A silver lining for the excluded: Exploring experiences that micro-task crowdsourcing affords workers with impaired work access

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Abstract
Micro-task crowdsourcing (MTCS) platforms offer alternative work settings outside traditional work boundaries and thus increasingly attract crowdworkers who face exclusion from access to other work. However, we know little about these crowdworkers' perspective on MTCS and its implications for their personal life. Building on insights from three qualitative surveys with responses from 538 crowdworkers and 576 forum posts in total, we show that despite the often challenging work conditions, MTCS platforms provide these crowdworkers with a work environment in which they can participate in paid work activities without feeling excluded due to their personal circumstances. As a result, MTCS platform work provides these crowdworkers with a set of positive experiences that were not possible before. These afforded experiences go beyond work-related experiences but relate directly to crowdworkers' personal situation and life. Our research yields implications for the literature on MTCS and also for policy makers and stakeholders concerned with the creation of more inclusive work settings.

KEYWORDS
affordance lens, exclusion from work, experiences, micro-task crowdsourcing, social inclusion
1 | INTRODUCTION

We live in a society that pathologically associates worth with work. If one is not working, one has no worth. To be unable to work is practically tantamount to being a non-person.

Clickworker, 2nd survey

Online labour platforms offer new alternative work arrangements outside the boundaries of traditional work settings (Ashford et al., 2018; Caza et al., 2022; Kuhn & Maleki, 2017). Especially, micro-task crowdsourcing (MTCS) platforms offer easy access to paid work by setting low prerequisites and allowing virtual task completion without the need for physical labour (Deng & Joshi, 2016; Durward et al., 2020). These platforms orchestrate large groups of people—the crowd—and distribute short-term tasks in an open call, with the tasks being financially rewarded upon completion (Durward et al., 2016, 2020). MTCS platforms attract a broad range of workers who have different personal circumstances and motivations why they turn to MTCS. While many crowdworkers use MTCS platforms as a side hustle to earn additional income next to their primary job or to spend their leisure time effectively (Dunn, 2020), research estimated that at least one-third of participants on MTCS platforms depend heavily on the income generated, including workers who face exclusion from participating in other work settings outside these platforms (Berg, 2016; Fieseler et al., 2019). Since this group is specifically prone to exploitation and marginalization (Dunn, 2020; Trauth, 2017), it is crucial to develop an understanding particularly of these crowdworkers’ perspective and to explore their experiences in MTCS platform work.

However, while some studies recognize these diverse circumstances and motivations to participate in MTCS (e.g., Deng & Joshi, 2016; Durward et al., 2020), little research foregrounds crowdworkers’ personal circumstances as constitutive of their experiences on MTCS platforms. Prior research has found that crowdworkers can create feelings of autonomy, purpose, and dignity through MTCS platform work while simultaneously experiencing feelings of exploitation and marginalization (e.g., Ashford et al., 2018; Deng et al., 2016; Fieseler et al., 2019; Panteli et al., 2020). Yet, most studies exploring workers’ experiences have predominantly captured crowdworkers as a homogenous group of workers instead of differentiating experiences based on the personal circumstances in which workers use MTCS platforms (e.g., Blohm et al., 2018; Caza et al., 2022; Deng et al., 2016; Deng & Joshi, 2016; Taylor & Joshi, 2019). However, this is problematic because MTCS platforms may afford different experiences to individuals, depending on their personal circumstances (Dunn, 2020; Goods et al., 2019).

To account for the role of crowdworkers’ personal circumstances when exploring experiences of marginalized workers in MTCS, we build on an affordance lens. Affordances—defined as action possibilities emerging from the interaction between an agent and its environment (Gibson, 1986)—are widely used in information systems (IS) research to explain why varying action potentials arise from the interaction between a technology and a user (e.g., Leidner et al., 2018; Volkoff & Strong, 2013). An affordance lens emphasizes that the use of technology and the resulting affordances may vary across users, depending on their goals (Faik et al., 2020), intentions (Leonardi, 2011), practices (Fayard & Weeks, 2014)—or as we argue, based on their distinct personal circumstances. This means that working on MTCS platforms may afford side hustlers experiences that differ substantially from the experiences afforded those with impaired work access (Dunn, 2020; Goods et al., 2019).

Our study focuses on the experiences afforded through MTCS platform work to marginalized crowdworkers who face exclusion from access to other work due to personal circumstances—for example, as we shall show, due to chronic mental health issues or physical challenges. Facing exclusion from paid work causes existential worries about affording basic needs, such as food, clothing, medicine, or education (Fervers, 2018; Jahoda, 1981, 1982; Pohlan, 2019). Besides, more than just the lack of an income, exclusion from work infringes on important psychological needs, such as dignity (Pohlan, 2019; Shore et al., 2011), and can cause depression, alcohol abuse, and the increased risk of falling prey to criminal activity (Leary, 1990; Pohlan, 2019; Yur'yev et al., 2012). Importantly, studies show that particularly individuals with certain personal circumstances such as physical challenges suffer from...
exclusion from paid work. For instance, in the UK the unemployment rate among people with disabilities was found to be almost twice as high compared to people without disabilities (Powell, 2023). Similarly, in the US, studies show that only 21.3% of individuals with disabilities were employed compared to 65.4% of those without disabilities (Bureau of Labor Statistics, 2023). This stark disparity in labour market opportunities emphasizes a major reason why many of these marginalized workers turn to MTCS as access to paid work—a significant group among crowdworkers as pointed out by several studies (e.g., Blanck, 2020; Deng & Joshi, 2016; Dunn, 2020; Harpur & Blanck, 2020).

In order to better understand the value of MTCS platforms as an alternative work setting, it is therefore important to explore what MTCS platform work affords workers who face exclusion from access to other work. These insights are particularly relevant in recent debates about MTCS platforms and the resulting calls for platform regulation and restrictions (Kaine & Josserand, 2019). Consequently, we explore the following research question: What experiences does MTCS platform work afford crowdworkers who face exclusion from access to other paid work?

Building on in-depth qualitative data, we show that MTCS platform work affords crowdworkers, who rely heavily on MTCS as their only access to paid work, meaningful experiences that help them cope better with their personal circumstances, and that also contribute to their personal life. In this context, we shed light on the interplay between crowdworkers’ personal circumstances, MTCS’s distinct properties for these vulnerable crowdworkers, and the experiences afforded through MTCS platform work. Our findings yield important implications for the literature on MTCS, for policy makers, and also for stakeholders concerned with improving socially inclusive work environments.

2 | RESEARCH BACKGROUND

2.1 | Microtask crowdsourcing as an alternative work setting

Online labour platforms reflect a new form of work in the digital age (Ashford et al., 2018; Caza et al., 2022; Durward et al., 2020; Howcroft & Bergvall-Kåreborn, 2019; Kuhn & Maleki, 2017; Taylor & Joshi, 2019). Workers on online labour platforms fulfil tasks remotely for financial compensation, without any formal employment relationship with the platform or the requester (Ihl et al., 2020; Kuhn, 2016). Approximately 19 million individuals have obtained work at least once through online labour platforms, and five million have completed at least ten projects (Stephany et al., 2021). Mean hourly wages range from $5.55 for microtasks to $20.88 for online freelancing (Hornuf & Vrankar, 2022). Online labour platforms serve as intermediaries bringing together work providers and workers worldwide (Fu et al., 2022).

The types of online work vary across platforms and range from high-skilled, specialized tasks, such as programming and designing, to very simple tasks that require no specialized skills, for example, evaluating depicted or written content or transcribing audio files (Kässi & Lehdonvirta, 2018; Schlagwein et al., 2020; Taylor & Joshi, 2019). Some crowdsourcing platforms focus on high-skilled and specialized tasks (e.g., Upwork, Elance, Rent-a-coder, Freelancer, o-Desk), while others focus on rather generic, short, and simple microtasks that do not require specific knowledge and training (e.g., MTurk, Clickworker, MobileWorks) (Deng & Joshi, 2016; Dunn, 2020; Huang et al., 2020). Particularly these MTCS platforms, due to their low entry barriers, target a broad range of individuals (Deng & Joshi, 2016).

MTCS platforms focus on microwork for micropayments, defined as “a type of online, participative activity in which undefined, generally large groups of individuals take on micro tasks posted on a web-based, third-party platform in an open call by organizations or individuals in exchange for micropayment” (Deng et al., 2016, p. 281). All tasks are carried out digitally and remotely, as MTCS does not require any physical interaction between the crowdworker and the requester (in contrast to, e.g., ride-offering platforms, such as Uber, which need the driver to be physically present). Typical tasks in MTCS include image categorization, questionnaire participation, and file sorting (Kost et al., 2018).
2.2 Platform properties and associated worker experiences

MTCS platforms come with a set of properties that are distinct and relevant for workers who choose MTCS as a work setting. On the one hand, MTCS platforms entail tasks that are accessible independently of a fixed schedule or a location (e.g., Blohm et al., 2018; Brawley & Pury, 2016; Fieseler et al., 2019) and are rather simple, which means that participation does not require specific specialized skills (Kässi & Lehdonvirta, 2018; Schlagwein et al., 2020; Taylor & Joshi, 2019). These properties are associated with granting crowdworkers high autonomy and extensive flexibility in their work activities, which make MTCS platforms a valued work setting outside more traditional work arrangements (e.g., Durward et al., 2016). On the other hand, MTCS platforms are often simultaneously criticized for automated evaluation processes (Buch et al., 2021; Fieseler et al., 2019); a lack of support from platforms and requesters (Brawley & Pury, 2016); a power imbalance between workers, requesters, and platforms (Buch et al., 2021; Fieseler et al., 2019); repetitive tasks; and isolated task conduction (Ashford et al., 2018; Kost et al., 2018). These properties often cause feelings of exploitation, emotional exhaustion, and unfairness (Deng et al., 2016; Fieseler et al., 2019; Wong et al., 2020) and also contribute to stress, frustration, burnout (Bunjak et al., 2021; Strunk et al., 2022), a lack of job security (Fieseler et al., 2019; Kuhn & Maleki, 2017), and poor social relationships that isolate workers (Fieseler et al., 2019). However, while many studies explored different properties of MTCS and these properties’ positive and negative implications for crowdworkers, little research in this field has taken into account crowdworkers’ personal circumstances in which they turn to MTCS platform work.

