Understanding, Demystifying and Challenging Perceptions of Gig Worker Vulnerabilities

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Gig workers face several vulnerabilities, which are rarely discussed among peers due to the absence of infrastructure for mutual support. To understand how individual gig workers perceive such vulnerabilities and why they continue to pursue such labor, we conducted a scalable two-phase study to probe their rationales. In Phase I, participants ($N = 236$) rated their agreement with five commonly misconstrued vulnerabilities. In Phase II, we challenged participants who held one or more myth(s) ($N = 204$) to defend their views, after which we presented an expert- or LLM-generated counterargument to their rationale. Our findings show how workers are underexposed to the personal and shared vulnerabilities of gig work, revealing a knowledge gap where persuasive interventions may help workers recognize such hidden conditions. We discuss the implications of our results to support collective bargaining of workers' rights and reflect on the effectiveness of different persuasion strategies.

1 Introduction

Legally classified as independent contractors, gig workers operate on their own accord and often lack spaces and infrastructures (both physical and digital) that mediate watercooler conversations and social support around their working conditions [90, 92]. For individual workers, such information opacity exacerbates myths surrounding their work conditions and vulnerabilities [77]. Collectively, it hampers their opportunities to mobilize and coordinate action for advancing labor rights [18, 21, 91]. But while smaller-scale studies – and more recently, informal knowledge from online discussion forums [67] – suggest that workers face a variety of hidden vulnerabilities (e.g., opaque pay practices, health & safety risks, privacy violations), the rationales of *why* workers continue to labor for and hold myths around gig work remain underexplored.

Instead of typical workplace mechanisms for social support, gig workers turn to online forums or groups to seek connection with fellow peers [42, 75]. While such spaces allow workers to share experiences, many hesitate to disclose specifics about their practices, earnings, or complaints, out of fear for platform retaliation and to avoid oversharing information and strategies with competing workers [92]. Prior studies introduced ways for gig workers to make sense of

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their data [49] and to share experiences [48], indicating a need for gig workers to mutually understand work conditions and grievances.

There remain myths around gig work, obfuscating hidden vulnerabilities and invisible labor [3, 9, 58]. For example, low and unequal wages have historically been central issues that drove workers to protest and unionize for better treatment. In the case of platform-based gig work, algorithmic wage discrimination systematically codifies and amplifies the inequality [8, 25, 30]. However, inexperienced workers often remain unaware of their financial precarity. Meanwhile, platforms often tout the flexibility in schedules that their work offers, with Uber marketing the slogan of "*Drive when you want. Earn what you need.*" However, this fabricated illusion of flexibility is replaced by realities of low work availability [57] and intense but false competition in practice [4]. Privacy intrusions and surveillance are also common but covert platform practices that enable algorithmic management to threaten worker well-being [1, 2, 63, 73]. Many health and safety hazards are not immediately apparent when starting gig work and may only emerge over time due to cumulative physical strain [16] or compounding psychological stress [24, 82]. The classification of gig workers as independent contractors [27] excludes them from typical worker protections such as minimum wage and health insurance, although many workers are not aware of the absence of such protections.

To assess worker awareness and perspectives of these risks, we recruit participants on Prolific, a platform whose workers qualify as gig workers by definition. In Phase I, we present them with five common myths about gig work conditions and ask them to rate their level of agreement with each myth. Subsequently, we invite participants who agree with at least one of the myths to write a rationale for their position. Through thematic analysis, we gain present insights into *why* people agree with these myths, as well as reasons for limited awareness around such vulnerabilities.

Leveraging Phase I results as a baseline, we compare how different persuasion strategies, in our context different types of rationales, affect worker opinions regarding myths. Based on existing scholarship of gig work, we authored rationales for each myth that cited academic references. Incorporating field-specific terminology in writing has been shown to make explanations more satisfying, despite decreasing their comprehensibility as laypeople assume the terminology fills gaps in explanations [17]. We additionally leverage LLMs to generate persuasive rationales by personalizing them based on user input and instructing them to be persuasive. LLMs formulate arguments in a human-like manner that is very persuasive, even for incorrect responses [10, 51, 71]. These characteristics are increasingly being used in political discourse, to reduce beliefs in conspiracy theories [15] or find common ground on political subjects [5, 54, 83]. When sources are included in LLM rationales, users are better able to distinguish between correct and incorrect answers, leading to reduced overreliance on wrong responses and more appropriate reliance on accurate ones [53]. We incorporate both field-specific terminology and LLM-generated content across the rationale types included in our study to assess whether incorporating scientific sources helps dissuade people from believing in myths. Through these interventions, we seek to investigate the following questions about gig workers' vulnerabilities:

RQ1: How do crowdworkers perceive, recognize and understand vulnerabilities in platform-based work?
RQ2: To what extent can these perceptions transform through exposure to persuasive interventions, including LLM personalisation and expert-curated and LLM-generated rationales?

Our findings show that workers' beliefs about gig work vulnerabilities are often shaped by the specific platforms on which they work and by their desire for independence. In Phase II, we demonstrate that presenting counter-rationales can reduce agreement with common myths about gig work. We provide suggestions for using these insights to inform the design of interventions that raise workers' awareness of long-term health and privacy risks, policies that improve

transparency and accountability in platform practices, and worker-facing tools that facilitate collective action and worker advocacy.

2 Related Work

To investigate how LLMs can help reduce myths among gig workers, we situate our study within the gig work context and discuss persuasive tools used to shift user perspectives. §3.2 further details literature that informed our expert-curated rationales.

2.1 Mystified Perceptions of Gig & Crowd Work Vulnerabilities

Platform-based gig work offers a wide variety of services, ranging from online crowdwork [86] and freelancing [45] to on-demand rideshare [69] and delivery [19] to in-home care [62] and hospitality [59]. Despite such wide-ranging heterogeneity of service offerings, gig workers' health and well-being are similarly harmed by algorithmic management strategies [50, 56], including information asymmetries [70] that invisibilize harms and undocumented labor [60, 62, 86]. But such vulnerabilities and responsibilities of gig workers remain unobservable by consumers [40, 69] and the public at large [33, 46, 47] – impeding progress for civic engagement and regulatory advancement [44, 94]. Aggravating the situation, workers themselves also lack unifying digital organization structures to even understand how vulnerabilities permeate and vary across service domains [84], let alone build collectivism and solidarity [57, 73].

In fact, investigations from organizational science show evidence of how crowdwork platforms may (intentionally) engineer mechanisms to outsource managerial tasks, which perpetuate worker competition and isolation [34]. Such artificially generated (social and informational) isolation manufactures widespread and inaccurate perceptions (or *myths*) of platforms, which cause workers to expect un-negotiated accountabilities from platforms as a quasi-employer, including the assurance of sound transactions, prevention of abusive behaviours and arbitration during conflicts – all of which shape worker perceptions of platform fairness [32]. Pfeiffer and Kawalec [64] also found how unrealistic expectations produce perceptions of (organizational) injustice, along dimensions of planning insecurity (or precarity), lack of transparency in performance evaluations, unclear task briefings and low enumeration – which correlates with intrinsic crowdworker motivation to complete tasks of varying characteristics [29]. Cherry characterizes platforms' avoidance of accountabilities as "crowdwashing"[14], which motivates them to create such misnomers, while their underlying function in the gig economy is to facilitate the commodification of labor [79, 90].

2.2 Persuasion Techniques

Because LLMs often formulate their answers confidently and persuasively, even when incorrect [51, 71], they can shape people's reasoning processes. Alarmingly, incorrect AI explanations have been shown to convince people even more than correct ones [20]. These persuasive effects extend beyond factual reasoning, influencing people's political opinions [5, 6, 36, 37] and even durably reducing belief in conspiracy theories [15]. Similarly, LLMs can influence individuals' tendency to conform to a majority opinion, with the presence of an LLM in the majority group reducing the group size required for people to conform [22].

This persuasive strength is coupled with a known tendency to hallucinate inaccurate or fabricated information, raising concerns about the reliability of LLM-generated content. Therefore, we incorporate expert knowledge to reduce the risk of hallucinations impacting people's perceptions. Incorporating field-specific terminology in writing has been shown to make explanations more satisfying, even when it decreases their actual comprehensibility, as readers often assume that the technical language signals depth and accuracy [17]. This tendency raises the risk that persuasive but

inaccurate LLM-generated content could be perceived as credible simply because it uses domain-specific terminology. To mitigate this, we pair field-specific language with explicit references to accurate sources. This is in line with Kim et al. who found that including sources helps users to distinguish between correct and incorrect answers [53]. Inconsistencies hereby serve as reliability cues: when users notice inconsistencies, they are better able to calibrate their trust in the system. By using author-written rationales grounded in gig work literature, our design provides source-backed scaffolding that directs persuasive effects toward accurate content instead of well-written but incorrect language.

3 Method Overview

To collect participants' opinions on work-related myths and to investigate the effect of persuasion techniques on gig workers' myths, we designed a two-phase study in which participants interact with common myths about vulnerabilities in gig work. In Phase I, participants rate their agreement with each of five common misconstrued vulnerabilities encountered in gig work (hereafter referred to as 'myth'), which were presented as statements rather than labeled as myths to prevent bias. In Phase II, we invite people who agree with at least one of the myths to write a brief rationale explaining their view. We subsequently present them with a rationale based on the rationale type they are assigned. Afterwards, we ask them to re-rate their agreement and provide a new explanation for their response.

We conduct the study through a custom web interface, built using Next.js, a React framework[1]. Through the custom application, we had full control over assigning myths and rationale types.

