet, they alone are not enough to serve as conclusive evidence of contempt. If the contemptuous titles are accompanied by other *additional information*, then we should judge from additional information. If they are not accompanied by additional information, then we should clarify its emotion on a *case-by-case* basis.
 - *Example:* 根據強國百度百科定義..., should be coded as neutral in emotion valence
9. Imperative sentences without strong emotions are regarded as **NEUTRAL**, i.e. “we should boycott the blue stores” or “you should not go out today.” However, if the imperative sentences are extracted from laws, i.e. “according to the XX law, people should not...,” the sentences should be regarded as **OBJECTIVE** instead.
 - *Example 1:* 「為保國際主線，勇武行動包括裝修、各種魔法、衝擊、獅鳥及打狗撚狗必需全面停止，直到民主法案獲通過後再相議。」 is an imperative sentence without strong emotion and should be labeled as neutral in valence.
 - *Example 2:* 「根據現行法例，就立法會選舉及區議會選舉而言，選舉主任在憲報上刊登有效提名公告及其他指定公告時，必須刊登每名獲有效提名候選人的『主要住址』」 is an imperative sentence extracted from law. Therefore, it is objective.
10. **Despair** is a combination of deep SADNESS and FEAR. Yet, **desperation** is a combination of deep ANGER and SADNESS. **Regrets** are also bifurcation of sadness.
 - *Example:* 「她指雖然東華三院其後就事件成立獨立委員會，但一直未有交代具體的調查事間表，令他們感到束手無策，『我哋唔知仲要等幾耐，又或者仲應唔應該等落去』。」 conveys a sense of **despair**. Therefore, it should be coded as FEAR and SADNESS at the same time.
11. **Commemoration** (紀念, 勿忘, 不要忘記) could be either positive or negative. When commemorating a “martyr (烈士)” like Alex Chow and Chan Yin-lam, people are

usually expressing their sadness and grief. But when commemorating an alive and active protestor who is arrested or under miserable condition (義士), like Joshua Wong or Edward Leung, people might convey positive emotion and solute their awe to these protest exemplars or feel angry (hatred) at the government and police.

- *Example:* 「勿忘周梓樂」 is of SADNESS.

12. **Nazi-related words** (納粹, 暴政, 集中營, 滅絕營), **terrorism-related words** (恐怖襲擊, 恐怖主義, 無差別攻擊, 恐怖分子, 屠殺, 屠城) and **crackdown-related words** (鎮壓), when referring to others (i.e. other people are terrorists and are launching terrorist attacks against innocent citizens), convey both **FEAR and ANGER**, but more FEAR than ANGER. But when others refer to people as Nazi or terrorists, people might mention these words in order to rebuke their argument and then the words convey only **ANGER** rather than FEAR.

- *Example:* 「是次行動又係 721 恐襲幕後黑手策略, 總言之各位手足盡量小心」 expresses FEAR and ANGER. 「他們要鎮壓香港, 製造另一個六四, 來震懾示威者」 also expresses FEAR and ANGER.

13. **Call for Solidarity ≠ Tactics/Strategies Discussion.** They have some overlaps but are not identical. Some sentences call for solidarity without delivering any tactics. For example, 「香港人加油！」. As mentioned earlier, HKer is an indicator of solidarity which tries to evoke collective ethos in people. However, it does not provide action guidelines about WHY and WHAT they need to do.

14. Sentences that try to mobilize people to partake in an event should be labeled as tactics/strategies discussions. **Tactics/Strategies Discussion can be shallow**, without in-depth elaboration on the tactic strategies.

- *Example:* 「快快趣過黎坐爆埋佢」 tries to mobilize people to join a sit-in protest. It does not provide detailed protest strategies, but it should be considered as tactics/strategies discussion as it provides action guidelines (What they need to do).

15. Assume all posts are related to the protest.
16. Objective, Neutral, No Emotion, and No Specific Topic can be regarded as Null Hypotheses. In order to reject these null hypotheses, we need accumulate those evidences that go against the null hypotheses. You should first look for strong evidence. If no strong evidence is found, then look for weak yet clear evidence. If no weak but clear evidence is found, then accept the null hypotheses, e.g. the sentence is indeed objective. Otherwise, if either strong evidence or weak yet clear evidence is found, you should reject the null hypotheses. For example, 「政府指出前線抗爭導致經濟下行」 contains clear yet weak evidence for Negative Emotion. We should regard it as expressing negative emotion.

Protest Slogans

1. 「五大訴求，缺一不可」 : SUBJECTIVE, POSITIVE, TACTICS/STRATEGIES DISCUSSION. Choose NO for all other options.
2. 「五大訴求」 : SUBJECTIVE, NEUTRAL, TACTICS/STRATEGIES DISCUSSION. Choose NO for all other options.
3. 「光復香港，時代革命」 : SUBJECTIVE, POSITIVE, TACTICS/STRATEGIES DISCUSSION. Choose NO for all other options.
4. 「兄弟爬山，各自努力」 or 「齊上齊落」 or 「不割席，不分化，不篤灰」 : SUBJECTIVE, POSITIVE, TACTICS/STRATEGIES DISCUSSION, CALLS FOR SOLIDARITY. Choose NO for all other options.
5. 「be water」 : SUBJECTIVE, NEUTRAL, TACTICS/STRATEGIES DISCUSSION. Choose NO for all other options.
6. 「只有暴政，沒有暴民」 : SUBJECTIVE, NEGATIVE, ANGER. Choose NO for all other options.

7. 「願榮光歸香港」 or 「May Glory Be To HK」 : SUBJECTIVE, POSITIVE, AWE.

Choose NO for all other options.

8. 「If we burn, you burn with us」 : SUBJECTIVE, NEGATIVE,

TACTICS/STRATEGIES DISCUSSION. Choose NO for all other options.

9. 「香港人加油！」 : SUBJECTIVE, POSITIVE, CALLS FOR SOLIDARITY. Choose

NO for all other options.

Timeline

| <i>Date</i> | <i>Task</i> | <i>Target</i> |
|---------------|---|-------------------|
| 09/21 - 09/28 | First-run coding (N=250) | IRR \approx 0.8 |
| 09/28 - 10/06 | Second-run coding (N=250) | IRR \approx 0.8 |
| 10/06 - 10/09 | Move on to code the remaining 4,500 sentences. | |