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Virtual mobility and the lonely cloud: theorizing the mobility-isolation paradox for self-employed knowledge-workers in the online home-based business context

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**Virtual Mobility and the Lonely Cloud: Theorizing the Mobility-Isolation
Paradox for Self-Employed Knowledge-Workers in the Online Home-
Based Business Context**

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Abstract

We advance both mobility and paradox theorizing by advocating the new concepts of “mobility-isolation paradox” and “paradoxical imagination”. These emerged from examining the nuanced, multifaceted conceptualizations of the mobility-isolation tensions facing home-based, self-employed, online knowledge-workers. We thereby enhance current conceptual understandings of mobility, isolation and paradox by analyzing knowledge-workers’ interrelated, multidimensional experiences within restrictive home-based working contexts. We compare the dearth of research and theorizing about these autonomous online knowledge-workers with that available about other types of knowledge-workers, such as online home-based employees, and the more physically/corporeally mobile self-employed. This research into an increasingly prevalent knowledge-worker genre addresses these knowledge gaps by analyzing home-based knowledge-workers’ views, and tensions from paradoxical pressures to be corporeally mobile and less isolated. Despite enjoying career, mental and virtual mobility through internet-connectedness, they were found to seek face-to-face social and/or professional interactions, their isolation engendering loneliness, despite their solitude paradoxically often fostering creativity and innovation.

Key Words: Home-Based Online Businesses; Isolation; Knowledge-Worker; Mobility; Paradox Theory; Self-employment.

INTRODUCTION

“A creation of importance can only be produced when its author isolates himself, it is a child of solitude.” Goethe.

Virtual mobility and real-time interactions have affected global economic environments and work-residence relations (Sayers, 2010; Vorley & Rodgers, 2014). Knowledge-workers, whose cognitive work generates knowledge outputs, are increasingly starting-up home-based businesses, incorporating flexibility, online and low-costs, without any “bricks and mortar” (Betts & Huzey, 2009). This offers potential entrepreneurial opportunities, autonomy and work-life balance (Elsbach & Flynn, 2013; Jenkins & Johnson, 1997). Fewer temporal-spatial demarcations mean knowledge-work can be conducted anytime/anyplace (Davis, 2002). Knowledge-workers use the home as their work location (McDermott, 2005), despite it being often dismissed as limiting network and growth potential (Mason, 2010), with perceived gender links (Mirchandani, 1998; 1999), even for “high-tech” ventures (Wynarczyk & Graham, 2013). Despite a dearth of empirical studies, and regular calls for theoretical developments around this phenomenon (e.g. Loscocco & Smith-Hunter, 2004; Mason *et al.*, 2011; Thompson *et al.*, 2009; Walker & Webster, 2004), home-based, self-employed workers are absent from “most existing research and theory-building” (Reuschke, 2015, p.6). We fill this gap by analysing home-based, knowledge-workers’ virtual, mental and career mobility; those physical/corporeal restrictions counter-balancing their remote, online home-working autonomy (Fraser & Gold, 2001; Koehne *et al.*, 2012); and the tensions overlooked by extant paradox theorizing (Smith & Lewis, 2011).

Virtually rather than physically mobile home-based knowledge-workers are absent in the mobility literature, which focuses on movers rather than non-movers. This includes studies linked to employment opportunities (Kaplan *et al.*, 2016; Miguélez & Moreno, 2014);

career, professional, role and promotion-related movements (Baruch *et al.*, 2016; Darchen & Tremblay, 2010; Joseph *et al.*, 2012; McGinn & Milkman, 2013); labour force mobility implications for employees, employers, and regional economies (Betz *et al.*, 2016; Eckardt *et al.*, 2014; Marino *et al.*, 2016; Marx *et al.*, 2015; Wedemeier, 2015); and location-independent online knowledge-workers working as contractors, consultants or on client premises (Borg & Söderlund, 2015; Czarniawska & Mazza, 2003; Hyrkkänen *et al.*, 2007; Vartiainen & Hyrkkänen, 2010). Few studies consider knowledge-worker ‘immobility’, linking it to non-work responsibilities (James, 2014), or if comparing “satisfied immobility” with “desired mobility” (Ferro, 2006).

The experience of home-working for self-employed, autonomous knowledge-workers is neglected in research and theory. To date research on home-working has focused on gender roles (Walker *et al.*, 2008); work-life boundaries (Nippert-Eng, 1996; Perlow, 1998); work-life balance and employee-performance monitoring (Brocklehurst, 2001; Felstead *et al.*, 2002; Felstead & Jewson, 2000; Hill *et al.*, 2003; Shumate & Fulk, 2004; Sturges, 2012; Tietze *et al.*, 2009; Tietze & Musson, 2010); and isolated teleworkers (Bartel *et al.*, 2012; Golden *et al.*, 2008; Hilbrecht *et al.*, 2008; Whittle & Mueller, 2009). Conceptual and research gaps exist in the extant literature on *self-employed* home-based knowledge-workers (Reuschke, 2015), with physically restricted work-contexts and few face-to-face work contacts (Bryant, 2000). This raises the question about how they manage their low physical mobility and isolation, despite autonomy and virtual mobility due to online connectedness. Our research specifically addresses this research and theoretical gap in knowledge. Through our empirical analysis and theorizing, we develop the limited research knowledge available about this increasingly prevalent genre of knowledge workers and unique type of knowledge work, thereby enhancing theoretical understanding of the related concepts of mobility and isolation along with their key elements. Thus, through examining in detail the literature and

extant theoretical gaps, we developed our first research question: *How do the experiences of self-employed, home-based knowledge-workers extend theoretical understandings of mobility and isolation?*

Prior to our research, the *paradoxes* embedded in *self-employed* knowledge-workers' mobility-isolation experiences were empirically unexamined and conceptually undeveloped in the extant literature. Home can be lonely or a peaceful haven; a closed refuge for creative thinking or open to the world of online activities and distracting interactions. For social media users, the internet paradox involves feeling both isolated and virtually connected (Kraut *et al.*, 1998; 2002; Song *et al.*, 2014). Home-based knowledge-workers demonstrate this paradox, making paradox theory an appropriate lens to view mobility and isolation experiences in the home. We specifically respond to calls for advances to paradox theorizing (e.g. Costanzo & Di Domenico, 2015; Jules & Good, 2014) that has neglected home-based businesses (Rothbard, 2001). Lewis & Smith (2014) also call for a broader emphasis on multidimensional tensions in various work-contexts. This study thereby directly responds to this call in the recent paradox theorizing literature for a "need for a holistic understanding of tensions and cognitive and social influences" (Lewis & Smith, 2014, p.134). Our identification of this existing conceptual gap led to the development of our second research question: *How can the mobility and isolation experiences of self-employed, home-based knowledge-workers extend paradox theorizing?*

We examine the experiences of 23 UK home-based knowledge-workers who went from employment to self-employment with online virtual businesses like web-design and web-development, hosting online communities and professional IT services. Our study adds fresh insight into mobility-isolation paradoxes in the home, under-researched as a work domain, despite being identified as increasingly significant (Clark & Douglas, 2010; Daniel *et al.*, 2015; Mason & Reuschke, 2015). Focusing on this context, we broaden analyses of

knowledge-workers away from the corporate to the home context with its potentially diverse “creative spaces” (Gaim & Wahlin, 2016, p.33). Home-businesses restrict physical/corporeal but not mental/virtual, mobility (Urry, 2002; 2007). However, despite increased autonomy over their working practices, the owners experience paradoxical tensions through isolated work-contexts and the combination of high virtual/mental with low physical/corporeal mobility. The multi-layered paradoxes revealed by the knowledge-workers’ responses in our study show how paradox theory must not only explore simpler paradox dualities, but also the interwoven multidimensional paradoxical tensions faced by such individuals. This study of the mobility-isolation experiences of these self-employed, home-based knowledge-workers thereby extends paradox theorizing through empirically-informed conceptualizations of manifest paradoxical multidimensionality. In examining the multifaceted, interrelated, reinforcing paradoxical forces of mobility and isolation for *self-employed* home-based knowledge-workers, we thus make vital conceptual contributions to the theorization of paradoxical multidimensionality and complexity, as reflected in the nuanced theoretical model that we develop.

