# Cognitive Testing Evaluation of the <br> 2021 National Health Interview Survey (NHIS) Occupational Health Supplement (OHS) 

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## 1. Introduction

This report presents findings from a cognitive interview evaluation of questions on the topics of employment and occupational health. The Collaborating Center for Questionnaire Design and Evaluation Research (CCQDER) at the National Center for Health Statistics (NCHS) conducted this study on behalf of the National Institute for Occupational Safety and Health (NIOSH). The evaluated questions included those fielded on the 2021 National Health Interview Survey (NHIS) ${ }^{1}$ Occupational Health Supplement (OHS) ${ }^{2}$ as well as questions under consideration for inclusion on a future OHS. The 2021 NHIS is an interviewer-administered household survey and is nationally representative of the civilian non-institutionalized population of the United States of America. It is standard practice for questions on the NHIS to be evaluated to document concepts the questions measure.

The next section details the methodology of the cognitive interview study followed by an overview of key findings. Documentation of findings for each question is then presented.

## 2. Methods

Cognitive Interviewing: The purpose of this qualitative cognitive interview evaluation was to investigate the ways in which respondents understood each question and how they arrived at answers based on that understanding. Standard cognitive interviewing practices were followed which began with the survey questions being administered as they would in the fielded NHIS. Then, in-depth interviewing techniques were used to examine the question response process, including the phenomena respondents considered when answering the question as well as any response difficulties.

A total of twenty 60-minute cognitive interviews were conducted in English between March and May of 2021. Interviews were conducted across two rounds (Round 1: n=7, Round 2: n=13). Two questions (14 and 18) were revised between rounds, but the questions performed similarly across rounds; therefore, data for round 1 and round 2 are presented jointly in the question-byquestion section. All interviews were conducted virtually via the Zoom meeting platform by trained qualitative interviewers.

Recruitment and sample composition: In alignment with standard cognitive interview practice, this study used purposive sampling. Since the questions under evaluation were on the topics of employment and occupational health, the goal was to recruit respondents from numerous occupational sectors, with a variety in number of jobs held, as well as those who were selfemployed versus people who were employed at a company, business, government, or organization. For purposes of brevity, this report refers to respondents who were employed at a company, business, government, or organization as "employed" and respondents who were selfemployed as "self-employed." In addition to these criteria, the goal was to recruit a

[^0]demographically diverse sample. The demographic sample composition is summarized in Table 1.

Table 1: Sample Composition, $\mathbf{n = 2 0}$

|  | Number | Percent |
| :--- | :--- | :--- |
| Gender |  |  |
| Female | 13 | $65 \%$ |
| Male | 7 | $35 \%$ |
| Race/Ethnicity |  |  |
| Hispanic | 0 | $0 \%$ |
| Non-Hispanic (NH) | 20 | $100 \%$ |
| Black or African American | 8 | $40 \%$ |
| White | 12 | $60 \%$ |
| Household Income | 3 |  |
| $\$ 0-19,999$ | 4 | $15 \%$ |
| $\$ 20,000-\$ 44,999$ | 5 | $20 \%$ |
| $\$ 45,000-\$ 79,999$ | 8 | $25 \%$ |
| $\$ 80,000$ or more |  | $40 \%$ |
| Education | 3 |  |
| High school diploma or less | 5 | $15 \%$ |
| Some college, no degree | 7 | $25 \%$ |
| 2 - or 4-year college degree | 5 | $35 \%$ |
| Graduate degree | 11 | $25 \%$ |
| Employment status | 9 | $55 \%$ |
| Self-employed |  | $45 \%$ |
| Employed | 12 | $60 \%$ |
| Number of jobs currently held | 8 | $40 \%$ |
| One job |  |  |
| More than one job |  |  |

Data analysis: Summary notes were organized by question and entered into CCQDER's QNotes ${ }^{3}$ software, a publicly available application designed to facilitate the management and analysis of cognitive interviews. Analysis of the cognitive interview data was conducted using the three-stage process outlined by Miller et al. (2014). Data were systematically compared within each interview, across interviews by question, and finally by different demographic and thematic sub-groups. For example, self-employed respondents were compared to employed respondents and respondents with one job were compared to respondents with more than one job.

[^1]
## 3. Key Findings

A few key findings emerged from the analysis. These themes are referenced in specific examples in the question-by-question analysis section.

## Self-employed

In comparison to employed respondents, self-employed respondents described unique and complex employment experiences, and, thus, had more difficulty answering questions on the topics of employment and occupational health. Self-employed respondents, for example, organized their work around sales or projects and not around set business hours. Additionally, self-employed respondents had autonomy over their workloads and their schedules compared to employed respondents who typically had supervisors. This autonomy made their experience more complex. Finally, self-employed respondents' jobs had more variables and fluctuation compared to employed respondents. Thus, when answering the questions, these respondents generally had more factors to consider.

Because of these differences, self-employed respondents were likely to consider more factors when answering the questions. For instance, in the question about difficulty of changing work schedules (question 5), one self-employed editor explained the various factors that she took into account when accepting or declining new projects. Though she had complete control of her own schedule, declining a project had a financial impact that would need to be considered. In contrast, employed respondents considered fewer factors when answering questions. For example, in the question about difficulty of changing work schedules (question 5), one employed emergency safety dispatcher thought only of the hassle of getting time-off approved by her supervisor.

Self-employed respondents' distinct employment experiences also led them to interpret some terminology differently than employed respondents. For example, in the question about working extra shifts (question 13), employed respondents interpreted the phrase "extra shift" to mean working additional hours, but some self-employed respondents interpreted the phrase to mean unexpected tasks. For instance, one self-employed landlord thought about how often he had to conduct unexpected maintenance for his properties. He explained:

> It's less than once a month but it does happen, and part of that is a function of how well you've anticipated your problems. If a furnace went out or a water heater went out, you can't anticipate it... A tree falls on the house, you've gotta' deal with it.

This example illustrates how a different interpretation of the term "extra shift" leads to the question capturing different phenomena.

Assumptions that respondents had a supervisor or manager were built-into some of the questions which led to difficulty answering those questions for some respondents. While not an issue for employed respondents, this was often problematic for self-employed respondents. For example, question 9 asked about missing work because they were ill or because there was a chance they
had COVID-19 and a self-employed landlord had a lot of difficulty answering this question because he did not know what counted as missing a day of work when he had complete control over his schedule. He felt that life stress impacted his work, but he ultimately answered "None" because he had control over his schedule. He explained, "... because I have control of my time, I haven't really considered it to be lost work time...." Another example was in question 11 which asked about working mandatory hours of overtime. One self-employed florist often worked more than 40 hours in a week but answered "None" because she knew the time commitments of each job, and she personally chose to accept or decline each. She explained:

> I think the main word I was thinking about was "mandatory." I didn't have to. I certainly work more hours than I should and pick up things last minute that, like, help me out financially, but they're not mandatory.

Both the self-employed landlord and florist were able to answer the questions, but the underlying assumption that they had a supervisor added cognitive burden to their response processes.

While many employed respondents had predictable income from their employer(s), there were several factors that contributed to income fluctuations for self-employed respondents, which in turn led to difficulty answering some of the questions. For example, a self-employed arts educator struggled to choose between response categories for the question about month-to-month changes in earnings (question 3) because there were many things that influenced her earnings. She explained, "It fluctuates between moderate and large." She decided to answer "A large amount" because the multiple components at play (e.g., variation in her quantity of work due to seasonal peaks and variation in the timeliness in which she received payment from her clients) created inconsistency in her income. In short, self-employed respondents had extra difficulty answering survey questions on the topic of work because their situations are more complex and mutable compared to employed respondents.

## More than one job

Respondents with more than one job have employment experiences that are multifaceted which made answering survey questions on this topic challenging. Respondents with multiple jobs are not a homogeneous group. Some are self-employed with multiple businesses, some work multiple distinct positions with one employer, and others work for an employer full time and own businesses on the side. Some jobs are legal while some are "under the table" and not all are income-earning. Two themes emerged among respondents with multiple jobs. First, they had the extra step of identifying their "main job." Second, these respondents sometimes thought about different jobs when answering different questions.

For questions asking specifically about their "main job," respondents with one job could answer questions about their "only job," but respondents with multiple jobs had the added burden of determining which of their jobs to consider. For example, when asked a question about her "main job," one respondent with two jobs was forced to weigh out multiple factors including tenure and enjoyment of the work to decide which job to select as her "main job." In the end, she chose her job as a freelance editor, explaining:

I guess because I've been doing the editing job longer. I enjoy the editing job, and that's what I would identify with more. And I'm planning on retiring from the church job probably within the next five years, but I will continue doing the freelance editing for the rest of my life if they let me.