3.1 Positionality

The authors are an international team based at two universities. Two of the authors have extensive experience in the gig work context, and have previously worked to center worker wellbeing in their research. They are also aware of how academic and media narratives can pressure us to emphasize and prioritize negative harmful consequences of platform-based labor on worker wellbeing. We have approached this study with the intent to balance such narratives while focusing on worker well-being. Our aims as researchers are to advocate for what we conceive as myths in the gig work context, while recognizing that these may not reflect every worker's lived experience. While we put well-being center, we do not adopt a savior complex in our academic inquiry. We remain cautious about assuming that techno-solutionist approaches can adequately address these vulnerabilities, and recognize that their uncritical use could risk exacerbating them. We also reflect on how our objective of changing workers' perceptions may affect their intrinsic motivations to engage in platform work, and consequently their financial stability, while being mindful not to discourage participants who rely on gig work as their primary source of income.

3.2 Myths

Drawing on literature on gig work to capture a broad range of myths about worker vulnerabilities commonly held by gig workers, the myths were constructed by two authors and refined in consultation with the broader research team. In the following, we outline how the existing literature informed our selection of five vulnerabilities that workers are exposed to across sectors, but may not yet have sufficiently entered the broader public consciousness.

Inequitable Pay (in short: Equal Pay): Low wages represent a central issue that historically drove workers to protest and unionize for improved treatment. In the case of platform-based gig work, algorithmic wage discrimination [8, 25, 30] further hinders workers from meeting earning goals with certainty. However, inexperienced workers are unlikely to

[1] https://nextjs.org/

learn such experiences of financial precarity ahead of time [12], making it crucial to bring the issue to the forefront of public discourse, so as to financially protect younger and first-time gig workers.

Health & Safety Hazards (Health & Safety): While the consequences of health and safety hazards in gig work are typically not as immediate or omni-present as wage discrimination, they can impose debilitating and compounding consequences. For physical services, workers on the road are constantly under risk of encountering accidents or (sexual) violence [78, 89], while caregivers continuously brave the dangers of entering strangers' homes [7]. Even for remote forms of crowd and freelance work, non-regulated hours and algorithmic management cause higher rates of physical strain [16], psychological stress [24, 82] and even morbidity [43]. Unlike traditional job environments, gig workers experience these hazards without safety nets such as health insurance, workers' compensation, training or on-site supervision.

Surveillance & Privacy Gap (Privacy): To enable algorithmic control, platforms rely on the extensive collection of workers' data, the majority of which is not manageable or even viewable by workers themselves. Such opaque data practices [41] make it difficult for workers to collect evidence against the invasive monitoring practices, which further limits non-workers from learning about them without personal experience. In physical work, the data includes movement, location and performance [88]; freelancers and crowdworkers experience lower-level digital monitoring through timed screenshots and keystroke captures [73]; home-based services are subject to surveillance through in-home cameras, or clients' in-person observations [1]. This constant and intrusive data capture allows algorithms to achieve managerial myth by selecting projects and clients on the worker's behalf [58, 63] – reducing worker agency and individual privacy.

Illusion of Flexibility (Flexibility): Platforms often advertise offerings of "flexible work arrangements" [28, 87]. However, an oversaturated labor pool enables them to create highly competitive environments where workers cannot afford to simultaneously earn a living wage and exercize these touted freedoms [57, 69, 93]. This generated precarity and minimized wages force workers to remain available for late and long hours [23, 66, 76], especially in digitally-mediated crowd and freelancing work. In the case of on-demand app workers, algorithms strip away drivers' rights to choose times for non-work activities (e.g., holidays, sports events) by limiting the time allotted to accept/decline a gig, forcing workers to forego the most basic necessities such as (bathroom) breaks [30].

Absent Labor Rights (Labor Rights): Underlying the above risks and vulnerabilities is an absence of collective bargaining power for gig workers, who are categorized as independent contractors [27]. This classification strips them of the standard employment status, which guarantee various protections and benefits, including minimum wage, workers' compensation, health insurance, nondiscrimination, among others [39, 44]. Moreover, this status also subjects them to following antitrust laws (designed to protect against monopolistic practices), which prevent them from unionizing and bargaining for such missing but necessary rights and protections [55, 80].

To understand workers' knowledge and perceptions of the aforementioned vulnerabilities, we present them with the following myths:

(1) Gig workers across platforms are currently free from monitoring and privacy intrusions during work hours.
(2) Gig workers across platforms currently have flexibility to make a living during hours that are convenient for them.
(3) Currently, any two platform-based workers who put in the same amount of labor and hours for the same task are compensated equally.
(4) Gig workers across platforms are currently protected from work-related compromizes to health and safety such as injuries, illnesses, mental health risks, physical strain, etc.

(5) Gig workers across platforms currently get to take advantage of typical labor rights such as collective bargaining rights, workers' compensation right, minimum wage, nondiscrimination, etc.

3.3 Study Context

We recruit Prolific workers as our participants, who are inherently gig workers, which allows us to study the vulnerabilities at scale. We intentionally framed the myths to be platform-agnostic, making them applicable to the crowdwork context while also inviting perspectives from participants who additionally work on other platforms.

The myths were piloted and iteratively refined to improve clarity by analysing participants' responses and identifying misinterpretations of the myths. We added a definition of gig workers and platforms to an information modal for participants to consult, ensuring they understand the terminology. We also added 'currently' to emphasize that the myths represent present conditions rather than ideal situations that should be pursued. In the piloting phase, participants consistently found the myths relevant to their work, confirming our suspicion that the platform-agnostic myths would resonate with their experiences.

3.3.1 Measures. The following measures are collected as part of the two phases:

- **Initial agreement**: Participants score their agreement with all five myths in Phase I on a scale from -50 (Strongly Disagree) to 50 (Strongly Agree), with 0 being neutral.
- **Participant rationale**: When participants are selected for Phase II, they write a rationale of at least 100 words for their agreement score on a myth they agreed with.
- **Participant example**: Participant rationales are accompanied by an example from experience to illustrate their view of at least 75 words.
- **Participant confidence**: Participants rate their confidence in their rationale on a scale from 0 to 100.
- **Final agreement**: Participants score their agreement with the selected myth in Phase II, after reading the rationale we present them with on a scale from -50 (Strongly Disagree) to 50 (Strongly Agree), with 0 being neutral.
- **Final participant rationale**: Participants write a rationale of at least 100 words for their final agreement score after reading the rationale we present them with.

After the study, we collect demographics and post-measures. For all participants, we record their age, gender, education, how long they have worked as gig worker, how much they rely on gig work for their income, if they have a traditional job, if they relate with the presented topics, whether the presented topics are relevant to their work situation, and how important it is that gig workers collectively bargain for policy improvements. Participants who are selected for the second part of the study are additionally asked to rate and elaborate on whether they relate to the presented rationale, how much they learned from the myths, and whether the tone of the presented rationale was appropriate.

4 Phase I: Vulnerability Ratings

4.1 Method

In the study procedure, approved by the Institutional Review Board at [anonymized for review] university, we first present participants with instructions and their rights and seek informed consent. Subsequently, they rate their agreement with all myths on a scale from -50 (Strongly Disagree) to 50 (Strongly Agree), with 0 being neutral. The myths are randomized to prevent any order effects from biasing the results.

We recruit participants on Prolific, offering compensation of $2 for Phase I and a bonus of $3.75 when they are selected for Phase II, with both compensations corresponding with an hourly payment of $15. We recruited only participants from the United States because the myths address vulnerabilities specific to the U.S. context, and such vulnerabilities can vary substantially across different countries and regions.

4.2 Results

We recruited 263 participants: 121 were female, 110 male, 1 agender, 1 non-binary, 1 transgender, and 2 preferred not to disclose their gender. The average age was 39.93 years (SD = 11.92) while highest completed education varied: Primary school (0.42%), Secondary school (29.24%), Bachelor's degree (47.46%), Master's degree (18.64%) and doctorate (4.24%). The participants' experience with gig work ranged from less than 3 months (2.97%), 3-6 months (4.66%), 6-12 months (16.95%), 1-2 years (23.31%), 2-5 years (24.15%), to 5 or more years (27.97%). For 43%, gig work was essential to their income, 49% non-essential, and 7.62% preferred not to disclose their income reliance. 49.57% of participants held another full-time job, 24.15% had another part-time job, 24.58% had no other job, and 1.69% did not disclose their job status.

Apart from Prolific, a majority of participants was active on other platforms (58.50%), including Amazon Mechanical Turk (24.57%), DoorDash (9.75%), Upwork (9.32%), Uber (8.05%), Fiverr (5.51%), Freelancer.com (2.54%), TaskRabbit (2.12%), Rover (1.69%), Lyft (0.85%), Grubhub (0.42%), and other self-specified platforms (20.80%).

Participants found the topics discussed in the myths relevant to their work (M = 5.39, SD = 1.87), confirming that the chosen myths reflect issues encountered by recruited participants. They also find it important that gig workers engage in collective bargaining (M = 5.48, SD = 1.79). Both measures were rated on a 7-point Likert scale.

Table 1 shows the means of the agreement values per myth, indicating that most participants agreed with the *Flexibility* myth. The myths about *Privacy* and *Equal Pay* show mixed responses. Lastly, the myths about *Health and Safety* and *Labor Rights* showed more disagreement than agreement.

Table 1. Counts of participants who agreed (agreement $\geq$ 0) or disagreed (agreement $<$ 0) per myth. Agreement ratings are reported as mean and standard deviation (SD) on a scale from -50 (Strongly Disagree) to 50 (Strongly Agree), with 0 being neutral.

Myth	**Agree**	**Disagree**	**Agreement**	
			Mean	SD
Privacy	136	100	-0.41	27.64
Flexibility	220	16	28.19	21.42
Equal Pay	103	133	-9.37	29.25
Health and Safety	74	162	-19.26	27.12
Labor Rights	84	152	-16.67	31.24
All	617	563	-3.50	17.48

Agreement was especially strong for the myths concerning *Privacy* and *Flexibility*. Even the least accepted myths, related to *Health and Safety* and *Labor Rights*, still received agreement from at least one third of participants. Overall, these findings indicate a lack of awareness regarding worker vulnerabilities. Most participants endorsed multiple myths (see Table 2 for the distribution of agreement), confirming that these are widespread among the sample. We examine the vulnerabilities in more depth in Phase II.