LITERATURE/CONCEPTUAL FRAMING

Home as a Work-Context and Knowledge-Worker (Im)Mobilities

Home is the chosen work-context of many knowledge-workers moving from employed to self-employed status to grow online businesses, a choice sometimes related to social-structural variables and family influence (Carroll & Mosakowski, 1987). The home’s multifaceted nature benefits resource-limited, knowledge-based businesses, allowing combinations of remunerated work with other activities of home-living (Ellegård & Vilhelmson, 2004). This must be seen against a knowledge-economy backdrop of ICT

innovations, business clusters/dispersions, and work organized in spatially and temporally flexible ways. Effects on knowledge-worker career mobility (Lam, 2007) relate to “the boundaryless career” (Arthur, 1994; Arthur & Rousseau, 1996; Arthur *et al.*, 2005; Howes & Goodman-Delahunty, 2015), and career mobility viewed along dual physical and cognitive continua (Sullivan & Arthur, 2006). However, the mobility literature ignores home-based, self-employed career mobility, despite the home’s virtual connectivity being debated (e.g. Vilhelmson & Thulin, 2008), and knowledge-worker physical mobility being seen as affected by their virtual mobility (Storme *et al.*, 2016).

The concepts of virtual mobility and physical/corporeal can be contrasted (Cohen & Gössling, 2015; Larsen *et al.*, 2006). Vilhelmson and Thulin define physical/corporeal mobility as “*in situ* interaction made possible by transportation by car, foot, train, etc.” (2008, p.604), while virtual mobility as “contacts and two-way interpersonal interaction made possible by computers, the Internet, mobile phones.” (2008, p.604). Mental mobility is cognitive agility to navigate and interpret information, ideas and interactions, including spatial, temporal, physical and virtual (Di Domenico *et al.*, 2014). It involves social, personal and professional realms, such as career mobility choices (Sullivan & Arthur, 2006). For the self-employed knowledge-worker, these may give more freedom of choice and decision-making, allowing them to choose to work from their homes due to cost, convenience and comfort, despite their physical isolation.

Home as a Work-Context and Knowledge-Worker Isolation

Knowledge-workers’ isolated home-contexts may give space, time, privacy for reflection, and comfort, but also deny them physical-social interaction. Workplace isolation studies relate unmet physical, emotional and cognitive needs to poverty of interaction (Taha & Caldwell, 1993), with limited resulting networking, mentoring and professional opportunities

(Cooper & Kurland, 2002), dissatisfaction (Golden, 2007), poor job performance and low commitment (Golden *et al.*, 2008). Extant studies describe isolation as imposed, linked to low-status work (Whittle & Mueller, 2009); or self-imposed (Vega & Brennan, 2000; Pedersen, 1997).

Social and professional isolation exists with co-located, as well as physically-isolated, workers (Smith & Calasanti, 2005; Smith & Markham, 1998). Few studies, focus on those working online at home, variously called virtual, flexible or teleworkers (e.g. Bartel *et al.*, 2012; Golden *et al.*, 2008; Whittle & Mueller, 2009). Extant studies of teleworkers' social, professional and physical isolation find their lonely feelings a major drawback (Bartel *et al.*, 2007; Kurland & Cooper, 2002); increasing with more time spent teleworking (Golden *et al.*, 2008); especially compared to traditional work-arrangements (Morganson *et al.*, 2010); reflecting their stationary work and physical distance from centralised workplaces (Erickson *et al.*, 2014). Nevertheless, Golden *et al.* (2008) find home-based teleworkers, despite feeling physically remote and professionally isolated, prefer home-based working. Sewell & Taskin (2015) show apparent tensions between the autonomy and constraints inherent in teleworking at home. For employees, teleworking feels distant and unsupported (Whittle & Mueller, 2009).

Despite differences, studies of home-based employed teleworkers aid understanding of self-employed knowledge-workers' home-based isolation. Professional and social isolation are distinguishable despite their overlap (Cooper & Kurland, 2002; Kurland & Cooper, 2002). The former is lack of "knowledge about, access to, and interaction with organizational sources of power, prestige, support and information critical to one's success" (Smith & Calasanti, 2005, p.309). The latter is "an aversive psychological state due to a person's perception of lacking satisfactory social relationships" (Lam & Lau, 2012, p.4266). Isolated teleworkers tend not to participate in local activities or develop a collectivist sense with

others doing similar work, as “home-based work merely further fragments and individualises people’s experiences” (Bryant, 2000, p.29). Use of asynchronous forms of communication, like emails and voice messages, is associated with low quality interactions for both home-based teleworkers and management consultants employed off-site, who feel isolated from colleagues (Bartel *et al.*, 2007; 2012). Knowledge-workers, employed online at-home, linked by mobile devices, are seen as in control but still controlled, and so caught-up in an “autonomy paradox” (Mazmanian *et al.*, 2013).

Home as a Work-Context: A Paradox Lens on Self-Employed Knowledge-Workers.

Paradox theory is an appropriate lens through which to view inherent tensions in home-based knowledge-workers’ mobility-isolation experiences. It emphasises a balance of divergent, conflicting demands from opposing tensions (Smith & Lewis, 2011); pressures to accept, confront and/or transcend them (Lewis, 2000); and strategies to engage and manage them (Dameron & Torset, 2014; Smith, 2015; Smith & Tracey, 2016). It involves thinking paradoxically, “a both/and mind-set that is holistic” (Lewis & Smith, 2014, p.129) and a reflective awareness to manage dynamic relationships among opposing forces (Gotsi *et al.*, 2010; Peng & Nisbett, 1999). There is stress on opposing force duality, such as the paradoxical relationships of stability and change in different organizational contexts (Farjoun, 2010). This contrasts with the neglect of a focus on complexity and multidimensionality in dynamic relationships among intertwining, though paradoxical, opposing forces (Lewis & Smith, 2014) that thwarts “a more cohesive understanding of paradox” (Smith & Lewis, 2011, p.385). Self-employed knowledge-work and home-contexts are notably absent from the paradox literature, preventing “more fruitful and provocative discussion across paradox contexts” (Smith & Lewis, 2011, p.385). The home is a very appropriate context for our analysis and aim of contributing to the further development of

paradox theory through a focus on paradoxical multidimensionality and complexity rather than on duality (Lewis, 2000; Lewis & Smith, 2014).

METHODS

We adopted an inductive methodology and qualitative design involving in-depth interviewing, and continuous recursive movement between data and concepts resulting in an iterative process of theory/construct development. It was the most appropriate methodology given the focus on previously under-researched isolated, self-employed, home-based knowledge-workers. The inductive approach also best fitted our “how” type of research questions that required detailed, in-depth insights (Eisenhardt, 1989; Locke, 2011); and calls for more qualitative, in-depth analyses of knowledge workers’ (im)mobility and isolation and different “types of experiences and practices” (Smith & Calasanti, 2005 p.329). The most suitable approach for providing rich data (Homburg *et al.*, 2012; John & Reve, 1982; Kumar *et al.*, 1993), it supports progressive, iterative, reflexive data-gathering and theorizing methods (Alvesson, 2003). Such iterative theory-building approaches are distinct, in intention and sample selection requirements, from theory refinement and confirmatory quantitative approaches (Walsham, 2006; Klein & Myers, 1999). Seeking to identify and theorise self-employed knowledge-workers’ (im)mobility and isolation experiences, we selected a diverse sample to identify the phenomena of interest. We do not seek to produce confirmatory research, nor are we constrained by sampling for statistical generalizations (Bryman, 2004; Bryman & Bell, 2007). Rather, our study design and sampling provide for empirically led theory-building and development.

Research Participants

Drawing on extant definitions (Deschamps *et al.*, 1998; Gelderen *et al.*, 2008), our working definition for knowledge-workers' online home-based businesses included those where most activities were undertaken online at home and knowledge-based e.g. web-designing; developing revenue generating community portals; promoting information about goods (e.g. rare, specialist books); and services (e.g. translating and script-writing). We used three approaches to identify and recruit participants. First, adopting a purposive sampling strategy (Easterby-Smith *et al.*, 2008), we approached five home-based knowledge-workers who had online businesses and were known personally to match study requirements. All agreed to participate. Second, using a snowballing approach (Bryman, 2004), we asked each to identify others with businesses matching the study requirements. Seven additional participants were identified. Third, we used social media (Twitter and LinkedIn), highly congruent with the population of interest, to identify eleven others, resulting in a total of 23 participants. We recognise these approaches to identify participants may be prone to self-selection bias (Bryman & Bell, 2007), with participation likely from those positively framing themselves. However, this is outweighed by the benefits of in-depth data from those wanting to share their views.

