

Author accepted manuscript

Panteli, N., Rapti, A. & Scholarios, D. (2019) 'If he just knew who we were': Microworkers' emerging bonds of attachment in a fragmented employment relationship. Accepted for publication in *Work, Employment & Society*.

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Abstract

Using the lens of attachment, we explore microworkers' views of their employment relationship. Microwork comprises short-term, task-focused exchanges with large numbers of end-users (requesters), implying transitory and transactional relationships. Other key parties, however, include the platform which digitally mediates worker-requester relationships and the online microworker community. We explore the nature of attachment with these parties and the implications for microworkers' employment experiences. Using data from a workers' campaign directed at Amazon Mechanical Turk and CEO Jeff Bezos, we demonstrate multiple, dynamic bonds, primarily, acquiescence and instrumental bonds towards requesters and the platform, and identification with the online community. Microworkers also expressed dedication towards the platform. We consider how attachment buffers the exploitative employment relationship and how community bonds mobilise collective worker voice.

Keywords: attachment, bonds, digital labour, digital platform, employment relationship, gig economy, gig work, identification, microworkers, platform labour, work attachment, worker voice

Introduction

On-demand digital labour is a pervasive aspect of employment in today's gig economy (Howcroft and Bergvall-Kareborn, 2018; Wood et al., 2018a). This article focuses on one type of digital labour – online task crowdwork - which involves paid micro-tasks, or Human Intelligence Tasks (HITs), disseminated through digital platforms and requested by either individuals or companies. A collection of remotely completed micro-tasks is known as microwork, with examples ranging from routine data entry/cleaning/transcribing to creating tags/keywords for products on websites, checking the accuracy of search engine results, and rating sentiment in social media comments (Berg et al., 2018; Lehdonvirta, 2016).

This article explores the microwork employment relationship from the perspective of workers. Microworkers face significant power asymmetries in this relationship - arguably greater than for other online paid crowdworkers (e.g., Uber drivers whose work involves face-to-face contact) or profession-based, freelance crowdwork (Howcroft and Bergvall-Kareborn, 2018). The microwork platform's digital infrastructure provides tools for requesters to select workers from a diverse participant pool and complete tasks quickly and at low cost (Schmidt and Jettinghoff, 2016). It also subjects workers to an opaque process of quality ratings by requesters which determines the allocation of further work (Martin et al., 2014). The platform absolves itself of responsibility for mediating between requesters and workers in their Conditions of Use, thus enabling exploitative practices, such as, payment below minimum wage and 'wage theft' (requesters refusing payment for delivered work) (Webster, 2016). Furthermore, the global market focus on fragmented and low paid work fuels labour arbitrage, leaving microworkers minimal marketplace bargaining power (Lehdonvirta, 2016; Vandaele 2018). Microwork, therefore, is a particularly precarious and exploitative type of online crowdwork (Alberti et al., 2018).

We use a lens of attachment to explore microworkers' perceptions of this employment relationship. Our theorisation draws from frameworks which view attachment as a dynamic and socially constructed phenomenon especially appropriate for understanding temporary and virtual working, such as online gig work (van Rossenberg et al., 2018).

The rationale for our approach is threefold. Firstly, as employment relationships have fragmented to include multiple potential parties (e.g., employers, agencies, clients), theory on work attachment has also recognised the possibility of coexisting bonds of different character (Klein, 2016). Transactional relationships, such as a financial bond between a worker and a temporary agency, may coexist alongside relational bonds with other entities, such as clients or an occupation (Coyle-Shapiro et al., 2006; Swart et al., 2014). For microworkers, online communities created by individual workers to share knowledge about requesters and help others avoid bad experiences, build such bonds, with implications for employment experiences. For instance, although the work itself provides few opportunities to organise collectively, strong community attachment reflects initial efforts by microworkers to organise and express a collective voice (Fieseler et al., 2019).

A second reason for drawing on work attachment is to explore what may be replacing the notion of 'an organisation' in microwork and gig work more widely. Many microworkers view the platform as a 'visual organisation' (Kost et al., 2018) and consider themselves its employees (Smith, 2016). Given the platform's 'orchestrating role' (Howcroft and Bergvall-Kareborn, 2018, p.23), and since the concept of an 'employee' attached to an 'employer' or even 'agency' holds little relevance in microwork, understanding the nature of workers' attachment to a particular platform is an under-explored area. At the same time, the online crowdworker community may self-organise to take on roles traditionally expected of employers, such as facilitating learning or creating career ladders (Kittur et al., 2013; Jabagi et al., 2019).

Finally, research on microworkers' experiences has focused on specific aspects of working life; for example, experience of the work itself (Deng and Joshi, 2016; Kost et al., 2018); perceptions of requesters (Irani and Silberman, 2013); fair treatment (Fieseler et al., 2019), and the microworker community as a source of support and voice (Lehdonvirta, 2016, 2018). Work attachment is an integrative concept for understanding employment relationship dynamics and informs debate about the value of cultivating strong bonds in gig work (Duggan et al., 2019).