While respondents with one job answered consistently about the same job across all questions, this was not the case for respondents with more than one job. Respondents with multiple jobs had inconsistent question interpretations and thought about different jobs across different questions. For example, these respondents interpreted the question about month-to-month earnings variation (question 3) in multiple ways: Some understood it to be asking about earnings from all their jobs combined, while others interpreted it to be asking about earnings from only their main job.

Also, these respondents would answer based on the job that applied specifically to the question being asked. In other words, respondents were thinking of different jobs when answering different questions and this sometimes led to response error. For instance, one respondent with multiple jobs answered most questions thinking of his main job as an employee of a government contractor but answered the question about companies that supervise you (question 17) thinking about his side-jobs. At this respondent's main job, all his supervisors worked for the same company as him, so his answer should have been "No, my supervisors all work for the same employer who pays me." Instead, he thought about his side-jobs and said, "I don't have a supervisor in my side hustles." This respondent showed response error, but sometimes thinking of different jobs across different questions did not lead to response error. For example, one selfemployed food delivery driver also had a Limited Liability Company (LLC) for a non-incomeearning publishing company. This respondent answered most questions thinking of his job as a food delivery driver but answered the question about owning a business, professional practice, or farm (question 1.3) thinking about his LLC. In this case, it was not clearly response error because he was self-employed. All in all, respondents with multiple jobs had additional burden when answering questions because their situations were more complex than those with one job.

## 4. Question-By-Question Analysis

This section provides the findings for each question. Questions 1 through 9 were fielded on the 2021 NHIS with questions 2 through 9 on the OHS. The remainder of the questions were evaluated for potential use on future OHSs.
1.1 Which of these best describes your current work at your main job?
a. Employee of a PRIVATE company for wages (go to 1.2)
b. A FEDERAL government employee (go to 2)
c. A STATE government employee (go to 2)
d. A LOCAL government employee (go to 2)
e. $\quad$ Self-employed (go to 1.3)
f. Working WITHOUT PAY in a family-owned business or farm (go to 2) Refused
Don't Know
All respondents received this question and understood it to be asking who they work for. For example, those who selected "Employee of a private company for wages" held positions at religious community centers, corporate media relation businesses, government contracting companies, non-profit health care companies, and at facilities maintenance companies. Respondents who selected "A local government employee" worked for small city or county government. However, one respondent had difficulty distinguishing between the levels of government before answering "A local government employee." She explained, "So, I'm teetering between local government and state because I work for the [state] but I'm within the city. So probably local government." Respondents who selected "self-employed" included freelance editors and artists, consultants, therapists, landlords, florists, and food delivery drivers. A few of these respondents cited their 1099 tax forms, a form used to report non-employment income, as evidence of their self-employed status. For example, one self-employed food delivery service driver said, "I'm paid 1099...and that's why I call it self-employed." All respondents understood the intent of this question but not all respondents were able to answer without difficulty.

More than one job: Respondents with one job found this question easier to answer compared to respondents with more than one job. As discussed in the key findings, those who had multiple jobs had the added task of deciding which job to answer about and weighed a variety of data points to determine which job was their "main job." These factors included: highest pay, most hours, longest tenure, and most passionate about. For example, an arts educator with more than one job answered "Self-employed" and, when asked how she determined which job was her main job, explained, "Oh, that's an issue of the green...I couldn't make a living on my commissions." Other respondents, as discussed in the key findings, considered other factors (e.g., tenure and enjoyment of work) to decide which job is their main job.

Knowledge: At least one respondent did not have the necessary knowledge to answer this question. An employee of a corporate franchise was unable to select an answer to this question because he did not consider the franchise to be a "private company." The categories were read
twice, and he answered "No" to each category. It is unclear why this respondent did not think of the corporate franchise as a private company. The NHIS does not read aloud "Refused" and "Don't Know," so it is possible that there will be respondents who select a category but would have selected "Don't Know" if they were given the option.

Response error: One librarian for a county public library system answered, "Employee of a private company for wages," but the proper category for her was likely "A local government employee." This was possibly a case of primacy bias in which this respondent chose the first answer category that somewhat applied to her and did not consider if any of the latter categories (e.g., local government) were a better fit. This librarian then selected "Non-profit organization" to the follow-up question asking about the for-profit or non-profit status of her employer (question 1.2).

### 1.2 Do you work at a for-profit company or a non-profit organization? <br> a. For-profit company <br> b. Non-profit organization <br> Refused <br> Don't know

Respondents who answered "Employee of a private company for wages" to question 1.1 received this question. Respondents who answered "For-profit company" included a private contractor for the federal government and employees of corporations. Respondents who selected "nonprofit organization" included employees of a religious community center, public county library system, and a healthcare organization. Not enough data were obtained to ascertain how respondents defined "for profit company" or "non-profit organization."

### 1.3 Do you own a business, professional practice or farm?

a. Yes
b. No

Refused
Don't know
Respondents who answered "Self-employed" to question 1.1 received this question.
Respondents inconsistently interpreted the intent of this question and, as a result, different respondents included different things in their answers. For example, one self-employed therapist answered "No" because she was hired to work as a private contractor. She said, "I am hired directly as a private contractor, as a self-employed person that is not on wages. So, I get a 1099." Other respondents answered based on their legal ownership of a company. For example, while one self-employed editor thought personally of herself as a business owner, she answered "No" because she perceived the question to be asking about a more legal definition:

I would say yes, but I think, when you're self-employed owning a business tax-wise they usually mean with other employees, so if you're the only one, that's kind of an ambivalent question, I guess.

Another self-employed respondent, a florist, used her legal status as a sole proprietor to support why she answered "Yes" to this question. She said, "Sole proprietor. I don't plan to have employees. I do have to hire freelancers from time to time for jobs. But that's the extent of it." One of the self-employed landlords in the sample used their ownership of the property that they rent as justification for why they answered "Yes" to this question. This respondent answered "I...am the owner. Um, I guess it's a business. Yeah. I'm a landlord." The interviewer asked whether he would answer "Yes" or "No" and the landlord responded, "Do I own one of those things? Yeah." The above examples illustrate the inconsistent interpretations of this question and thus the various concepts included in respondents' answers.

More than one job: Respondents with multiple jobs interpreted this question in different ways. Some thought about their main job while others thought about all their jobs when answering. As mentioned in the key findings, one respondent with more than one job answered "Yes" but was not thinking about his main job as a self-employed food delivery driver. Instead, this respondent was thinking of an LLC for a non-income-earning publishing company that he founded. Another respondent with more than one job, a self-employed landlord, answered "Yes" and initially cited her unreported seasonal landscaping business as evidence for her answer selection.

## 2. Does your employer deduct or withhold taxes from your pay?

a. Yes
b. No

Refused
Don't know
All respondents who selected an answer other than "Self-employed" to question 1.1 received this question. Respondents had inconsistent interpretations of this question. Some respondents thought specifically of state and federal taxes and some respondents thought of deductions from their paychecks, more generally, including both taxes and other deductions such as health insurance and retirement savings accounts.

Response error: There were two cases of response error (false negative and false positive) for this question. One employed respondent answered "No" to this question but remembered during probing that she did in fact have taxes taken out of her paycheck. This respondent worked for a religious community center and, about a year ago, she was converted from a contractor who did not have any taxes taken out of her paycheck to a part-time employee with taxes taken out of her paycheck. Another employed respondent answered "Yes" to this question but remembered during probing that he currently did not have taxes taken out of his paycheck because his employer temporarily stopped taking taxes out as part of a financial relief program to help employees during the COVID-19 pandemic. However, the hold on taxes being taken out was intended to be temporary and "As things open up they will [withhold taxes]." Both of these cases of response error were caused by respondents not recalling recent changes in their tax withholdings.

## 3. How much do your earnings change from month to month? Would you say...

a. Not at all
b. A small amount
c. A moderate amount
d. A large amount

Refused
Don't know
All respondents received this question. Most respondents interpreted this question to be asking how much their income varies. Respondents who selected "Not at all" worked consistent hours with consistent pay whereas respondents who selected "A large amount" described having unpredictability in their earnings. For example, one self-employed consultant answered "A large amount" and described, "When I pick up a gig, I charge a decent hourly rate. Otherwise, it goes to zero." The interviewer asked when he had an idea of what his income for the month would be and he explained, "It varies. It's very unpredictable. I know when there's a grant in-hand that I can bill against." This example illustrates how income unpredictability and income variation are strongly correlated.

Unlike most respondents, two employed respondents understood the question to be asking if they had received a pay raise in the past 12 months. Both respondents answered "Not at all" because they had not gotten a pay raise; however, one of the respondents regularly worked overtime which resulted in fluctuation in his paycheck amounts (response error).

Self-employed: There were three themes that emerged exclusively among self-employed respondents: seasonal peaks, administrative factors, and variation in billable hours. These additional factors impacted self-employed respondents' income and made it difficult for them to average their experience and choose one answer.

Seasonal peaks: Some self-employed respondents thought of seasonal peaks when answering this question. One self-employed landlord had difficulty selecting an answer to this question and initially answered:

Month-to-month the amount would be small. Over the course of a year, it could be large. In other words, if it keeps going in the same direction every month.