Table I summarizes the 23 interviews conducted with 15 women and 8 men, including number of founders, business type and age of operation. Seventeen were operated by single individuals, three by married couples and three by friends or former colleagues. Only married couples were co-located, but two spouses worked predominantly outside the business, and in all cases one spouse played a dominant role. Where businesses were started by more than one person, we asked business owners to suggest who was most appropriate to interview. The interviewees were from both urban and rural locations across England. The twenty-three participants included individuals with a range of personal and contextual characteristics, like gender, location, length and type of business ownership which may influence their experience

of isolation (Smith & Calasanti, 2005). While a broad range of sample characteristics is consistent with our research design, the final sample size was determined by data and theoretical saturation (O'Reilly & Parker, 2013).

INSERT TABLE I ABOUT HERE

Data Collection

All participants received prior written descriptions of study aims, ethical guidelines for research conduct, and how findings would be disseminated and research data stored. Most interviews (15) were conducted face-to-face, eight by telephone, from participants' home/business premises, apart from three cases, where they met the interviewer in a café. All agreed to be recorded, apart from two when contemporaneous notes were taken. Three interviewers undertook the interviewing, with initial interviews undertaken by two interviewers, covering all combinations of interviewers to develop common approaches to using the interview guide. An iterative, reflexive approach to data collection was adopted (Strauss & Corbin, 1990; Alvesson, 2003), with interviewers jointly reflecting on each interview before undertaking the next, consistent with the emergent flexibility of interpretive research (Gioia *et al.*, 2012).

The interviews were guided by a semi-structured interview schedule (Punch, 2005), commencing with broad questions, such as "tell me the story of your business - why and how you started it". Participants were asked what challenges they faced operating their businesses. Most (18) unprompted raised issues of low physical mobility and isolation due to their home-based contexts, using actual terms like "isolation" or "lonely" for their experiences. Consistent with a reflexive approach, we then encouraged participants to reflect on their actual experiences of low physical mobility and isolation, how these changed, and issues were addressed. This provided additional rich data and depth of findings. The five who did

not mention mobility and isolation unprompted, when asked, affirmed these experiences, and freely elaborated on them.

Interviews ranged in duration from 35 minutes to 1 hour 55 minutes, with a mean of 1 hour 10 minutes. Interviews held over the telephone (mean duration 47 minutes) and in public locations (mean duration 52 minutes) tended to be shorter, with interviewees elaborating and digressing less, consistent with the more restricted ambience of the telephone or public setting. However, these interviews were still of significant duration, providing full responses.

For those interviewed at their home/business premises, additional data were collected as field notes, capturing issues about location (rural, residential, urban); workspace use/nature, like dedicated office or studio (Denzin & Lincoln, 1998). Business websites, online records (e.g. Twitter, Facebook social media posts) and press records about the businesses were also searched (e.g. the press extensively covered one business, when its founders were awarded a major UK honour). Consistent with our iterative research approach, supporting data breadth was therefore not delimited (Gioia *et al.*, 2012).

Data Analysis

The transcribed recorded interviews and contemporaneous notes resulted in 330 pages of transcripts (158,876 words of text). Research rigor and interpretative reliability stemmed from in-depth analysis of collated data, with interpretations and theoretical developments iteratively emerging from the data. Data familiarization and immersion, gained by repeated data readings, was followed by thematic analytic coding (Miles & Huberman, 1994). Interview transcripts were coded thematically using Nvivo software (Crowley *et al.*, 2002). Coding was undertaken by two researchers independently. Average interrater reliability calculated by Cohen's Kappa (Cohen, 1960) was 0.75. This is characterized as good

agreement (Landis and Koch, 1977). The third researcher did not code, but adopted the outsider's perspective advocated by Gioia *et al.* (2012), involving challenging emergent findings.

Table II shows the recursive/iterative analysis process of inductive theory development. Initial data reduction and qualitative open coding identified initial data-patterns/themes. These were initially numerous due to combined processes of memoing and open/in vivo coding. The former involved writing short summaries to capture contents/themes of interview transcripts sections. The latter involved using the actual words/short phrases taken from that data section. These, carried out in tandem, allowed for identification of common themes and patterns for data to be grouped within and across interviewees. Consistent with interpretive research notions (Walsham, 2006; Orlikowski, 1993) that do not avoid apparent contradictions in the data, these emergent themes were further refined, grouped and narrowed iteratively into a reduced set of aggregate thematic codes or clusters (Tracy, 2010) and given "phrasal descriptors" (Gioia *et al.*, 2012 p.20) used to structure and facilitate effective coding and construct development. As a result, this analytic process allowed us to progress from raw data to seven overall thematic categories namely; four mobility aggregate themes: 1. career/work; 2. virtual; 3. mental/cognitive; 4. physical mobility; and three isolation aggregate themes: 1. social; 2. Professional; 3. time/place concepts. Table II includes the emerging qualitative coding scheme which progressed from open coding of raw interview data to development of aggregate themes. It shows how this process enabled an iterative approach to inductive theory development, resulting in new theoretical construct propositions and a conceptual model. Emanating from the findings, these are presented and critiqued in the following sections of this article.

INSERT TABLE II ABOUT HERE

While interpretive research does not seek to undertake triangulation like confirmatory approaches, we used other information (e.g. field notes, analytic memos) as additional means to support and challenge our interpretations of the core interview data (Orlikowski, 1993). Adopting this approach helped us reflect on the interview data, treating them as interpretive tools to appreciate the background of interviewees' accounts. The research questions require that primacy be given to interviewee voices (Gioia *et al.*, 2012). These information sources provide added valuable means of reflecting on interpretations of the core interview data. Our theorizing thus emerged to aid us interpret the mobility-isolation paradoxes that appear from interviewee accounts. This is presented in the Discussion following the next Findings Section.

FINDINGS

The findings are in three parts. The first two focus on mobility and isolation and the key themes emerging from participants' accounts of their home-based work experiences. Within the manifestations of mobility and isolation identified during the reflexive data analysis and emerging from their own interpretations, participants' accounts demonstrated co-existing paradoxical tensions. Taking these together, the third part analyses the underlying mechanisms of how the participants deploy a paradoxical mind-set in response to these co-existing tensions.

Home as a Work-Context and Knowledge-Worker (Im)Mobilities

Participants' interconnected mobility types emerged as career/work, virtual, mental/cognitive and physical (im)mobilities associated with their self-employment and home-working contexts.

Although they intertwined, they were distinguished as aggregated themes in their accounts, as reflected in the following sub-sections on (im)mobilities.

Career/work mobility: The participants described their career mobility experiences, with push and pull factors that encouraged them to start-up their home-businesses. Push factors related to poor working conditions and interpersonal relationships, pull factors were attractions of self-employment, economic control and creativity and needing to be home for personal reasons. Two participants received redundancy payments from previous employers. Most wanted to be “autonomous” or “your own boss”. Participant #17: “I think its total control. We can do what we want.” Flexibility, described by participant #16 as “portability” was desired. Participant #20 wanted to freelance, “doing websites and small projects, to clients around Europe”, both resenting mundane administrative tasks while enjoying flexibility and freedom: “I decided to offer extra services there. The flexi services...web hosting and web development services.”

When comparing present situations with previous work, education and/or location experiences, participants although referring to missing the previous technical administrative support they enjoyed, mainly emphasised positives. Participant #1 described relief at leaving a large insurance firm, to found an online community with two female friends all working from home. It was: “just too big...too many people...too much like a factory as I'm walking in every morning and walking out, and no one really caring about what they were doing.” She compared these low-quality interactions with positive daily online, personal, relationships and vibrant, enjoyable online virtual business meetings with colleagues. Participant #7 found her translation business more self-fulfilling than her previous experience in sales, which had nevertheless helped her when starting-up her business. Participant #13, comparing her previous office-based “job” which “was just what paid the bills” with her present absorbing

writing “career”, stated that: “A career is something a bit more meaningful than just a job...it’s an identity almost”.

Although interviewees expressed mixed views, none desired to change careers again by leaving/closing their businesses, generally viewing their present careers as positive, life-affirming choices. Participant #16 typically emphasised: “I have really enjoyed it. I think that is because of this portability and profitability. So, I think I am very lucky to be in this field...I think I have made a very good choice.” Participant #22 likewise affirmed: “I’m pretty happy with what I’ve got and what I’ve done for myself.” Such positive attitudes were generally witnessed among all interviewees. Self-determination and flexibility associated with self-employment was compared favourably to the constraints of their previous employee status.

