

Rethinking Cultural Production: Entrepreneurship, Relational Labour and Sustainability in Indie Game Development

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Keywords:	cultural production, cultural intermediaries, relational labour, indie games, sustainability, game development, cultural entrepreneurship, 'indie entrepreneur', precarity
Abstract:	<p>This paper draws on over 60 interviews and 120 surveys with indie game developers to illustrate relational labour and entrepreneurship practices in cultural industries and their relationship to 'good work'. We first outline the changing organization of games work, the shift towards so-called indie production, and the associated rejection of creatively constrained, hierarchically managed production models. In the move towards small-scale games making, indies jettisoned producers because producers represented industry modes of work, values, and creative constraints. But indies are now struggling to manage production processes without producers. We use developer narratives to highlight how this 'missing producer' work is redistributed in the form of cultural entrepreneurship, cultural intermediation, and relational labour. This relational labour simultaneously supports and undermines sustainable production practices, as developers take on impossible workloads associated with networking and connecting with others. We next illustrate how the inherent valorization of growth and expansion in cultural entrepreneurship discourses may force developers to mimic industry practices and organization in order to find funding, but these practices inherently conflict with their desire to focus on making games as small, sustainable, creatively autonomous teams. Ultimately, we want to demonstrate how interviews and time spent with indie developers help us account for otherwise invisible and ambiguous cultural labour practices and discourses, thus allowing us to make sense of the larger context of cultural production and its possible futures.</p>

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9 Cultural labour is mired in deepening precarity. This challenges us to rethink and reimagine modalities of
10 cultural production in a manner consistent with what Mark Banks has termed “creative justice” (2017).
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12 While digital games still hover on the borderline as legitimate cultural objects, we suggest that game
13 studies can be an “innovator” for cultural studies in this sense. Set against the backdrop of over half a
14 decade of ethnographic work with game studios (author 1), this paper draws on over 60 interviews and 120
15 surveys conducted at international game industry events. [Echoing the cultural producers studied by Banks](#)
16 [\(2017\), the developers we talked to value “external” goods such as money and acclaim primarily as](#)
17 [resources for enabling a more sustainable practice long-term: the ability to “keep on keeping on”.](#) Focusing
18 [on the idea of sustainability allows us to normatively evaluate different production and distribution](#)
19 [strategies in terms of the capabilities they afford cultural producers. In this paper we discuss how the ways](#)
20 [in which developers pursue sustainability– through relational labour and discourses of entrepreneurship -](#)
21 [can undermine as much as support ‘good work’.](#)
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32 In the first sections of this paper, we outline the changing organization of games work, the shift
33 towards so-called indie production, and the associated rejection of occupational roles that evoke creatively
34 constrained, hierarchically managed production models. We use developer narratives to highlight how
35 perceived paths to indie success are tied to cultural entrepreneurship, cultural intermediation, and
36 connecting the inside of game development (i.e. making games) to outside communities of other
37 developers, fans, funders, and distributors, a practice we refer to as “interface work”. While this interface
38 work is often over-simplified as “indie entrepreneurship” and taking on networking, marketing, and
39 business development tasks oriented towards external financial outcomes, we use Baym’s (2015) concept
40 of relational labour to more accurately describe these diverse practices. At the same time we point to how
41 relational labour may simultaneously support and undermine sustainable production practices in studios.
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Ultimately, we want to show how interviews and time spent with indie developers offers important insight into the taken-for-granted micro-practices evidenced in the pursuit of sustainability. This, in turn, helps us to account for otherwise invisible and ambiguous cultural labour practices and discourses, allowing us to make sense of the larger context of cultural production and its possible futures.