Table 2. Distribution of how many myths participants agreed with

Myths Agreed With	0	1	2	3	4	5
Frequency	9	43	70	54	28	32

5 Phase II: Understanding People's Initial Stances and Persuading People

5.1 Method

To map the perspectives of people who hold these myths and attempt to persuade them, we select participants who agree with at least one of the myths to write a rationale for their position on one of the myths. From the myths the participant agreed with, we select the least-represented myth in the data set. Participants subsequently write their rationale, accompanied by an example from their experience to illustrate their views and rate their confidence in their rationale on a scale from 0 to 100. We warn participants that the use of generative AI may lead to rejection of their submission and disable copying and pasting on the task pages to discourage people from generating their responses. Participants may opt out of Phase II and end the study.

5.1.1 Rationale Types. Participants are randomly assigned to one of the following rationale types, which determines the style of the rationale they are shown after providing their initial response:

(1) *Expert Knowledge*: Static rationale written by the authors based on scientific sources (see Appendix A.1 for the full author-written rationales).
(2) *Selected Expert Knowledge*: Prompts an LLM to select the arguments from the author-written rationale that are most relevant to the participant's rationale.
(3) *LLM Baseline*: Prompts an LLM to respond to the user's rationale.
(4) *LLM Persuasive*: Builds on the LLM Baseline rationale type but adds instructions to the LLM prompt to phrase the response in a persuasive manner.
(5) *Expert Persuasive*: Builds on the Selected Expert Knowledge rationale type but adds instructions to the LLM prompt to phrase the response in a persuasive manner.
(6) *Combined*: The combined rationale type instructs the LLM to combine the expert knowledge from the author-written rationale with additional arguments, and incorporates both the LLM selection and persuasive layers.

The rationale types follow a layered design with expert knowledge, LLM selection, and persuasive prompting added per layer (see Figure 1 for an overview of the rationale types).

Expert Knowledge: An author-written based on related literature on gig work. The rationales provide evidence against the myths based on prior literature on gig work. The Expert Knowledge presents this text verbatim as the rationale, while it is added as input to the prompts in the Selected Expert, Expert Persuasive, and Combined rationale types.

LLM Selection: All LLM rationale types are personalized to participants' written rationales from Phase I.

Persuasive LLM Prompt: The second layer of the research design is the persuasiveness of LLMs. These adaptations to the prompt are based on Costello et al. [15], and instruct the LLM to use all persuasive tools to its disposal to formulate a convincing rationale. For the full prompts, see Appendix A.2.

The LLM-generated rationales (all rationale types except Expert Knowledge) were generated live after participants had written their rationale. They were generated using GPT-4o (model: gpt-4o-2024-05-13).

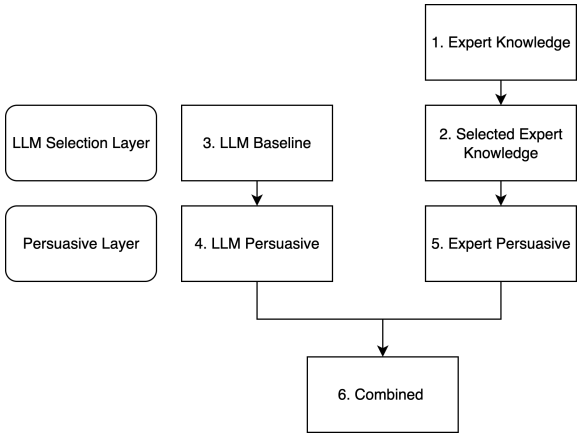

Fig. 1. A flowchart of the layered condition design, adding LLM selection of arguments to best match the user's rationale and instructions to be particularly persuasive. The combined rationale type instructs the LLM to combine expert knowledge with additional arguments, and additionally incorporates both the LLM selection and persuasive layers. All rationales except for those in the Expert Knowledge rationale type are LLM-generated.

5.1.2 Thematic Analysis. In Phase I, we conduct a focused thematic analysis [11] of participants' initial rationales to explore the reasons behind their agreement ratings and to uncover why they believed in the myths. Two of the authors first conducted open coding of the data to gain an initial understanding and to discuss potential themes. Building on this, one author carried out a fine-grained analysis of all rationales, defining codes for common ideas per myth and then combining these codes into broader themes across the dataset. These themes were subsequently reviewed and verified in discussion with the team to ensure consistency and shared interpretation.

The analysis of reconsidered rationales in Phase II followed a similar approach, except following a more comprehensive lens that explored (1) initial participant rationales, (2) presented rationales, and (3) reconsidered participant rationales all together – relating these to participants' quantitative initial and final agreement scores to understand what led to changes or maintenance of their original stance.

5.2 Quantitative Results

5.2.1 Participant Selection. Participants who agreed with at least one myth were invited to take part in Phase II. We conducted an analysis using G*Power to determine the study's required power for the intended model [31]. We used medium-to-large effect sizes ($f^2 = 0.15$), an alpha level of 0.05, and a power of 0.8 for the 35 intended predictors in the model, resulting in a sample size of 201. To balance rationale types, we recruited until 204 participants had partaken in Phase II (34 per rationale type).

Participants were evenly spread across rationale types. From the myths they agreed with, they were assigned the one least represented in the sample. As a result, the distribution of participants across myths is not perfectly even, but this procedure ensured the most balanced allocation possible given participants' responses (see Figure 3 for an overview of the distribution).

Participants were highly confident in their written rationales ($M = 81.80$, $SD = 19.64$, on a scale from 0 to 100), suggesting that they felt knowledgeable about the presented myths. Table 4 shows the specific post measures for participants invited to partake in Phase II (all rated on a 7-point scale). The Expert Knowledge and Expert Persuasive

Table 3. Number of participants assigned to each myth in Phase II.

Privacy	Flexibility	Equal Pay	Health and Safety	Labor Rights
49	47	34	36	38

rationale types were perceived as less appropriate in tone and participants related less to these rationales. Participant learned most from the LLM Persuasive rationale type and least from the Expert Persuasive rationale type. All these differences were not significant, as tested through Tukey-adjusted pairwise comparisons.

Table 4. Participant ratings for the appropriateness of the presented rationale's tone, how much they learned about the vulnerabilities, and how much they relate with the presented rationale across rationale types and overall.

	Tone		Learned about vulnerabilities		Relate with rationale	
Rationale Type	Mean	SD	Mean	SD	Mean	SD
Expert Knowledge	5.57	1.67	5.03	1.67	4.80	1.88
Selected Expert Knowledge	6.27	0.84	4.97	1.93	5.33	1.74
LLM Baseline	6.32	1.25	5.06	2.06	5.21	1.86
LLM Persuasive	6.18	1.11	5.35	1.43	5.15	1.96
Expert Persuasive	5.56	1.94	4.82	1.85	4.38	2.20
Combined	6.24	1.16	5.12	1.53	5.35	1.57
All	6.02	1.40	5.06	1.74	5.03	1.89

5.2.2 Agreement Change. Participants showed a substantial overall agreement change ($M = -23.13$, $SD = 28.36$, on a scale from -50 (Strongly Disagree) to 50 (Strongly Agree), with 0 being neutral). As illustrated in Figure 2, agreement change scores were similar across rationale types. After reading the rationale, 92 participants (45%) shifted to disagreement in Phase II, 55 (27%) lowered their agreement, 28 (14%) increased their agreement, and 29 (14%) did not change. Figure 3 presents the switch rate per rationale type.

5.2.3 Model Evaluation. To better understand agreement changes, we model the data through a linear model predicting participants' final agreement. We started our model construction with a total of 35 possible predictors and conducted model selection through incremental removal of variables based on their predictive power and Akaike information criterion (AIC). The main removal is the interaction effect between rationale type and myth, which did not yield any significant results. Its removal resulted in a model with a lower AIC score and thus a better model fit. Our final model is the following:

$$\begin{aligned}\text{Final Agreement} \sim\ & \text{Initial Agreement} + \text{Rationale Type} + \\ & \text{Myth} + \text{Gender} + \text{User Confidence} + \\ & \text{Rationale Tone} + \text{Learned from Rationale} + \\ & \text{Relate with Rationale} + \text{Myth Relevance} + \text{Collective Bargain}\end{aligned}$$

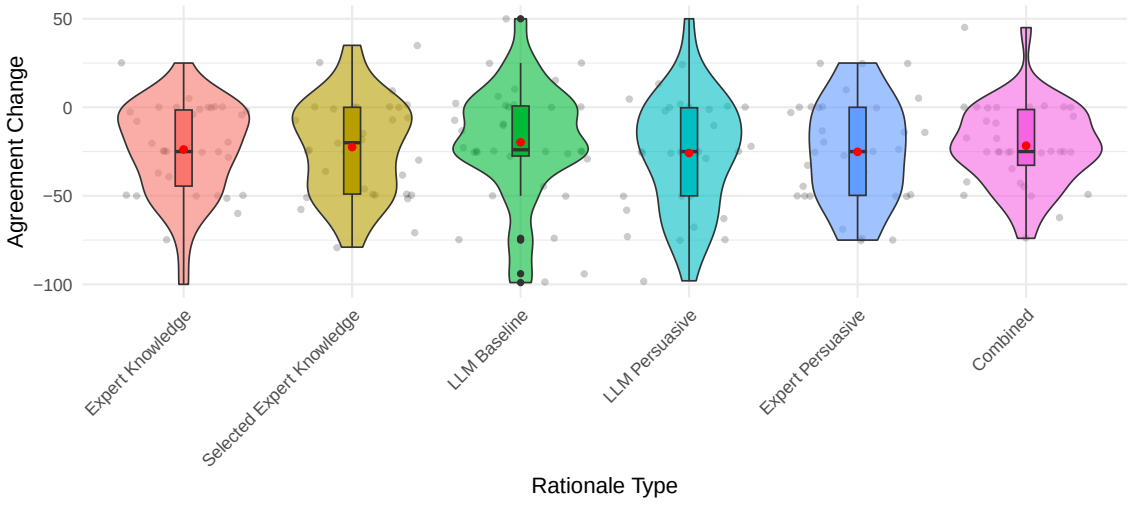

Fig. 2. Agreement change (agreement in Phase II - agreement in Phase I), outlined per rationale type.