Virtual Mobility. Although finding new professional colleagues through virtual mobility, and online working was compared favourably with employment, some missed face-to-face aspects work contacts. Participant #20 left a previous online entrepreneurial venture: “I didn’t see the clients” to return to his former organization. Although the pull of self-employment encouraged him to restart his home-based business, he still found virtual interactions less appealing than face-to-face contacts: “It’s really hard... The business is not humanised”. Participants #5 and #7 instead found virtual interactions more personalized than previous face-to-face interactions. Participant #13, an online script-writer, also preferred common interests found in membership of fellow-writers’ online communities, to face-to-face workplace interactions. Participant #17, operating an online script-writing company with two distantly-located partners, one even living in Canada, enjoyed virtually transcending geography and time-zones. Participant #1 similarly describing using social media daily to keep in touch virtually with her two co-founders with whom she had excellent online

relationships despite geographical separation, emphasised; “We have a jolly time on Skype”, adding ambiguously “So, it's quite social, in a remote sort of way.”

Mental/cognitive mobility: Many participants spoke of how online working “mentally freed” them from daily face-to-face workplace interactions, which distracted them from work. Participant #2, an ex-teacher, actually found it preferable to have a reduced number of daily interactions as this gave her more mental space for creative work. The same feelings of having time and space for creativity were expressed by others. Participant #19, a web-designer, with a background in art, architecture and design felt that he was more creative in his home-business than when he worked for a large company, feeling more self-fulfilled running his online home-business. Participant #21, similarly, when after his PhD he had worked as a pharmaceutical company’s medical writer, was unable there to get the “mental space” to be creative before, as “from my perspective, the only part of the job that I enjoyed and wanted to do was the actual writing; the day-to-day creative part of it, so, being freelance, that’s what I do.”

Physical (im)mobility: Participants brought up negatives mainly about the physical restrictions and challenges of home-working. Participant #3, operating a property-related business online described her regular, virtual connections with clients as lacking depth. Her daily work-life pattern also reflected the restricted physical/corporeal mobility of home-working whereby she would regularly not leave her home office for the entire day. Participant #1, despite describing very positive online connections, also felt it necessary to leave the physical confines of the home and had bought a dog to walk outside the house each day, and meet neighbours. Online professional interactions, however warm and social, are not sufficient to address all physical (im)mobility issues associated with running home-based

online knowledge-businesses. Despite the home's physical restrictions, however, flexible work-life patterns, and autonomy over their work schedules are enjoyed. For example, Participant #14 explained how she would often alternate her work patterns according to her preferences for that day, such as taking an extended lunch-break to catch-up subsequently with business-related tasks online later in the evening.

Home as a Work-Context and Knowledge-Worker Isolation

Participants described feeling isolated because of the physical separation of the home-context where they worked, contrasting negative feelings of loneliness with positive ones of reflective solitude. Thus, Participant #7, an online translator, said: "The one very dark porridge is I find it very isolating...very, very isolating." Participant #20 stated: "After two or three years, it's really hard...a lonely, lonely journey". Some highlighted links between professional and social isolation and how home-working can paradoxically improve but also sometimes degrade work-life balance and/or family relationships. Participant #21 said, after working in a large company, his online stationery home-business involved solitary, time-absorbing pursuits, which were unexpectedly more detrimental to family interaction. However, his flexible work had improved his work-life balance paradoxically by enabling part-time studying and regular golfing. Many cited lone-working's simultaneous positive and negative effects on work and non-work living. Despite needing daily physical interactions, ex-teacher Participant #2 enjoyed solitude. She had found working as a teacher very intense in terms of the large number of people faced daily in that role. She felt happier running her online business without "all those voices" from previous physical working-day interactions disturbing her sleep. Participants freely described their isolation experiences in such ways, but despite overlap, they distinguished social from professional isolation, and so we took these as the first two aggregated themes. Isolation was also discussed within participants'

conceptualizations of “time and place” which is our third aggregated theme. These three aggregated themes are discussed in the following sub-sections.

Social isolation and the positives of solitude and negatives of loneliness: Participants described social isolation feelings, with few face-to-face, informal interactions with people generally, not just with former work-based colleagues. “Seeking-out others”, they deliberately changed location during the day, often “leaving home”, “going downstairs” or “changing rooms” to socialize with others away from work-rooms. Those with single-person home-businesses, in addition to interviewees with partners, described feeling isolated from face-to-face contacts. Participant #1, founder of an online community along with two others with whom she interacted daily online, described mixed feelings. She did not miss the social interactions she had in her previous large international company, finding these superficial and alienating, but missed daily friendly face-to-face interactions, especially when first setting-up her business. She solved this problem by devising specific reasons to leave the house each day in order to alleviate her loneliness. Participant #3, operating an online property-related business felt it could be “quite isolating” and questioned whether it was even healthy, as she sometimes felt agoraphobic. Daily, school-gate meetings with other parents meant: “I’m quite happy with the balance of it...I do get to pop-out and see, you know, have a quick chat with all the parents.” Participant #2 typically also differentiated social isolation from work-related interactions, using self-remediation for loneliness, such as having the radio on “so there’s a little world going on round me”, planning evening/weekend activities, engaging in family activities, and telephoning or online social networking with friends and family. Such strategies vis-à-vis social isolation highlight the paradoxical interplay involved in notions of social isolation, solitude and loneliness. Radio listening brought connection to the outside

world, but when requiring “peace and quiet”, radio voices would be switched off, unlike voices in co-located workplaces.

Self-employed knowledge-workers value “being-in-control” over communicating with others. They chose self-employment partly to enable them to combine work with more flexible time to spend on private pursuits, or friends and/or family. Paradoxically, family relationships can also suffer from home-based work-arrangements with participants citing heavy workloads, double working-days and unequal domestic work-share arrangements. Spending time with family members during the day, often requires working evenings or weekends. The “always on” nature of online businesses with long irregular hours, exacerbated their isolation feelings. Working at times previously spent with family resulted in also worrying about the “domino isolation-effect” of family isolation. Participant #12, absorbed with developing her online craft-based business said: “If my husband weren’t studying for a degree in engineering, he would be very lonely.” He performed most domestic tasks. “I’ll spend, usually, several hours in the evening [working on online business]. He does the evening meals...He does most of the shopping”. Participant #21 said “It has a lot of impact on my family” who vacationed without him or he was “present but not fully there” as “for two years I worked solidly. I didn’t take a holiday. ... I went on one holiday, but it was to a hotel that had *wifi* and I was just on the computer all the time”. However, participants also described enthusiastic support from family members in terms of their home-businesses. Three established them originally with spouses. Others, operating alone, often rely on some relatives for professional/business advice. Participant #22 explained how he discussed decisions with his grandfather, a former businessman, so “nearly every decision I’d run by him... just to check.”

Professional isolation and/or professional solidarity, networking and support: Interviewees connected online with others in similar businesses to deliberately avoid professional isolation. They formed “mutual-benefit” groups, providing advice, expertise and business leads, ensuring that group participants had sufficient work. For example, participant #22 with a web-development business, discussed how, despite also competing with other local web-developers and web-designers, he follows certain principles of work-sharing whereby local companies will occasionally pass on work from certain clients if they have over-demand and vice-versa

Some had formal professional online networks directly related to their work. Participant #6, operated an online trade association, and dreaded having internet issues that she would not be able to deal with, as she feared most being cut off from other members of her association. Others had professional online networks with others in their field, on whom they call for specific problems, information, companionship or support. Participant #18, operating an entertainment-staging online business running shows at all hours, described how he and others working in relatively similar businesses had formed an informal support community: “If you're in trouble, generally no-one will mind if you call them up about it. I wouldn't mind a call at four in the morning from someone who's in trouble”, adding “I know I could do the same to them”. Participant #7 also belonged to an online network with other translators, which she drew upon both for professional advice and contacts. Built-up online, members of the network also meet-up “on a Saturday afternoon once a month and meet each other so we can talk shop and it's very nice”, jokingly adding “Translators are really a very sad bunch because we actually meet sometimes”. Thus, online professional contacts become virtual networks, and then can transform into face-to-face relationships, or vice-versa. Thus Participant #5, having worked for a major recruitment agency, started-up an online recruitment business with two long-standing colleagues, and described maintaining previous

contacts online: “We are still very heavily networked-in with people that we used to work with through this business...our colleagues who all ran similar practices”. They would thereby “pick-up industry intelligence” and furthermore face-to-face “get together semi-socially and we’ll trade gossip”.