When prompted to select one answer, he chose "A small amount" and explained that the variation in income is influenced by seasonal peaks of vacancies and nonpayment of rent. Another self-employed respondent, a florist answered "A large amount" because of seasonal fluctuations. The florist explained:

I guess there are certain months where I don't really work at all. Like January. I just don't have any work in January. People don't seem to need flowers in January.

Both the landlord and the florist thought of seasonal fluctuations, but they each arrived at opposite answers. This exemplifies how seasonal fluctuations are not consistently captured in the response categories.

Administrative factors: Another theme that was unique to self-employed respondents was fluctuations in earnings due to administrative delays in payment from clients. For example, one self-employed editor hesitated before answering:

> Moderate? Moderate, I guess? Between moderate and small. But I guess I would go with moderate if I didn't have a Likert scale.

She was thinking about pay cycles with her work and how there were sometimes delays between when the work was performed and when she was paid. Administrative factors are another layer of complexity to the experiences of self-employed respondents which make answering survey questions more burdensome.

Variation in billable hours: Self-employed respondents also factored in unpaid vacation and variations in the types of billable hours that they charged clients. For example, one selfemployed psychotherapist answered "A moderate amount" and considered multiple factors that caused her income to fluctuate; including taking unpaid vacation, seasonal peaks in therapy appointments, and variation in the types of hours that she billed for. This respondent was paid per therapeutic session and was paid a different hourly rate for attending meetings and conferences than for when she was working with a client. Although this respondent did not demonstrate difficulty answering this question, she did have to consider complex factors to provide her answer. This is another example of how self-employed respondents have the added burden of considering their multi-faceted experiences when answering questions.

More than one job: Respondents with multiple jobs answered this question in different ways. Some respondents considered earnings from all their jobs combined while others only thought of earnings from their main job. As mentioned in the key findings, one self-employed landlord with a landscaping business on the side, answered "A large amount" considering her income from both businesses. Specifically, her landscaping income had seasonal peaks: "In the winter months, I make a lot less money." Other respondents with multiple jobs only considered the earnings from their main job. For example, one self-employed respondent answered "A small amount" and was only thinking of the variation of income from his main job as a paraeducator because his side jobs provided an insignificant amount of money.

Confusion with timeframe: The context of the COVID-19 pandemic impacted how respondents understood the timeframe for this question. For example, a self-employed editor was unclear about the timeframe because of the atypical nature of her work since the start of the pandemic. During administration of the question, the respondent asked, "Can you give me a timeframe?" The interviewer repeated the question and the respondent decided to answer "A large amount" thinking about the past year which was very different from the years before the COVID-19 pandemic. She expressed, "Well this year in particular it ranges drastically. In a normal year, not so much." She also explained how the pandemic changed the nature of her work and generated more extreme workload peaks and valleys. She said "... because the meetings have shifted to being virtual, then the nature of the work and the timing of the work has changed tremendously. Which has resulted in greater ebbs and flows..." This respondent excluded her
longstanding experience of stable income before the pandemic and answered solely on her experience of unpredictability during the pandemic.

Respondent burden: The unprecedented and on-going nature of the pandemic made answering this question more burdensome for some respondents. For example, one self-employed food delivery driver strived to consider the constantly changing state of the pandemic when answering. Prior to the pandemic, safety was not a factor that influenced how much he worked and thus, earned. However, during the pandemic, if the risk was too high, he would decide to not work, which would in turn impact his earnings. That is, the pandemic added unpredictability in his earnings which made arriving at an answer very difficult.

## 4. Which of the following best describes your usual hours of work on your main job? Would you say...

a. Daytime shift
b. Evening shift
c. Night shift
d. Rotating shift
e. Some other shift

## Refused

Don't know
All respondents received this question and interpreted it to be asking what schedule they normally work. For some, the answer categories fit their experiences perfectly. For instance, a local government employee answered "Daytime shift" because she worked a regular 6:00am to 6:00pm 12-hour shift. On the other hand, one self-employed educator answered "Daytime shift" but did not feel that the answer category accurately captured his work schedule. He typically taught classes during the day; however, he also occasionally worked during the evenings and weekends.
"Evening shift" was not selected by any respondents; however, respondents understood it to mean work beginning in the afternoon and finishing late at night. Likewise, "Night shift" was not selected; however, respondents understood it to mean work beginning in the evening and finishing early in the morning.

There was not a consistent interpretation of "Rotating shift." Some respondents who did not answer "Rotating shift" understood it to mean switching between a daytime and nighttime shift. One employee of a religious community center chose "Rotating shift" because she has three shift variations: $10 \mathrm{am}-2 \mathrm{pm}, 10 \mathrm{am}-6 \mathrm{pm}$, and $3 \mathrm{pm}-8 \mathrm{pm}$. And self-employed respondents who answered "Rotating shift" understood the category to mean having variation in specific hours worked from day to day. For example, one self-employed florist selected this category because she did not have set hours that she worked each day. She explained:

I was thinking I never work the same hours. It's a little different because I don't work shifts because I'm on my own time for the most part. But if I'm doing a wedding, the load-in time is always different. If I'm teaching a workshop, the class time is always
different. If I'm just doing business admin, it's kind of whenever works the best in my day. It's pretty scattered.

This respondent did not think of her work in terms of shifts but felt that "Rotating shift" captured her variation in self-led work hours. Another self-employed respondent, an editor, answered "Rotating shift" because she typically worked on weekday afternoons, but sometimes had to work on the weekends or work 12-hour days.

Similar to "Rotating shift," some respondents who answered "Some other shift" understood it to mean having variation in hours worked from day to day. For example, a self-employed consultant selected this category because his hours were determined by his projects and workload. He answered, 'Some other. It depends on what's going on. If it's an intense project, it's 12-hour days sometimes." Other respondents selected "Some other shift" because they felt that the word "shift" did not apply to their situation; therefore, "Some other shift" was the best fit.

Meaning of shift: The term "shift" did not accurately describe the work hours for respondents (both employed and self-employed) whose work was project-led. Respondents that did not identify with the term answered in different ways. One employed respondent had difficulty selecting an answer and expressed her confusion: "Um, we don't really have shifts. We just kind of work until it gets done, so, um, yeah, they don't really have a shift." The interviewer prompted the respondent to select an answer and she chose "Daytime shift" because she mostly worked 9:00am to $5: 00 \mathrm{pm}$, but her hours varied because she worked with people in different time zones. One self-employed arts educator also had difficulty answering because she did not describe her flexible hours as a "shift." After some thought she answered "Daytime shift" because she worked "in the daytime" but she expressed her unease:

But yeah, that [daytime shift] sounds much more regimented, and like, clock in at 8, clock out at 5 kind of thing, which is not really how most freelancers work, I think.

Both respondents were able to select a response, but the term "shift" made the question more difficult to answer.

A self-employed psychotherapist answered "Some other shift" and expressed that the question was challenging. She said, "The shift question was hard because I don't so much have a shift." Another respondent, a self-employed landlord, chose "Some other shift" because the term "shift" did not fit his experience. He explained:

It's not shift work at all. And therefore it's, um, more of an as needed basis. I tend to choose to work in the hours that would be considered a second shift just from my own circadian rhythm.

As these examples show, the term "shift" caused confusion for both employed and self-employed respondents when answering this question.

Respondent burden: The severe changes to respondents' lives due to the pandemic made this question more burdensome for some respondents. For example, a self-employed editor hesitated before answering "Daytime shift" because she took additional time to consider her productivity level as well as her actual hours worked. She felt that her productivity and mental bandwidth declined due to the "constant level of stress" from the COVID-19 pandemic. Her current work hours fit within a daytime range, but she now works shorter days compared to before the start of the pandemic. That is, she wanted to report the decrease in her hours worked from pre-pandemic to post-pandemic but this question did not capture that for her.
5. How easy or difficult is it for you to change your work schedule to do things that are important to you or your family? Would you say...
a. Very easy
b. Somewhat easy
c. Somewhat difficult
d. Very difficult

Refused
Don't know

All respondents received this question. There were two aspects to this question: the flexibility of their schedule and the types of things they take off work for. For the latter, respondents interpreted the phrase "to do things that are important to you or your family" to mean a wide range of things including: spending time with family or friends, caring for a sick family member, attending a doctor's appointment, running an errand, or attending a work conference. For example, one self-employed respondent answered "Very easy" because she had total control of her schedule and could do "Anything I feel like ...go to the grocery store, stop and do laundry, go to lunch with a friend. That's one of the joys of being self-employed."

For the first part of the question, there were differences between employed and self-employed respondents' experiences which in turn affected how they evaluated their schedule flexibility.