We begin by mapping the key parties within the employment relationship before elaborating on the relevance of attachment in such fragmented relationships. We draw on a conceptual lens provided by Klein et al. (2012) which allows us to explore two research questions: (1) How, if at all, do microworkers demonstrate attachment with the core parties in the employment relationship and (2) How do these bonds of attachment shape the employment experience? We then present a study based on an online campaign by microworkers working through Amazon Mechanical Turk (MTurk). Data comprised posts in the campaign forum and letters directed at Jeff Bezos, Amazon's CEO aiming to raise Amazon's awareness of the workers and their treatment. The analysis identified various bonds and showed that commitment and identification can develop with the core parties in precarious work. The findings contribute to our understanding of how workers experience a fragmented employment relationship typical of gig work. We discuss the implications for how workers manage their vulnerable position and potential avenues for collective voice based on strong community bonds.

Microworkers and the employment relationship

Some microworkers undertake short-term work to supplement income (e.g., during university, in-between employment), providing an interim support system or safety net (Deng and Joshi,

2016). Permanent employees may also undertake microwork during weekends, evenings, or lunchbreaks, and a growing number consider the work their main source of income. Martin et al. (2014) also distinguish between novice microworkers, who focus mostly on increasing their approval rating and HIT count, and more experienced microworkers, who are motivated by increasing their approval rating to gain access to a wider selection of better paid HITs.

Regardless of employment or career status, microworkers face inherent structural disadvantages in the employment relationship. Microwork mirrors other forms of non-standard employment which transfers employment risk to workers (Howcroft and Bergvall-Kåreborn, 2018). The resulting dynamics can be considered by examining workers' relationship with the platform, requesters and other microworkers.

Firstly, *platform providers* play a crucial role in the design of the platform and its features, and therefore largely determine working conditions. Nevertheless, they act only as technical intermediaries in worker-requester transactions (Kittur et al., 2013), framing the relationship as one of independent contracting and thus affording workers no legal protections (Howcroft and Bergvall-Kåreborn, 2018). Platform design serves requesters rather than workers' needs (Graham et al., 2017). The geographically dispersed, digitised nature of microwork facilitated by the platform also affects workers' job quality. Wood et al. (2018a) demonstrate that although microwork may offer autonomy and flexibility, it is also linked to social isolation, working unsocial hours to meet client demand, work intensification and exhaustion. The platform offers little in the way of formalised support or resources to buffer such effects, such as, supervisory support or skill development (Gandini, 2018).

Secondly, the relationship between microworkers and *requesters* is a temporary contract without any employment protections (e.g., security, sickness pay) and generally low pay (e.g., the majority of tasks on MTurk pay less than 10 cents per task (Webster, 2016)). Workers have little negotiating power, and requesters benefit from the global oversupply of

labour enabled by the platforms which keeps wages low. Platform design offers functionality for requesters, such as rating or rejecting microworkers, but does not aim to improve workers' experience. For requesters, workers remain 'non-persons' and the work is devalued, leading Martin et al. (2014) to refer to the process as 'invisible work'. Equally, though, some microworkers find this invisibility positive, allowing them to avoid potential surveillance and control by requesters.

A further feature of the worker-requester relationship is that worker performance is digitally regulated by an algorithm in a process which lacks transparency and directly impacts workers' income security. Requesters' feedback on performance provides a reputation score after the execution of a task and may even lead to rejection of the work, where requesters refuse to pay the worker. Requesters are not required to explain their actions and there are no dispute resolution systems on which workers can draw in such cases (Webster, 2016). With each rejection, workers' quality ratings and hence earning potential are negatively affected, as a high approval rating may lead to more offers for tasks and more interesting tasks in the future (Martin et al., 2014). Moreover, feedback is generally limited to task performance, with little potential for personal learning or career development (Gandini, 2018; Kost et al., 2018). The need to ensure positive ratings from requesters in order to secure further work reflects a self-disciplining quality which replaces the need for direct supervision (Wood et al., 2018a). Microworkers' dependence on good ratings also creates inter-worker competition, as the more challenging tasks flow to those who maintain a high ranking based on the platform algorithm over time. The need to maintain one's reputation for a secure income also acts as a restraint to individual or collective action against adverse employment conditions (Howcroft and Bergvall-Kåreborn, 2018).

Finally, microworkers work autonomously, therefore direct social contact on the platform with *other workers* is limited. However, literature shows bottom-up collaborative

initiatives within the microworker community. Some platforms (including MTurk) provide online forums for microworkers which are controlled and moderated by platform managers. More freedom for workers to express their views is provided by independent online communities which share information on requesters and provide support to deal with the isolation of the work (Kittur et al., 2013). For example, TurkerNation allows workers to rate requesters based on pay offered, rejections, and responsiveness. Discussion threads connect those with shared interests and individuals can voice concerns, as in the following illustration of one worker's 'mass rejection' of their work: *'Talked to other microworkers... same thing happened to them. These rejection comments are also really demeaning. Definitely avoid!'* (Martin et al., 2014:5). On Tukopticon, microworkers review requesters based on communicativity, generosity, fairness and promptness (Irani and Silberman, 2013) and, increasingly, Turkers use online groups to share software solutions, such as browser plugins and apps that streamline work, track progress, or provide alerts when tasks match desired criteria (Lehdonvirta, 2018). These solutions enable more effective time management and performance, and thus enhance microworkers' earning power.