Background: The ‘missing producer’ and invisible labour in the game industry

Scholarship on video games as a cultural industry is sparse, and thus it is easy to overlook how changes to the work of making games, and how it is organized, can offer insight into creative justice. Perhaps because of their roots in software and programming (the “industry” side of creative industries) and the seemingly endless debates as to whether games are art (author removed), those interested in cultural production rarely reflect upon games, while digital games researchers typically ignore industry and production aspects (Kerr, 2017: 9–10) . Most literature on cultural production in games centres on “AAA” mainstream studios, the structuring of large game development teams (Cohendet and Simon, 2007; O’Donnell, 2014) , the evolving relationship between global production and publishing/distribution chains (Johns, 2006; Kerr, 2006; Kline et al., 2003; Williams, 2003), and the organization of the industry as a whole, including cross-cultural comparisons (Huntemann and Aslinger, 2016; Zackariasson and Wilson, 2014). Yet this landscape is rapidly changing.

Aphra Kerr (2017) provides a high-level overview of the global industry, reflecting on recent shifts to production, circulation practices, and policy that are partly tied to networked production. She demonstrates how a small number of hardware and digital platform providers (e.g. Sony, Microsoft, Nintendo, Apple, and Valve) now generate significant revenues from controlling access to both physical and digital distribution, while “a huge number of independent game developers, wholly owned subsidiaries,

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9 in-house development team and amateurs provide the content to fill the voracious appetite of the online
10 networks, consoles and mobile devices” (Kerr, 2017: 3). While the number of small scale games-makers
11 has exploded,¹ a small number of multinational corporations (e.g. Tencent, Electronic Arts, Activision
12 Blizzard) and platforms (Apple, Steam, Google Play) economically dominate the industry (Kerr, 2017: 55).
13 Geographically, while multinationals tend to favour industrialized and developed countries in the global
14 north (especially the US, Canada, Japan, South Korea, and China), small-scale production is more globally
15 dispersed, precarious, and less well-understood (see Kerr, 2017: 99–100).
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23 The contemporary game industry is heterogeneous, varying in terms of business model,
24 production team scale and process, budget, and infrastructure. Rapid changes in technology, audience
25 demographics, business models, and other factors tied to online networked production have created an
26 unstable ecosystem that makes it difficult to generalize about the organization of game development work.
27 What remains constant, for “AAA” and “indies” alike, is that game development is seldom an individual
28 venture. Like film and television production (Caldwell, 2008), game making evolved as a de-individuated
29 labour process and “solo” auteur figures, while lauded, are the exception not the rule. Even these auteur
30 developers are usually assisted by friends or freelancers in areas where they lack expertise (for example,
31 sound and music are commonly outsourced tasks). The diverse array of skills and expertise enrolled in
32 contemporary digital game development generally requires the subtle division of labour amongst a group of
33 individuals and/or one or more individuals shouldering multiple roles. The work that is consistently visible
34 through virtually all game development, indie and mainstream alike, can be encapsulated in three
35 archetypal roles: the programmer, the designer, and the artist (Tschang, 2005). The vast constellation of
36 other creative and support roles, which may include level designers, animators, writers, modelers, tools
37 engineers, sound designers, musicians, etc., are organized into semi-separate streams based on this triad.
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Analyses of large-scale industrial (i.e. non-indie) development identify a fourth central role: that of the producer, sometimes also called the director (see Kerr, 2006; O'Donnell, 2008). Following Fullerton (2008: 393), producers exist in a liminal zone outside of the development triad. Rather than gaining experience in art, design, or programming, they are hired as assistant producers and work their way upwards. As in other cultural industries, the producer role is primarily concerned with the allocation of resources (temporal, human, material, and financial) according to linear, scheduled, non-creative trajectories. The producer's job is to ensure that the development team gets the project done, on time and on budget. In the mainstream industry, the producer acts as a key interface between the "inside" of the game development triad, and the "outside" of the much larger global production infrastructure that includes publishing, financing, regulation, distribution, marketing, quality assurance, physical manufacturing, and community support. *Importantly, roles in games and other cultural industries are segregated by gender, with men dominating both more prestigious creative roles and technical work, and high concentrations of women in production roles associated with marketing, public relations, and co-ordination (Hesmondhalgh and Baker, 2015: 26).*

The surging growth of indie development is a direct result of low cost and accessible development tools and reduced gatekeeping in distribution channels, both of which allow developers to move away from the mainstream industry's hierarchical and top-heavy production models and reduce reliance on mid-level management roles, including the producer (Kerr, 2017; Author removed 2012, 2013). In short, the growth of indie is idealized as a return to garage-scale production and a distilled version of the programmer-designer-artist triad, with the workplace organized in a more flat, egalitarian manner premised on creative autonomy and a more personal connection to one's work. In the indie space, the term "producer" carries negative associations with hierarchical, risk-averse, and creatively stifling large-scale game production.