2.3 Bringing workers’ personal circumstances into MTCS experiences—an affordance perspective

Crowdworkers’ personal circumstances have important implications for how crowdworkers perceive the properties of MTCS (Dunn, 2020) and which experiences MTCS platform work affords crowdworkers. To account for the relevance of crowdworkers’ personal circumstances, we make use of an affordance lens. Rooted in the work of ecological psychologist James Gibson (1986), an affordance lens allows to explore how action potentials arise through interplays between technology and users. Specifically, following Markus and Silver (2008), IS researchers have variously mobilized this concept to study different patterns of technology use that result from interactions between technological properties and users’ different goals (Faik et al., 2020), intentions (Leonardi, 2011), or practices (Fayard & Weeks, 2014).

Particularly in the context of marginalized groups, prior research has emphasized that the use of technology can lead to different affordances (e.g., Caidi et al., 2010; Díaz Andrade & Doolin, 2016; Gonzalez & Deng, 2023; Lloyd et al., 2013; Pandey & Zheng, 2023a, 2023b). For instance, Díaz Andrade and Doolin (2016) showed how the use of information and communication technologies (ICTs) affords resettled refugees to participate in an information society, communicate effectively, understand a new society, be socially connected, and express a cultural identity. Similarly, Caidi et al. (2010) emphasized that ICTs afford refugees to navigate the unfamiliar information environment that they encounter in a new country. Focusing on another marginalized group, Gonzalez and Deng (2023) found that the use of social networking technologies contributes to the social inclusion of first-generation college students. Furthermore, Pandey and Zheng (2023a) revealed how the use of an mHealth app contributed to the enhancement of rural Indian community health workers’ individual efficacy. We note, however, that this work does not focus on unpacking the diversity among the marginalized group under study (e.g., Deng & Joshi, 2016; Gonzalez & Deng, 2023) or on unpacking the role of specific properties (e.g., Díaz Andrade & Doolin, 2016).

Extending this work, we make use of an affordance lens to acknowledge that MTCS platform work may provide distinct affordances to different crowdworkers, specifically depending on their personal circumstances. Particularly, we focus on experiences afforded through MTCS platform work to crowdworkers who rely heavily on MTCS as their only source of paid work because they face exclusion from access to other paid work. Being excluded from paid
work is a global societal challenge because paid work is a key enabler of individuals’ participation in and contribution to society (Shore et al., 2011). Access to paid work facilitates individuals’ livelihood, economic independence, and well-being (Pawlowska-Cyprysiak et al., 2013). Furthermore, financially rewarded work contributes to individuals’ experience of making a valued and unique contribution to their life and society (Fervers, 2018; Pohlan, 2019; Shore et al., 2011). This means that individuals who experience exclusion from paid work are exposed not only to financial distress and instability (Saunders & Nedelec, 2014), but also to a loss of perceived meaningfulness and dignity (Isola et al., 2019; Kost et al., 2018). Consequently, this group of people is particularly vulnerable and needs special attention from the research community to better evaluate potential work alternatives and ways to cope with work exclusion. Given that MTCS platforms are often criticized as precarious work settings, with the MTCS platform workers being prone to exploitation (Deng et al., 2016; Fieseler et al., 2019), it is critical to particularly understand these workers’ perspective in MTCS.

In sum, prior research has identified crowdworkers’ different motivations to participate in MTCS (e.g., Deng & Joshi, 2016; Durward et al., 2020) and has explored crowdworkers’ experiences on MTCS platforms (e.g., Brawley & Purby, 2016; Dunn, 2020). However, we know little about the role of crowdworkers’ personal circumstances and their interplay with MTCS’s properties to afford different experiences of work.

3 | RESEARCH METHODOLOGY

We conducted an in-depth qualitative study to explore the experiences of individuals who rely on MTCS platforms for paid work due to exclusion from access to other work. Initially, we were interested in understanding why people engaged in MTCS. Surprised by the common occurrence of detailed personal narratives from crowdworkers who stated that MTCS is their only access to paid work, we proceeded to successively explore this user group. Subsequently, we explored workers’ personal circumstances leading to the experience of being excluded from access to other work, the role of MTCS properties in allowing these workers to work in MTCS, and the experiences afforded through MTCS work. We collected data in an iterative process, involving four rounds of complementary data collection that created our final data set (please see Table 1).

3.1 | Data collection

We collected and analysed qualitative data iteratively. As a result, these processes strongly built on each other (Corbin & Strauss, 1990), which helped us in exploring emergent topics systematically. We collected qualitative data in the context of the most prominent MTCS platforms in the US and Europe: Clickworker and Amazon Mechanical Turk (MTurk). Overall, we collected qualitative data from three surveys with open-ended questions and forum posts as a complementary data source (Brodie et al., 2013; Holtz et al., 2012).

In January 2019, in our first round of data collection, we posted a survey as a task on Clickworker. The survey had open-ended questions, such as “Why do you engage in crowdwork to the extent you currently do?” We decided on such open phrasing to allow for emergent themes relevant to crowdworkers, and to avoid biasing participants by introducing a topic ex ante (Gioia et al., 2013). Crowdworkers were compensated $5 for their response. Overall, 289 active crowdworkers completed the survey.

In this survey, we were puzzled by 35% of the participants explicitly stating that MTCS platform work is their only access to paid work and thus served as their main source of income. In addition, many of those respondents shared very personal narratives of their personal circumstances impairing their access to other work due to, for

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1Considering the average time of 20 min for completing the survey, the hourly compensation would equal $15 per hour. This compensation exceeds the federal minimum wage.
<table>
<thead>
<tr>
<th>Round of data collection</th>
<th>Data source</th>
<th>Sample focus</th>
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<th>Derived insights</th>
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<tr>
<td>Round 1: January 2019</td>
<td>Survey with open-ended questions</td>
<td>General crowdworker population</td>
<td>Clickworker</td>
<td>289 survey responses</td>
<td>Identify reasons why crowdworkers participate in MTCS</td>
<td>Identification of two major crowdworker groups: (1) those who participate on MTCS platforms as a side hustle, and (2) crowdworkers who rely heavily on MTCS as their main source of income and only access to paid work. First insights into crowdworkers’ personal circumstances that resulted in their exclusion from work. First insights into experiences of crowdworkers who rely on MTCS.</td>
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<td>Round 2: March–May 2019</td>
<td>Open forum discussions</td>
<td>Broad assessment of forums, with emergent focus on crowdworkers who participate in MTCS because they face exclusion from access to other paid work due to personal circumstances</td>
<td>Clickworker MTurk</td>
<td>576 forum posts</td>
<td>Gain insights in relevant topics of crowdworker communities. Understand the frequency of the challenges reported across the communities.</td>
<td>Realizing that the reported experiences of facing exclusion from access to other work were relevant to a substantial proportion of crowdworkers and not merely to extraordinary cases. Detailed insights into personal circumstances that triggered crowdworkers to join MTCS because they faced exclusion from access to other work. Conclusive motives and reasons for these crowdworkers to participate in MTCS.</td>
</tr>
<tr>
<td>Round 3: February 2021</td>
<td>Survey with open-ended questions</td>
<td>Crowdworkers who participate in MTCS because they face exclusion from other paid work</td>
<td>Clickworker</td>
<td>173 survey responses</td>
<td>Understand MTCS properties that are salient for marginalized crowdworkers. Understand the experiences afforded to marginalized crowdworkers through MTCS platform work.</td>
<td>Specification of crowdworkers’ personal circumstances that resulted in their experience of being excluded from other paid work. Role of MTCS’s unique properties that are salient for these marginalized crowdworkers. Interrelation between MTCS’s properties and workers’ personal circumstances. Identification of key experiences that MTCS platform work affords crowdworkers who face exclusion from access to other work.</td>
</tr>
<tr>
<td>Round 4: September 2022</td>
<td>Survey with open-ended questions</td>
<td>Crowdworkers who participate in MTCS because they face exclusion from access to other paid work due to personal circumstances</td>
<td>Clickworker MTurk</td>
<td>76 survey responses</td>
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<td>Confirmation of previous findings. No major differences in survey responses derived from Clickworker and MTurk. Interrelation between personal circumstances, MTCS’s properties, and afforded experiences.</td>
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example, illness or intensive personal commitments. Intrigued by the common occurrence of reports of impaired access to work and the emergent challenges described, we consulted extant literature and discovered the lack of research on these crowdworkers.