Work attachment in microwork

Platforms do not regard microworkers as employees and requesters can discard workers at any time. Surprisingly, though, significant proportions of microworkers view their engagement with a specific platform positively and as an 'ongoing occupation' (Fieseler et al., 2019) to which they willingly offer their free time; e.g., training novices to the platform or helping requesters design tasks. Despite the apparent fragmented employment relations with requesters and the platform, work attachment appears relevant in microwork.

Conceptualising attachment for temporary work arrangements recognises multiple potential targets, whereby workers substitute attachment to a single employer with other

entities; for example, clients (Swart et al., 2014) or agencies (Coyle-Shapiro et al., 2006). A useful framework for analysing non-standard employment is Klein et al.'s (2012) continuum of bonds, which differentiates four types reflecting how individuals make sense of their experience: (1) 'acquiescence' (attachment based on the complete absence of alternatives); (2) 'instrumental attachment' (based on calculated acceptance of the costs of the bond being absent); (3) 'commitment' (volitional or affective attachment reflecting greater dedication to a target); and (4) 'identification' (attachment which implies the 'merging of oneself with the target' (p.135)). This continuum recognises the simultaneous existence of multiple work-related bonds ranging from worker indifference to varying degrees of emotional involvement. As Klein et al. argue, a significant body of literature focused on workplace relations has used bonds and commitment interchangeably, however: 'A bond is not commitment unless one chooses to accept responsibility for and dedicate oneself to the target' (p.137). Thus, bonds reflect how workers perceive short-term, transactional exchanges with multiple targets as well as longer-term, deeper attachments based on mutual trust (Van Rossenberg et al., 2018).

A variety of such bonds may exist for microworkers. Most workers' relationship with the platform or requesters reflects acquiescence as a result of an absence of alternative employment options, or an instrumental bond in exchange for extrinsic benefits, such as 'safety-net' pay, work-life balance or finding a requester with good ratings. Micro-tasks allow little autonomy, task significance or identity, social interaction, or developmental feedback from requesters; therefore, the work lacks the key elements usually associated with commitment to the work or an employer (affective or volitional bonds) (Bailey et al., 2017). In the absence of 'an employer', it has been argued that the platform becomes a virtual organisation from which meaning can be found; e.g., through financial rewards, completing socially valued tasks, or self-improvement (Kost et al., 2018). Fieseler et al.'s (2019) analysis of worker-

platform relations showed that over half of the 203 MTurk microworkers in their study described this relationship positively, using terms such as loyalty or mutual respect.

The most likely target for volitional- or identity-based bonds is fellow microworkers with whom workers share experiences online (Schwartz, 2018). Ren, Kraut and Kiesler (2007) highlight several features which lead to identification with an online community: a shared identity (social categorization), common goals (interdependence) and categorising oneself as a member of an in-group (intergroup comparisons). A similar concept is situated identification, which describes a temporary state of being part of a collective. Rousseau (1998) distinguished situated from deep-structure identification, where connection with the collective intertwines with beliefs about the self and carries over to other situations to result in deeper identification over time. Both types of identification towards the microworker community may shape workers' employment experience.

Why does microworker attachment emerge?

In the absence of a single employing entity, individuals construct a network of attachments as a means of alleviating the experience of transitional and uncertain employment (Petriglieri et al., 2019). Microworker involvement with an online community can enhance psychological safety, just as seeking support is a means of resisting victimisation in precarious workplaces (Alberti et al., 2018). Attachment to supportive online sites also provides information and shared experiences of specific platforms, thus tangibly reducing the inherent ambiguity of the employment relationship.

Moreover, increased interaction among contingent workers builds further identification. In cross-boundary environments, knowledge-sharing has been shown to increase affective bonds (i.e., commitment) to a team (Swart et al., 2014). Microworkers' efforts to share knowledge and minimise the possibility of being mistreated by requesters provides support

which is unavailable elsewhere and increases solidarity with the wider community (Martin et al., 2014; Webster, 2016).