Other interviewees felt more ambivalent about face-to-face encounters and were uncomfortable when attending formal events, describing making additional efforts, including role playing, to appear confident when meeting others professionally. Participant #13, an online script-writer, found new professional colleagues and networks within online professional and business communities, comparing these favourably with face-to-face interactions, such as those she found alienating in her previous employment. More focused interactions with like-minded individuals she found more helpful: “because of social networking and finding a writing community and small business community, I can see that going further.” Again Participant #9 who worked previously in academia but now in online costume designing, emphasised how ‘helpful’ she found self-employed people in the small online business community: “They’re all in business one way or another; self-employed.” She added: “They’re not the kind of people I have ever come across before in academia, and they’re all very helpful.”

Isolation and Conceptions of time and place: We found paradoxical feelings about isolation due to internet connectivity, speed, pervasiveness and immediacy. Work “anytime” became “all-the-time.” Interviewees who described working long, irregular hours, felt this contributed to feeling isolated, separate and disconnected, magnified when customers were overseas, and goods and staff sourced from across the world. Operating a web-hosting business, Participant #20 found it “almost impossible to keep your feet on the ground”. His focus on overseas clients made him feel disconnected from regular home-living rhythms: “I went to bed at the same time that my parents got up to go to work. It doesn’t make any sense, personally”.

Adding that “So the main challenge, for me was how do you set up an online business without affecting reality?”

The “anytime/anyplace” philosophy implies that online knowledge-workers, apart from time, are also freed from constraints of place, allowing them highly-valued flexibility. Running an online home-based enterprise not only involves the overlapping home-workplace, but also interaction between physical and digital spheres of work, and the spatial, temporal and social. Thus participant #20 described “one of the problems” of knowledge-working online as “there's a sense of no physical business, so sometimes it's hard to visualise the business itself”. However, participant #16, running his search engine optimisation business for over three years after working at an international company, described his full-time venture as “portable” as “you can work from anywhere” and run “different projects from different clients coming from different countries, like USA, Australia, Canada, here UK”, but also paradoxically “fixed” in his home as his preferred, chosen main location. “My aim to have a portable business, and also I think I prefer to work from home...I find it very portable....working from home”. Thus, despite working globally online, many paradoxically felt rooted in their homes and local community, giving them a sense of place and belonging. Participants accessed local resources like infrastructures and services, and had a sense of community involvement and contact with local businesses, services and amenities. Participant #10 who previously worked for Royal Mail e-mail IT support had “a great relationship with the local post-office...the more business I can give them, it keeps them going”. Building-up good relationships with local suppliers, she still sourced product information from around the world. She described network reliability as an important way of differentiating hers from competitors’ businesses, and how customers’ high expectations of rapid order fulfilment made local, reliable suppliers particularly attractive.

Sometimes online communities lead to arrangements to meet locally such as Participant #7 with her online translator network. Research participants encouraged colleagues and clients to participate in online virtual networks, and locally in face-to-face communities giving them virtual and physical/corporeal connections. Participant #1 developed an online community to support new parents who felt isolated, bringing them together first online, and then physically by encouraging participation through local community events. “It’s always been part of who we are”. Her business was based on an inspirational model of campaigning for parents to meet-up and participate nationally and internationally online, and locally face-to-face, to form social and political campaign groups involved with parenting issues such as: “I’d always campaigned for better food for children. We’re campaigning to get food colours out of children’s food.”

However, dependency on virtual connectivity combined with fear of it failing, slowing their work down, or causing complete disconnection. Participant #6 said: “I do find that quite hard. I do find that side of things quite scary.” She linked her fear of online disconnection to loneliness. Indeed, fear of being isolated from contacts and an awareness of internet dependency was expressed by many interviewees who were worried that their IT equipment or internet connection would not work, as without these, they would be “cut-off”. Others described similar feelings of dependence on technological artefacts with a “tech always on” mind-set, but ever-present fear of it being off, or even slowing down, impacting upon their work-life decisions. Thus, limitations of the broadband service available in their areas or service provided by Internet Service Providers (ISPs) affected those with homes in more remote rural areas. Participant #19 described how “speed is a nightmare”. He was considering moving home or business to be more “connected”, and less “disadvantaged” than similar businesses elsewhere as “the broadband is not cable...the only possible result is probably moving to a business premises where there is a better speed”. He compared himself

to his international competitors: “In the US they’ve got very fast connections, they’ve got server farms, they’ve got backup systems. I don’t have that”. Participants thus reflected about wanting to live in favoured home locations and communities, but with fast global “anytime/anyplace” internet connections. These needs can become unbalanced due to external factors, and individuals attempt to return to symmetry. Participants’ conceptions of place and time are therefore continuously re-negotiated and balanced between the local, face-to-face and global, virtual.

Home as a Work-Context and Knowledge-Workers’ Responses to the Interaction of Co-Existing Mobility-Isolation Tensions

The findings reveal that tensions resulting from the mobility and isolation paradoxes they experience are viewed and managed by home-based knowledge-workers in ways that relate to their knowledge-work, self-employment and home-based contexts. We found that knowledge-workers face pulls and pushes from opposing coexisting, paradoxical tensions, emanating from mobility and isolation issues. Thus, participants regularly hark back, comparing their former less isolated roles to the positives and negatives of their move into self-employment. They enjoy the autonomy, control and freedom of choice, but have mixed feelings about the quality of lone-working and present versus former virtual and face-to-face interactions.

In terms of the multifaceted paradoxical tensions related to professional isolation and career mobility, for example, Participant #5 liked to constantly “communicate by email” and virtually still “keep in touch” with former colleagues, while harking back to the negatives of former face-to-face bureaucratic interactions with them. Missing the administrative/technical support provided by large organizations, she now performed time-consuming, mundane tasks. “Compared to when we were employed...we didn’t have to do some of the tedious

administration...we are not as well-off as we were.” She missed the “infrastructure and the comfort” of being in a management position where routine tasks were “handled by the people who worked for the company.” Whereas, “now we have to do that sort of, fairly low-level administrative work.” She worked to balance more challenging and routinized tasks, and used the latter time to think through key issues, when creative ideas-solutions often emerged.

Again, not all interviewees had significant IT expertise. Participant #6 said that her feelings of independence, autonomy and relief at being freed from previous bureaucratic restrictions and face-to-face interactions had also left her feeling alone, unsupported especially with IT technical support: “When I meet people who work in *normal* businesses and they’ve got some proper IT support, I feel quite jealous”. However, she had faced-up to this difficulty and, although still challenged, gained balance by achieving greater IT knowledge and expertise.

Participant #2, highlighting the social isolation paradox, felt lone-working “could be really hard”, despite her former profession as a teacher having “overwhelmed” her. Workplace interactions then had reduced her quality of life, causing stress, the inability to “switch off” and intrusions on her “personal downtime”. Despite social isolation drawbacks, she acknowledged the benefits of solitude in her new-found career as an autonomous online knowledge-worker. Nevertheless, the school-run became important for her, balancing the isolating “downside” of home-based creative work with social interaction and physical/corporeal mobility: “I get a nice blast of fresh air in the afternoon when I really could do with getting off my bum, and I get to talk to more people.” She then returned to welcome solitude for work-pursuits: “You can be creative...sell that creativity.” Whereas teaching “wasn’t really allowing me to be creative.”

Participant #17 again said that his career move required balancing loneliness with the solitude his creativity required. “It’s a scriptwriting and creative services business”.

Interactions online with two geographically-distant business partners, one based abroad, were consciously used to give relief from loneliness. Most participants emphasised their creativity-related needs of both being alone and having well-balanced interactions, virtually, voiced by telephone, or face-to-face. Freedom of choice is valued more than imposed interactions. Participant #22, with a web-design business, said he was happy to work alone creatively and reach family and friends whenever he wanted to via online or telephone. He described the autonomy and creative space afforded to him by physical solitude. “I didn’t feel isolated, because you’re working online.... But I’d quite happily sit there by myself for hours at a time and just get on with stuff.”, and added that “if I need to I’d probably just phone up my mum or something and have a chat”.