To explore these initial findings further, and to ensure that the incidents were not extensively overreported in the survey but essentially relevant to the workers, we analysed worker forums in a second step. Forums represent the most prominent communication tool among crowdworkers. They provide insights into crowdworkers’ perceptions and experiences and therefore reflect topics that are salient and important to crowdworkers (Kozinets, 2002). We focused on two forums: (1) MTurk Crowd, which is closely affiliated with MTurk, and (2) Clickworker Lounge, which is associated with workers participating on Clickworker. We scanned both forums extensively and became particularly interested in threads in which crowdworkers shared their reasons for working in MTCS, their personal experiences in MTCS, and what MTCS means to them. We scanned promising threads referring to the aforementioned topics and included the entire threads to our data collection if the impaired access to paid work became a relevant topic explicitly or implicitly central to a worker’s post. In this process, we also engaged in ongoing discussions by disclosing our identity as researchers, our interest in crowdworkers’ reasons for MTCS platform work, and our interest in their experiences in MTCS. We gained multiple responses from crowdworkers and several lively discussions arose. In total, we extracted 576 posts for a detailed analysis.

During our forum data collection, we paid close attention to observing ethical considerations and standards for netnographic research (Kozinets, 2002; Thompson et al., 2021). First, all posts crowdworkers shared in the forums were anonymous, as crowdworkers used pseudonymised usernames. If crowdworkers disclosed any personal information, such as socio-demographics or location, in their posts, we changed them directly to blank spaces in our file with the extracted posts to ensure the highest levels of anonymity (Thompson et al., 2021). Furthermore, in our profile, we disclosed our identity as researchers by including real names, photos, contact details, as well as information on our affiliation and research interest. We also introduced ourselves in the respective forum sections and, when focusing on a particular discussion, we posted an introductory statement of our interest in this conversation as researchers (Kozinets, 2002). Since the forum posts are easily reverse-searched, we were careful not to include any quotes from forum posts in our findings section (Bruckman, 2006; Kozinets, 2002; Kozinets et al., 2014), ensuring that all quotes used in this paper are derived from the three surveys with participants’ explicit consent to use their words for research purposes.

The forum data complemented our initial findings from the first survey in two ways: First, the forum data provided us with additional confidence in our initial findings that there is a significant group of crowdworkers who rely heavily on MTCS platform work because of exclusion from access to other paid work. Moreover, we gained insights into the reasons for facing exclusion and why these crowdworkers turn to MTCS as a work alternative. In order to deeply understand these crowdworkers’ personal situation, motives, and experiences in MTCS, we conducted a second survey.

The second survey with open-ended questions directly targeted crowdworkers who face exclusion from access to other paid work. We therefore included several filter questions such as “Do you rely on crowdwork as your main source of income?” and “Would you be able to find other work outside of crowdwork?” We posted the task on the platform and additionally provided a link in the forum sections where we had previously collected the data. This survey centered on topics such as why crowdworkers feel excluded from access to other work, why they work in MTCS, whether and how MTCS helps them manage their personal situation, and how MTCS has affected their life regarding their work and personal situation. In total, 173 active crowdworkers participated in our second survey. They were all financially compensated above minimum-wage levels.

The second survey provided us with detailed insights into crowdworkers’ personal circumstances, the role of specific MTCS properties to make MTCS platform work a suitable work alternative despite crowdworkers’ personal circumstances, and new experiences marginalized crowdworkers could realize through MTCS platform work. To refine these findings and account for potential differences between platforms, in September 2022, we conducted a third survey with open-ended questions, which we posted as a task on MTurk and on Clickworker. Again, we used...
filter questions to focus our target group. Questions were similar to those in the second survey, but in this instance they additionally precisely targeted experiences afforded to crowdworkers through MTCS platform work, by asking questions like “How did crowdwork impact your personal situation?” and “How is MTCS different from other work that you tried to pursue?” Thereby, we were able to explore the interrelations between personal circumstances, MTCS’s properties, and afforded experiences in more detail. We received answers from 76 crowdworkers of whom all were, again, compensated above minimum-wage levels for their contribution.

3.2 Data analysis

We analysed all our data inductively and iteratively, following the logic of Gioia et al. (2013) coding process. We started our analysis with open coding of the responses from the first survey, with the goal to identify reasons why crowdworkers participate in MTCS. Thereby, we derived provisional codes, such as “doing it for fun,” “doing something productive in my leisure time,” “earning additional money,” as well as “no other option because of disability” or “cannot find other job.” We then tried to find similarities and differences between the reasons such that we could derive various categories of crowdworkers. As a result, we derived two groups of crowdworkers: the group of crowdworkers who work in MTCS as a side hustle and the group of crowdworkers who turn to MTCS because they do not have access to any other paid work. Iterating between these initial insights and extant literature (Brodie et al., 2013; Gehman et al., 2018; Gioia et al., 2013), we realized that little research has explored the particular group of crowdworkers who rely heavily on MTCS to pursue paid work activities. Intrigued by this observation, we aimed to understand these marginalized workers’ situation and their reasons for perceiving MTCS as their only access to work. We therefore engaged in another round of coding, further specifying and categorizing the first-order concepts for coherent themes (Gioia et al., 2013), with a focus on responses from these crowdworkers. We derived first insights into crowdworkers’ personal situation and background as well as initial ideas as to why crowdworkers perceive that they do not have access to other work except for MTCS platform work. Similarly, we coded and categorized the forum posts, which helped us in complementing and refining our codes and themes from the first survey.

In a next step, we extended and deepened the found insights by coding the responses from our second survey in order to further understand why crowdworkers rely heavily on MTCS platform work as their only access to paid work. We derived several first-order concepts, which we categorized into second-order themes that gave more specificity to the insights from the first survey and forum data. For instance, we categorized “suffering from social anxiety” and “suffering from depression” into chronic mental health issues. Then, we aggregated the identified second-order themes to the dimension personal circumstances, which helped us in understanding why these crowdworkers reported that they rely heavily on MTCS since they experience exclusion from access to other work.

Moreover, we analysed the responses from the second survey to understand why MTCS platform work offers a suitable work environment that allows crowdworkers to participate in paid work despite their personal circumstances. Our open coding resulted in a set of first-order concepts relating to specific properties of MTCS platforms. We then categorized these concepts into second-order themes. For instance, we derived the second-order theme piece-like and simple task design from concepts such as “tasks that only require some minutes to complete” and “easy tasks.” During this analysis, we realized that the identified properties are decisive for our group of crowdworkers. This is because these properties relate to and meet the specific needs that result from crowdworkers’ personal circumstances. For instance, crowdworkers with chronic mental health issues reported that they are often not able to work on complex and long tasks. For crowdworkers who suffer from chronic mental health issues, the piece-like and simple task design of MTCS platform work is therefore crucial for them to engage in MTCS. Building on these emergent interrelations between personal circumstances and properties, we labelled the aggregate dimension Salient properties of MTCS platform work, given crowdworkers’ personal circumstances.
Furthermore, we were interested in the meaning of MTCS platform work for marginalized crowdworkers. We therefore particularly coded the responses from our second survey but also went through responses from the first survey and the forum posts to identify relevant insights. Our coding revealed several different new possibilities crowdworkers could realize through working in MTCS that they had not experienced previously in situations of being exposed to exclusion from work. For instance, we categorized codes such as “enhancing own skill level” and “trust in own competencies” to the second-order theme developing professional competence. Since the identified second-order themes reflect experiences that were afforded by MTCS platform work and since these experiences were not possible before, we labelled the aggregate dimension Afforded experiences through MTCS platform work. To redefine our identified set of codes, categories, and dimensions, we analysed the responses from our third survey in a similar way. Figure 1 illustrates our data structure. Table A1 provides additional examples of our coding process.
4 | FINDINGS

Our findings reveal that crowdworkers who work in MTCS because they experience exclusion from access to other work are confronted with specific personal circumstances that refer to (1) prohibitively high care duties, (2) chronic mental health issues, (3) physical challenges, (4) limited formal skillsets, and (5) personal discrimination. Based on these personal circumstances, we found platform properties that are salient for these workers, namely (1) ubiquitous platform access, (2) piece-like and simple task design, (3) relationally detached task execution, and (4) anonymized task participation. These properties are interrelated with the identified personal circumstances, as they meet the needs arising from each personal circumstance, when it comes to work activities. Whereas other work settings often contradict these needs leading to workers facing exclusion from work access, MTCS properties allow workers to engage in paid task conduction despite their personal circumstance. Thus, the interrelation between personal circumstances and (a set of) MTCS properties is decisive in why MTCS is a work alternative for these workers. Despite challenging conditions, such as low payment and a lack of job security, we found that MTCS platform work affords these workers several experiences that are not possible outside MTCS. These afforded experiences refer to (1) constructing personal significance, (2) driving occupational self-reliance, (3) developing professional competence, (4) finding occupational belongingness, and (5) contributing to society. Figure 2 shows an overview of our findings and highlights respective dynamics between the identified concepts.

4.1 | Experiencing exclusion from paid work due to personal circumstances

A significant group of crowdworkers shared the perception that finding access to other paid work is very difficult, if not impossible. Crowdworkers experienced rejection and, in view of the specific needs arising from their personal circumstances, they perceived themselves as unable to find workplaces with manageable conditions.
First, **prohibitively high care duties** involve extensive care responsibilities some crowdworkers have for other family members. An example is care duties regarding family members who need special assistance, including family members with severe medical conditions:

I take full-time care of my father who has multiple health conditions. Due to COVID, we have been unable to find a professional carer for him, and so I have to do this myself.

(Clickworker, 2nd survey)

A second excluding circumstance crowdworkers mentioned was **chronic mental health issues**. The crowdworkers who mentioned this issue perceive these circumstances as insurmountable barriers to engaging in social interactions at work. Yet, social interactions with colleagues, supervisors, and/or customers are essential part of most work settings, resulting in crowdworkers’ exclusion from work, with the exception of MTCS platform work:

I suffer from social phobia and ADHD. As a result, I feel extremely stressed in the office and permanently under observation. Consequently, in such a work environment I was always on the verge of burnout, I was excluded, and I was often overwhelmed.