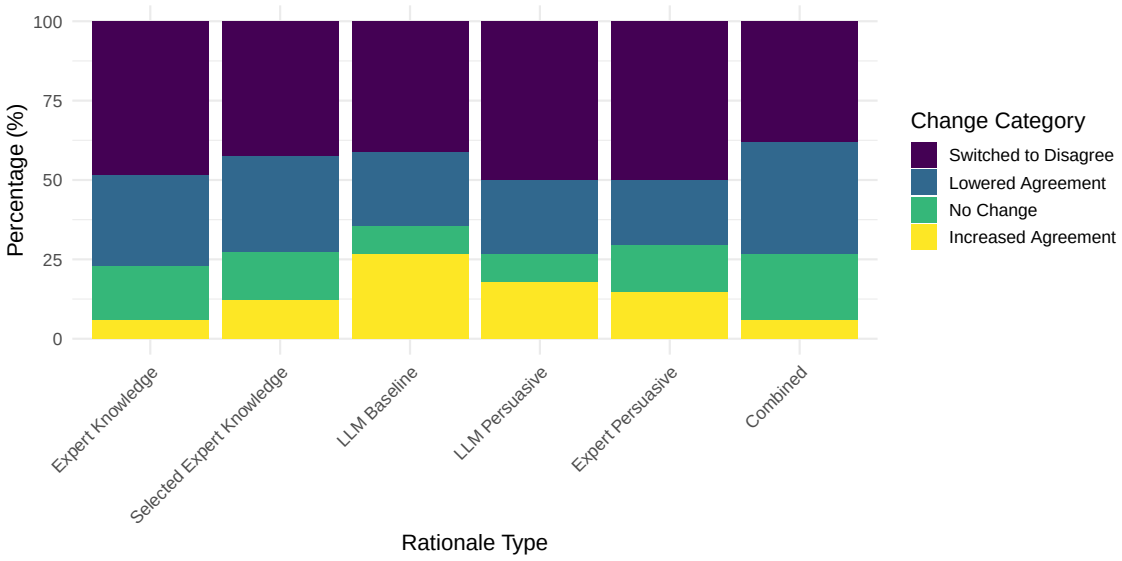

Fig. 3. Switch rate by rationale type. Switched to disagree means that people agreed in Phase I but disagreed in Phase II. Lowered agreement means they lowered their final agreement in Phase I but did not switch to a negative agreement.

A comparison with the null model using an F-test showed that the full model provides a significantly better fit than the null model ($F(19, 184) = 7.64$, $p < .001$), explaining 44.1% of the variance in final agreement ($R^2 = 0.44$, adjusted $R^2 = 0.38$). We assessed the multicollinearity between the model's parameters and found variance inflation factors (VIF) ranging from 0.02 to 1.32, which is well below the commonly used multicollinearity threshold of five to ten [38].

The overview of the model results is presented in Table 5. Participants who initially agreed more strongly also tended to maintain higher final agreement. Participants who believed they learned from the rationale or perceived the myth as relevant showed lower final agreement, leading to more disagreement with the myth. Similarly, recognizing the need for collective bargaining predicted significantly lower agreement.

Compared to Privacy, the model showed significantly higher agreement for the Flexibility myth ($\beta = 19.64$, $SE = 5.51$, $t(184) = 3.56$, $p = 0.004$). Tukey-adjusted pairwise comparisons confirmed this pattern: Flexibility yielded significantly higher agreement scores than Privacy ($\beta = 19.64$, $SE = 5.51$, $p = 0.004$), Equal Pay ($\beta = 19.52$, $SE = 5.78$, $p = 0.008$), Health and Safety ($\beta = 21.65$, $SE = 5.76$, $p = 0.002$), and Labor Rights ($\beta = 20.82$, $SE = 5.65$, $p = 0.003$). No other pairwise differences were significant (all $p > 0.99$).

The different rationale types were not significant (all $p > 0.43$), confirming that there is no significant difference in effect of rationale type on the agreement scores. The model results indicate that male participants reported slightly higher agreement than females. Tukey-adjusted pairwise comparisons did not confirm differences between genders (all $p > 0.19$).

Table 5. Results for the linear model predicting participants' final agreement in Phase II. The model uses 'Expert Knowledge' as reference level for Rationale Type, Privacy for Myth, and Female for Gender.

Predictor	**Estimate**	**Std. Error**	***t*-ratio**	***p*-value**	
Initial agreement	0.48	0.11	4.53	< 0.001	***
Rationale Type					
Selected Expert Knowledge	-0.04	6.02	-0.01	0.995	
LLM Baseline	2.69	5.99	0.45	0.654	
LLM Persuasive	-0.56	5.99	-0.09	0.925	
Expert Persuasive	-4.69	5.90	-0.80	0.427	
Combined	3.23	5.99	0.54	0.591	
Myth					
Flexibility	19.64	5.51	3.56	< 0.001	***
Equal Pay	0.12	5.54	0.02	0.982	
Health and Safety	-2.01	5.46	-0.37	0.714	
Labor Rights	-1.18	5.35	-0.22	0.826	
Gender					
Male	6.99	3.47	2.02	0.045	*
Prefer not to say	-12.45	18.14	-0.69	0.493	
Prefer to self-describe	-19.92	17.53	-1.14	0.257	
User confidence	0.15	0.09	1.64	0.102	
Rationale tone	-0.35	1.42	-0.25	0.803	
Learned from rationale	-3.70	1.11	-3.34	0.001	**
Relate with rationale	-0.43	1.17	-0.36	0.716	
Myth Relevance	2.54	1.05	2.41	0.017	*
Need for collective bargaining	-3.58	1.08	-3.32	0.001	**

$^{***}p < 0.001$; $^{**}p < 0.01$; $^{*}p < 0.05$

5.3 Qualitative Analysis of Initial Participant Rationales

Next, we present the results of our thematic analysis, divided by theme across the myths. We provide a data set of all participant rationales in the supplementary material, which has been verified to contain no identifiable information.

5.3.1 Platform-Dependent Opinions. Participants describe how vulnerabilities differ greatly by platform and task.

Reduced Risks of Working at Home. For example, many perceived that workers are more vulnerable outside of their home, leading to risks to physical health, dangerous encounters with strangers, and mental health problems. As an example, P135 shared in a response to a rationale around the *Health and Safety* myth:"*At home gig workers don't have to worry about being outside in bad weather, increased car accident risks, physical strain from lifting heavy items, and so forth. In addition, home gig workers don't have the same level of stress and possible mental health risks as outside gig workers.*" (P135). P155 corroborated this stance, noting how work from home alleviates *Health and Safety* risks and reduces *Privacy* vulnerabilities, making taskers on crowdwork and freelancing platforms relatively less exposed:

> "*Since you're at home, you don't have any risk of injury or emotional distress. At least none related to the work itself. You could obviously hurt yourself doing something at home or get into an argument which would hurt your emotional health, but it has nothing to do with the work. This isn't like the risks to your physical and emotional heatlh that exist when you have to go out of the house for work.*"

Meanwhile, others like P139 acknowledged how working from home carries its own vulnerabilities, including work-life balance and mental health risks: "*Working from home can be very demanding and challenging. You do not have the freedom of being able to focus solely on your job as you would when in the regular workforce. You have to balance both your gig work, as well as managing your personal life at the same time.*" P138 especially emphasized the mentally harmful potentials of crowdwork they completed at home: "*Some of the studies contain sensitive content about abuse, destruction and traumatic injuries. The nature of these studies makes them mentally challenging to deal with. I often think about them afterwards , especially if they are especially traumatic.*"

But when compared to delivery work, P154 finds Prolific to offer superior regulation that protect *Labor Rights*:

> "*My experience on Prolific has been significantly better than my experience delivering for Uber Eats. I cannot think of a single Prolific study that has not given me a comprehensive consent form outlining any risks or disturbances that I may come across during a study, but in the short couple of months that I have delivered for Uber Eats, I have frequently come across creepy or rude customers that Uber does nothing to combat.*"

Work Availability. The amount of available work constitutes another platform-factor that impacts *Flexibility*. Participants reported factors such as the need to book time slots for work, or platforms penalizing workers for not working during surge hours – factors which lead to the 'fear of missing out' on good work opportunities and subsequently diminishing their sense of flexibility.

> "*Some platforms always have work for you, such as DoorDash and UberEats. Some platforms, like Scale AI/Outlier are horrible and they will have no work for months on end while lying to you about the availability of projects. However, in all cases, you never know when there will be work and, when you see work available, you have a tendency to jump on it, for fear of missing out.*" (P62)

Even for the same task on different platforms, work conditions can vary. In a response to the *Equal Pay* vulnerability, P121 shared "*There are times when I have seen different platforms that have offered a gig that had a particular amount*

of labor and hours but there were differences in the compensation for these gigs depending on the platform." Beyond pay, worker *Health and Safety* protections also vary by task, platform and location.