The interviewees chose to respond to tensions by actively engaging with them, through creatively using their freedom to choose the time, space, manner and nature of their isolation and interactions. They use what we call their “paradoxical imagination” by invoking the power of interrelated, contrasting paradoxes experienced as home-based online knowledge workers. This inspires their creativity in controlling paradoxical tensions. They explained the underlying mechanisms of the “paradoxical imagination”, by which they negotiated or even harnessed the paradoxical tensions. The underlying mechanisms were identified as involving three key responses to the mobility-isolation forces at play in the home-based business context: namely reflective awareness/recognition, explicit engagement and constant balancing/renegotiation. It was evident that the knowledge workers did not attempt to deny or fully resolve the tensions, but rather they sought to recognise, reflect upon and engage with and balance the oppositional tensions, in order to harness their potential benefits and limit potential drawbacks, thereby enhancing their self-regard as being more autonomous, self-determining, and creative actors who have the ability to be more innovative

in their enterprise. Therefore, many participants spoke of their feeling of self-control, being able to choose and being “mentally freed”.

The knowledge-workers described their “creativity”, “self-fulfilment”, “freedom of choice” and “balance”, emphasising their “mental space” for generating ideas and creativity, and how they negotiated the coexisting paradoxical forces of physical separation and solitude through virtual and cognitive mobility. Their overlapping mobility-isolation experiences are thus both multifaceted and inextricably interwoven. Their physical/corporeal immobility co-exists with heightened virtual and mental/cognitive mobility, and their highly-prized and prioritised freedom of choice. They deployed their “paradoxical imagination”, recognising that self-employment allows freedom to balance tensions and work in individualized, creative ways.

DISCUSSION

This paper examines knowledge-worker mobility-isolation experiences. Despite mobility and isolation themes attracting interest from a small but growing number of scholars, few studies specifically examine the self-employed, home-based knowledge-worker. Rather than marginalized life-style entrepreneurs, they contribute to national and international economic growth (Mason *et al.*, 2011), embracing opportunities for creativity, innovation and business diversity (Gelderen *et al.*, 2008), evidenced by the many technology giants started-up in their founders’ homes such as Microsoft, Apple and HP. This qualitative study shows knowledge-worker enthusiasm to contribute creatively from home-context to the wider society. However, they experience reduced non-virtual, social and professional interaction. Thus online home-based working provides a salient context to study isolation and (im)mobility, with self-employed knowledge-workers being distinguished by having autonomy to instigate strategies

to mitigate feelings of loneliness or embrace solitude. Our research insights develop conceptual understanding of mobility, isolation and paradox theorising, through home-based knowledge-workers' experiences of multifaceted mobility-isolation paradoxes. The future research and practical implications of these for knowledge-worker mobility and isolation are also examined.

Knowledge-Worker Mobility-Isolation: Autonomy, Control, Freedom and Creativity as Central to Conceptual Understanding

Our overall understanding of the concepts of mobility and isolation was sensitised by relevant studies of knowledge-workers, as home-based employees (e.g. Golden *et al.*, 2008); virtual employees (e.g. Bartel *et al.*, 2007; 2012); home-working professionals (e.g. Mazmanian *et al.*, 2013); portfolio workers (e.g. Fraser & Gold, 2001); location-independent knowledge-workers and autonomous contractors working online (e.g. Middleton, 2008; Sayah, 2013). Like other home-based online knowledge-workers (Whittle & Mueller, 2009), lack of physical mobility and corporeally-present colleagues contributes to loneliness. However, like more physically-mobile *self-employed* knowledge-workers (Erickson *et al.*, 2014; Hyrkkänen *et al.*, 2007; Vartiainen & Hyrkkänen, 2010), their high degree of autonomy allowed study participants freedom to take control and implement strategies to increase their physical, virtual and mental mobility. Being self-employed *and* home-based affects mobility and isolation experiences, but autonomy over their online home-businesses' temporal and spatial flexibility empowers them, despite negative experiences linked with mundane tasks, low physical mobility and isolation.

Törenli (2010) looked at the internet's role in developing "solidaristic" structures and practices among home-based employees, and found no solidarity evidenced among them,

consistent with earlier studies of online home-based employees (e.g. Bryant, 2000). However, self-employed, home-based knowledge-workers' autonomous, self-organized work-structures and self-regulating practices, allow for professional solidarity and networking to exist online. Participants describe positive interactions online, supporting, cooperating and freely sharing ideas with colleagues. Participants view their autonomy and freedom of choice as vital to well-rounded lives; including career, virtual, mental and physical mobility choices; whether social and/or professional; physical and/or virtual; temporal and/or spatial. Smith & Calasanti (2005) stress different isolation types "have different outcomes" (p.329). In our study, this mobility-isolation type shows that participants' autonomy, control and freedom mitigate lonely feelings. For interviewees, home-based working benefits outweigh the disbenefits, especially with freedom from external control and the prior alienating experiences in "faceless" bureaucracies.

Although "anytime/anyplace" can increase isolation by becoming "home all-the-time", our participants counteracted this, creating "time-and-place spaces" for other mental, virtual and physical mobility experiences. Unlike Bryant's (2000) employed home-workers' irregular, alienating "always on" online work reducing community participation, our participants freely addressed isolation by seeking engagement within their families and local communities. Thus, locating close to their children's schools mean businesses, though in theory operable anywhere, were in practice "tethered" to geographical locations, encouraging local engagement and "face-to-face" networking. With increased number and maturity of online home-businesses, niche enterprises targeting or serving specific localities have resulted. The reproducible nature of many internet services allows businesses to adapt "global" products and services to specific locales and geographies, encouraging home-based knowledge-workers' localized "sense of place". Online community sites were also

developed, such as an online parenting site, which, though not linked to a specific place, encouraged local community activities and involvements.

Participants reflected on mobility and isolation types, with contrasting needs for face-to-face human interaction and creative solitude. The former drives them to corporeal mobility beyond virtual contacts. The latter contributes to isolation feelings and fears of disconnection from technology. Participants were proactive and resourceful in addressing negative feelings linked to isolation and lack of physical mobility, through activities such as the school-run, walking the dog, and joining face-to-face and social media networks. Forming home-businesses to be free of control, encourages creative attempts to escape the ensuing isolation and lack of physical mobility, a human disconnect whereby “electronically mediated freedom” results in “creative attempts to escape from the escape” (Vega and Brennan, 2000 p.470).

However, solitude was viewed by participants as energising their creativity as knowledge-workers, allowing them mental space for innovative ideas. They valued the creative solitude of home-based working, communicating with others about work as they chose, and valuing others on their own terms. Online businesses provide flexibility, remaining “always open” without the owner needing to be constantly present in the home, reinforcing knowledge-workers’ quest for autonomy, freedom and creativity. Being able to leave the business open to do other things, allowed them room during the working-day for activities such as study, sport, or other online or face-to-face pursuits, thereby reducing isolation. Unlike employed home-based knowledge-workers, they can balance freedom against the home-context’s isolation. Interviewees suggest this flexibility to address negative feelings around isolation and physical (im)mobility, along with mental space for creativity, achieves a dynamic work-life balance among their multifaceted paradoxical mobility-isolation experiences. Thus, while our study participants recognize their experiences of

mobility, isolation and physical separateness can be challenging, they also are liberated from unwelcome intrusions into valuable cognitive space. These findings, though specific to this sector may be more generalizable in terms of employers creating similar temporal and physical spaces for employees to gain more control and freedom.

Knowledge-Worker Mobility-Isolation: Developing Paradox Theorizing

The home as a context for knowledge creation, through giving knowledge-workers time and solitude for mental mobility, also engenders multifaceted mobility-isolation paradoxes. The focus is on how knowledge-workers choose to embrace this work-context where low physical mobility and isolation can paradoxically both engender a positive ambience for creativity, and negative fears of “human disconnect” (Vega & Brennan, 2000) and lonely feelings (Cooper & Kurland, 2002; Kurland & Cooper, 2002). This paper highlights the interplay between mobility-isolation paradoxes and the essential need for creativity among knowledge-workers. This goes further than using paradoxical both/and holistic thinking (Lewis & Smith, 2014; Ingram *et al.*, 2014) to deal with the challenges of the mobility-isolation paradoxes embedded within home-based working. Mental mobility and increased paradoxical self-awareness helps generate what we call “the paradoxical imagination” which involves the knowledge-workers creatively engaging with paradoxes to innovate in their lives and businesses. It is thus crucial that online knowledge-workers’ nuanced and multifaceted mobility-isolation experiences in the home as their self-employed work-context are understood, especially as to-date home-based businesses remain theoretically neglected (Jules & Good, 2014; Lewis & Smith, 2014; Smith & Lewis, 2011). The rich home-context is particularly apposite for studying multidimensional paradoxes rather than dualities among the forces of tension there (Gaim & Wahlin, 2016).

