

Introduction Analysis Table

Paper Title: Liang et al., 2020. Metabolic Dynamics and Prediction of Gestational Age and Time to Delivery in Pregnant Women. *Cell 181*, 1680–1692.

Sentence (Underline the signal words)	Stage / Move (functions & purposes)	Tense	Voice	Useful sentence patterns (boldface your practice)
<p>Pregnancy <u>is</u> one of the most critical periods for mother and child (Alkema et al., 2016; Say et al., 2014). It <u>involves</u> a tremendous flow of physiological changes and metabolic adaptations week by week, and even small deviations from the norm <u>might</u> have detrimental consequences at different pregnancy stages.</p> <p>For example, approximately 20% of all pregnancies <u>end</u> in miscarriage (< 20 weeks), and around 10% <u>end</u> in preterm birth (<37 weeks) (Blencowe et al., 2013; Wang et al., 2003). The latter <u>is</u> the leading cause of global neonatal morbidity and mortality (Blencowe et al., 2013). Of 200 million annual pregnancies, 300,000 pregnancy- and birth-related maternal deaths and 7 million perinatal deaths <u>occur</u> worldwide (GBD 2013 Mortality and Causes of Death Collaborators, 2015; Sedgh et al., 2014).</p> <p>With a better understanding of how pregnancy is regulated, even small improvements in obstetric health care <u>can</u> enhance the well-being of many women and children.</p>	<ul style="list-style-type: none"> Move 1a: Presenting central problems for mapping out a context 	<p>Present</p> <p>Present</p> <p>Modal</p> <p>Present</p> <p>Present</p> <p>Present</p> <p>Present</p> <p>Modal</p>	<p>Active</p> <p>Active</p> <p>Active</p> <p>Active</p> <p>Active</p> <p>Active</p> <p>Active</p> <p>Active</p>	<p>“even small deviations from the norm”</p> <p>This sentence pattern finds its echo at the end of this paragraph.</p> <p>“The latter is ...”</p> <p>“The latter” means the “10% end in preterm birth”</p> <p>“With a better understanding of ...”</p> <p>+ Noun Phrase or Noun Clause</p> <p>“even small improvements in obstetric health”</p> <p>parallelism of “even ... even ...”</p>
<p>The maternal circulatory system <u>connects</u> with the fetal circulatory system through the placenta, carrying bioactive molecules and biomarkers such as steroid hormones, micronutrients, and circulating nucleic</p>	<ul style="list-style-type: none"> Move 1b: Introducing & Reviewing items of previous research in the area 	<p>Present</p>	<p>Active</p>	

<p>acids, whose concentrations alter as gestation progresses (King, 2000; Koh et al., 2014; Tulchinsky et al., 1972; Wang et al., 2016).</p> <p>In addition, current clinical tests often only <u>focus</u> on a few markers, whereas research covering more molecules often <u>examines</u> the profiles at one or a few time points during pregnancy (Bahado-Singh et al., 2012; Dudzik et al., 2014; Gagnon et al., 2008; Kenny et al., 2010; Romero et al., 2010; Sachse et al., 2012; Soldin et al., 2005).</p>				<p>“whose concentrations alter as gestation progresses”</p> <p>= whose concentrations alter in accordance with gestation progress</p> <p>“current clinical tests often only focus on a few markers, whereas research covering more molecules often examines the profiles”</p> <p>clinical tests vs. research by using “whereas”</p>
<p>Recent work on cell-free RNA <u>suggests</u> that markers in maternal blood can be used to estimate gestational age, but sequencing <u>can</u> be expensive and time-consuming, and the accuracy, at present, <u>is</u> not ideal (Ngo et al., 2018).</p> <p>Therefore, a more accurate and cost-effective method for estimating gestational age and delivery time, possibly using blood metabolites, <u>is needed</u>.</p> <p>Thus, a high-resolution landscape of pregnancy related metabolites during healthy pregnancy and the postpartum period <u>is</u> still poorly <u>understood</u>.</p>	<ul style="list-style-type: none"> • Move 2: Indicating a gap in the previous research / Extending previous studies 	<p>Present</p> <p>Modal Present</p> <p>Present</p> <p>Present</p>	<p>Active</p> <p>Active</p> <p>Active</p> <p>Passive</p> <p>Passive</p>	<p>“sequencing can be expensive and time-consuming, and the accuracy, at present, is not ideal”</p> <p>A prediction via “can” is followed by an affirmative be-verb “is” to enhance the tone.</p> <p>The passive voice is used twice to indicate a gap.</p>
<p>Here, we <u>use</u> untargeted metabolomics (Kaddurah-Daouk et al., 2008) to systematically profile blood metabolites throughout pregnancy with weekly sampling of maternal blood.</p>	<ul style="list-style-type: none"> • Move 3a: Outlining purposes (or stating the nature) of the current study 	<p>Present</p>	<p>Active</p>	<p>“Here, we use ...”</p> <p>“Here” can mean both “In this paper” and “Under this circumstance”</p>

	<ul style="list-style-type: none"> • Move 3b: Listing research questions or hypotheses 			
The study <u>identified</u> a large number of pregnancy-related metabolites and metabolic pathways offering a comprehensive view of the metabolite changes during healthy pregnancy and the postpartum period.	<ul style="list-style-type: none"> • Move 3c: Announcing major findings 	Past	Active	<p>“The study identified a large number of pregnancy-related metabolites and metabolic pathways offering a ...”</p> <p>There should be a comma (,) before “offering”</p>
Leveraging the high-resolution datasets, we <u>built</u> a metabolic clock that not only predicts gestational age in high accordance with the first-trimester ultrasound, the clinical gold standard, but also recovers personal pregnancy variations undetected by ultrasound but capable of affecting delivery time.	<ul style="list-style-type: none"> • Move 3d: Stating the value or contribution of the present research 	Past	Active	<p>“<u>Leveraging</u> the high-resolution datasets, we <u>built</u> a metabolic clock that not only <u>predicts</u> gestational age [...] but also <u>recovers</u> personal pregnancy”</p> <p>“Leverage” as a verb means “to use something to maximum advantage” (Fowler’s Dictionary, p. 475)</p> <p>Tense inconsistency (among “built,” “predicts,” and “recovers”) is nicely used to indicate a good job done and its potential.</p>
	<ul style="list-style-type: none"> • Move 3e: Indicating the structure of the research paper 			