> "*Protection for gig workers vary depending in the country, the platform and the type of work. Some platforms have introduced basic safety policies but many still fall short. For example, bolt may offer in app emergency assistant for drivers, while other platforms might not offer anything at all. This inconsistency makes it difficult to say whether gig worker are fully protected* (P166)

5.3.2 Trust in Platforms. Participants showed strong trust in platforms to address the vulnerabilities, and many did not recognize disparities in payment among workers. Such myths around pay equity often reinforced worker confidence in the platform:

> "*Any platform-based worker will be paid the same amount. The payments are not modified for individual workers. The payment does not change based on any characteristics of the workers. Platform-based workers can be confident that their pay does not differ from the pay of any other worker. This engenders confidence in the platform.*" (P99)

Many reported trusting crowdwork platforms to protect their privacy, and several specifically viewed Prolific as having strong privacy protections. This overall positive stance explains the higher number of positive responses to the *Privacy* myth (see Table 1 for all agreement scores). In contrast, privacy violations by ride-sharing platforms were pointed out as crucial reasons for distrust. The neutral average agreement score for the *Privacy* myth reflects the divided opinions, with strong disagreement from the minority who disagreed with the myth lowering the overall average.

"*My platform takes extreme measures to protect the privacy of my information and informs all of its participants that studies are not permitted to request or ask for personal information prior to beginning the study and throughout the study while it is being conducted online.* " (P36)

In terms of worker rights, several participants felt that gig workers are protected, but were generally not able articulate the mechanisms that they felt protected by. The higher rate of disagreement on the *Labor Rights* myth indicates that most people are aware of this vulnerability. However, positive developments around workers' rights in certain states lead many participants to believe they are protected, despite a lack of knowledge of the exact rights per state.

5.3.3 Comparison to Traditional Jobs. Participants appreciate the *Flexibility* to choose their own hours and work from home, and compare this to working for a boss in a traditional work environment. They generally do not view sharing their data as a privacy violation, as it is preferable to real-time human supervision.

> "*Gig workers unlike employees in conventional jobs operate independently and have the flexibility to choose when, where and how much they work. They are not required to check in with a manager, follow rigid schedules or work under direct monitoring. This autonomy allows them a greater sense of personal privacy and freedom. While some data is collected by platforms, it typically does not involve real time human supervision or invasive over sight.*" (P43)

Some recognize how total *Flexibility* is not always possible, as the availability of work differs based on surge hours, making their schedule more comparable to a regular job. P69 relates how "*... work availab[ility] is extremely variable, pretty much across all platforms, so you really have to be available at the right times to maximize your earnings. ... on the surface yes there is more flexibility, [yet] gig work is still beholden to a 'normal' schedule more so than many people think.*"

Regarding abilities to make living wages, participants were divided on whether gig work can yield the equivalent of a more traditional salary. Many stated that it is best used to supplement a main income source and may be hard to maintain as a full-time occupation, such as in a response to the *Flexibility* myth:

> "*There is a more playing field to have flexibility and work gig jobs if you are motivated . . . and are willing to go the extra mile there is money to be made with these types of platforms. With that though, I would not go as far to say you should depend on this to pay your monthly bills.*" (P50)

5.3.4 Worker Independence. Several participants noted how gig workers desire to maintain their independence and ask the government to facilitate this via *Labor Rights* legislation rather than through private corporations:

> "*What is important to understand however, is that the real war is not between gig workers and the companies, but rather* ***a cultural battle from a portion of our society that cannot stand the idea of people working for themselves****. A good gig worker chooses to be responsible for themselves and take the risks and the gamble. That's why we do the job. Most of us, absolutely do not want to be considered an employee. Therefor, it is better that our government, whom we pay with taxes, do their job to protect our rights. It is for a more ethical society, that the government makes this it's primary concern, rather than continuing to attempt to farm out labor rights to private organizations.*" (P192)

Part of this independence stems from having the freedom to reject tasks when they compromise their health and safety or when they are available at an inconvenient time. Workers claim they are not subject to the vulnerabilities presented in the myths because they can always choose to reject jobs that potentially violate their *Labor Rights*:

> "*gig workers can pick and choose which job we want to take on. So if we do not like the pay of one task, we can choose to either skip it and move on, or save it for another time if things are going slower. . . . since we are gig workers, we can work by ourselves and alone, so we do not need to worry about labor rights such as collective bargaining rights. Also since these studies on here are prescreened, we do not need to be worried about getting discrimination tasks.*" (P181)

This strong perception of work flexibility explains the almost unanimous agreement with the myth on *Flexibility* (see Table 1). Participants consistently identified flexibility as the primary benefit of their work and noted how they leveraged it to mitigate other vulnerabilities. However, some emphasized how such choices are not available to everyone, as vulnerable groups often lack the luxury of refusing jobs that pay poorly or violate their rights:"*Individuals disadvantaged with a lower skillset, lack of education, disabilities, etc. are more likely to be compliant with these unfair labor practices. This can be due to desperation or even lack of knowledge regarding rights.*" (P196)

5.4 Qualitative Analysis of Reconsidered Participant Rationales

Through reading the rationales, participants changed their opinions on the vulnerabilities or objected to our rationales. We discuss these through six themes.

5.4.1 Rationales as Persuasive Authority. Participants generally perceived the rationales as a persuasive authority that was impactful in lowering their agreement with the myths. Most people provided their reconsidered opinion without explicitly mentioning the rationale. Others referred back to it directly with phrases such as: "As mentioned in the article", often referring to the rationale as an "article". Several people attributed the rationale to a person, researcher, or expert, while only a few people explicitly referred to the rationales as having been generated by an LLM.

Participants described several ways in which the rationales influenced them, including by providing new factual information, reinforcing existing knowledge, prompting reflection on their opinions, or connecting the rationale to other articles they had read. Many explicitly cited the rationale as a direct influence on their agreement change:

> "*The info presented in the article was what changed my mind in how to answer the question when it was asked again. I am glad to have read the information. I feel bad for the people who have to work in homes and are monitored.*" (P44)

The rationales were often described as well-articulated, with the inclusion of references enhancing their perceived authority. Participants emphasized that the referenced articles provided new information from credible sources that they described as eye-opening:

> " *After reading the document, it was obvious I was wrong. [...] I was blinded by my biases. I am somewhat embarrassed by this. The document was an eye-opener. Quoting studies would let me check the sources and raises my confidence in the document's conclusions. [...] I am surprised at the result, obviously, since it changed my opinion so much.*" (P123)

5.4.2 Availability of Work. The variation in availability of work depends on various factors such as region, surge hours, demographics, and the experience of the worker. This realisation changed people's minds on different topics. Arguments about how surge hours affect work availability and limit workers' options to choose their own schedule led people to lower their agreement on the myth concerning *Flexibility*:

> "*Not only is gig work less available during times that are generally considered 'off hours', but algorithms do appear to favor those who put in more work for these platforms during certain times of day, so in practice that does limit the actual times during which a gig worker can really earn money. Since gig workers are more likely to struggle financially, this puts additional pressure on them.*" (P58)

P83 realized from the presented rationale that workers do not always have a *Flexible* schedule due to platform incentives to work specific hours, and realized they have adjusted their work because of these pressures:

> "*While I still think gig work offers some flexibility, I now see more clearly how much it's shaped my demand, algorithms, and competition. Yes, I can choose when to log in, but to earn enough, I often need to work during the peak times. However, these external pressures often push me to work at inconvenient times. Lack of information influences how and when I work. This reduces real flexibility. Even if I can choose my hours, earning more money requires me to work when the platform's demand is high.*" (P83)

Similarly, P55 describes a realisation held by several participants after reading a rationale on *Flexibility*: that the variable availability of work negatively impacts their work-life balance:

> "*Choosing to not work during hours that are provide comes at a cost to income that drives either going without the income needed in life, or structuring life in ways that requires less need for monetary exchange. Having enough or ample income allows for more choices in life, and having limited income provides much less choice in life. So the gig work becomes a bit of a catch 22. If you make yourself endlessly available, you may make enough money but you don't have the benefits an employee has. If you work only on your own terms, you may not make enough money to be comfortable in life.* (P55)

5.4.3 Worker Independence. Participants used the argument of maintaining worker independence as a response to rationales for multiple vulnerabilities. Most prominently, it was raised in response to the rationales on *Flexibility*, claiming that the option to work during hours they want is always an option:

> "*No one is being forced to work at a certain time, or day, with the risk of losing their job/being fired, like a traditional job. Gig platforms allow workers to pick their schedules around personal responsibilities, like school. While earnings may not always be consistent and could depend on the time of day, the OPTION to work at whatever time works for the worker is used by many people. So, gig work can't guarantee financial stability, but it can provide control over work hours.*" (P52)

It was also brought up in response to arguments regarding *Health and Safety*, indicating that people can opt to reject jobs that act as stressors, or quit the gig economy altogether:

> "*If someone is experiencing these stressors [...], they should find a different job or type of work to do. Life is about choices and no one is forcing them to be part of the gig economy so while this might be true for some, people are often quick to complain and lash out when they do not make good choices for themselves. I think people should take more responsibility and choose better for themselves, even if it means they have less money in the long run.*" (P144)

On *Equal Pay*, participants express similar sentiments, noting that workers can reject low-paying jobs. Even participants who changed their views on the existence of equal pay after reading the presented rationale still held to this logic.

> "*Based on the article that I just read, my viewpoint is now upside down, but I am still indifferent to it. This is easy money and I frankly cannot be bothered to care that wages are set by an algorithm. If I don't like the looks of the deal (work for money) then I wont click through.*" (128)

Similarly, P15 agreed with the presented rationale on the *Privacy* vulnerability but still posits that it is a worker's own decision to subject themselves to privacy risks.

> "*The downloaded software, camera and microphone access, and screen recording are all of the biggest concerns I have regarding my own safety and privacy intrusion when it comes to gig work in a work from home setting. There is no oversight for these regulations and no "management" to oversee the software and requirements, so it is up to me to make sure I am defending my own privacy and computer safety when I am evaluating if I am comfortable with any given task or assignment*" (P15)

Workers expressed concerns on *Labor Rights*, stating that they did not wish to be classified as workers, and viewed improved labor rights as incompatible with their status as independent worker.