A paradox theoretical lens emerged from the interviewees' accounts as appropriate, allowing better understanding of their complex, contradictory mobility-isolation experiences, adding rich insights to the analysis. The findings revealed that tensions from mobility-isolation paradoxes are perceived by home-based knowledge-workers in ways that relate both to their knowledge-work and home-context. Figure 1 presents our conceptual framework as it emerged through our iterative interpretations of the empirical findings in relation to our conceptual lens.

INSERT Figure 1 ABOUT HERE

Figure 1 is a conceptual model of the multifaceted 'Mobility-Isolation Paradox'. The self-employed knowledge-worker is at the centre of the model, framed by interlocking spheres which contain the specific dimensions of their paradoxical mobility-isolation experiences. Their physical/corporeal immobility co-exists paradoxically with heightened virtual mobility due to online knowledge-work practices and mental/cognitive mobility linked to these. The sphere on the left of the model features the paradoxes of co-existing mobilities/(im)mobilities including the knowledge-worker's restricted physical/corporeal mobility, career/work mobility from previously working as an employee in a larger organization, along with the high virtual and mental/cognitive mobilities of the knowledge-worker. All are linked to the sphere on the right showing dimensions of the paradoxical social, professional and time-place isolation experienced. These spheres overlap and converge to show an interaction of co-existing mobility-isolation tensions. Figure 1 also illustrates how the knowledge worker is at the centre of the mobility-isolation paradoxes with which they engage. These are all framed by the home-workplace context of their businesses. This dynamic interaction leads to deployment of the "paradoxical imagination" (see centre of

Figure 1), involving the knowledge-workers creatively engaging with the overlapping paradoxical dimensions to order to innovate and manage tensions. Figure 1 shows that the paradoxical tension forces at work in relation to their experiences of different overlapping forms of mobility and isolation are inextricably interwoven. They come together in an interaction of co-existing mobility-isolation tensions which occur through the process of the knowledge-worker constantly negotiating and re-negotiating these competing demands and forces. The deployment of the “paradoxical imagination” results in their embracing and engaging with the apparent contradictions engendered by the co-existing mobility-isolation paradoxes experienced in the online home-based business that can result in their increased creativity. Consequently, theoretically we develop paradox theory by advocating the new concepts of “mobility-isolation paradox” and “the paradoxical imagination” (see Figure 1) from the self-employed, online knowledge-workers’ multifaceted experiences within the home’s creative, flexible spaces.

The knowledge workers’ “paradoxical imagination” (Figure 1) acts as a catalyst, deploying three underlying mechanisms to respond to the paradoxical tensions, namely reflective awareness/recognition, explicit engagement and constant balancing/renegotiation. We found that tensions cannot be fully resolved by knowledge workers who effectively choose to remain in this paradoxical state. However, it is through their “paradoxical imagination” thereby engendered that they fulfil their entrepreneurial wishes, including freedom to pursue their often very individualized creative, innovative ideas for developing their enterprises. This research thereby adds to the “dualistic” paradox approach the analysis of multifaceted paradoxes, in this case of mobility-isolation as experienced within the home as a work-context.

Knowledge-Worker Mobility-Isolation: Future Research and Practical Implications

Future Research Implications: Understanding the multidimensional mobility-isolation paradox enables understanding of the implications for other types of knowledge-worker mobility and the paradoxes involved that encourage the “paradoxical imagination” and thereby knowledge-worker creativity. We are aware that our participants tended to be those able to balance and ameliorate negative feelings associated with isolation in persevering with their home-businesses. We purposefully sought to understand their mobility and isolation experiences *in situ*, not interviewing those who started businesses but did not persevere, or put off starting-up. Fear of isolation may exist among potential online knowledge-workers, limiting home-business formation through lack of desire to work at home. Although outside our research focus, future studies might examine those who were deterred from starting online home-businesses, or stopped after initial attempts, to understand the issues that they anticipated and/or experienced, and why they felt unable to address them. They may be characterised as having specific personality types, as may those who prefer to remain working in their isolated home-contexts, where they communicate more virtually than physically, and can embrace creative solitude. This could be the subject of further research on the part of behavioural scientists interested in entrepreneurial personality types.

We identified forms of mobility and isolation involving those making significant use of ICTs, and their concerns about separation from technology, and from others in different time zones, feeling (dis)connected from local place or community. These working practices can also affect family members who may feel isolated, neglected or disrupted. Thus, our identification of such forms of knowledge-worker mobility and isolation can also sensitise those interested in studying the effects of their work-life choices on their family, localities and communities.

Our study identified for knowledge-work the paradoxical characteristics of the home as work-context. Others can study further distinct groups to uncover how this relates to

different mobility-isolation forms. Some may be specific to the group studied; others may have wider resonance. We encourage those studying mobility and isolation amongst employees, as well as the self-employed, with their somewhat different roles and working practices, to be alert to the various forms that we highlight in this study and expect are more widely relevant. This should include experiences of others such as family members. It is pertinent that researchers, policy-makers and managers are mindful of the implications of our findings for alternative working practices. We would encourage other researchers to use this multifaceted paradox approach to highlight the tensions, ambiguities and contradictions involved, to understand the complexities of mobility and isolation phenomena at work. They can expand our analysis to facilitating contexts for knowledge-workers in relation to their creativity and work-life balance. Other isolated contexts can be researched, such as business-incubators for entrepreneurs. Knowledge-workers seeking limited mobility and isolation can also be compared to those whose creativity flourishes with physical mobility and face-to-face connection and/or co-location with others in teams. Different knowledge-worker and work-context types can thus be compared to discover which combinations of solo and/or team working best encourage knowledge-worker creativity.

Practical Implications: The key practical implications of our research and theorizing for self-employed, home-based knowledge-workers are threefold. First, by recognizing the “mobility-isolation paradox” of their work contexts, knowledge workers can be informed and enlightened about the multifaceted mobility-isolation paradoxes of the home as work-context. As such, they can deploy heightened awareness of paradoxical positives and negatives in their mobility and isolation experiences, inspiring their “paradoxical imagination” with more creative use of the tensions that emerge out of the work-life mobility-isolation paradoxes. Although tensions can never be fully resolved, an acute and reflective appreciation of the

dynamic, multi-layered and paradoxical context of the online home-business setting allows them to maximise its benefits.

Second, home-based online knowledge workers can make use of the study insights on professional isolation, networking and support to strategically reinforce and nurture online professional relationships as a counter-balance to the potential negative effects of professional isolation due to restricted physical mobility. Online relationships tend to be different from face-to-face physical interactions and therefore require a change of orientation, and additional effort to ensure business networks are built, reinforced and sustained effectively.

Third, this study demonstrates a contradictory desire for creative solitude, combined with social interaction, both online and physical. Knowledge workers need to leverage their autonomy and practical strategies to creatively manage their time and places so that they both minimize isolation's loneliness whilst embracing the important creative effects of solitude.

CONCLUSION

Our study informs research on the paradoxical strategies that knowledge workers adopt to mitigate feelings of loneliness in their work-contexts. Our findings can apply to knowledge worker mobility and isolation more broadly, as can the home-context focus be applied to other types of work organization. Our focus on online, self-employed knowledge-workers' home-based working practices, was chosen as a salient context to study the nature of knowledge-workers' (im)mobility, their experiences of isolation and how they leverage their autonomy to adopt strategies to alleviate their feelings of loneliness. Theoretically, we make vital conceptual contributions also by addressing the limited theorization of paradoxical multidimensionality and complexity in different work contexts. Using a nuanced, empirically-informed theoretical model, we have enhanced and extended paradox theorizing

through our development of the new concepts of “mobility-isolation paradox” and “paradoxical imagination”. These help us to view the home-work context’s mobility-isolation paradoxes as multifaceted, rather than in terms of dualities. This is a significant extension of, and departure from, current literature and theorizing. We have demonstrated that knowledge-workers are mentally and virtually mobile, despite the home-context’s restriction of their physical mobility. Such experiences of mobility reflect the negatives and positives of isolation, the latter clearly linked to creative knowledge-workers seeking solitude. Our study and theorizing revealed that the situation for the self-employed, home-based knowledge-worker is clearly multi-layered, complex and paradoxical. It involves the need for autonomy and creative management of time and place, and also a sense of unease and loneliness relieved only through contact with others. Study participants felt the tensions and ambiguities of their contexts and daily practices with acute intensity, but had the freedom to take breaks at times of their choice, resulting in their feeling simultaneously free and tied, autonomous and controlled, connected and disconnected, dreading the loneliness of isolation, while embracing solitude’s joys. Physical isolation allows them to disconnect from others and a freedom to think and be creative, realizable often when alone, although allowing connection with others when desired. The home-based online business is physically tethering but also allows self-employed knowledge-workers to transcend conventional patterns, boundaries and expectations to conform. Utilising mental and virtual mobility, and the “paradoxical imagination”, they make creative use of the tensions emerging out of their work-life mobility-isolation experiences which are constantly pushing and pulling them in opposite directions, such as the contradictory desire for creative solitude combined with the need for social interaction. They thereby not only persist, but also succeed, in developing their creative enterprises in the dynamic work-life paradoxical context of their online home-business setting.