(Clickworker, 2nd survey)

Crowdworkers also explained that depression inhibits them from following employers’ expected fixed daily routines. For instance, one of the crowdworkers explained that he turned to MTCS because he could not handle determined daily work activities due to autism and depression. This situation became increasingly worse during the COVID-19 pandemic, which seemed to become a catalyst, worsening this group of crowdworkers’ psychological issues and making their engagement in employment even more difficult:

I recently suffered from increasingly severe bouts of mental health issues. This is something that I lived with for a while before, but it became much more pronounced during times of lockdown or with altered guidelines on socialization. (...) My depression has made it very difficult for me to face any work environment.

(Clickworker, 2nd survey)

Third, we found that several workers face exclusion because of their challenges with restricted mobility or limiting chronic physical abilities that have led to work exclusion. Such physical challenges prevent them from working fixed hours and outside their home. Both these aspects are, however, often central workplace requirements, which then produce a tension between personal needs and working conditions:

I have a physical disability since birth. It’s a chronic disease that prevents me from moving freely and at the same speed as other people, which is why I often stay at the computer because of difficulty finding work due to my impairment. I do not have the ability to produce as much as other people, so for this reason it is very difficult for any company to hire me.

(Clickworker, 3rd survey)

As a fourth personal circumstance, we found that some crowdworkers turned to MTCS because they experienced work exclusion due to their **limited formal skillsets**, including insufficient qualifications and/or education:

I am afraid it is too late to find a new job. For 20 years I worked as a stenotypist in many Courts of Justice in Italy, and I know that my job is no longer in use.

(Clickworker, 1st survey)
Finally, a fifth factor related to experiences of personal discrimination in workplaces, due to certain socio-demographics. Commonly mentioned examples included age and ethnicity, which individuals particularly encountered when they pursued traditional employment:

Well, I used to work for a trademark and patent agency many years ago. Due to some family circumstances, I had to leave my job. Now I am 51 years old and nobody is willing to offer me a job, as I am considered too old. I personally feel very bad about this situation because I don't feel old at all, but at my age it's almost impossible to find a good job. (...) I would like to have a good job in an office, but it's impossible to find one.

(Clickworker 2nd survey)

Overall, our data provides a typology of personal circumstances that reflect why crowdworkers experience exclusion from access to other work and thus turn to MTCS for paid work.

4.2 Salient properties of MTCS platform work, given workers' personal circumstances

Crowdworkers emphasized a single MTCS platform property or a set of MTCS platform properties as salient for them to work in MTCS. This is because these properties, in contrast to other work settings, meet specific needs regarding a work setting that arises from their personal circumstance. Depending on the personal circumstance, these salient platform properties relate to platforms' (1) ubiquitous platform access, (2) piece-like and simple task design, (3) relationally detached task execution, and (4) anonymized task participation.

Ubiquitous platform access refers to virtual task completion not being restricted to any specific work location or schedule. Patterns in our data showed that especially crowdworkers with prohibitively high care duties, chronic mental health issues, and physical challenges depend on this property for working in MTCS, because it meets these workers' need to flexibly choose their work location and schedule. For instance, workers with high care duties perceive that, unlike other work settings, the ubiquitous platform access of MTCS allows them to work on tasks without experiencing conflicts with their care duties. Furthermore, workers with chronic mental health issues and physical challenges cannot commit to a fixed work schedule, as their physical or psychological conditions may vary from day to day. Moreover, workers with mental and physical challenges are often not able to leave their home, as mental (e.g., social anxieties) or physical conditions (e.g., chronic diseases) do not allow it. Thus, workers depend on the ubiquitous platform access as emphasized by a worker with an incurable skin disease:

I have an incurable skin disease. Leaving the house is problematic. I need a lot of time to dress my wounds. Working from home helps me a lot, even if it doesn't solve all my problems.

(Clickworker, 2nd survey)

Moreover, a worker suffering from obsessive-compulsive disorder reports:

I have Asperger's and OCD (...). Due to my mental constraints, I am not flexible in terms of time. I always have to perform certain rituals at certain times. Therefore, I need a job with flexible working hours. First and foremost, it is important to me that I can work from any place (especially from home) and have flexibility in terms of time. So, I can work whenever my mental condition allows it.

(Clickworker, 3rd survey)
Second, **piece-like tasks and simple tasks design** is an important property that refers to breaking tasks down into small, simple, and rather repetitive pieces instead of performing one complex project or multiple connected tasks. This property is particularly essential for crowdworkers with **chronic mental health issues** and **physical challenges**. Both groups of workers struggle with engaging in long-term and rather complex projects, because their conditions often prevent them from keeping up concentration over a longer period or taking on demanding tasks without worsening their condition. Through the piece-like and simple task design, workers can, with limited cognitive effort, conduct various tasks in a short timeframe, which addresses these constraints. As a worker suffering from mental health issues explains:

> My last job became too stressful for me over the years due to health problems. I (now) like being able to do small, manageable tasks at home. It is a stress-free environment, at least for me. I don’t get any feelings of being overwhelmed.
>
> (Clickworker, 3rd survey)

Similarly, crowdworkers with **physical challenges** reported that they are dependent on breaks between tasks and that they lose concentration when physical pain becomes intense. Thus, by offering short and simple tasks, MTCS platforms offer a setting in which their specific needs can be met:

> I can only work on the internet. Due to the consistent pain in my hands, I cannot work uninterruptedly at my regular job (I never know when the pain will start), but if I take pain killers, I can work on the internet intermittently.
>
> (Clickworker, 2nd survey)

Third, MTCS platforms are characterized by **relationally detached task execution**. Crowdworkers’ entire work process is mediated through the platform, as they work on tasks in isolation without requiring any physical or even virtual interaction with requesters or other crowdworkers. This property is particularly central for workers suffering from **chronic mental health issues** and **physical challenges**. Both groups experience a strong discomfort or are unable to engage in social interactions, which are often a pivotal element of many work settings. The relationally detached task execution addresses this need, as MTCS does not require any type of social interaction in task execution. For example, people suffering from **chronic mental health issues** are often confronted with social phobia or anxieties, making it impossible for workers to engage in a work setting that requires regular social interactions. As such, social interactions are not present in conducting tasks on MTCS platforms. Owing to the relationally detached execution, it describes a work context where this constraint is addressed. As one of the workers with mental health issues mentions:

> I am neurodivergent, (...) I find it hard to adapt to change, interact with others, and pick up on what are considered to be typical social clues, and all in all I just struggle with that everyday interaction. Clickworker requires no face-to-face contact or interaction whatsoever, which perfectly suits my issue regarding such interaction.
>
> (Clickworker, 2nd survey)

Workers with physical challenges share similar stories. While they do not necessarily suffer from social anxieties, social interactions where their visible physical conditions can lead to feelings of exclusion and of being judged are extremely stressful to them. However, in the relationally detached task execution on MTCS platforms, they find a setting without such burdensome dynamics. Not having to interact with others—particularly not having to have one-to-one personal interactions—frees them from judgment by others:
At Clickworker, I don’t feel judged or ashamed of my health. It is never brought up. I feel that I can go about my day as normal without worrying what people will think or say. (Clickworker, 2nd survey)

Finally, anonymized task participation is an important MTCS platform property for workers facing exclusion from other work access. On MTCS platforms, tasks are placed in open calls without an application process and crowdworkers do not have to disclose any personal information, such as sex, age, ethnic background, or formal education. In most tasks, workers are often invisible and not identifiable to requesters. Anonymized task participation is especially crucial for workers who formerly experienced exclusion due to limited formal skillsets or personal discrimination, as those groups previously faced rejection from employers due to their socio-demographics or educational background:

Especially on microtask platforms, workers typically do not have to go through an interview process before starting to work, and could even be relatively anonymous. On these platforms, a worker’s gender, age, education, ethnicity, criminal record, and sexual orientation are typically not known to the client. (Clickworker, 3rd survey)

Overall, the identified properties are decisive for crowdworkers who turn to MTCS because these properties address demands and constraints that arise from the crowdworkers’ personal circumstances that lead to being confronted with exclusion in other paid work contexts outside MTCS. Therefore, the identified properties build the foundation for crowdworkers’ engagement in MTCS platform work, given their personal circumstances.

4.3 | Afforded experiences through MTCS platform work

Facing exclusion from paid work caused the crowdworkers to suffer from severe negative experiences, which went beyond having no income. Being excluded from work, crowdworkers expressed feelings of low self-worth, describing themselves as “losers,” “useless,” “worthless,” and “inferior.” Not being able to find work in the traditional job market, they perceived themselves as dependent individuals unable to lead self-directed lives, achieve personal goals, or create a desirable future. Crowdworkers felt incapable of doing something valuable, of contributing meaningfully to their family’s lives, and of being able to engage in activities that are valuable and worthwhile to themselves or others. Statements such as “I felt incapable of achieving anything in life” or feeling “like a parasite with no dignity” exemplify these crowdworkers’ situation.