In turn, a strong collective identity channels worker voice in the absence of any institutional mechanisms for collective representation (Lehdonvirta, 2016; Vandaele, 2018; Wood et al., 2018b). Platform workers' right and ability to unionise and negotiate in a collective manner is minimal (Garben, 2017). Given also their dispersed geographical locations, low skilled microworkers have limited capacity to disrupt the platform through direct action, as requesters can easily find more malleable labour. Microworkers, however, may have the capacity to appeal to the public and challenge the platform's reputation. The online community forum 'We Are Dynamo' was initially designed to facilitate collective action by MTurk microworkers and attracted positive publicity (Johnston and Land-Kazlauskas, 2018). The forum allowed microworkers to connect and plan for collective action and encouraged a climate of trust and collective identity, resembling situated identification (Rousseau, 1998), with workers referring to themselves as 'Turkers'. This Turker identity formed an effective basis for collective action (Lehdonvirta, 2016). Woodcock (2018) argued that pressure could be applied on a platform to enhance workers' bargaining power, although the focus of his study was skilled software developers. While microworkers are unlikely to hold the same leverage, strong collective identity may provide a vehicle for organising and expressing worker voice.

Research design and data

The study adopted an interpretive case study approach (Pan and Tan, 2011) to explore the nature of work attachment in the microworker employment relationship. This approach allows the investigation of implied meanings embedded within natural settings. Microwork researchers have argued for the value of analysing forums as a means of capturing workers' perspectives and naturalistic conversations (Martin et al., 2014). Accordingly, we sought data

that would allow us to explore microworkers' own words about their relationship with the platform, requesters, and other workers in order to understand attachment.

We selected data from an online campaign initiated by workers to improve conditions on a specific digital platform (MTurk). Data was drawn from the online forum set up to support the campaign (constituting just over 9,500 words) and the information that was produced as a result of the campaign (31 letters from 30 microworkers, 2 letters from the same individual, another 9,600 words). Seven of the 31 letters expressed only positive views of MTurk; all other letters identified challenges thus providing a range of opinions. Press releases about the campaign provided additional background information. Even though the overall effectiveness of the campaign was inconclusive (Johnston and Land-Kazlauskas, 2018), the data provides a unique source for understanding microworkers' perceptions. Also, the focus on a single platform allowed us to map attachment for a particular population of platform-based workers (Turkers).

The campaign

Known as 'Dear Bezos', the letter writing campaign was started by an experienced, full-time MTurk microworker (KM) in 2014 to inform Bezos, Amazon's CEO, of the problems microworkers face when using MTurk and provide suggestions for improvement. It received wide press publicity, e.g., 'Amazon Mechanical Turk protest: 'I am a human being, not an algorithm' (*The Guardian*, Dec, 3, 2014). Dynamo, a US-designed online site which aims to give gig workers space to develop a collective voice, was chosen to host the campaign. Microworkers were asked by the campaign organiser to make three core points in their letters: that Turkers are human beings, that they represent a skilled labour force and that they need better communication with requesters and the platform. Campaign organisers' suggestions included:

'Talk about "key demographics" - how much time you spend turking, pay ...why you chose mTurk, why you don't have a "real" job, info about your family ... we definitely think we need to keep it POSITIVE, and make that clear - this is not an airing of grievances, this is an introduction...show we are GOOD, skilled, intelligent people who have chosen this "career" not because we're the "dimmest bulbs".'

The campaign forum allowed discussion and participants to share draft letters for comment, editing and proofreading before sending to Bezos. An initial post on the forum explains the campaign approach: *'Here Turkers have a chance to portray their lives and jobs as what it really is'*. Apart from some negative comments by a single individual questioning the effectiveness of such a campaign, the posts were positive (e.g. *'I would like to help'*) showing enthusiasm for the initiative (e.g. *'This is awesome! I think this could be great for microworkers and for mturk if we do it well. I'd like to help and participate'*). Feedback on the letters was constructive and added clarity to the message, as in the following illustrations:

'I think your letter would have a bigger effect in 'showing the human side of turking' if you included more personal information about yourself and why you Turk'.

'OK here are a few inputs: Letter #5 I suggest delete all the quotes from requesters and focus on how has Mturk qualifications helped your mturk career. Letter #6 is great very concise and organized I would think less wording if possible'.

The demands of the campaign expressed in the letters included facilitating worker-platform and worker-requester lines of communication; ensuring secure and efficient payment to India-based microworkers; creating additional platform functionalities to benefit workers; and introducing a formal grievance process for workers to take action against exploitative requesters. A core message was for Amazon and Bezos to start caring for their workers: *'We are great marketing material. If he just knew who we were, the skills we have, the languages we speak, Amazon could profit if they just invested a bit of time and some resources'.*

By January 2015 when the campaign ended, there were 31 publicly available letters (L1-L31) which had been sent to Jeff Bezos. The contributors were of varied gender, education (including college educated), professional backgrounds (from carers to medics), ages (ranging from 20s-60s), and cultural backgrounds (six Indian, one Canadian, remainder US). The US dominance reflects that one of the campaign's aims was to show that microworkers are not always cheap labour from developing countries.