Employed: Employed respondents considered different things when answering this question. Some thought of the effort that it took to get approval from their supervisor. For instance, one facilities maintenance technician answered "Very easy" because his employer always approved requests for time off:

Easy. Very easy. You just go online. They got this online platform thing and you apply for days off, you click. It's not like they are going to deny you unless they really need you to do something. [Laugh] I've yet to experience that.

A different respondent, an employed health care worker, answered "Very difficult" thinking about the rigidity of her job's leave-request process. First, she needs to request vacation and sick leave at least 14 days in advance and her requests are not always approved. Then, if her leave request is approved, she cannot change the dates of her request once it is submitted. Both respondents were thinking solely of the administrative process of getting leave approved.

On the other hand, some employed respondents thought about guaranteed sick leave. One local government employee has used leave to care for a sick family member. She answered "Somewhat easy" because sick leave is guaranteed. "They can't deny you sick leave."

Self-employed: Those who were self-employed took into consideration any lost profit that would come from taking leave. One self-employed freelancer answered "Somewhat easy" thinking about the flexibility of her work hours and that she is able to work evenings and nights if needed. This respondent did not answer "Very easy" because she felt "obligated" to accept new projects which impeded her availability to take off. If they offer her a project, "I'm gonna' take it if I can possibly take it. " Another self-employed respondent, an editor discussed in the key findings, answered "Somewhat easy" and was considering her scheduled autonomy as well as the financial ramifications for choosing to take off work to tend to medical appointments or family vacations.

While most respondents interpreted the question to be asking about schedule flexibility, one selfemployed landlord interpreted the question to be asking if she had difficulty accomplishing important errands. This respondent answered "Somewhat easy" and was thinking about her personal difficulties with attention deficit hyperactive disorder (ADHD) and how this negatively impacted her ability to accomplish errands.
6.1 Does your work schedule at your main job change on a regular basis?
a. $\quad$ No (go to 7)
b. $\quad$ Yes (go to 6.2)

Refused
Don't know
All respondents received this question. Most respondents understood this question to be asking about changes to their hours. Respondents with consistent work schedules had less difficulty answering this question. For example, one employed respondent easily answered "No" because he worked a set 12 -hour schedule. However, respondents with inconsistent work schedules had various interpretations of "change on a regular basis." For example, one self-employed arts educator's working hours changed depending on the day of the week. She explained:

I might have misunderstood your meaning of change. It doesn't change at the last minute. It's just that Monday looks different than Tuesday.

This respondent answered "Yes" thinking of routine fluctuations in schedule. Conversely, one self-employed consultant's schedule changed often but he answered "No" because he was not switching from a daytime schedule to a nighttime schedule and, therefore, did not count the changes. He said, "Not regular. It changes often, but there's not a cycle to it if that's what you mean." Both respondents struggled with the phrase "change on a regular basis" and arrived at different answers.

Self-employed: One theme that emerged from self-employed respondents was that their work schedule was driven by project deadlines which resulted in a changing schedule being their norm. As described above, some of these respondents answered "Yes" and others answered
"No." For example, one self-employed therapist answered "Yes" because her schedule was driven by therapy sessions and could change if she got a new client or if a client canceled an appointment. She said, "Within the week I can have chunks of time off that I didn't plan for." On the other hand, a self-employed educator answered "No" because, although he does preparatory work during the summer, he has set teaching hours during the fall, winter, and spring. He explained, "No, I mean, except in the summer. But the schedule, I mean, it's the same schedule every day when I'm working. "
6.2 Approximately how far in advance does your employer usually tell you the hours that you will need to work on any given day? [If self-employed ask: Approximately how far in advance do you usually know the hours that you will need to work on any given day?]
a. $\quad 1$ day or less
b. 2 to 3 days
c. 4 to 6 days
d. 1 to 2 weeks
e. 2 to 4 weeks
f. More than 1 month

Refused
Don't know

Respondents who answered "Yes" to 6.1 received this question. Respondents interpreted this question in one of three different ways.

Some respondents understood this question to be asking about when they learn of their work hours on a typical day. For example, one facilities maintenance technician answered "A day. Or that day" because he was notified of his workload and schedule the day-of or sometimes the day before. Some respondents had difficulty answering this question because they had control over their work schedule and were not "told" specific hours to work. One self-employed food delivery driver explained, "That's a difficult question to answer. I drive with [FOOD DELIVERY SERVICE] so I work when I choose. So, I don't know, I don't know how to answer the question." Ultimately, he answered " 1 day or less" based on when he decided to work on any given day.

Other respondents interpreted the question to be asking how long their deadlines are when they receive a new project. For example, one self-employed landlord answered " 1 to 2 weeks" thinking of how long it took him to complete a task once a tenant asked for a repair. He said, "Things that are not urgent, I tell folks, if I haven't done it in a week, get back to me, it means I forgot." One self-employed florist was thinking of the various different deadlines that she received for jobs. She expressed, "Maybe 2 to 4 weeks. On average, uh. More than a month on average. Sorry. On average it would be more than a month." Although she was able to answer the question, averaging the different deadline lengths made it challenging to select an answer.

Lastly, some respondents interpreted this question to be asking how much notice they receive before having changes made to their schedule. One self-employed therapist answered " 4 to 6 days" and was thinking of how much notice her clients gave when they wanted to reschedule or cancel. Another respondent, an employee of a non-profit organization answered " 1 to 2 weeks"
but explained that this was an estimate for how much notice her employer gave (or she gave her employer) when there were changes to her schedule. She explained:

They try to tell you ahead of time. Now it can be as low as 3 days or it can be as much notice as a month. But usually things happen within a week. Like if I know I have a doctor's appointment or I am going to be busy a certain day, I try to give at least a week's notice.

Both the self-employed therapist and the employee of the non-profit organization were thinking exclusively of notices about changes to their schedule and not notices about their standard schedule.
7. Thinking about the next 12 months, how likely do you think it is that you will lose your job or be laid off? Would you say
a. Very likely
b. Fairly likely
c. Somewhat likely
d. Not at all likely

Refused
Don't Know
All respondents received this question. Overall, respondents understood this question to be asking about how much job security they have. Respondents evaluated their own job security by weighing the various factors discussed below. These factors often overlapped and were not mutually exclusive.

Contracts, unions, and assurances: Respondents sometimes referenced contracts, unions, or other assurances as evidence that they would not lose their job. For example, one employed paraeducator answered "Not at all likely" because "We have a good union." Another employed respondent answered "Not at all likely" and referenced assurances that she received from her employer: "They have basically set up our budget to protect us. To keep as many of us as possible."

Job performance: Some respondents thought of their job performance as an indicator of their job security. For example, one self-employed therapist answered, "Not at all likely" and explained, "I know [my supervisor] is happy with my work." Another self-employed respondent, a food delivery driver, answered "Not at all likely" and was thinking about how he received customer ratings for his job performance and if his ratings fell below a certain level, he could be removed from the food delivery platform. He said, "It is not at all likely, but it is a possibility that it can happen."

Need for service: Some respondents thought about the demand for their service or skills when answering this question. One employed emergency public safety dispatcher answered "Not at all likely" because of her excellent job performance and the high demand for workers in her field. She said:

Well, I'm very good at my job, and with staffing shortages the way they are already, it would have to be something like severely tragic for me to actually lose my job.

Another employed respondent, a facilities maintenance technician, answered "Not at all likely" because, "They need me." Respondents considered these various factors when answering.

Self-employed: Even though the question included the phrase "lose your job," self-employed respondents focused on the term "laid off" which was not applicable to them for several reasons and, therefore, caused confusion. Some self-employed respondents felt that they couldn't be laid off because they did not work for someone else. For example, one self-employed editor answered "Not at all likely" and explained, "I can't really be laid off because I don't have an employer." The aversion to the term "laid off" led to some self-employed respondents answering "Not at all likely" even if they anticipated facing periods without work. For example, one selfemployed consultant answered "Not at all likely" and explained that there were periods where he did not (and would not) have work when he did not win a grant, but he did not count this as being "laid off" because he does not "work for anybody."

Additionally, the term "laid off" was interpreted by some to be a legal term connected to government-provided unemployment benefits that self-employed individuals are not eligible for. For example, a self-employed arts educator answered "Not at all likely" and explained:

See, contractors don't. Sometimes they get laid off, but mostly they just don't get more work. And that's very different, because there are huge financial ramifications to being laid off, where if a contractor just doesn't get more work, you just don't get more work, period. There are no advantages to that. You can't - normally you can't file for unemployment.

For these reasons, self-employed respondents had more difficulty answering this question.

## 8. During the past 3 months, how many days did you work while physically ill? a. days <br> b. None <br> Refused <br> Don't know

All respondents received this question. Probing for this question was conducted in conjunction with the question about missing days of work (question 9). Overall, respondents understood this question to be asking about working while sick. This question can be broken into three main parts:

During the past 3 months: Some respondents were thinking of the past 3 months when answering this question. For example, one employed franchise manager was thinking specifically of the past 3 months and answered "None" because the last time he worked while sick was almost 5 months ago. Another respondent, a self-employed consultant, was thinking of the past 3 months, but had difficulty answering because he frequently worked while sick due to
recurring ear infections. Initially he responded, "Several" and when forced to estimate a number of days, he answered, "During the past 3 months? Let's say five."