In this situation, workers turned to MTCS. This is because one MTCS property or a set of properties meets workers’ needs arising from their personal circumstance and thus provides workers with a paid work alternative despite their circumstances. Many of our crowdworkers did report facing significant challenges on MTCS platforms, such as low payment, job insecurity, and occasional unfair treatment. For instance, a crowdworker emphasized: “There are, however, some dry days where, even if you keep checking, there aren’t enough jobs to make enough earnings” (Clickworker 2nd survey). Another crowdworker noted: “Since the tasks are freelance in nature, there is not a lot of job security. You cannot count on a steady stream of income, and you won’t be able to rely on HITs to pay your monthly bills.” (MTurk, 3rd survey). However, despite these challenges, our findings strongly indicate that this engagement in MTCS affords these workers several meaningful experiences that were previously not possible outside MTCS. These afforded experiences referred to are: (1) construct personal significance, (2) drive occupational self-reliance, (3) develop professional competence, (4) find occupational belongingness, and (5) contribute to society.
4.3.1 | Constructing personal significance

MTCS platform work helped marginalized crowdworkers construct personal significance, which refers to performing valuable work, achieving goals, and thus perceiving themselves as worthwhile. This afforded experience of constructing personal significance was particularly important to workers with prohibitively high care duties, chronic mental health issues, and physical challenges. For instance, workers with depression reported that they previously felt “useless” and “worthless” being unable to work. These feelings of uselessness and being a burden on others exacerbated their condition, which created a vicious cycle of exclusion and depression. The set of MTCS properties (ubiquitous platform access, piece-like and simple task design, relationally detached task execution) meets these workers’ needs arising from their personal circumstances (need to work from home, perform cognitively low-demanding work, and work without the obligation to engage in social interactions). The participation in MTCS enabled these workers to break the spiral of exclusion and depression, and to overcome negative self-perceptions, such as uselessness and low self-worth. As one of the crowdworkers with depression shares:

> We live in a society that pathologically associates worth with work. If one is not working, one has no worth. Being unable to work is tantamount to being a non-person. So, being able to do something, anything, that makes even a token and insignificant sum of money can help fight this (feeling of being a non-person). But feeling like a non-person and being depressed feed each other. When one is depressed, one is less able to work; when one is unable to work, one feels useless; when one feels useless, one suffers greater depression; and, greater depression makes one less able to work. It’s a vicious cycle. (Doing) crowdwork is better than nothing, even making as little as ten or fifteen dollars a week makes me feel less like a parasite or a cripple. Crowdwork offers a small benefit, making me feel (less) like a burden on and a millstone for my family.

(Clickworker, 2nd survey)

Moreover, MTCS platform work contributes to cultivate a sense of being productive and useful by conducting tasks that are valuable. Crowdworkers have expressed that one of their major challenges stemming from paid work exclusion is the overwhelming feeling of being unable to offer a valuable and meaningful contribution to their own lives and their families. By completing tasks on the MTCS platform, crowdworkers feel that they provide important work to requesters and that they make a positive contribution to their family’s well-being. Moreover, particularly crowdworkers dealing with mental health issues often find that engaging in tasks in a way that meets their personal needs helps them construct a renewed sense of motivation by creating experiences that instill a sense of pride and purpose. By engaging in a structured daily routine and actively participating in the platform, they can discover a new purpose in life. This is exemplified by the testimony of a crowdworker who suffers from depression:

> Being able to earn an amount of money, even small amounts of money, can give me a purpose to my day and a reason to get out of bed on the worst days. Thanks to Clickworker and the jobs that I have been offered, I can even afford to buy some Christmas presents for some of my loved ones this year, which has been a huge boom to my sense of well-being and personal achievement.

(Clickworker, 1st survey)

Similarly, a single parent crowdworker shared how MTCS platform work played an important role in restoring her sense of being useful and in regaining a sense of self-respect. Despite the ongoing responsibilities of extensive care duties, she can engage in paid work through these platforms, which has led to perceiving herself as a more valuable and worthwhile person:
I have better self-esteem. I have an extra income. I am no longer simply unemployed, because I can say that I work remotely from home for an international company. Definitely, Clickworker has impacted my life positively. My family respects me more (Clickworker, 2nd survey)

The financial compensation that workers receive for their task completion next to their unpaid care duties helps them engage in constructive thoughts that their work activities are valuable and deserving of compensation, as completing tasks provides a value to requesters. When it comes to workers establishing a sense of personal significance, these thoughts are central; however, these thoughts are often absent in productive but unpaid activities:

And it also gives the sense of satisfaction and achievement that paid employment gives, which you do not always feel in unpaid roles, such as caring. Often, these roles are under appreciated. So, I have benefited financially and also personally, and it has allowed me to develop my sense of self and pride in who I am, which you can often lose when unemployed (Clickworker, 2nd survey)

4.3.2 | Driving occupational self-reliance

Second, MTCS affords crowdworkers the experience of driving occupational self-reliance. The individual’s experience of occupational self-reliance refers to the chance to master her or his own financial situation, gaining greater financial independence and deriving a sense of control and self-determination in personal life. Whereas crowdworkers previously often depended on others (such as family members) due to their lack of financial income, many crowdworkers highlighted that, through MTCS platform work, they are now able to pursue a self-determined working life according to their own needs, they are able to actively shape their work, and thus they are able to take ownership of their own professional life and financial situation. Working in MTCS grants them independence to work according to their own needs, achieve financial autonomy, and earn a livelihood. Thus, in contrast to their previous dependence on others and exclusion from decision-making in their work lives, MTCS platform work offers them a way to take charge of their work, make decisions based on their own insights, and shape their professional path accordingly. As one of the workers mentions:

I feel independent and capable of my own life. It might not be a normal job, and I might not make much money, but I am very grateful to have it. (Clickworker, 3rd survey)

All the crowdworkers facing the identified personal circumstances mentioned this afforded experience, but it was particularly dominant among crowdworkers with prohibitively high care duties, chronic mental health issues, and physical challenges, and those who encountered personal discrimination. For example, due to the ubiquitous platform access, crowdworkers with intensive care duties can now organize their work activities around their family duties. Without the obligation to work according to traditional labour expectations, which often conflict with their care duties, these individuals can generate their own income independently and they can create financial independence while still meeting their personal care commitments. MTCS platform work therefore affords them to control their own financial situation while simultaneously fulfilling their care duties. As one of the crowdworkers with intense care duties explains:

I can manage my own time and I have an extra income almost every week, so I don’t have to struggle if I want to buy something like groceries or if I want to buy a present for my daughters. It is a great opportunity. (Clickworker, 2nd survey)
Similarly, crowdworkers with chronic mental health issues and physical challenges emphasized that MTCS platform work with its properties (here: ubiquitous platform access, simple and piece-like task design, and relationally detached task execution) enables them to create a self-reliant working life. Specifically, workers can design and build their individual work setting in a way that suits their needs while also accommodating their mental or physical health issues (e.g., taking breaks when their conditions demand it and working without social interactions). As a crowdworker who suffers from social phobia, depression, and anxiety attacks explains:

I have poor mental health, which restricts my day-to-day life. Unfortunately, this includes not being able to get a “normal” job. I can’t go into shops alone or speak to people. I even put off going to the doctor/dentist because I end up having anxiety attacks. The work I get from Clickworker allows me to feel more independent because I can make money from the comfort of my home, during days and hours that suit me. (...) I don’t feel stressed or pressured when working.

(Clickworker, 3rd survey)

4.3.3 | Developing professional competence

Third, MTCS platform work affords marginalized crowdworkers to develop professional competence. This refers to acquiring new and improving current skills, and also to building confidence in existing skills and abilities. This experience was particularly dominant among crowdworkers with a limited formal skillset and workers facing personal discrimination. These workers previously did not have the possibility to learn new skills or gain relevant work experience, but now have access to a variety of tasks due to the anonymized task participation that MTCS offers. Therefore, MTCS platform work allows them to acquire new professional skills, such as task-specific capabilities and problem-solving abilities:

Sometimes I need to exert myself to complete a task and find more or less creative solutions. I stay mentally fit and develop new working methods, which could help me with other Clickworker tasks or in real life. After all, it is a good opportunity for me to get new skills and stay active.

(Clickworker, 3rd survey)

Beyond skills that are quite task specific, MTCS platform work also allows these crowdworkers to improve more generic skills and abilities that benefit them in their work activities. Examples include language and concentration skills that are relevant on a broader level beyond the actual task performance. As one of the crowdworkers mentions:

It helps me develop my observation skills, reading skills, and review skills. Mainly due to this job, my time management skills have improved greatly, as have my patience levels. I was so impatient before doing this job; since then, my patience levels are increasing a bit and I am happy about that.

(Clickworker, 1st survey)

Moreover, the opportunity to perform a broad range of tasks allowed crowdworkers not only to acquire new skills but also to develop confidence in the skills and abilities they have. For example, a crowdworker emphasized that having the opportunity to develop new skills in a safe environment without employers’ prejudice and with low entry barriers helped him trust his own skills and abilities again:

I feel much more confident now in performing a huge range of tasks in which I would otherwise have little to no experience. I have also kept my online and digital skills sharp, as well as the more intangible
benefits I have gained from being my own boss and having to set aside time to complete jobs and tasks online.

(Clickworker, 2nd survey)

In this context, also a crowdworker who suffers from physical challenges mentioned that MTCS platform work allowed him to develop new skills. Interestingly, he expressed that these new skills enhanced his confidence that he will eventually find regular employment when his personal situation changes. Thus, while recovering from severe surgery, which, for the moment, made it impossible for him to pursue work beyond MTCS, he tried to use the time to practice skills that could be beneficial for future employment:

I also enjoy learning new skills and I have definitely learnt many new things in the short time I have been using Clickworker. Hopefully these new skills will help me achieve a full-time job at some point in the future, once I am able to go out to work again.

(Clickworker, 1st survey)

Yet, it is important to mention that since most personal circumstances, such as physical challenges or mental health issues, could be life-long issues, the hope of finding permanent employment was quite rare among our crowdworker participants.