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9 Producers are stereotyped as “suits” that don’t “make” anything, and lack “real” skills. In the process, the
10 role is discursively reduced to its most obviously important tasks: securing funding and project
11 management. The producer fades out of indie developer discourse in favour of new archetypes, like the
12 romantic auteur and the scrappy entrepreneur, and the tasks of the now “missing” producer are redistributed
13 haphazardly on top of other responsibilities, and/or assigned to a team member who is “not” – not an artist,
14 not a programmer, not a designer, and/or neglected entirely. [Hesmondhalgh and Baker offer insight into](#)
15 [how this redistribution of work is gendered. Production, marketing and PR roles - and the women who](#)
16 [performed them - are phased out in the shift from large scale to independent production. Thus, perhaps not](#)
17 [surprisingly, while 42% of the UK’s creative media industries workforce is female, only 6% of the game](#)
18 [industry is female](#) (Hesmondhalgh and Baker, 2015: 23–24; see also Kerr, 2017: 99) .

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28 We would like to linger on the spectre of this “missing producer” and the changing organization of
29 games work for a moment. Our larger project in this article and beyond is oriented towards understanding
30 how aspects of cultural production labour become visible or invisible in the shift towards small scale
31 development, offering opportunities to rethink what ‘good work’ is, how it can be achieved, and ultimately
32 how it can be made less precarious. The indie rejection of the producer title, and the business models it
33 represents, marks a cultural change in game development. The apparent abandonment of an entire
34 occupational category demonstrates shifts in values and social organization, and evolving definitions of
35 what game making is and should look like. In this paper, we argue that the disappearance of the producer
36 role can be linked to the increasing precarity of games work, as well as the increased uptake of cultural
37 entrepreneurship. Thus, to find the “missing producer” and address this precarity, we must examine and
38 identify new adaptive permutations in small-scale game making.
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9 Making work visible shapes what is being produced, as well as how it, and the people performing
10 the work, are valued and trained. The “missing producer” necessarily impacts how games culture is
11 constructed and how successful games work is both defined and replicated, as well as how cultural capital
12 is ascribed (or not) to individuals shouldering this work. When we classify work practices and break up
13 game development into named roles, the work itself is neither created nor destroyed, but slowly over time
14 takes on the shape of the emerging classification matrix. So, if we hypothesize that tasks traditionally
15 subsumed under the producer role—as well as other non-development roles such as human resources (HR),
16 public relations (PR), marketing, and business development—are still necessary in small-scale game
17 production, where does this work go when those dedicated roles are eliminated? Who, exactly, does this
18 work? As we describe in the next section, some of this work may be taken up by outside organizations, but
19 the rest is redistributed amongst the team.
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32 **Cultural entrepreneurship, sustainability, and markers of indie success**