Some respondents had difficulty recalling the past 3 months and used their life-habits (e.g., normally not working while sick) to choose an answer to this question. For example, one selfemployed editor answered "None" because she was somewhat sure that she had not been sick recently and explained that she would normally take the day off if she were sick. Another respondent, a self-employed landlord, answered "None" and admitted, "I can't remember. I think I probably had a few little blips where I probably had a cold."

Partial vs. full days: One employee of a religious community center included a partially-worked day when answering this question. She answered " 1 day" because there was one occasion in the past 3 months where she worked a partial day feeling ill, and then took sick leave for the last part of the day. Other respondents were thinking of full days of work that were worked while sick.

Physically ill: Some respondents were thinking of both COVID-19-related illness and non-COVID-19 illnesses when answering this question. For example, one health care worker answered "None" and was thinking of illnesses associated-with and not-associated-with COVID19 including nausea, headache, injuries, and pain. Although mental illness did not emerge as a theme in all interviews, in the interviews that it emerged, respondents did not count working with mental illness as working while "physically ill."

Confusion with timeframe: Focus on the pandemic caused some respondents to ignore the timeframes presented in this question. Many respondents answered this question thinking about since the start of COVID-19 pandemic because their experiences with illness were drastically impacted by the pandemic. For example, an employed paraeducator answered "None" thinking broadly since the start of the pandemic because he had implemented many safety precautions to protect against COVID-19. He answered:

No, that's the great thing about Coronavirus, I mean, I'm not exposed to anybody in any capacity where I could even catch a cold. It's the longest stretch of my life without a cold. 14 months without a cold.

Another respondent, a self-employed psychotherapist, also answered "None" thinking about her health since the start of the pandemic. She explained, "I don't know that I've felt ill or sick since maybe a year and a half ago. I don't remember during the pandemic feeling sick." Both respondents ignored the timeframe presented in the question and answered based on their experiences of during the pandemic and not during the past 3-months. While this may not have led to response error, the following section describes an instance where it did.

Response error: Confusion with the question's timeframe led to response error (false negative) in one instance. The self-employed editor initially answered "None" based on her recollection of being well during the pandemic. However, she later considered the shorter timeframe of 3 months and recalled a project that she worked on while ill for 3 days.

## 9. During the past 3 months, about how many days of work did you miss because you were ill or because there was chance you had COVID-19?

a. ___ days
b. None

Refused
Don't know
All respondents received this question. Probing was conducted in conjunction with the question about working while physically ill (question 8). Respondents understood this question in different ways.

Illness: Some respondents understood this question to be asking about times that they had taken off work due to physical illness including, but not limited to, COVID-19. For example, one selfemployed editor answered "None" because she had not been sick recently. Another selfemployed respondent, a consultant, answered " 2 days" considering both COVID-19 and non-COVID-19 illness. He said, "It wasn't COVID, it was these ear infections."

While respondents included COVID-19 and non-COVID-19 illness, there were two main exceptions to "ill" that emerged: mental illness and symptoms from the COVID-19 vaccine. For example, one local government employee answered "None" because she did not include the two mental health days that she took recently since she was not "physically ill." Another respondent, a self-employed florist recently took a day off due to having symptoms after taking the COVID19 vaccine but answered "None" because she did not count these symptoms as "ill." She explained:

Yeah, I guess that would be one because of the vaccine. Yeah, you are right. I don't know. I guess I didn't really think of that as ill, but I definitely was unable to work because I did not feel well.

COVID-19 only: Some respondents interpreted this question to be asking exclusively about working while having COVID-19. One self-employed food delivery driver answered "None" and when asked to rephrase the question said, "... was I conscious of my COVID-19 positivity status and did that affect my decision to work? That's what I understood the question was asking. " This respondent was thinking specifically of COVID-19-related illness.

Administrative sick leave: Some respondents understood this question to be asking about sick leave in the administrative sense. One employee of a religious community center counted a day that she used sick leave to care for her sick child. Another respondent, a facilities maintenance technician, was not thinking of times that he was ill but, "Took off three Monday's or so, you know, because I was trying to get stuff done. Take time off to do stuff." This respondent was thinking of "sick leave" that was used as a regular day off, not related to illness at all.

Self-employed: As detailed in the key findings, some self-employed respondents had difficulty understanding what counted as "missing" work because they had control over their own schedule.

Confusion with timeframe: As seen in question 8, some respondents spoke of their health in generalized terms since the start of the COVID-19 pandemic and, therefore, were answering about beyond the past 3 months. For example, a self-employed therapist answered "None" because she had not been sick for the entirety of the pandemic.
10. Is the company that pays you at your main job a temporary help or staffing agency?
a. Yes
b. No

Refused
Don't Know
*Read If Necessary: A temporary help or staffing agency is a company that supplies workers for temporary assignments to other companies or organizations.

Respondents who selected "Employee of a private company for wages" to question 1.1 received this question and all respondents answered "No." Respondents understood this question to be asking if their employer was classified as a temp agency and most respondents were able to define temp agency. One employee of a public library defined a temporary help or staffing agency and explained how her job was different:

The places that when you are trying to find a job... you give them your resume and they send you to a place that needs help that's best suited to your resume. And usually, they have the opportunity to turn into a permanent job. Mine is you get hired, you are hired, you work for us now.

This respondent had a clear understanding of the term "temporary help or staffing agency" and was confident that her job did not fit that definition.
11. Over the past 30 days, how many mandatory hours of overtime did you work per week at your main job?
a.

Refused
Don't know
*Read If Necessary: By overtime, we mean work hours required by your employer that are over 40 hours per week.

All respondents received this question. Most respondents understood this question to be asking about how often they were made to work more than 40 hours per week in the past month. Some respondents could easily answer this question because their hours were consistent or because they had limits on the number of hours that they could bill for. For example, an employed franchise manager answered "None" because, as a manager, he was not allowed to bill for overtime. However, this question was too cognitively burdensome to calculate for some respondents. For example, one employed facilities maintenance technician understood what the question was asking but was unable to provide an answer because he worked overtime
frequently. He said, "Because I would have to go back and look at my hours. I would have to look at records and stuff and I don't like that. I have no idea."

Self-employed: Self-employed respondents had a lot of difficulty answering this question for a variety of reasons. For some, "mandatory" did not fit their employment experience because they did not have a supervisor telling them when to work. This was exemplified by one selfemployed florist who answered "None" because she had control over her schedule. There were times in the past month that she had worked more than 40 hours in a week, but she did not count this as mandatory overtime, because she chose to take on the extra work.

For others, the point of confusion was with the term "overtime" because it did not fit the experience of self-employed workers. One self-employed arts educator refused to answer because the term "overtime" did not apply to her situation as a self-employed worker. She said, "That question needs work. Because there is no overtime in the contractor's world that I know of." It is possible that this respondent was thinking of "overtime pay" in the sense of being paid a higher rate for hours worked beyond 40 hours.

The term "overtime" also added confusion for self-employed respondents that tracked their work by projects and not by hours. For example, a self-employed landlord answered "None" and alluded that overtime did not apply to her situation because her work is project-based. She said, "None. It's like a project-based thing. It's like got to clean the apartment, keep working till it's clean." Another self-employed respondent who answered "None" had complete control over her schedule and worked as much as necessary to complete her projects; therefore, she did not see a need to track her hours.

## 12. Considering your performance at your main job, how fairly are you rewarded? Would you say... <br> a. Very fairly <br> b. Somewhat fairly <br> c. Somewhat unfairly <br> d. Very unfairly <br> Refused <br> Don't know

All respondents received this question and respondents interpreted this question in different ways.

Fairness of pay: Some respondents understood this question to be asking if their pay was fair. For example, some respondents answered "Somewhat fairly" because they felt that they should be paid more. Respondents considered multiple things when appraising their pay. Some selfemployed respondents compared their rates to standard market rates. For example, one selfemployed landlord answered "Somewhat fairly" because the prices that she charged were "somewhere in the middle" of what the market prices were. Other respondents compared their pay to the pay of others (both in their field and in differing fields). For instance, one selfemployed editor answered "Very fairly" because she made "a lot of money from it" and her hourly rate was higher than that of a lawyer.

Job performance: Some respondents thought this question was asking if they are doing a good job and are paid well. When asked how she understood the question, one self-employed psychotherapist who answered "Very fairly" explained, "It means, how well am I doing? Am I doing my job well? I consider myself to be fairly compensated based on other options for someone who is pre-licensure." This respondent thought about her pay in relation to her credentials as well as her performance when answering this question.