4.3.4 | Finding occupational belongingness

Fourth, MTCS platform work affords crowdworkers to find occupational belongingness, which refers to deriving a sense of community and camaraderie. The sense of finding occupational belongingness was a dominant theme in the contributions of all crowdworkers, regardless of their specific personal circumstances. However, it held particular importance for crowdworkers with physical challenges and chronic mental health issues, who previously often felt lonely and isolated due to their inability to leave home and discomfort in social interactions. These individuals have limited opportunities to be part of any occupational or professional community outside of MTCS and are often not able to engage in social interactions. MTCS offers a work environment that affords workers to create a feeling that they are, despite their personal circumstances, not alone and can be valued members of a globally distributed crowd of people who share similar issues and work in the same setting. For instance, a crowdworker with a physical challenge mentioned that participating in MTCS made her feel like a valued and appreciated member of the platform community:

I feel like I belong to a large community of people from all around the world. (...). People are social creatures, and everyone wants to fit in and be included. Everyone wants to feel they are part of something. I think at Clickworker, people are able to feel part of something bigger and feel that they are part of a community.

(Clickworker, 2nd survey)

Moreover, although working as independent freelancers, these crowdworkers identify themselves as a member of the platform, which they treat as a firm. In this context, crowdworkers often refer to themselves as “employees” of the particular MTCS platform, despite not having a fixed contract or a traditional employment relationship with the platform. For instance, a crowdworker who suffers from neurodivergent issues explains:

I feel like a part of the community here—I love seeing the Advent Calendar that Clickworker posts and being reminded that I am one of the millions who form this strong cohort of employees.

(Clickworker, 2nd survey)
The identification of being a member of the platform is further enhanced by the presence of online communities associated with the platforms. These online forums provide a space for crowdworkers in which they can interact directly with one another. Within these communities, crowdworkers can engage in virtual interactions, sharing knowledge, discussing problems, and receiving appreciation. While participation in these communities is not mandatory for MTCS, many crowdworkers take advantage of this opportunity to foster their own social embeddedness. For example, a crowdworker emphasized how participating in these online communities helped her feel that she is not alone in her situation but part of a community of like-minded individuals who understand and empathize with her challenges.

I feel part of a community of people who have the same situation as I do, and I don't feel alone—I have support when I need it.

(Clickworker, 1st survey)

Moreover, crowdworkers with mental health issues and physical challenges find solace in engaging with platforms' online communities to fulfil their basic social needs, particularly when social anxieties or fearing discrimination due to physical appearances make direct physical social interaction impossible for them. These online communities provide a space where crowdworkers can anonymously read or share opinions and experiences with peers, allowing them to connect and interact at a pace and scope that align with their comfort level. Moreover, they can participate in discussions, seek advice, and find understanding from others who may face similar personal circumstances. MTCS platforms' communities therefore offer a safe and supportive space where they can freely express themselves without the pressure or anxiety that may arise from face-to-face interactions. As a crowdworker who suffers from depression explains:

Using these platform communities provides a sense of fellowship. I feel accepted here even when my mental health is getting particularly troublesome. I love the thought of being a colleague in a worldwide workforce built by and made up of hundreds upon thousands of diverse and productive other individuals.

(Clickworker, 3rd survey)

4.3.5 | Contributing to society

Finally, MTCS platform work affords crowdworkers the experience of being able to contribute to society, which refers to crowdworkers' perception of becoming an active part of the working society. We found this experience particularly important among workers with chronic mental health issues and those who experienced exclusion due to personal discrimination. Whereas these crowdworkers, due to their exclusion from work, often perceived themselves as a “burden to society” and “freeloaders,” they now experience a chance to be a “productive” and “contributing member of society.” Crowdworkers reported that they now feel that they have the chance to utilize their time for offering benefits effectively to the broader societal context they live in. For example, a crowdworker who suffers from depression, shared that while she had the impression of doing nothing productive before joining MTCS, she now feels as if she produces valuable output not only for requesters, but also for society:

In the past I lived from day to day (...), now I am no longer the unemployed leper of society, but a productive part of it. (...) I understand that I—like everyone else—can contribute to society.

(Clickworker, 3rd survey)
In this context, these workers also shared their feeling that by doing specific tasks, they contribute to society. This is because some tasks (e.g., research surveys) are perceived as societally relevant by, for example, creating new knowledge:

I know that I can make an important societal contribution through working on the tasks on the platform. It makes me an active part of society and I can contribute to its continuous improvement.

(Clickworker, 3rd survey)

Furthermore, these workers stressed the possibility to offer a central merit to society by conducting tasks used for research purposes. Since research institutes often use these platforms to find participants for research projects, workers emphasized the experience that they contributed to society by doing this kind of work on a research project that could help solve important societal challenges:

Sometimes work involves studies that are for research purposes, and therefore, by completing them, you are contributing to society.

(Clickworker, 2nd survey)

In addition, workers emphasized that being able to meet societal obligations such as paying taxes from their MTCS payment is important to them, as they associate such duties with making a valuable contribution to society. For instance, a crowdworker who suffers from burnout shared her perception that although she earns a low income with MTCS, she is happy to finally pay taxes, as she now feels to be a contributing member of society:

Now I pay my taxes! I feel like I still contribute something to society. Everyone needs to do their part.

(Clickworker, 3rd survey)

In sum, we found that our identified user group of marginalized workers has several specific personal circumstances that crowdworkers relate to their experience of being excluded from access to other work. These crowdworkers turn to MTCS as an alternative work setting because MTCS platforms entail certain properties that relate to the needs arising from the workers' personal circumstances. In turn, MTCS platform work affords these marginalized workers several positive experiences that were not possible before. Table 2 provides a detailed insight into our findings and emphasizes how the different concepts relate to each other.

5 | DISCUSSION

Our study set out to explore what experiences MTCS platform work affords to workers who face exclusion from access to other work. By shedding light on the interrelations between crowdworkers' personal circumstances, MTCS's properties, and the afforded experiences, we provide a comprehensive understanding of MTCS's meaning to crowdworkers who rely heavily on these platforms as their only access to paid work. These insights contribute to the literature on MTCS and the literature on technology affordances as follows.

First, we highlight the important role of crowdworkers' personal circumstances in exploring their experiences in MTCS. Whereas prior literature has often criticized MTCS platforms heavily for their poor working conditions and the low perceived job quality on MTCS platforms (Durward et al., 2016; Kittur et al., 2013; Kost et al., 2018), we show that despite these unfavourable conditions, MTCS platform work affords favourable experiences to crowdworkers who experience exclusion from access to other work. This finding emphasizes the importance of personal circumstances when exploring workers' experiences in MTCS. For example, crowdworkers who use MTCS platforms as a side hustle or due to temporal unemployment are likely to evaluate and compare the work on MTCS
<table>
<thead>
<tr>
<th>Personal circumstances and resulting challenges to pursue paid work outside MTCS</th>
<th>Salient platform property or set of properties in light of personal circumstance</th>
<th>Salient afforded experience(s) through MTCS platform work</th>
</tr>
</thead>
</table>
| **Prohibitively high care duties**  
- Inability to commit to a fixed work agenda or location due to intense care commitments  
- Difficulty to leave home to commute to a work place | Ubiquitous platform access in light of care duties  
- Meets workers’ need to structure location and schedule of task conduction around care duties |  
- Constructing personal significance  
Workers cultivate a sense of self-worth, as task completion for financial compensation without neglecting care duties adds to an additional sense of purpose and achievement, beyond serving in the unpaid role of a caregiver.  
- Driving occupational self-reliance  
Workers earn a modest compensation while still fulfilling their care duties. Therefore, workers perceive a sense of financial independence in daily situations, and less dependence on others. |
| **Chronic mental health issues**  
- Difficulty to leave home  
- Instability of mental health conditions  
- Discomfort in social interactions | Ubiquitous platform access in the light of mental health issues  
- Meets workers’ need to work from home  
*Simple and piece-like task design in the light of mental health issues*  
- Meets workers’ need to perform cognitively low-demanding work  
- Meets workers’ need to take spontaneous breaks between completed tasks if mental conditions require them  
*Relationally detached task execution in the light of mental health issues*  
- Meets workers’ need to work without social interactions |  
- Constructing personal significance  
Workers overcome negative self-perceptions such as uselessness and low self-worth and cultivate a sense of being productive and useful by conducting tasks that are valuable.  
- Driving Occupational Self-Relevance  
Workers earn a modest compensation while taking care of their mental health which helps them perceive a sense of ownership for their life and financial situation.  
- Finding occupational belongingness  
Workers are part of a global community of workers who often share similar experiences. Workers counteract feelings of isolation and loneliness without relying on social interactions with others.  
- Contributing to society  
Workers become a working and thus productive part of society and no longer feel they are a burden to society. |
| **Physical challenges**  
- Inability to leave home  
- Instability of physical health conditions  
- Discomfort in personal social interactions | Ubiquitous platform access in the light of physical challenges  
- Meets workers’ need to work from home  
*Simple and piece-like task design in light of physical challenges*  
- Meets workers’ need to take spontaneous breaks between completed tasks if physical conditions require them  
*Relationally detached task execution in light of physical challenges* |  
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Workers overcome negative self-perceptions, such as uselessness and low self-worth, and cultivate a sense of being productive and useful by conducting tasks that are valuable.  
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Workers become a working and thus productive part of society and no longer feel they are a burden to society. |
platforms in relation to traditional employment or other work contexts they participated in or still do. Against this background, the severe drawbacks of MTCS platforms, such as low payment or lack of job security (Ashford et al., 2018), become especially salient to them in comparison to, for example, organizational work. However, for marginalized crowdworkers, the reference point is facing exclusion from paid work. MTCS platforms provide these crowdworkers with a work environment in which they can participate in paid work activities without feeling excluded due to their personal circumstances and, in turn, realize new positive experiences that were not possible before.