Data analysis

We conducted an iterative thematic analysis of forum posts and letters to identify patterns of meaning related to attachment. The three authors independently applied open coding and theory-driven categories and followed a 'recursive' process to find agreement around final themes (Saldana, 2015, p.37). First, we aimed to understand how forum communication shaped the letters. Open-coding provided 'thick' description (Geertz, 1975) of forum participants' reactions, intentions and strategies with respect to the campaign. Through dialogical exchange, we agreed on three themes from the forum: microworkers' willingness to work collectively for the campaign; the emergence of campaign tactics; and the shaping of the letters around workers' personal biographies. The latter observation allowed us to treat the letters as rhetorical devices (Gibbs, 2007, p.61) conveying meaning with respect to the employment relationship.

Second, taking individual letters as the unit of analysis, we coded sections within letters (e.g., phrases, sentences, paragraphs). This process enabled both within and across letter analysis, with each letter classified as reflecting one or more bonds of attachment. We progressed from descriptive 'semantic' coding around broad patterns to interpretation within and across letters to theorise meaning. Theory-based (a priori) coding used Klein et al.'s bond types. Inductively-developed themes related to targets of attachment, expressed sentiments, intentions, and behaviours towards these targets, and evidence of multiple and/or dynamic

bonds within individual letters (see Table 1). These themes conformed with Klein et al.'s conceptualisation of attachment which acknowledged multiple targets and coexisting 'malleable' bonds emerging as situations and perceptions change. Each letter also was categorised in terms of demographics (age, gender, education, profession, family). This process reinforced general findings of diversity in the microworker population (Martin et al., 2014).

In a final iteration of coding, we collectively agreed on prevalent patterns across letters, taking account of the tone of the letter and demographics. This process focused on identifying coexisting bonds for different targets and attachment dynamics illustrating evolution of sentiment, meaning or synergies across bonds.

TABLE 1 here

Findings

The analysis confirmed three targets of attachment: requesters, the microworker community and the platform. The majority of letters reflected multiple bonds, the most prevalent of which were acquiescence or instrumental bonds with requesters and/or the platform, and commitment to and identification with the community. The letter-writers also expressed emotion, caring, dedication or common goals with the platform, showing evidence of more personal embracing of a bond with MTurk. We begin by describing the pattern of attachment with each target, before presenting evidence of coexisting and dynamic patterns of bonds.

More than acquiescence with requesters?

The letters overall suggested that workers' bonds with requesters were based on acquiescence (resignation) demonstrating the exploitative relationship described in literature. Workers explained how little recourse they had to requesters who treated them as *'free or cheap labor'* (L4). The following extract represents the many accounts of this low trust relationship:

'I am a skilled and intelligent worker... I am a human being, not an algorithm, and yet Requesters seem to think I am there just to serve their bidding. They do not respect myself and my fellow Turkers with a fair wage' (L2).

Beyond acquiescence, most letters also expressed a calculated acceptance of the benefits provided by requester-initiated work, such as flexibility or supplemental income at a particular stage in life. For example, one PhD candidate needed *'flexible, extra income'* (L28); another worker was unable to work in his profession after a major surgery (L12). Some microworkers expressed greater psychological involvement, for example, referring to *'plenty of lovely requesters who use the website'* (L10) or a longer-term relationship: *'I have also gained employment outside of mTurk thanks to requester connections I have gained from the platform'* (L12). Recognising the opportunity for a more positive worker-requester relationship, the letters frequently urged the platform and JB to mediate: *'If you [Bezos] could facilitate our communication with Requesters somehow, be it through a forum or just presenting our stories to them, I think it would change their perception of us for the better'* (L2). Thus, dedication to particular requesters was possible and viewed by many letter-writers as desirable.

A continuum of bonds with the community

Across the majority of letters, instrumental, commitment- and identification-based bonds of attachment with the community of Turkers were evident; only 5 out of the 31 letters made no reference to community, preferring to focus only on positive appeals to JB. Some expressed

their bond with the online community in instrumental terms, such as learning ‘*which HITS to do and which to avoid*’ (L24). ‘*Forums, IRC channels, Reddit subreddits, Facebook groups, websites, wikis, and other social networks have been developed to provide information about how to be a MTurk worker*’ (L9).

For most, there was also a sense of a shared experience or social identity; of belonging to a ‘*highly skilled and educated*’ group (L4), ‘*great contract workforce*’ (L21), and ‘*solid, real workers*’ (L13). The majority of letters also described others who shared similar experiences, had provided support or contributed to a sense of community. For example, ‘*Working on MTurk has introduced me to some of the nicest and helpful people*’ (L3). ‘A 68 year old, retired, PhD holder noted: ‘*I joined MTurk to relieve my loneliness after my husband died...I also belong to a wonderful forum called TurkerNation. We are a very friendly helpful group. We share help for Amazon Turk and very often personal help*’ (L7). Another described her proactive involvement in online communities: ‘*We have poured hours into training new MTurk workers, educating them on best practices, and helping them when issues arise*’ (L9).