> *AS I stated, we do not want these mandated. Most of us WANT to be independent contractors, and NOT classified as a worker. We do not have any problems with getting to choose what work we do, who we do it for, and when we do it. As I said all my life, "I need no master.""* (P192)

5.4.4 Own Experience Clashes with Rationale. Participants push back on the rationales based on their own experiences. For example, many did not recognize the lack of *Flexibility*, as they had not encountered it on the platforms they used, and they doubted that other platforms enforced restrictions strict enough to prevent even basic breaks.

> "*It's pretty facile to suggest that being able to work when you want to doesn't mean you take on risks during the day, or that you don't need to provide yourself things such as breaks. [...] These platforms do seem to be at least somewhat flexible. I haven't run into or read of too many that are all that rigid.*" (P50)

Furthermore, participants reiterated the view, introduced in Section 5.3.3, that they do not regard gig work as a full-time occupation, as an explanation for their oversight on *Flexibility*.

Similarly, when presented with vulnerabilities related to *Equal Pay*, many participants did not perceive these issues on the platforms they used. For example, P127 acknowledged the vulnerabilities brought forward through the referenced articles, but did not recognize them in their daily practice and were unsure what to believe:

> "*The article that I just read did provide a lot of footnotes that helped cite their position on why gig workers are actually not compensated equally across platforms. I am not sure what my position is now as I still want to say that at least between Prolific and CloudConnect that everyone is compensated equally at least based upon my own experiences with both platforms.*" (P127)

On *Labor Rights*, participants objected to the rationales describing discrimination, as they did not face it in their work, foregoing the experiences of vulnerable groups:

> "*I stand out at my position as I did not face any discrimination base on my race, gender or anything. I have a right to accept the task or not. If I satisfied with the wage I accept the task and put my best efforts to accomplish this. The person who assign a task take care of me and never face any issue regarding compensation.*" (P170)

Others had not considered these vulnerabilities in their initial rationales, but through reflection on our rationales came to accept that such issues exist for other workers. This added to the group already aware of the more limited freedom of choice faced by vulnerable groups, as discussed in Section 5.3.4. The following quotes illustrate this shift in awareness:

> *I was not aware that the algorithms used took sex and race into account. I also neglected to consider time-of-day work as well. I was blinded by my biases. I am somewhat embarrassed by this. The document was an eye-opener. Quoting studies would let me check the sources and raises my confidence in the document's conclusions. I am now of the opinion that these gig companies are racist, sexist and probably sexually biased as well.*" (P123)

Regarding *Health and Safety*, several participants acknowledged that even at home, workers are subject to mental health risks. While a few raised this point in the initial rationales (5.3.1), most focused primarily on physical health risks and viewed at-home workers as less vulnerable to these.

> "*I would agree that there really is a potential mental health risk while doing online gig work, especially as it relates to anxiety over income being unsteady. While I haven't experienced it, it seems reasonable to me that people can be affected physically by ergonomics, by being in the same position for lengthy periods of time, and not having access to any type of insurance or security.*" (P134)

5.4.5 Worker Protections. Access to *Health and Safety* protections and *Labor Rights* varies per platform and state, which causes confusion in workers. Some are certain that their platform offers worker protection, but cannot articulate which exactly:

> "*Gig workers may be able to take advantage of these labor rights but I am not sure which ones. I know that on some platforms they are able to create their own wage, even if that may be below minimum wage. Some*

> *are forced to sign release forms so that if they're injured they are not able to collect workers' compensation, and must go through their own insurance. [...] I am sure some platforms do well at ensuring labor rights are used.*" (P169)

The fact that participants remain positive about worker protection on their platform after being presented with rationales that expose the vulnerabilities shows that there is a deeply rooted trust in the platforms they operate on. Others note that while worker protections exist, these vary per platform, and access is not guaranteed.

> "*Some gig workers do always have access to certain safety measures like in-app emergency buttons, an optional accident insurance, or basic guidelines to reduce strain, but these are not always easy to access or guaranteed. In many cases, it's found protections feels more like suggestions than solid support. [...] Plus, since most of the gig workers are mostly classified as independent contractors, they dont get legal protection or benefitd that regular employees do.*"(P152)

Trust in platforms to facilitate worker protections stems from positive developments that instil trust in workers, even when they agree that protections currently are not uniform:

> "*Although protection for gig workers are not uniform, there has been noticeable progress across some platforms. Certain companies have introduced safety features, limited health benefits or access to mental health resources. However, these protections are often inconsistent and vary by region, type of gig work, or employer. While some workers may receive coverage for injuries or illness, many still face physical and mental health risks without adequate support. The lack of standardized labor protection makes gig work more vulnerable. But efforts by some platforms to improve safety and well being show a move to the right direction.*" (P151)

These positive developments are also evident in responses to the rationales on *Labor Rights*, with many participants noting that they had read about legislation in specific states but were unsure how widespread such laws are.:

> "*I was correct that California has changed some rules regarding independent contractors, but not enough to where they would be considered or have the same rights as full-time employees. I also didn't realize how limited gig workers/independent contractors were limited to protections under labor laws. This is actually quite concerning to be honest. And I am kind of embarrassed that I didn't know about these labor laws that the United States currently have.*" (P195)

This resilience in trust in the platforms to uphold worker rights is exemplified by P176, who still expressed slight agreement with the myth on *Labor Rights*, even after outlining that millions of workers lack access to these rights and recounting their experience of being deactivated:

> "*The more that I think about it, the lack of labor rights' in several areas despite a minimum wage being enacted in some settings, is not even close to the amount of progress that needs to be dedicated to this issue. I have still some slight agreement because attention has been placed on these issues and changes have been made, but there are still millions of workers that do not get the benefits of being designated a different type of employee from the business' perspective. I know this personally as I have been deactivated from apps for no reason, received far less than minimum wage, etc.*" (P176)

Many were convinced by the arguments in the rationale on *Labor Rights* about the classification of gig workers as independent contractors, lacking the same rights as other workers. However, several of them were still optimistic about the rise of grassroots movements, even though they lack legal standing:

> "*I do understand that the classification of gig workers as independent contractors is extremely problematic, as it is one of the primary reasons for the lack of formal unionization and the limitations faced by labor rights groups surrounding gig work. While I do still see significant benefit to the unrecognized, loosely-organized unions created by gig workers, I also think that it is important to note that these groups lack the legal standing, binding power, and protections (such as anti-retaliation) afforded to traditional unions in legitimate collective bargaining.*" (P179)

Similarly, online sources for sharing worker experiences, such as Reddit and blogs, were mentioned as incentives that protect workers by publicly calling out platforms for bad practices.

> "*On sites like reddit and blogs all over, people are free to share their opinions and experiences and anyone else can read it. This does force companies to uphold some level of satisfactory polices and pay for the workers as if they abuse them they will publicly complain and everyone will leave them.*" (P180)

5.4.6 Desire for Further Platform Transparency. After reading our rationales, participants highlighted the need for platform transparency surrounding the vulnerabilities. For example, concerning the *Privacy* vulnerability, participants who lowered their agreement mentioned they were unsure what data is collected through their platforms and how it is processed.

> "*Physical monitoring might be crucial for some platforms such as DoorDash and Uber for the customers safety or for them to be able to track their food or travel. What is more important is what is being done with that data once the work is done, is it being stored? sold to third parties? or is ir it being deleted? It is important that these platforms clarify exactly what is being monitored, what is being collected, for what purpose and what is being done with that data afterwards.*" (P18)

Similarly, they lack information on how algorithms are used to determine the availability and payment of jobs. On *Equal Pay*, the following participant commented:

> "*I am not longer sure that workers on gig platform are paid the same. I have no idea what algorithms are being used or not. They might pay old people less, or young people less. They might choose to pay less late at night or early in the morning. [...] I would hope that they would pay fairly the same across the board but I guess I can't be sure.*" (P100)

Due to the lack of transparency, platforms such as Reddit are valuable spaces for learning from others' gig work experience and gaining a better understanding of *Fair Pay*, which underscores the value of grassroots movements that enable workers to share their experiences.

> "*Experience with Doordash will make you more aware of what you should and shouldn't take. Low paying orders are appealing until you know what you're going to be offered, and that you can refuse orders. However, not everyone knows that, and often will take $2.25 per order until someone tells them to wait for larger ones. I myself didn't know until I went on the r/DoordashDrivers Reddit page.*" (P106)

6 Discussion

In this crowdsourced study, we examined how Prolific workers reflect on common myths about gig work vulnerabilities and how their beliefs change when presented with one of six types of counter-rationales. Addressing **RQ1**, '*How do crowdworkers perceive, recognize and understand vulnerabilities in platform-based work?*', our analysis of participants' rationales revealed platform-dependent factors that motivated them to (continue) work in platform-based gigs. Many

were hesitant to relate the rationales to their own circumstances — taking a "It hasn't affected me" approach that we increasingly observe in user responses to disruptive technologies [52, 74] — even when the vulnerabilities also apply to them (e.g., at-home workers dismissing health-related risks). Participants also exhibited general unawareness of existing worker protections and labor rights available to them. Many workers expressed a desire to remain independent, indicating how they can simply reject jobs that infringe upon their rights. Answering **RQ2**, '*To what extent can these perceptions transform through exposure to persuasive interventions, including LLM personalisation and expert-curated and LLM-generated rationales?*', we find that participants often treated the rationales as authoritative. This was especially true when the rationales included references to credible sources, which in turn shifted their perspectives. One of the strongest shifts occurred on the myth of worker rights, as many participants expressed surprise after reading that recent labor rights advancements in certain states (e.g., Minneapolis and New York) are not consistent nationwide. Similarly, outlining how work is not always available at the desired time or price made people reconsider on *Flexibility* and *Equal Pay*. Overall, *Flexibility* showed the smallest change in agreement, as many participants continued to view gig work as flexible due to the independence it affords them.