In this context, it is important to mention that although MTCS platforms can be decisive for including crowdworkers in paid work activities, we still consider the conditions they encounter critically. Crowdworkers who rely heavily on MTCS as their only access to work are particularly prone to exploitation on MTCS platforms (Deng &

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**TABLE 2** (Continued)

<table>
<thead>
<tr>
<th>Personal circumstances and resulting challenges to pursue paid work outside MTCS</th>
<th>Salient platform property or set of properties in light of personal circumstance</th>
<th>Salient afforded experience(s) through MTCS platform work</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Meets workers’ need to avoid disclosing physical challenge in personal social interactions</td>
<td>Workers are part of a global community of workers who often share similar experiences. Workers can engage in virtual social interactions with other workers through online communities without fearing discomfort due to their psychical appearance.</td>
<td></td>
</tr>
</tbody>
</table>

**Limited formal skillsets**
- Lack of specific education or skills
- Lack of work experience

<table>
<thead>
<tr>
<th>Anonymized task participation in the light of limited formal skillsets</th>
<th>• Meets workers’ need to have access to tasks without rigorous selection processes</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Driving occupational self-reliance</td>
<td>Workers earn a modest compensation without being impaired from task completion due to their limited formal skillset, which helps them perceive a sense of ownership for their life and financial situation.</td>
</tr>
<tr>
<td>• Developing professional competence</td>
<td>Workers perform a diverse set of tasks that allows them to expand and improve their own skill, and that also allows them to gain confidence in their existing skills.</td>
</tr>
</tbody>
</table>

**Personal discrimination**
- Discrimination based on sociodemographic profile
- Discrimination based on ethnicity

<table>
<thead>
<tr>
<th>Anonymized task participation in the light of personal discrimination</th>
<th>• Meets workers’ need to have access to tasks without having to disclose socio-demographic or ethnic information</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Constructing personal significance</td>
<td>Workers cultivate a sense of personal significance, as they are evaluated based on their performance and not based on their personal profile.</td>
</tr>
<tr>
<td>• Developing professional competence</td>
<td>Workers perform a diverse set of tasks, as their personal attributes do not play a role. This allows them to gain confidence in their existing skills.</td>
</tr>
<tr>
<td>• Contributing to society</td>
<td>Workers become a working and thus productive part of society despite experiencing the perception from parts of society that they are not equally worthy.</td>
</tr>
</tbody>
</table>
Joshi, 2016; Fieseler et al., 2019; Wood et al., 2019). Moreover, MTCS work provides insufficient financial compensation, medical care, and retirement provision to be an exhaustive equivalent to organizational work (Dunn, 2020). Therefore, it should be the objective of organizations to create more inclusive workplaces in which individuals, despite certain personal circumstances, are able to work. Overall, our study emphasizes that it is extremely difficult to draw general conclusions about whether MTCS platforms are experienced as fair or unfair (Fieseler et al., 2019), engaging and satisfactory (Brawley & Pury, 2016; Bush & Balven, 2021), or constraining (Strunk et al., 2022), or whether work on these platforms fosters empowerment or marginalization (Deng et al., 2016). Instead, despite similar challenging situations, it is crucial to consider crowdworkers’ personal circumstances when exploring their experiences in MTCS.

Second, our findings extend existing MTCS literature by showing that the identified afforded experiences go beyond finding a source for earning money but relate to implications for crowdworkers’ personal situation and life. Prior research has largely focused on crowdworkers’ experiences that relate directly to their work on the platform—for example, how crowdworkers experience platforms’ fairness in allocating tasks (Fieseler et al., 2019; Shanahan & Smith, 2021), how they experience certain task characteristics of platforms (e.g., Durward et al., 2020), or how they experience overall work conditions, such as payment (Fieseler et al., 2019). Our insights illustrate that the afforded experiences do not only refer to work-specific and platform-specific experiences, but also to experiences that influence crowdworkers on a more personal level by shaping their personal life and helping them cope with the negative implications they faced due to their personal circumstances. For instance, MTCS platform work helps crowdworkers establish a daily routine and thus find a new purpose in their life. This means that the identified experiences are therefore not restricted to platform interaction or task conduction, but have more far-reaching implications that relate to crowdworkers as individuals.

Third, whereas many studies identified and discussed MTCS’s platform properties without accounting for crowdworkers’ personal circumstances, we highlight the interrelations between MTCS’s properties and workers’ personal circumstances. Thereby, we show that MTCS is a work alternative for our marginalized group because a single MTCS property or a set of MTCS properties meets the needs arising from workers’ personal circumstances. For instance, the property we refer to as anonymized task participation is particularly important to workers experiencing exclusion due to a limited formal skillset, as MTCS participation does not require specific education or training. Interestingly, prior literature often criticized the MTCS properties that we found to be highly important to these workers. For instance, the relationally detached task processing of virtual work has often been negatively connotated because crowdworkers experience platforms’ “fairness” in allocating tasks (Fieseler et al., 2019), how they experience certain task characteristics of platforms (e.g., Durward et al., 2020), or how they experience overall work conditions, such as payment (Fieseler et al., 2019). Our insights illustrate that the afforded experiences do not only refer to work-specific and platform-specific experiences, but also to experiences that influence crowdworkers on a more personal level by shaping their personal life and helping them cope with the negative implications they faced due to their personal circumstances. For instance, MTCS platform work helps crowdworkers establish a daily routine and thus find a new purpose in their life. This means that the identified experiences are therefore not restricted to platform interaction or task conduction, but have more far-reaching implications that relate to crowdworkers as individuals.

Fourth, the identified properties and their interrelation with workers’ personal circumstances help us situate our research in the context of work experiences in the broader field of the gig economy: If we compare MTCS properties with properties of other forms of gig work, such as high-skilled freelancing platforms (e.g., Upwork) or offline app-based services (e.g., Uber, Task Rabbit), we see similar properties (such as ubiquitous platform access) but also central differences. For example, Upwork and Uber require a certain degree of (virtual) personal interaction between workers and clients, which respondents in our surveys found a limiting factor, especially when they struggled with chronic mental health issues. Furthermore, high-skilled platforms often involve extended and complex projects, and transportation platforms require some mobility for doing offline work (Duggan et al., 2020). However, people with physical challenges mentioned these properties as central constraints for engaging in work. In addition, these settings are less anonymized than MTCS platforms since personal information is partly visible to clients. Workers who struggle with personal discrimination or with limited formal skillsets mentioned this as a central challenge. Thus, while
some properties of MTCS platforms are similar to those of other working platforms, they differ in many respects, which are central to providing work in light of crowdworkers' needs arising from their personal circumstances. Consequently, despite all the downsides of MTCS platform work as experienced by crowdworkers, the unique combination of properties on these platforms allows the inclusion of a wide range of workers, offering them a space to pursue paid work activities despite demanding personal circumstances.

Fifth, our research offers broader implications for debates around the social inclusion of individuals. While previous studies emphasized the contribution of technology use to the social inclusion of marginalized groups, such as refugees (Díaz Andrade & Doolin, 2019), first-generation college students (Gonzalez & Deng, 2023), or wheelchair users (Ding et al., 2017), we take on a broader approach to marginalization and illustrate how MTCS benefits marginalized workers with various personal challenges. Thereby, our findings connect and expand prior studies by unpacking the diverse group of marginalized workers and illustrating how MTCS platform work affords meaningful experiences of participation and perceived inclusion. Although these crowdworkers still face exclusion from access to other paid work, and although MTCS platform work does not provide stable or, in most cases, enough income, which is an important aspect of social inclusion (Trauth, 2017), MTCS participation does provide crowdworkers with paid work and also with possibilities to enhance their personal situation and life. Particularly, we show that the ability to earn a working income extends much beyond its pecuniary dimension but essentially affects perceptions of inclusion. Thereby, our research emphasizes the subjective aspects of social inclusion (Arslan, 2019), exceeding a utilitarian and financial perspective (Bednar et al., 2019). We therefore show that while MTCS platforms may not fully contribute to social inclusion assessed according to objective criteria (e.g., equal chances in the regular labour market), they do, however, provide an important subjective component for excluded workers and can be a silver lining for them.

Finally, our research contributes to the literature on technology affordances. In studying technology affordances, prior research has mostly focused on users' goals (Faik et al., 2020), intentions (Leonardi, 2011), or practices (Fayard & Weeks, 2014). However, we foreground how users' personal circumstances, such as physical challenges or extensive care duties, influence the affordances of a technology for those users. This is an important extension of the affordance lens as used in IS research because, in contrast to goals, intentions, or practices, personal circumstances are not intentionally chosen or influenced by users. This, we argue, is more faithful to the ecological roots of the affordance lens that aims to capture all manners of interaction between agents and their environment—not just goal-oriented actions (Gibson, 1986). Specifically, taking the relationality of affordances seriously, as shown above, our study relates different personal circumstances to different technological properties and thereby shows how such relations give rise to different afforded experiences for users.