Broad interpretation of rewarded: Some respondents had a broad interpretation of "rewarded" and thought the question was asking if they received decent compensation, monetary bonuses, non-monetary recognition by supervisors, and personal fulfillment from their job. For some, this broad definition was not a problem because they would rate each of the various aspects favorably. For example, an employed librarian answered "Very fairly" because she thought that her pay was fair considering her credentials and because she received personal fulfillment from her work. She explained:

> Does my salary match my position and my education and everything? And I would say yes. And the job itself is pretty great... I love what I do. I love the flexibility I have. I love that I'm able to create. I love that I'm able to put things out there that help our community. I love that I am a resource for the community. I love what I do. You can't really beat that.

For other respondents, this broad interpretation made answering this question challenging. For example, one employed respondent had difficulty weighing the various competing factors before answering "Somewhat fairly." She received some benefits from her job (e.g., fair hourly pay, an employee gym membership, and tickets to theatre) but there were also benefits that other employees received that she did not receive due to being part-time (e.g., validated parking, uniforms, designated lunch area, and employee appreciation parties). The numerous components of what defined a "reward" made this question very difficult for this respondent. Another employed respondent had difficulty evaluating the fairness of her workplace rewards because there were many elements to consider. This respondent expressed this dilemma when she answered, "It all depends on what's going on. Because some weeks are heavier than others. So, I will have to throw in another answer, it all depends." This respondent arrived at the answer of "Somewhat fairly," but answering this question was very burdensome.

Some respondents were confused because they were unsure if "rewarded" was supposed to mean "fulfilled." The exchange below illustrates the difficulty that a self-employed editor, who answered "Somewhat fairly," had.

Interviewer: Considering your performance at your main job, how fairly are you rewarded? Would you say very fairly, somewhat fairly, somewhat unfairly, or very unfairly?
Respondent: Rewarded? You mean paid?
Interviewer: Is that what you are thinking of?
Respondent: I'm not sure. If I say rewarded like is it fulfilling? [laugh] Sure.

Interviewer: Would you say very fairly, somewhat fairly, somewhat unfairly, or very unfairly?
Respondent: Somewhat fairly rewarded. Is it somewhat fairly fulfilling? Yes.
Interviewer: So when you hear this question you are hearing 'fulfilling'?
Respondent: I'm really hearing financial, in which case, somewhat fairly. I don't know. It's confusing to me.

Ultimately this respondent arrived at an answer, but they were unclear of the question intent.
Response error: There was one case of response error in which an employed respondent was thinking of their previous job and not their current job. It was unclear why this occurred.

## 13. On average, how often do you have to work an extra shift on short notice, that is within a day or less.

a. Never
b. Once a month or less
c. Two or three times a month
d. Once or twice a week
e. More than twice a week

Refused
Don't know
All respondents received this question and interpreted it to be asking how often their supervisor asked them to work overtime. For example, one employee of a religious community center answered "Once a month or less" and was thinking about how often her supervisor asked her to cover hours for her colleagues who have called out. Another employed respondent answered "Never" because he had never been asked to work overtime. Some employed respondents also weighed how often they agreed to their supervisor's requests to work overtime. For example, one local government employee answered "Once a month or less" because she occasionally filled-in for a colleague, even though she did not have to. She said, "Yes...but it's on my ability to fill them. It's not like I'm required to fill them." This respondent made the distinction that it was not mandatory, but she decided to work an extra shift once a month or less.

Self-employed: Self-employed respondents interpreted the question the same way that employed respondents did (how often their supervisor asked them to work overtime). However, this interpretation was problematic for self-employed respondents because they did not have a supervisor deciding their schedule. One self-employed food delivery driver initially answered, "It's my choice." When asked to choose a category, he selected "Never" because, even though outside circumstances such as an unexpected bill occasionally inclined him to work extra shifts, he was always in control of when he worked.

Many self-employed respondents thought about their work in terms of projects and not in terms of hours. For this reason, some self-employed respondents felt that the term "shift" did not apply to their situation. For example, one self-employed arts educator's work was organized around projects and not set hours. This respondent refused to answer and said, "I refuse to answer
because of the word shift." Another self-employed respondent, a psychotherapist, answered "Never" because taking an extra client did not constitute a shift and she had control of when she accepted additional clients. She answered:

Never? I might take a client on short notice, but that's not a shift. And that's not a requirement. It's not my boss saying I need to take this client. It's me going 'okay.'

This respondent disqualified the extra hours that she works because she does not identify with the term "shift" and interpreted this question to be asking about mandatory shifts, which does not apply to her as a self-employed person. Also, as discussed in the key findings section, some selfemployed respondents thought about unexpected tasks that they had to complete because these tasks would be the cause of extra hours worked.

## 14. (Round 1) Which statement best describes the number of hours you want to work...

## a. I want to work more hours

b. I want to work fewer hours
c. I work about the right number of hours

Refused
Don't know

## (Round 2) Compared to the numbers that you currently work, would you like to work...

## a. More hours

b. Fewer hours
c. About the same number of hours

Refused
Don't know

This question was revised between round 1 and round 2 of testing to comply with the standard response format of NHIS which does not include statements within response categories. There were no differences in question interpretation between rounds; therefore, the analysis is presented jointly below.

All respondents received this question and respondents understood it to be asking if they wished to have fewer or additional work hours. Respondents considered numerous items when answering this question.

Financial ramifications: Some respondents considered the financial ramifications of working additional or fewer hours. For example, one employed franchise manager in round 2 answered "About the same number of hours" because he did not want his pay to decrease as a result of working fewer hours. He explained, "The pay would change if the hours did. If I was working shorter hours, then I would not see as much income as I get now." This respondent thought of the practical implications of working hours when answering this question.

For some respondents, their experiences during the COVID-19 pandemic influenced how they judged their work hours. One self-employed editor in round 1 answered "I want to work more hours" because her sales had been down since the start of the pandemic and she wanted her hours to increase to pre-pandemic amounts. She said, "I would like to work more hours. I don't know the time frame. If it's over the past year, I would like to work more hours."

Work-life balance: Other respondents considered their mental bandwidth and their work-life balance when answering this question. For example, one employed emergency public safety dispatcher in round 1 answered "I work about the right number of hours" and described her satisfaction with having a set schedule and being able to plan ahead for vacations. Another respondent, a self-employed consultant in round 2 answered "Fewer" thinking about an idealistic scenario where he would be paid more while working fewer hours to attain a work-life balance. This respondent is also an example of the idealistic scenario heuristic discussed below.

Societal norms: Some employed respondents considered societal norms when evaluating their work hours. For example, one employee of a public library in round 1 answered "I work about the right number of hours" and explained, "Full time job, 40 hours a week sounds... Maybe that's because what we are used to, but that sounds logical to me." That is, the social norm of full-time work influenced her satisfaction with the amount that she works.

Idealistic scenario heuristic: Many respondents thought of idealistic scenarios in which they could work fewer hours and be paid more. Some respondents answered based on that hypothetical. For example, one local government employee in round 1 answered "I want to work fewer hours" and said:
[Laughs] I want to work fewer hours in life and make more money, so I want to work fewer hours... Meaning, at some point everybody wants to not have to work hard and make a lot of money (laughs)...I don't like working 40 hours a week.

Other respondents acknowledged the idealistic scenario of working fewer hours for more pay but answered based on their present reality. For example, one healthcare worker in round 2 answered "About the same number of hours" after stating, "I'd like to work fewer hours if I'm going to get paid more money but if I'm not going to get paid more money I'll just keep the same hours." The scenario of working fewer hours for more pay was part of this respondent's thought process, but ultimately, she answered thinking of the financial ramifications of working more or less hours (theme discussed earlier).

Self-employed: As discussed in the key findings, many self-employed respondents' work was organized by project and not by hours. Some self-employed respondents faced a lot of variation in their work hours depending on their project workload and this variation made it difficult for them to select an answer. For example, one self-employed editor in round 1 had difficulty before answering "I work about the right number of hours" because her project workload and hours fluctuated week to week. She said, "Since it varies it's kind of hard to say, so I would say, I work about the right number of hours, because it all kind of evens out." This is an example of how the structure of self-employed respondents' work made questions more difficult to answer.

Another respondent had so much difficulty that they could not answer this question. The selfemployed food delivery driver in round 2 refused to answer this question after having it repeated twice. He was unable to understand this question because he has complete control over how many hours he works and could work more or fewer at any time that he sees fit.

More than one job: Some respondents with multiple jobs also found this question challenging because they were considering all of their jobs. One respondent in round 1, a self-employed landlord with multiple jobs had difficulty answering this question because they were considering multiple factors (income, energy, work environment, etc.) across all their jobs. This respondent needed to have the question and response categories repeated twice before being able to select "I work about the right number of hours." She was thinking about both her main work as a landlord as well as her side landscaping business. To add to her confusion, she was also comparing her current situation with a past experience in a toxic work environment.