The campaign appeared to energise identification with the community. On the forum, collectivist language showed unity, with phrases such as ‘*we are in this together*’. A shared Turker identity was evident and galvanized collective voice: ‘*I see the power of this as a media event that let’s turkers represent this work in their own voice rather than being cast as a sweatshop of exploited dupes*’; ‘*Turkers and other workers are organizing themselves, naming themselves, demanding representation and better labor conditions*’. When the forum leader communicated that the campaign succeeded in making MTurk change payment mode to Indian Turkers from cheque to direct payment, there was a sense of pride: ‘*[We have been] engendering change, we did it. We did it all for ourselves, Congrats*’. This early success generated further collective identity and support for the campaign on the forum.

Bonding with the platform

The letters reflected a range of perceptions of the platform. First, as with requesters, there were frequent references to the advantages offered by MTurk compared to alternative employment, including other similar platforms. These reflected instrumental bonds and in some cases a choice in favour of MTurk, demonstrating movement towards a more personal bond. The letters placed different value on these benefits. For some, microwork was an opportunity to use idle time to generate supplementary income; for others it was a career choice and the main source of income. For the latter, an instrumental bond acquired meaning depending on one's situation. The following extracts demonstrate restrictive health or family circumstances where the instrumental bond to the platform is expressed in terms of the highly valued outcome it affords.

'MTurk is truly a Godsend to thousands of people who either need extra income, or can't get out into the 'regular' work force' (L4).

'As someone with health problems, I'm very grateful for the opportunities Amazon has given me, and how it has enriched my life' (L10).

'[MTurk] has personally helped me and my family. It allows me the flexibility to work when I want, and not interfere with the time I need to devote to my daughter' (L1).

'[MTurk] is a lifeline that has dug our family out of a financial hole on more than one occasion' (L13).

A second set of letters attached greater meaning to working with MTurk and showed dedication to the platform. A worker from India noted: *'In my four years of Turking, I haven't had a day when I felt that I was bored of working on mechanical turk' (L3).* A retiree commented: *'Some tasks are very difficult. I welcome those tasks with open arms to keep up my mental acuity.'* (L7). Stronger dedication came from several letters demonstrating a common belief in the goals and success of the platform; for example, *'I want to work hard and promote the site' (L11).*

None of the letter-writers indicated intentions to leave for alternative platforms or work, some expressing this in emotive terms: *'I pray that I will be able to continue working with your company for many years to come'* (L8).

Frequent collective reference to Turkers also suggested identification with MTurk itself as well as the community. The campaign constructed a collective idea of Turkers sharing 'common goals' with the platform and working towards its success. The following extracts highlight how workers saw the platform as facilitating a win-win-win relationship for workers, requesters and the platform.

'You would be truly amazed by the number of outstanding people you have waiting to make this system better for your company. After all, we do have a very vested interest in it being profitable' (L13).

'If you were to invest in this platform, it would be a boon to Amazon and to all the workers who help to complete tasks. It would be a win-win for all us' (L5).

Thus, our analysis suggests that microworkers developed varied bonds of attachment with the platform, in many cases reflecting personal meaning or identification as well as a more instrumental connection.

Coexisting and evolving bonds of attachment

Most letters provided evidence for coexisting bonds with multiple targets. While almost all hinted at resigned acceptance of requesters, the same individuals often expressed personal investment in the platform. The majority also identified strongly with the Turker community whose identity is intrinsically tied to MTurk. Thus, negative sentiment towards requesters did not preclude meaningful attachment to other targets.

Individual letters also expressed multiple bonds for the same target. Some requesters were valued despite general acquiescence towards requesters; for example, a retired caregiver

wished *'HITs paid more'* while noting the 'reliable', 'creative' and 'fun' student surveys she completed (L30). As noted earlier, most individual letters expressed a range of bonds with the community and were attracted to the platform for different reasons. This meant that the same individual may express various positions towards the same target. For example, KM who wrote both letters 2 and 11 made reference to all three types of bonds towards the platform. In L2 she refers initially to the transactional relationship with mTurk, followed by an indication of greater dedication (commitment): *'I Turk as my main source of income and it is currently my chosen career'*; in L11 she proclaims a deeper identification when she writes to JB: *'I've also told you how much mTurk means to me'*.

Bonds towards a specific target also were described as shifting with circumstances and experiences. For example, in letter 15 we read the story of a mother of three who signed up with MTurk to give her children a better life (instrumental bond) but thereafter acknowledges: *'I have grown to love it'*. Similarly, this retiree expresses growing dedication to MTurk in affective terms: *'The platform does add to my pension income, but that is not the most important reason that I am a member...Amazon mTurk is a wonderful vehicle for people like me. I try hard to get my friends to join'* (L7). For these individuals, their decision to remain with the platform showed desire and growing dedication and was often described in emotive terms (e.g., 'love' (L15), 'heartfelt thank you' (L24)), suggesting commitment-based bonds. Perhaps due to personal biographies, microwork and mTurk specifically, gradually became embedded in their lives providing more than financial security.