5.1 Practical implications

Our study has important practical implications. First, our research indicates that although all crowdworkers are confronted with similar working conditions, they are differently affected by MTCS platform work, depending on workers' personal circumstances. This finding yields important practical implications for policy makers and other relevant stakeholders involved in the political debate and discussion on potential platform regulations and related changes. Our study shows that it is important to develop recommendations and guidelines that consider crowdworkers as a heterogeneous group with different needs, backgrounds, and experiences. This notion is crucial for developing nuanced improvements to platform work and conditions. In this context, it is important to acknowledge that crowdworkers who rely heavily on MTCS platform work as their main access to paid work are particularly open to exploitation. Policy makers therefore need to think about novel ways of enacting beneficial labour market policies and regulations and transferring them effectively to MTCS platforms as emerging enabling labour markets. This could, for example, mean that the government tops up the pay these MTCS jobs offer by, for example, ensuring that (a) the MTCS workers are paid minimum wages such that they can afford a living and (b) the supply of tasks does not decline due to becoming too expensive.
In addition, our research shows that although MTCS platform work affords positive experiences to
crowdworkers with special needs, and that these positive experiences have implications for the personal life of this
group of crowdworkers, these workers are still excluded from other paid work. This raises societal questions on
how (traditional) workplaces can overcome prejudice and bias toward these workers and create a more inclusive
work environment (Merrells et al., 2017; Trauth, 2017). Our study contributes to rethinking expectations related
to work and reconceptualising them. The prevalent IS offer all necessary means to provide flexible, barrier-free,
and safe paid work opportunities; yet, seemingly too little is done to provide working opportunities to workers
with demanding circumstances. While many countries put extensive effort into counteracting discrimination, such
as ableism, racism, sexism, etc., we still need to find ways of shaping working conditions to better fit those with
special needs related to personal circumstances. We need to shed light on the role of IS in shaping more traditional
work environments to better include identified groups with special needs and address their exclusion, instead of
first allowing exclusion and then pushing them to use MTCS platforms. While the companies and political regula-
tions currently put effort into making the workplace flexible—for example, by home office work and more flexible
working hours, which is a good starting point—they only capture a part of the needs of the identified crowdworker
group. For instance, direct social relationships and personal interaction are often difficult for workers suffering
from social anxiety or depression. While such interactions are currently often integrated in many work settings,
flexible virtual tools, such as virtual assistants, can provide a remedy. Furthermore, developing and applying virtu-
ally assisted selection processes that emphasize other features than formal education or personal attributes, such
as age or ethnicity, could assist in better including individuals who face discrimination. Overall, while certainly not
applicable in all work settings, our findings show the high relevance of creating inclusive workplaces that allow
people with special needs related to personal circumstances to work. The findings can also inform policy makers
and practitioners on how to learn from virtual platform design, and how to use IS in providing work environments
that prevent the exclusion of workers with specific needs and that offer them better and more suitable work
opportunities.

5.2 Limitations and future research

Although we conducted our study very carefully, we have to acknowledge some limitations. First, our data predomi-
nantly combines cross-sectional perspectives; additional longitudinal data could provide a valuable extension by
explaining how the experiences afforded to crowdworkers change over time. Second, since we collected information
exclusively via participants' narratives and since we did not collect additional socio-demographic information, we
cannot account for potential differences in, for example, workers' economic, regional, or political background.
We chose this approach due to the sensitivity of the data, as it involves individuals who can be considered as excep-
tionally challenged by special needs. We therefore followed ethical guidelines on researching vulnerable groups by
protecting their anonymity quite particularly. Third, our data indicated that the COVID-19 pandemic exacerbated
several challenging personal circumstances, such as mental health issues. However, our data did not allow to draw a
holistic picture of COVID-19's influence as an external force on crowdworkers' experienced exclusion from other
work or on their experiences afforded through MTCS platform work. Future research is therefore encouraged to dive
deeper into understanding how external forces, such as COVID-19, may shape these aspects and how, in general,
marginalized communities change in a world where certain personal circumstances, such as mental health issues,
may become more common.

Finally, we want to highlight several boundaries of our findings and the resulting implications. Although our find-
ings provide important insights into experiences of marginalized workers, we need to be careful about the generaliz-
ability of these findings. While we found that, compared to facing exclusion from any paid work, MTCS platform
work affords several positive experiences to workers, we have limited information on how their actual situation has
(or has not) changed. For example, while people feel more financially independent, payment on such platforms is very
low and often not sufficient to make a living and cannot be seen as equivalent to other work situations such as regular employment. Furthermore, while workers expressed that they perceive themselves as a more valued and productive part of society, previous research shows that platform workers are often stigmatized in the broader society and perceived as digital peons (Liu et al., 2022). Future research is therefore encouraged to explore how crowdworkers’ actual realities (e.g., chances to find other employment, overall income situation, etc.) have changed through MTCS platform work. Moreover, previous research indicates that the practices by MTCS platforms may also discriminate or disadvantage workers with specific personal circumstances (Renan Barzilay, 2019; Tan et al., 2021; Williams et al., 2021). For example, platforms often apply algorithmic management practices to allocate tasks to workers, based on their previous performance history (Duggan et al., 2020). Such processes do not account for workers’ personal circumstances in which they use the platforms but which may impact their work performance. For example, workers with mental health issues might have difficulties to deliver the same performance as workers who do not deal with such issues when performing tasks. This might result in a lower ranking created by the algorithms used on these platforms, excluding the workers with mental health issues from better paid tasks, again creating an environment in which they are disadvantaged. Future research is encouraged to explore these interrelations to form a more in-depth understanding of the implications of MTCS platform work for marginalized workers and their (perceived) social inclusion. Moreover, MTCS platform work should not be considered as an equivalent to employment. Workers turn to these precarious work settings in a situation of even higher risk. Those platforms may therefore be an important quick fix for a highly challenging situation. However, since the goal should be to find pathways to re-integrate those workers into traditional work settings, we need to ask if participating on MTCS platforms is beneficial to this process or if it hinders this process. Our findings do not allow to draw conclusions on how MTCS platform work impacts the long-term career path of these workers. Future research is encouraged to explore if and how MTCS platform work contributes to marginalized workers’ long-term employability and job-seeking behaviour and to what extent it helps them actually overcome or even manifest their exclusion in other work settings.

6 | CONCLUSION

Our research shows that MTCS platforms provide an important work alternative to individuals who face exclusion from other paid work due to personal circumstances. Despite work conditions that are often challenging, MTCS platforms, having a unique combination of properties, allow these workers to pursue paid work activities and to build experiences that affect their personal situation positively. We acknowledge that our insights do not solve work exclusion per se because MTCS work provides insufficient economic means to be an exhaustive equivalent to organizational work. Nonetheless, current discussions have neglected the voices of workers who experience exclusion from other paid work, many of whom take pride in being able to participate in MTCS since they are impeded in other work settings.

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DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.


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## APPENDIX A

### TABLE A1  Coding examples.

<table>
<thead>
<tr>
<th>Example quote</th>
<th>First-order concept</th>
<th>Second-order theme</th>
<th>Aggregate dimension</th>
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</thead>
</table>
| “I have got chronic health issues (Crohn’s disease). Every eight weeks I have got to go to the doctor for infusions. That makes it really hard to find employment or work other than Clickworker.” (Clickworker, 3rd survey). | Suffering from chronic physical illness

We coded this quote as “suffering from chronic physical illness.” This label refers to the worker mentioning that he suffers from Crohn’s disease. | Physical challenges

We summarized first-order concepts of statements from workers who stated that they are not able to pursue paid work other than MTCS due to physical impairments, to the second-order theme “physical challenges.” | Personal circumstances of crowdworkers

We aggregated second-order themes that referred to reasons why workers perceived facing exclusion from other work than MTCS, to the dimension “personal circumstances of workers.” |
| “I have a skin disease that I cannot cure. Leaving the house is a problem.” (Clickworker, 1st survey). | Suffering from restricted mobility

We coded this quote as “suffering from restricted mobility.” This label refers to the worker mentioning that he/she cannot leave the house due to a skin disease. | Isolated task execution

We coded this quote as “isolated task execution.” This label refers to the benefit of conducting tasks alone. | Salient properties of MTCS platform work given crowdworkers’ personal circumstances

We aggregated all second-order themes that referred to properties of MTCS that are important for workers in light of their personal circumstances, to the dimension “salient properties of MTCS platform work given crowdworkers’ personal circumstances.” |
| “It enables those who are uncomfortable within social situations due to social anxieties, phobias or neurodivergency to avoid being placed in situations that may prove to be triggers or tiring for them.” (Clickworker, 3rd survey). | Relationally detached task execution

We summarized first-order concepts of statements highlighting the benefit of conducting tasks alone and without social interaction, to the second-order theme “relationally detached task deduction.” | No direct interactions with other workers required for task execution

This first-order concept refers to the worker appreciating the opportunity to work without having to interact with other workers. | |
TABLE A1 (Continued)

<table>
<thead>
<tr>
<th>Example quote</th>
<th>First-order concept</th>
<th>Second-order theme</th>
<th>Aggregate dimension</th>
</tr>
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<tbody>
<tr>
<td>“I don’t feel like a complete failure just because I can’t find a traditional job. I feel like I can help provide some income and help my family with the bills and groceries and rent. Clickworker has given me a small glimpse of hope.” (Clickworker, 2nd survey).</td>
<td>Experiencing self-worth</td>
<td>Constructing personal significance</td>
<td>Afforded experiences through MTCS platform work</td>
</tr>
<tr>
<td>“As I have succeeded in several high paying tasks, I felt a sense of accomplishment, which did not only improve my short-term mood but also my long-term well-being. Another thing I noticed is that the harmful attitudes against me decreased significantly.” (Clickworker, 3rd survey).</td>
<td>Experiencing achievements</td>
<td>We summarizes first-order concepts of statements highlighting that MTCS platform work helped workers perceive themselves as being a more productive, useful, and worthwhile person, to the second-order theme “constructing personal significance.”</td>
<td>We aggregated all second-order themes that focused on positive experiences enabled through MTCS platform work, to the dimension “afforded experiences through MTCS platform work.”</td>
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</tbody>
</table>