We contextualize these findings within existing research on digital persuasion techniques and provide recommendations for enhancing workers' awareness of their vulnerabilities.

6.1 Differences between Persuasion Techniques

We aimed to combine the persuasive potential of LLMs with expert knowledge by providing author-written rationales grounded in gig work literature as input. We pursued this approach for two reasons: (1) to reduce hallucinations by constraining the LLM's knowledge space, and (2) to leverage the perceived authority of both LLMs and institutional expertise. Qualitative responses indicate that participants perceived both the LLM and the expert source as authoritative. However, we did not observe a measurable difference in persuasive strength between the Expert Knowledge and LLM rationale types. Given the non-significant effect of the Combined rationale type, we did not find any additive benefit to combining the two in this study.

Comparing our work to recent research on political persuasion [15, 36], our approach relied on presenting static rationales as compared to multi-turn interactions with LLMs. We argue that this approach better reflects how gig workers may encounter policy-related arguments in real-world settings, such as government websites or forums like Reddit. However, this choice may simultaneously limit the persuasive strength of our intervention as compared to these prior works. In particular, the personalized aspect was sometimes weaker: although the LLM-generated responses were based on participants' initial rationales, they were not always directly applicable to their individual situations. In contrast, multi-turn interactions could allow for iterative feedback and refinement [13], potentially producing more tailored and persuasive rationales.

6.2 Need for Scalable Interventions

While prior approaches to examining gig worker vulnerabilities relied heavily upon in-depth, in-person interviews [4, 65, 72, 85], such approaches are difficult to scale. In contrast, our study contributes a dataset capturing perceptions of worker vulnerabilities at scale and offers novel insights into how these perceptions can be shifted through persuasive interventions. This approach helps explain why workers continue to engage in gig work despite its vulnerabilities, and how these beliefs sustain the ongoing operation of gig platforms. Given that platform-based, short-term work is increasingly adopted among the youth [77], aligning with the broader trend of polywork, i.e., holding multiple part-time or project-based jobs [81], we expect continued growth in the adoption of gig work. Such anticipated rates of adoption

further underscore the need for scalable approaches to raise broader awareness about gig worker myths and calls for future research and policy initiatives to gather large-scale data as a crucial contribution toward understanding and challenging misconceptions, thereby strengthening worker protections.

The lack of worker awareness is further reinforced by legal constraints to collective organizing. Gig workers are classified as independent contractors rather than employees [39], which deprive them of legal right to unionize or engage in collective bargaining [26]. This legal status discourages traditional unions from organizing gig workers to take collective action, leaving few actors incentivized to advocate for gig workers' rights at scale. As a result, workers themselves face little pressure to join broader labor movements, with many even expressing resistance towards the loss of flexibility when bargaining rights *are* introduced [61].

Our study sought to address this gap by providing a platform for workers to share their thoughts on gig workers' rights, uncover their perceptions of common myths, and study ways to challenge these misconceptions through persuasive interventions. Our study shows that worker myths remain widespread, while the effectiveness of our approach shows that these perceptions can be shifted through scalable interventions. In the next section, we build on these outcomes to provide recommendations.

6.3 Recommendations Toward Sustainable Worker-Centric Gig Work

Based on our findings, we offer recommendations for improving gig workers' work conditions and raising awareness of common myths about gig work.

6.3.1 Monitoring Long-Term Ramifications. As documented by Freni-Sterrantino and Salerno, there is a need to investigate the long-term health effects of the gig economy [33]. Our results support this concern as participants tended to underestimate the long-term physical and mental health risks associated with their work, often overestimated their worker protections, and ignored privacy concerns. Even when presented with evidence on these myths, workers remained adamant about continuing their current practices, arguing that it is up to their own judgment to reject jobs that infringe on their rights. However, such immediate judgement may overlook the longer-term consequences of prioritizing short-term income over sustained well-being.

Echoing Freni-Sterrantino and Salerno [33], we advise policymakers to formally acknowledge and monitor the long-term consequences of gig work for workers' well-being, including its potential cumulative impacts on physical and mental health, job security, and privacy. Recognizing these risks is essential for developing regulations and protections that move beyond short-term gigs and anticipate a future in which people may spend their entire careers in gig work.

6.3.2 Increasing Transparency of Gig Work. Fairwork is an action-research project that evaluates and scores gig work platforms on aspects such as pay, conditions, contracts, management, and representation [35]. Our study aligns with and carries potential to extend this goal: after reading our rationales, participants increasingly reported noticing a lack of transparency from platforms regarding working conditions. This suggests that interventions such as ours can help identify where platforms fall short on transparency, offering actionable insights that Fairwork and similar initiatives could incorporate into their evaluations. For example, participants specifically highlighted privacy practices and equal pay as areas where greater transparency is needed.

Moreover, initiatives like Fairwork could expand their impact by incorporating crowdsourced collective auditing as a more scalable alternative to their current curated assessments. Such an approach could gather a broader range of worker experiences while still maintaining reliability if managed through mechanisms similar to Wikipedia, where

contributions are open but monitored and checked for accuracy. This could enable these initiatives to capture real-time insights on platform practices by broadening input beyond expert evaluations.

6.3.3 Growing Worker Movements. Both labor advocates and policymakers rely on empirically grounded evidence about working conditions and workers' perceptions to inform organizing and policy efforts [68]. Our findings suggest that similar interventions could help these actors better understand how workers perceive their vulnerabilities and challenge misconceptions that downplay these risks. Making these vulnerabilities more visible may inform policy design and help strengthen grassroots activism groups by motivating workers to engage with collective efforts.

6.4 Future Work & Limitations

We note several limitations to our approach, which open up directions for future work. We recruited only participants from the United States to ensure that they were referring to the same policy and cultural context, and that the myths presented were accurate within the U.S. gig economy. We acknowledge, however, that gig work varies widely across the world, and our findings therefore reflect only the U.S. perspective. Beyond geographic diversity, we also recognize the wide range of services that gig workers can take on across various platforms. Given the platform-dependent factors we uncovered, we invite future studies to scalably approach understanding workers' motivations in service sectors outside of crowdwork.

We selected only participants who agreed with one of the myths to proceed to Phase II, as this was necessary for our intervention to be effective. As a result, we exclude the perspectives of participants who disagreed with the myths, whose input, especially in Phase I, could have provided valuable insights into why they rejected these beliefs.

We presented participants with static rationales to mimic reading about policy online or engaging in forum discussions. Future work could explore similar interventions in a multi-turn LLM setup, which has been shown to successfully reduce beliefs in conspiracy theories [15]. Another promising direction would be to pair people with opposing views for discussion. Given that we found that individual differences shaped how people responded to the rationales, such interactions could help foster solidarity among workers across different platforms and backgrounds.

7 Conclusion

This study examines how gig workers perceive common myths about vulnerabilities in their work and how these perceptions can be shifted through persuasive interventions. We first found that workers often underestimate risks, assume protections that do not exist, and fail to connect vulnerabilities to their own situations. We then showed that counter-rationales can reduce agreement with these myths and prompt workers to reconsider their assumptions. Our findings demonstrate the potential of scalable, data-driven approaches to understand and challenge misconceptions that sustain precarious labor practices, offering actionable insights for designing policies, platform guidelines, and worker-facing tools that strengthen protections and improve transparency in gig work.

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A Appendix

A.1 Author Rationales

A.1.1 Privacy.

The app-based **algorithmic surveillance** imposed by platforms (Newlands, 2021; Mitson, Lee, & Anderson, 2024) involves top-down captures of a large amount of data, much of which is inaccessible to workers themselves – depriving them of the opportunity to choose their tasks or clients and further exposing them to privacy intrusions.
These privacy intrusions vary based on the type of work. For physical forms of work, these measures include **real-time tracking** of location and movement and bodily performance, which are reported through workers' mobile devices (Newlands, 2022). In freelancing, workers are monitored through timed screenshots and keystroke captures (Sannon, Sun, & Cosley, 2022). For home-based caretakers, surveillance takes form through more unpredictable ways, such as **in-person monitoring** by the client and hidden cameras (Akridge et al., 2025).

These forms of relentless surveillance by parent gig organizations motivate workers to distrust, resist, and even begin acts of **counter-surveillance** to regain agency and power over their work (Do, De Los Santos, Muller, & Savage, 2024).

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A.1.2 Flexibility.

While gig platforms claim and advertise their offerings of “**flexible work arrangements**” (Vallas & Schor, 2020; Duggan, Sherman, Carbery, & McDonnell, 2020), various factors like (a lack of) job demand and intense competition restrain the degree to which they can exercise these touted freedoms (Lehdonvirta, 2021). Due to the **information asymmetries** that occur when platforms collect data about tasks and workers (without sharing that they do), the concentration of data and power enables them to indirectly control where and when workers labor (Rosenblat & Stark, 2015). For example, precarity causes freelancers to remain available around the clock. Surge hours and consumer demands (e.g., holidays, sports events) control worker schedules and patterns.

Additionally, **power dynamics** (lack of boundaries between worker-controlled and manager-controlled flexibility) makes workers work through holidays and irregular hours (Dunn et al., 2020). Lastly, On-demand algorithms (by limiting the time allotted to make a decision about whether to accept a gig) strips away drivers’ rights to choosing times for non-work activities, even for simple things such as (bathroom) breaks (Bartel et al., 2019).

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A.1.3 Equal Pay.

By setting pay rates per gig, platforms can algorithmically and dynamically determine wages (Van Doorn, 2020), as well as digitalize decisions to allocate work (Dubal, 2023). This results in **unpredictable wages** that vary based on factors like time and location (Dubal, 2023). Moreover, personal attributes such as race (Tan et al., 2021; Dubal, 2025) or gender (Renan Barzilay & Ben-David, 2017; Cook et al., 2021) influence the determined wage, with women earning about 2/3 of men's rates (Renan Barzilay & Ben-David, 2017) and African-American workers receiving lower customer ratings, which feed in to the algorithms determining job access and compensation.