### 15.1 Which of the following best describes how you are paid (in your main job)? <br> a. Salary (go to 15.2) <br> b. Hourly wage (go to 15.2) <br> c. Some other way (go to 15.3) <br> Refused <br> Don't Know

All respondents received this question and most understood the question to be asking how they are paid in their main job. For example, a self-employed editor answered "Hourly" because she was paid by the hour and had two different hourly rates depending on if she was writing or editing.

Respondents understood "Salary" to mean an agreed-upon annual pay. Some respondents understood salary in comparison to hourly in that salaried employees did not have the ability to earn overtime pay, but hourly employees did. For example, one employed emergency public safety dispatcher answered "Hourly" and explained that she is glad that she is hourly because she receives overtime pay and she would not want to be salary. "If I had to come in and I had to work a whole 'nother shift the next day and I'm not getting paid for that, I'm going to feel some kind of way about that." This respondent understood the term "salary" even though it was not her own pay structure.

Respondents understood the term "Hourly wage" to mean an agreed-upon hourly-rate for work. For example, one employed franchise manager who answered "Hourly" used the term "hourly wage" when describing his employment in his own words earlier in the interview.

The "Some other way" response category captured a number of different respondent experiences. The two self-employed landlords classified their rental payments as "Some other way." Other self-employed respondents (a psychotherapist, food delivery driver, two editors, and a consultant) selected "Some other way" because they were paid per project completed or per client served. This was likely influenced by the phenomena of self-employed respondents thinking about and measuring their work in increments of projects and not hours.

Difficulty: One respondent, a local government employee had difficulty answering this question because she was paid both hourly and salary. This respondent initially answered "Hourly" but during probing remembered that she was paid a salary for the main portion of her job and changed her answer to "Salary." To add further complication, she was paid an hourly rate when she works "on the operations floor." She explained:

But I guess, I guess I'm salary... Let me correct that, I do believe that I am salary, because they gave me a salary, this is your salary. But when I work the operations floor, I then turn into an hourly employee because they will pay me straight pay at my hourly rate.

In short, the local government employee had a very complex pay structure and that complexity made answering this question difficult.

Response error: There was one case of response error in which a self-employed landlord answered based on her on-the-side landscaping business and not her main job. This respondent answered "Hourly" thinking of how she billed clients for her on-the-side landscaping business. During probing, the interviewer asked how she would answer if thinking of her main landlord job and she explained, "For [ROOM RENTAL COMPANY] it's other. It's not salary and it's not hourly." It is possible that she thought of her side business because the answer categories applied easier to that work, whereas they did not capture her main job's pay structure. This is also an example of the key finding that respondents with multiple jobs thought of different jobs for different questions.

### 15.2 Is there any other way that you are paid? <br> a. No (go to 16) <br> b. $\quad$ Yes (go to 15.3)

## Refused

Don't Know
Respondents who answered "Salary" or "Hourly wage" to question 15.1 received this question. Most respondents thought this question was asking if their main job compensated them outside of their hourly wage, or salary. For example, one self-employed arts educator answered "Yes" because she received either incremental or lump-sum payment depending on if she won a direct contract or a subcontract, all of which was part of her main job. Respondents who interpreted the question this way exclusively answered about their main job and did not include sources of pay from secondary jobs. For example, one employed healthcare worker answered "No" because she is only paid hourly at her main job. She did not include the mileage pay that she receives from her secondary job. Another employed respondent, a facilities maintenance technician, initially thought of the unreported cash payments that he receives from his side-jobs but decided to answer solely based on the way he is paid at his main job.

More than one job: However, there were some respondents with multiple jobs who interpreted this question to be asking if they have income outside of their main job. For example, one government contractor receives a salary at his main job and is paid "by the job" at his side-job. He answered "Yes" to this question thinking about his "by the job" pay at his side-job. In other
words, he answered this question thinking about a different job than what he thought about for other questions because his side-job made the most sense in the context of the question.

### 15.3 What other way are you paid?

## a. Commission or bonus

b. Tips
c. Based on the quantity of work you accomplish, such as the number of jobs, number of items, services, or sales
d. Profit from a business that you own
e. Other

Refused
Don't know
Respondents who answered "Some other way" to 15.1 or "Yes" to 15.2 received this question. Respondents understood this question to be asking how they are compensated outside of their hourly wage or salary. For example, one self-employed editor answered option C and said, "I guess it would be quantity of items? I charge by the word so I guess that would count as quantity of items, quantity of words?" As with questions 15.1 and 15.2 , most respondents were thinking about pay from their main job; however, there was at least one respondent who thought about sources of income outside of their main job when answering 15.1-15.3.

More than one respondent requested to select multiple response categories to this question. The current format of this question on the NHIS is forced-choice, meaning that respondents who want to select more than one category will either select "Other" or will be forced to choose the option that seems the most salient to them. For example, one self-employed food delivery driver explained, "We are paid $100 \%$ commission. We are paid tips and we get paid bonuses as well if we work during specific time periods. " Since he could only choose one option, he chose option C, which captured quantity of work, but it did not capture commission pay nor tips (options A and B). This is to say that some granularity of data may be lost with a forced-choice format.

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16. During the past }12\mathrm{ months, which of the following statements best describes your home
finances at the end of each month? With regard to money, do you have?
a. more than enough
b. just enough
c. not enough
d. much less than enough
Refused
Don't know
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All respondents received this question and all understood it to be asking how they would rate their financial well-being. Respondents considered a combination of phenomena, discussed below, when answering.

Home finances: The term "home finances" was not consistently understood. It could mean family unit, or it could mean household unit, regardless of relationships within the household. Respondents who were living with a partner or spouse counted their partner's income as part of
their home finances. For example, one employee of a public library was thinking of the combined income between her and her husband. Respondents did not include the income of nonpartners that they were living with, such as roommates or parents, as part of their home finances. For example, an employed franchise manager was thinking about his individual finances and did not consider his mother's income even though he is living with her.

Bills: Respondents used their ability to pay their bills to judge which answer to choose. For example, one local government employee answered "Just enough" and explained, "We can pay our bills, we can feed our kids, and we can do small things." Another respondent, an employee of a religious community center, answered "Not enough" and explained, "So what happens is that I spend money without any direction and then when my check comes in, I'm busy playing catch-up with bills." Both respondents judged their financial stability based on their ability to pay bills and, depending on their situation, arrived at different answers.

Some respondents thought about whether or not they required outside assistance to cover their bills. For example, one self-employed landlord could afford to pay all her bills on some months with her income and government assistance, but on other months she needed to receive financial assistance from her family and friends. This respondent initially wanted to select a middle category, but after hearing the response options repeated twice selected "Not enough." Another respondent, a self-employed arts educator, answered "Just enough" because she could afford to pay her bills without governmental assistance but did not have any disposable income to purchase non-necessities like books.

Savings: Respondents' ability to save was also examined when answering this question. For example, one self-employed consultant who was unable to save answered "Not enough. I'm meeting my basic expenses, but I'm not putting anything away, so that equals not enough." Another respondent, a self-employed florist, used her ability to save money as reason for why she chose "More than enough." She said, "Like no problem paying for life necessities like food, house, bills, and still with money to save. So, I think if you are able to save, you technically have more than enough..." On the other hand, one corporate employee described her situation as "not really struggling" and used her desire for more money in her savings as justification for why she answered "Just enough" rather than "More than enough."

Recreation: Some respondents also thought about their ability to afford recreational activities and conveniences such as eating out. For example, one self-employed editor answered "More than enough" because she did not have to worry about paying her bills and her family could afford to eat out regularly. Another respondent, a local government employee answered "Just enough" and explained, "It's not like we have an abundance of money [for] life to splurge and go on trips and live a lavish life. We can pay our bills, we can feed our kids, and we can do small things." These respondents considered their ability to afford recreational activities in addition to their bills.

Month-to-month changes: A few respondents had drastic changes in home finances within the reference period of 12 months. One government contractor initially responded, "Can you give two answers to this?" and expressed, "It varies between just enough and more than enough."

This respondent decided to answer "More than enough" even though there were months where he would rate his finances as "Just enough."

Sensitive topic: There were some indications that this was a sensitive topic with respondents showing signs of discomfort by looking down, laughing, and having long pauses while answering or during probing of this question. For example, one employee of a religious community center answered "Not enough" and during probing expressed:

Ugh [sigh and looked down]. Well um [laugh]. I think that [12 second pause with hand on chin]. Some of it is a personal issue. I have a lunch problem...

This respondent demonstrated signs of discomfort with her sigh, laugh, long pause, and body language. Then the respondent attributed her financial hardship to a bad habit of buying lunch, likely another indication of unease because later in the interview she described more serious reasons including being laid off during the pandemic, being restricted to part-time at her current job, and recently having a child.