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Table I: Key Details of Knowledge-Workers and their Businesses

Knowledge Worker (KW) Code #	Knowledge Worker Characteristics	Business Characteristics
KW # 1	Female. Co-founder (with 2 women).	Online community network. Operational: 11 years.
KW # 2	Female. Sole founder.	Promotes online consumer items. Operational: 4 years.
KW # 3	Female. Co-founder (with married partner).	Online lettings. Operational: 5 years.
KW # 4	Female. Sole founder.	Web-design. Operational: 4 years.
KW # 5	Female. Co-founder (with 2 women).	Online recruitment firm. Operational: 3 years.
KW # 6	Female. Sole founder.	Online professional network. Operational: 5 years.
KW # 7	Female. Sole founder.	Online translation. Operational: 7 years.
KW # 8	Female. Sole founder.	Online marketing consultancy. Operational: 2 years.
KW # 9	Female. Sole founder.	Promotes online consumer items. Operational: 1 year.
KW # 10	Female. Sole founder.	Promotes online consumer items. Operational: 4 years.
KW # 11	Female. Sole founder.	Promotes online consumer items. Operational: 12 years.
KW # 12	Female. Sole founder.	Promotes online craft items. Operational: 5 years.
KW # 13	Female. Sole founder.	Online script-writing. Operational: Nine years.
KW # 14	Female. Co-founder (with married partner).	Promotes online consumer items. Operational: 6 years.
KW # 15	Female. Co-founder (with married partner).	Web-design. Operational: 7 years.
KW # 16	Male. Sole founder.	Search engine optimization. Operational: 3 years.
KW # 17	Male. Co-founder (with 2 men).	Online script-writing. Operational: 8 years.
KW# 18	Male. Sole founder.	Audio-visual engineering services. Operational: 7 years.
KW# 19	Male. Sole founder.	Web-design. Operational: 12 years.
KW# 20	Male. Sole founder.	Web-hosting. Operational: 8 years.
KW# 21	Male. Sole founder.	Online stationery. Operational: 3 years.
KW # 22	Male. Sole founder.	Web-design. Operational: 4 years.
KW # 23	Male. Sole founder.	Online medical writing. Operational: 7 years.

Table II: Recursive/Iterative Analysis Process of Inductive Theory Development: Qualitative Coding Showing Process of Initial Open Coding of Interviews, Data Reduction, Interpretation, Aggregate Themes Resulting in Proposed Theoretical Constructs

<p>Interview Data Examples: (Interviews resulting in raw data of 330 pages of transcripts/ 158,876 words of text)</p>	<p>Initial Data Reduction/ Qualitative Open Coding to Identify Patterns/Themes: Examples of Memos (Interpretative Summaries) and In Vivo Coding</p>	<p>'Phrasal Descriptors' of Emergent Aggregate Themes Developed from Grouping of Data After Open Coding</p>	<p>Resultant Code Labels Developed for Data Categorization/ Comparison</p>	<p>Inductively Proposed Theoretical Constructs and Conceptual Model</p>
<p>Illustrative Empirical Coded Data Excerpts (Mobility)</p>	<p>Illustrative Memos/ In Vivo Coding Corresponding to Interview Data Excerpts</p>	<p>Mobility Aggregate Themes</p>	<p>M - <i>Mobility</i></p>	<p>Theoretical Propositions and Contributions</p>
<p>“I will get up. I will come downstairs. I will see the children off to school. I will go into the [home] office and potentially not leave the office until six o'clock” (Participant #3) “Although I do a lot of work on the phone, I sometimes think you can't beat that face-to-face” (Participant #3)</p>	<p>Evident lack of physical mobility (memo). Paradox of valuing flexibility of working physically at home whilst craving more physical work interactions (memo).</p>	<p>Physical/ corporeal (im)mobility</p>	<p>M: PC</p>	<p>Dynamic interaction of co-existing mobility-isolation tensions: New Concept of the “<i>Paradoxical Imagination</i>” proposed which is found to be deployed by self-employed knowledge-workers using the home as a work-context as a catalyst to responding to and managing experienced paradox tensions</p>
<p>“A career is something a bit more meaningful than just a job...it's an identity almost. So as far as my career goes the business has made that...I have created that.... a home-based business has very much helped to create my career” (Participant #13)</p>	<p>Positive impact upon career of home-based business (memo) “more meaningful than just a job” (in vivo code) “an identity” (in vivo code)</p>	<p>Career/ work mobility</p>	<p>M: CWM</p>	
<p>“We write plays ...big business for drama groups... we've just developed into a script service [online]. We've also branched into doing quite a lot of corporate work ... We do an awful lot by email, and we have online meetings through MSN, Skype so the three of us getting together” (Participant #17).</p>	<p>Use of virtual communications for online business. Contact, reach and meetings conducted virtually. Shows high level of virtual mobility. Strong online presence (memo).</p>	<p>Virtual mobility</p>	<p>M: V</p>	
<p>“I found a job in an office very stressful... I worked freelance since then. I've got a few clients... I keep up their website” (Participant #19)</p>	<p>Juxtaposition with previous office work. Less stress/ more autonomy (memo).</p>	<p>Mental/ Cognitive Mobility</p>	<p>M: MC</p>	


Illustrative Empirical Coded Data Excerpts (Isolation)	Illustrative Memos/ In Vivo Coding Corresponding to Interview Data Excerpts	Isolation Aggregate Themes	<i>I - Isolation</i>	 Development of Conceptual Model (Figure 1) of the New Theoretical Concept of the Multifaceted ' Mobility-Isolation Paradox ' and its Construct Dimensions <i>Contribution to Extant Corpus of Knowledge: Advancement of Paradox Theory and Conceptual Understanding of Knowledge Worker Mobility and Isolation</i>
<p>“It’s almost impossible to have a social life!” (Participant #20) “I think it’s hard to make decisions solely by yourself without running them by someone, so family always help” (Participant #22) “you’ve always got [Microsoft] Messenger... people are always there even if they’re not in the room” (Participant #22)</p>	<p>Isolated socially (memo). Challenges working from home/ autonomy of self-employment. Kinship support and virtual connectivity counteract solitude (memo).</p>	<p>Social Isolation - positives of solitude and negatives of loneliness</p>	<p>I: SI</p>	
<p>“We work with other local companies. If they’ve got too much work on, or there’s something they can’t do, we’ll work with them because it’s quite a tight-knit industry. We’re competing, but we’ll also help each other...” (Participant #22) “It’s generally understood amongst the guys you work with regularly that you can call at any time of night” (Participant #18).</p>	<p>Professional solidarity and networking (memo).</p>	<p>Professional Isolation and/or professional solidarity, networking and support</p>	<p>I: PI</p>	
<p>“...you post and you get people posting back replies...they organize events in the local area...because it's supportive and it's local” (Participant #1). “...in my business...a couple of times when my connection has gone down, and suddenly you’re completely isolated; you’re cut off from clients, from friends, from everything” (Participant #23).</p>	<p>Virtual translates into local geographical reach - physical notions intersecting with isolation (memo) “suddenly you’re completely isolated; you’re cut off” (in vivo code). Isolation and conception of time (memo)</p>	<p>Isolation and Conceptions of Time and Place</p>	<p>I: TP</p>	

Figure 1: Conceptual Model of the Multifaceted 'Mobility-Isolation Paradox'