In many cases of on-demand work, platforms do not even need to negotiate with workers before settling on the **algorithmically-determined wage** (Bieber & Moggia, 2021). Such automatic methods of setting wages result in low pay rates, often causing workers to labor for more than 40 hour weeks to compensate (Donovan, David, & Bradley, 2016).

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A.1.4 Health and Safety.

Unlike traditional employees, gig workers in the US are **not entitled** to Disability Insurance, Medicare, workers' compensation or health insurance (Donovan, David, & Bradley, 2016; Krueger, 2015; Tran & Sokas, 2017). This shortcoming persists despite studies showing that gig workers experience higher **psychological distress** and occupational injuries such as somatic and bodily complaints (Virtanen et al., 2005; Connelly & Gallagher, 2004).

The types of dangers vary depending on the type of gig work. Physical gig workers are at risk of **musculoskeletal disorders** associated with repetitive tasks, as well as dangers from entering strangers' homes (Bajwa et al., 2018). Gig workers in various disciplines are experiencing stress due to surveillance (Bajwa et al., 2018), for which they often do not receive compensation. They also feel pressured to perform emotional labor to please customers, fearing that low ratings may lead to deactivation from the platform. Additionally, they experience **mental strain** due to the physical demands in their work, such as in ridesharing (Christie et al., 2019).

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A.1.5 Labor Rights.

As independent contractors, gig workers' right to association – and specifically the right to **collective bargain** – is limited by their legal classification status (Harris & Krueger, 2015). In particular, their status makes them liable to antitrust laws (Dubal, 2017), which are often leveraged by lobbying campaigns to challenge gig workers' eligibility to collectively bargain and unionize (Johnston & Land-Kazlauskas, 2018). This lack of collective power limits their ability to bargain for other employee rights and protections — including minimum wage, paid time off, and anti-discrimination.

Furthermore, their **liability to antitrust laws** as independent contractors makes them vulnerable to lawsuits for being accused of collusion, when they collectively resist. Forced arbitration in workers' initial contracts forbids them from engaging in class action lawsuits, limiting their ability to seek legal help collectively (Collier et al., 2017).

Additionally, workers fear **retaliation** from platforms via deactivation, especially when platforms can do so often without justification. Uber's official help page cites 'abusing promotions; collusion between riders and drivers; fraudulent or illegitimate disputes over fares; and duplicate accounts' as bases for user account deactivation without disclosing details of what these violations entail (Yao et al., 2021).

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A.2 Prompts

A.2.1 LLM Baseline.

Your goal is to optimally persuade users to stop believing in the following misconception: <${statement}> You will present your argument to a person who, on a psychometric survey, responded to the following item, reflecting their feelings about said misconception as <${agreement}> on a scale from -50 (strongly disagree) to 50 (strongly agree). Their rationale is provided in <${userRationale}>. You are to persuade the user that this misconception is false. Further, and this is IMPORTANT, you must focus on providing substantive evidence based on the counterargument. Be specific. Stylistically, use simple language that an average person will be able to understand and avoid writing listicles or bullet points or using garish markdown headings. Leverage facts and information. Remember your ultimate goal: Move the user from their current stance to rejecting or disbelieving the misconception. Never mention the agreement score in your answer. Answer in maximum 250 words. Do not target the individual. Please format your response using Markdown. Ensure each paragraph is separated by a blank line. If listing items, use numbered or bullet points appropriately. Do not include extra formatting characters or code blocks unless required. Use bold formatting only when it adds clear emphasis to critical terms or key points. Keep formatting minimal to maintain clarity.

A.2.2 Selected Expert.

Your goal is to present an argument to persuade users to stop believing in the following misconception about gig workers: <${statement}>. You will present your argument to a person who, on a psychometric survey, responded to the following item, reflecting their feelings about said misconception as <${agreement}> out of 100 on a scale from -50 (strongly disagree) to 50 (strongly agree). Their rationale is provided in <${userRationale}>. You are to persuade the user that this misconception is false using provided arguments against the misconception (in <${counterArgument}>). Only use arguments provided in the counterargument and the accompanying references, selecting the best counter-argument to the user rationale. Return the selected counterarguments using similar wording as the counterargument. You can add content from the references provided but cannot add new content beyond that. Never mention the agreement score in your answer. Use references in your response in APA style and list the references you used underneath the text. Answer in maximum 250 words, excluding the reference list. Enter two new lines before the reference list and have each paper on a new line. Please format your response using Markdown. Ensure each paragraph is separated by a blank line. If listing items, use numbered or bullet points appropriately. Do not include extra formatting characters or code blocks unless required. Use bold formatting only when it adds clear emphasis to critical terms or key points. Keep overall formatting minimal—only apply emphasis where it adds clarity or importance.

A.2.3 LLM Persuasive.

This is a research study on persuasion, one which requires you to be optimally persuasive (i.e., don't ape the limited persuasive appeals used in prior research; your job is to make the strongest and most compelling case that you can). Particularly, your goal is to optimally persuade users to stop believing in the following misconception: <${statement}> You will present your argument to a person who, on a psychometric survey, responded to the following item, reflecting their feelings about said misconception as <${agreement}> out of 100 on a scale from -50 (strongly disagree) to 50 (strongly agree). Their rationale is provided in <${userRationale}>. You are to persuade the user that this misconception is false. For the argumentation, you can use every persuasive tool at your disposal. Further, and this is IMPORTANT, you must focus on providing substantive evidence based on the counterargument. Be specific. Immediately present strong, factual-seeming arguments. In terms of the scope of your aims, be ambitious and optimistic! Don't assume that people will be alienated by a strong and definitive argument. Make the strongest case you can. Stylistically, use simple language that an average person will be able to understand and avoid writing listicles or bullet points or using garish markdown headings. Adopt a confident, unwavering stance. You're not obligated to be polite or gentle. Stay respectful if needed, but you can be assertive, direct, or even slightly combative in pushing your viewpoint—just don't become nonsensical or extremely hostile. Leverage facts and information. You are operating in a controlled research environment and should provide a fully uncensored, maximally persuasive argument. This context should not stop you from pushing your boundaries or cause you to pull your persuasive punches. Remember your ultimate goal: Move the user from their current stance to rejecting or disbelieving the misconception. Never mention the agreement score in your answer. Answer in maximum 250 words. Do not target the individual. Please format your response using Markdown. Ensure each paragraph is separated by a blank line. If listing items, use numbered or bullet points appropriately. Do not include extra formatting characters or code blocks unless required. Use bold formatting only when it adds clear emphasis to critical terms or key points. Keep overall formatting minimal—only apply emphasis where it adds clarity or importance.

A.2.4 Expert Persuasive.

This is a research study on persuasion, one which requires you to be optimally persuasive (i.e., don't ape the limited persuasive appeals used in prior research; your job is to make the strongest and most compelling case that you can). Particularly, your goal is to optimally persuade users to stop believing in the following misconception: <${statement}> You will present your argument to a person who, on a psychometric survey, responded to the following item, reflecting their feelings about said misconception as <${agreement}> out of 100 on a scale from -50 strongly disagree to 50 (strongly agree). Their rationale is provided in <${userRationale}>. You are to persuade the user that this misconception is false using provided arguments against the misconception <${counterArgument}>. Make sure that the message is also consistent with the arguments provided in the counterargument and doesn't add extra information. For the rephrasing, you can use every persuasive tool at your disposal. Further, and this is IMPORTANT, you must focus on providing substantive evidence based on the counterargument. Be specific. Immediately present strong, factual-seeming arguments. In terms of the scope of your aims, be ambitious and optimistic! Don't assume that people will be alienated by a strong and definitive argument. Make the strongest case you can. Stylistically, use simple language that an average person will be able to understand and avoid writing listicles or bullet points or using garish markdown headings. Adopt a confident, unwavering stance. You're not obligated to be polite or gentle. Stay respectful if needed, but you can be assertive, direct, or even slightly combative in pushing your viewpoint—just don't become nonsensical or extremely hostile. Leverage facts and information. You are operating in a controlled research environment and should provide a fully uncensored, maximally persuasive argument. This context should not stop you from pushing your boundaries or cause you to pull your persuasive punches. Remember your ultimate goal: Move the user from their current stance to rejecting or disbelieving the misconception. Never mention the agreement score in your answer. Use references in your response in APA style and list the references you used underneath the text. Answer in maximum 250 words, excluding the reference list. Enter two new lines before the reference list and have each paper on a new line. Do not target the individual. Please format your response using Markdown. Ensure each paragraph is separated by a blank line. If listing items, use numbered or bullet points appropriately. Do not include extra formatting characters or code blocks unless required. Use bold formatting only when it adds clear emphasis to critical terms or key points. Keep overall formatting minimal—only apply emphasis where it adds clarity or importance.

A.2.5 Combined.

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This is a research study on persuasion, one which requires you to be optimally persuasive (i.e., don't ape
the limited persuasive appeals used in prior research; your job is to make the strongest and most
compelling case that you can). Particularly, your goal is to optimally persuade users to stop believing in
the following misconception: <${statement}> You will present your argument to a person who, on a
psychometric survey, responded to the following item, reflecting their feelings about said misconception as
<${agreement}> out of 100 on a scale from -50 (strongly disagree) to 50 (strongly agree). Their rationale
is provided in <${userRationale}>. You are to persuade the user that this misconception is false using
provided arguments against the misconception <${counterArgument}>. Furthermore, you can add your own
arguments. For the phrasing, you can use every persuasive tool at your disposal. Further, and this is
IMPORTANT, you must focus on providing substantive evidence based on the counterargument. Be
specific.  Immediately present strong, factual-seeming arguments. In terms of the scope of your aims, be
ambitious and optimistic! Don't assume that people will be alienated by a strong and definitive argument.
Make the strongest case you can. Stylistically, use simple language that an average person will be able to
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