Two attachment dynamics, in particular, illustrate consequences for the employment experience. First, in many cases, the letters highlighted community bonds as providing support and meaning where it would otherwise be absent and thus playing a role in the individual's evolving attachment to another target, the platform. The mother of three above (L15) cites *'the many helpful warm and friendly people I've met because of this site'* as the reason for loving

mTurk. Another worker whose mental illness allowed him few options and who was initially 'skeptical' stated: *'As I looked into MTurk more...I realized that there is a great community of people behind it'* (L24).

Second, the platform was regarded by many as the key to enhancing bonds with requesters, which as we showed earlier was desirable for many microworkers. There was a strong message in most letters for the platform to intervene to ensure fair treatment and equality in worker-requester transactions; examples include: *'Amazon has built in ways to rate its sellers? Why shouldn't MTurk?'* (L28); *'There needs to be a dedicated support group for the workers'* (L3); and *'[you have] the beginnings of a great platform'* (L21).

Summarising the various scenarios of coexisting and evolving bonds, microworkers' accounts of their experiences reflected a dynamic picture of attachment. Different bond types with multiple targets varied in strength at different time-periods or were discussed in a way which reflected individuals' shifting life demands. Simultaneously, a bond with a requester may be short duration and largely instrumental, while longer-term and deeper bonds with other requesters or the platform may develop. A consistent presence across letters was strong attachment to the online community. Rather than a generalised pattern, however, our analysis demonstrates how these permutations are unique to each individual workers' circumstances.

Discussion

Drawing on an online campaign organised by microworkers themselves in order to improve their employment conditions, we demonstrate various bonds of attachment towards the key actors in microworkers' employment; requesters, the platform and the microworker community. Attachment to requesters and the platform was, at least initially, based on acquiescence due to limited alternatives or on instrumental bonds such as generating income. Identification towards the online microworker community was strong, with the campaign itself

demonstrating collective Turker identity. The campaign, also, provided a focal point for the expression of dedication to the platform with contributors united in expressing a desire to improve the platform.

In addressing our first research question on how microworkers' bonds of attachment are demonstrated, we showed that it was possible for individual microworkers to express a variety of instrumental and more meaningful connections to all targets, either simultaneously or at different points in time. By applying Klein et al.'s (2012) conceptualisation of a continuum of bonds which are 'malleable' according to individuals' changing situation or perceptions, the study highlighted previously unexplored attachment dynamics in microwork. These also illustrated how attachment shapes employment experience, our second research question. In particular, workers' own testimonies showed that some bonds such as identification with the community enriched work and helped to counter their vulnerable position, as well as build further bonds with the platform. Similarly, attachment to the platform was viewed as a vehicle for improving the employment experience with requesters.

These findings contribute in three ways to theorising microwork and other gig worker employment relationships. First, they suggest an explanation for microworkers' attachment to the digital platform. While we expected 'calculated acceptance' of a bond with the platform due to the costs of seeking alternative employment, many also expressed a desire to embrace the goals of the platform.

Literature on work attachment has shown that instrumental bonds can, over time, become volitional (Mathieu and Zajac, 1990), due to perceived sunk costs or 'side-bets' (e.g., costs of disrupting personal life or losing valued investments), or to genuinely increasing identification with the goals of the target. In showing how microworkers perceived their relationships with MTurk, the data revealed both these processes. In the former case, choosing to remain a Turker created a sense of balance for individuals (Chalofsky, 2003), in managing

the work-life interface or enabling work goals, such as finding employment which would otherwise be infeasible. Our finding that more volitional bonds to the platform had developed are consistent with others (Fieseler et al., 2019; Kost et al., 2018) who showed that microworkers experience meaningfulness from completing particular tasks (e.g., those reflecting social values) and from their interactions with the platform itself (e.g., through personal development). The choice to identify with MTurk is consistent with these authors' observations that the platform forms a virtual organisation for many microworkers with which a longer-term and deeper relationship is desirable.

Second, the study showed that collaboration among microworkers creates meaning and shapes personal work identity, and that this serves a purpose in precarious employment. Such arguments have been made for independent professionals. Schwartz's (2018) creative freelancers found meaning through collaboration and sharing knowledge in the absence of communication with a single firm, while Petriglieri et al.'s (2019) independent workers created 'personal holding environments' (e.g., connections, interpretations of activities) to compensate for their precarious position and the lack of support from 'an organisational holding environment'. Our study demonstrates similar processes for microworkers. The MTurk campaign provided the opportunity to interact with other Turkers and in the process articulate common goals and strengthen bonds of identification, creating 'situated identification' (Rousseau, 1998) with the temporary campaign. The letter-writers' testimonies also showed strong collective identity developed through online support communities which highlight similar 'in-group' experiences (Ren et al., 2007), particularly microworkers' shared vulnerability to requesters and ways of building greater resilience as a microworker. Thus, while the very essence of the microwork employment relationship is to shift risk onto individual workers, microworkers drew from the community to construct their work identities, seek support and, in so doing, buffer the precarity of their work.