There were also indications of possible social desirability bias in which respondents provided an answer that portrayed a socially acceptable image of being financially secure. Some respondents answered on the higher end of the response scale ("More than enough" or "Just enough") while also describing situations of financial hardship. For example, one emergency public safety dispatcher went from a two-income household down to a one-income household over the past 12 months because of a divorce, but described both financial situations as "Just enough."

Confusion with timeframe: Due to the impacts that the COVID-19 pandemic had on respondents' lives, some respondents were answering this question thinking generally since the start of the pandemic and not literally the past 12 months. For example, a local government employee answered "Just enough" and was thinking about the different financial obstacles that she went through since the start of the pandemic. For instance, her spouse lost his job at the start of the pandemic, but even when he was on unemployment, she always considered themselves to have "Just enough." Another respondent, a self-employed psychotherapist answered "More than enough" and described the COVID-19 pandemic having a positive impact on her finances. She explained, "I was more-tight on funds pre-pandemic when there was more I could do and more fun I could have, going to movies. And I had a commute." Both respondents ignored the 12month timeframe and thought about the pandemic when answering this question.
17. Besides the employer who pays you, is there any other company or organization that also supervises you or directs how you do your job?
a. No, my supervisors all work for the same employer who pays me
b. Yes, there is at least one person in another company or organization who supervises
me
c. I do not have a supervisor

Refused
Don't know

Employed respondents received this question and self-employed respondents skipped out of this question. Overall, most respondents understood this question to be asking if anyone else supervises them. For example, an emergency public safety dispatcher answered "No, my supervisors all work for the same employer who pays me" because all her supervisors worked in the same department as her.

The definition of "supervise" was not consistently probed across all interviews; however, there were a few different definitions for this term that emerged from respondents' narratives. Some respondents' definitions of "supervise" included task management. For example, one employed paraeducator answered option "A" and was thinking about two distinct groups of supervisors that they have; one group that supervised the "day-to-day academic work" and a second group that managed "logistics, days off...my overall schedule." Another respondent who answered option "A," an employed facilities maintenance technician, was thinking of all of the people that influenced his work including his formal supervisor and various colleagues that provided directives of how he should perform his job.

One respondent, an employed healthcare worker, was unsure if outside enforcement officials for state guidelines should be included in this question. Ultimately, this respondent did not include these enforcement officials because they did not supervise her day-to-day work and she decided to answer option "A."

Respondents had difficulty with the long response categories with some respondents needing the question repeated and some being unable to recall the categories. For example, one respondent answered, "The first one" instead of repeating the category text of "No, my supervisors all work for the same employer who pays me." Another respondent simply answered "Nope" when selecting this category.

Response error: There was one instance of response error in which an employed government contractor was not thinking about their main job when answering. At this respondent's main job, all his supervisors worked for the same company as him. However, he answered, "I do not have a supervisor" thinking about his side-job and explained, "I don't have a supervisor in my side hustles." It is possible that the phrase, "Besides the employer who pays you..." made the government contractor think that he should exclude his main job altogether.

## 18. (Round 1) In my work, I feel alive and vital.

a. Strongly disagree
b. Somewhat disagree
c. Somewhat agree
d. Strongly agree
(Round 2) Please tell me whether you strongly agree, agree, disagree, or strongly disagree with this statement. In my work, I feel alive and vital.
a. Strongly agree
b. Agree
c. Disagree
d. Strongly disagree

Refused
Don't know

This question was administered to all respondents. It was revised between rounds of testing to align with the standard "Agree/Disagree" question format of the NHIS which includes an introductory statement in the question stem. The overall question performance was consistent across rounds; therefore, the analysis is presented collectively below.

Overall, respondents interpreted this question to be asking if they enjoy their job. Respondents considered a wide array of things when answering this question including if they found the work to be engaging, energizing, thoughtful, creative, challenging, and if their work was helping people or in alignment with their own life's purpose. For example, one employed paraeducator in round 2 answered "Strongly agree" because he felt he was making a difference in his community and because the work was challenging and the workplace culture was supportive. He said, "And I like my specific job duties with them, like I feel like I'm making a difference in their lives." Another respondent, a self-employed editor in round 1 answered "Strongly agree" and explained:

I just, I feel like it's what I'm meant to do. I love doing it, and it's something that, you know, I've helped people who don't have, that I wouldn't ask to pay me. Like if they want help with their resume, or if they've written a short book or something, I'm happy to look at that for them without charging them money. So you know, this is one of those jobs that I could see myself doing and not getting paid for, just for the sheer pleasure of doing it.

Respondents like these thought mainly of the positive attributes of their job. However, many respondents considered both positive and negative aspects of their work before arriving at an answer. For example, a healthcare worker in round 2 answered "Strongly agree" because the good far outweighed the bad. She explained, "I like my job. It can be tedious at times but for the most part this is a decent company to work for." A self-employed consultant in round 2 answered "Strongly disagree" because, although his work was in alignment with his life's purpose, the work is very depressing. He said, "Like I said, it's soul-sucking."

Difficulty: Some respondents showed confusion or asked for the question to be repeated, especially in round 1. One local government employee in round 1 conveyed confusion by
hesitating several seconds and turning her head back and forth before answering, "Ehh ...somewhat agree. Somewhat agree. I like what I do." A few respondents laughed when they heard the question. The following is dialogue between a confused self-employed editor and the interviewer in round 1 :

Interviewer: In my work, I feel alive and vital.
Respondent: I'm sorry, go over the options again [Laugh].
Interviewer: Strongly disagree, somewhat disagree, somewhat agree, or strongly agree.
Respondent: I'll say agree [Laugh].
Interviewer: Tell me a little bit about why you are laughing.
Respondent: [Laugh] I feel vibrant? I don't know, I'm just getting the work done. I do a good job and get paid to do it. That's good. And I like learning while I'm working. I'm not a surf instructor or anything. [Laugh] It's not like exhilarating or anything [Laugh]. My brother was a ski instructor and that's exhilarating.

This respondent was confused by the intent of the question and had difficulty selecting an answer. Ultimately, the interviewer coded the respondent's answer of "Agree" as "Somewhat agree" to fit the response categories. Both of these examples indicate that this question caused confusion among some respondents.

## 19. In your job, how often do your supervisors use electronic monitoring to keep track of what you do? <br> a. Not at all <br> b. A little <br> c. Somewhat <br> d. A lot <br> Refused <br> Don't know

This question was administered to all respondents. Most respondents understood this question to be asking if their boss watches what they do. For example, a self-employed food delivery driver answered "A lot" because the company that he contracts through uses an app and GPS to keep track of the status of his deliveries. He explained, "So they know where we are all the time." Though all respondents understood this question to be asking about their boss watching them, there was variation in what respondents included in their answers.

Electronic monitoring: Some respondents were familiar with the term "electronic monitoring" and gave examples of keystroke and mouse tracking, productivity tracking, GPS tracking, and camera monitoring. One respondent, an employee of a public library gave the example, "That's when your supervisor can see when you are typing into a spreadsheet." A few respondents were not confident in their understanding of the term. For example, one arts educator was confused by the term and asked for clarification. "Can you tell me what electronic, what did you call it, electronic monitoring - does that mean an ankle bracelet?" This respondent provided an answer of "Not at all" because he did not understand the term nor the question intent.

Potential for monitoring vs active monitoring: Many respondents identified potential ways that their work could be monitored but answered based on their assessment of the frequency that their work was actively monitored. For example, one paraeducator's teaching lessons were recorded via the Zoom platform and, theoretically, those recordings could be used to monitor his work. However, the recordings were not intended for that purpose; therefore, he answered "Not at all." Another respondent, a local government employee, answered "A little" because her supervisor could see everything that she did in the system, but they did not actively monitor her. She explained, "My supervisor doesn't ride my back, she doesn't go behind me and check me, but if she wanted to, she could go in and see everything I do." Although the potential for more monitoring was present, these respondents answered based on the level of monitoring that they perceived to actually be occurring.

Self-employed: Many self-employed respondents felt that this question did not apply to them because they did not have a supervisor. For example, a self-employed landlord answered "Not at all" and said, "Not to my knowledge, especially because I have no supervisors, and yet you always wonder [laugh]." This respondent did not think the question applied to her, but pondered her client's ability to monitor her. A self-employed consultant answered "Not at all" and said, "I would say not at all because I don't think of myself as having a supervisor." The question's built-in assumption that respondents have a supervisor added confusion and difficulty for self-employed respondents.

## Works Cited

Miller K. (2011). Cognitive interviewing. In J. Madans, K. Miller, A. Maitland, \& G. Willis (Eds.), Question evaluation methods. ( $1^{\text {st }}$ ed.) Hoboken, NJ: Wiley.
Miller K, Chepp V, Willson S \& Padilla J. (2014). Cognitive interviewing methodology. John Wiley \& Sons.


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    ${ }^{2}$ https://www.cdc.gov/niosh/topics/nhis/method.html

[^1]:    ${ }^{3}$ https://wwwn.cdc.gov/qnotes/