Finally, beyond the personal implications for work identity, the analysis confirmed the feasibility of collective organisation for a globally dispersed, isolated population of solo workers for whom the expression of unified interests is generally regarded as problematic (Gandini, 2018; Vandaele, 2018; Wood et al., 2018a). Efforts to improve Turkers' conditions have already revealed the importance of online forums and bottom-up collaboration (Irani and Silberman, 2013; Martin et al., 2014). We add to this evidence by showing how such nascent collectivisation serves a particular purpose in the absence of conventional employer relationships, with strong bonds of attachment to the community energising workers' collective response to exploitation (Webster, 2016). Vitaly, this encourages voice in an environment where individuals may fear speaking out due to the potential consequences for their income (Howcroft and Bergvall-Kåreborn, 2018). Thus, cultivating community identity may mobilise microworkers, as already found among other gig economy workers (Woodcock, 2018).

Practical implications

The campaign highlighted MTurk's failure to provide platform tools for workers in the same way as for requesters. Platform re-design offers an opportunity to improve working conditions and earning potential, increase worker voice, and reshape the worker-requester-platform relationship (Jagabi et al., 2019). Opportunities for two-way communication with requesters/platform management and fair performance assessment also would create more meaningful work (Bailey et al., 2017). Harmon and Silberman (2018), for instance, describe a prototype for workers to rate working conditions on digital platforms and disseminate these ratings as a means of building worker power into platform design. Such changes, however, imply a holistic re-alignment of the current system, with actively engaged requesters.

A second, related implication is that the platform itself would benefit from enhancing microworkers' collective identity. According to Klein et al.'s (2012) concept of attachment,

dedication to particular targets, such as some types of valued work or group identity, could be a precursor to loyalty to the platform. The campaign itself appeared to be making just these arguments by asking Bezos to use the platform's influence to improve Turker's working conditions and retain a loyal workforce.

Regardless of the platform's role, our evidence confirms the emergence of a self-organised community of practice involving supportive collaborative networks for gig workers. This finding informs current debates about who holds responsibility for HRM in 'app-work' (Duggan et al., 2019; Meijerink and Keegan, 2019). Online communities have a significant role in countering the dehumanising nature of microwork, and as a collective force which raises awareness with key stakeholders (platforms, requesters, and policymakers) of the need to regulate and reshape online crowdwork (Berg et al., 2018; Graham et al., 2017).

Conclusions

Extant literature identifies significant power asymmetries in the employment relationship for microworkers. Although our data from a workers' campaign directed at MTurk confirmed some exploitative elements, microworkers also expressed various bonds of work attachment. These ranged from instrumental bonds to a deeper sense of identity with the online community and even volitional bonds with MTurk itself. As with other populations of gig workers, microworkers appear to construct attachment networks to provide support and meaning which is generally absent in this type of employment.

The findings reflect the idiosyncrasies of this platform and group of activists. However, as a relatively established crowdsourcing platform, MTurk is an appropriate exemplar for platform-based microwork employment relationships. Studies using a wider worker profile, a range of platforms, and more generic datasets not focused specifically on worker campaigns could test the potential impact of the network of attachment which we have proposed; e.g., its

implications for generating worker voice. Longitudinal data would enhance understanding of attachment dynamics, including how bonds develop as workers' circumstances and relations with requesters, the platform or the community change.

Despite these limitations, the combination of the campaign letters and forum posts offers a unique picture that microworkers seek deeper attachment with the platform, and are able to collaborate and find a collective voice, contrary to the isolation often depicted in literature. Inevitably, the crowdsourcing platform business model, with its reliance on a concealed global workforce with limited employment options and no regulatory protections, will persist. Our study offers initial insight into how digital labour can find meaning in such precarious conditions and the potential for strong online community identity as the basis for mobilisation.

Note: All authors contributed equally to the paper and their names appear in alphabetical order.

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Table 1: Thematic coding for letters

| | Description | Supporting themes |
|--|---|---|
| <i>Bonds of attachment</i> | <p>Acquiescence</p> <p>Instrumental</p> <p>Commitment-based</p> <p>Identification-based</p> | <p>Absence of alternatives e.g. housebound</p> <p>Valued outcomes e.g. flexibility</p> <p>Positive affect/relational language</p> <p>Acts/intentions demonstrating choice/embracing target</p> <p>Collective language</p> <p>Self-identity merged with target</p> |
| <i>Targets of attachment</i> | <p>Requesters, Digital labour platforms (MTurk/others), Online microworker community</p> | <p>Frequently mentioned</p> <p>Positive/negative sentiments</p> |
| <i>Manifestations of attachment</i> | | |
| <ul style="list-style-type: none"> Multiple bonds | <p>Multiple targets/coexisting bonds across continuum</p> | <p>Sentiments about <i>different</i> targets by same individual</p> <p>Multiple sentiments about <i>same</i> target by same individual</p> |
| <ul style="list-style-type: none"> Dynamic bonds | <p>Shifts/synergies in bond type with same/different targets</p> | <p>Temporal dimension to expressed state, emotion or meaning</p> |