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34 To better understand independent cultural production in relation to mainstream production, and
35 chart routes towards more sustainable game development practices, we traveled to international game
36 industry exhibitions from 2015 to 2017, speaking to developers about their work. Interview and survey
37 participants were recruited through the Indie MEGABOOTH, an organization that collectively purchases
38 floor space at large gaming events and conventions, allowing small developers to pool resources and
39 occupy the same space as large multinationals.² Along with participant observation at these events, we
40 conducted 62 semi-structured interviews.³ We asked participants about their individual career trajectories,
41 how they make ends meet, the role of developer events and support organizations in their game-making
42 activities, how they define success, and the perceived health of independent production scenes. At these
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9 same events, we distributed surveys to gather demographic and economic information from game studios,
10 including where studios were located, their size, team composition, and launch histories, as well as how
11 they supported their team and funded their activities. Data from the surveys were shared directly with
12 developer communities (authors removed).
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17 Tracking visions of success as well as advice on how to achieve it is particularly salient when
18 faced with the industry's current and much-lamented inability to predict which games will become hits, or
19 even recover their development costs.⁴ Increasingly, there is recognition from developers, critics,
20 journalists and investors alike that making a high-quality game is not enough to ensure a studio's survival,
21 a theme that was ever-present in our interviews. What struck us was how developers framed "success" and
22 routes toward it. Creative work in games increasingly leverages techniques of entrepreneurship without
23 sharing its end goals, thus fostering the proliferation of "cultural entrepreneurs" whose activities blur
24 historical binaries between art and commerce. Following Ellmeier (2003), cultural entrepreneurship exists
25 "sans economic capital" and is predominantly undertaken by young aspiring artists whose creative work
26 doesn't generate a secure income on its own. In the absence of economic capital, social, cultural, and
27 symbolic capital become resources that are mobilized and converted to build one's career.⁵ Our study of the
28 game industry thus further contributes to research on cultural entrepreneurs in fashion, design, film,
29 television and music (McGuigan, 2010; McRobbie, 2016; Scott, 2012), emphasizing how these practices
30 and the motivations behind them differ from wider entrepreneurial activities emphasizing capital
31 accumulation and growth. This contrast is described by Leadbeater and Oakley:
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45 Cultural entrepreneurs believe in 'small is beautiful'. They generally run small, under-capitalised
46 and quite fragile companies. They operate in fashion driven markets that are open to new entrants
47 and in which new technologies are driving down the costs of production but also the prices that
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9 independents can charge for their services. They often lack and do not know how to acquire the
10 business skills and support they need to grow a company. There is nothing soft about life in these
11 industries. These sectors are often chronically unstable and unpredictable. (Leadbeater and
12
13 Oakley, 1999: 26)
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17 In the late 1990's, cultural entrepreneurs were linked with the revitalization of post-industrial cityscapes,
18 and their newfound creative autonomy would create "local sustainable jobs, which are less prey to the ups
19 and downs of the global economy" (Leadbeater and Oakley, 1999: 13). However, two decades on, cultural
20 entrepreneurship is more easily linked with precarity rather than sustainability. Self-employed creators, due
21 to competition and the oversupply of labour, are forced into both free work and entrepreneurship in the
22 absence of alternatives that allow for stable autonomous creative work (Oakley, 2014).
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28 The indie game developers we interviewed undertake complex identity work, commonly
29 deploying the strategies, language, and tools of entrepreneurship and business, but rejecting the end goals
30 of growth and accumulation. For the developers we talked to, "success" was not vested in the game being
31 produced, nor in individualized metrics of success (critical acclaim, audience reception, sales numbers,
32 average play time, net profit), but in the ability to sustain ongoing creative and collective processes – the
33 social engagement related to both making games together as a team and sharing them with others. At its
34 most basic, the end goal of developers is not so much to make art nor money, but simply to have the
35 opportunity to continue to make more games. For developers, success is:
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43 Making another game, however that would be. I guess the shades of grey of success are if
44 I don't have to run another Kickstarter and I can just make a game, that's ultimate
45 success, that's all I want in the world.
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49 *Indie studio producer, Eastern US*
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9 Even larger-than-average indie studios working with more substantial budgets speak of success in terms of
10 sustainability. This is demonstrated by a veteran developer whose primary goal is to maintain the current
11 scale of their team:
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15 A lot of indies will define success as getting enough money from their first game so that
16 they can make their second game, which I think is a little bit of a low bar [...] for us, it is
17 getting—just, again, getting to write our own destiny. Like, and that means getting to
18 work on another game or another two games....and we can just go, “Okay, we’re going to
19 work on this game, then we’re going to work on that game.” We don’t have to worry
20 about—too much about time line, you know, maybe we’ve got, like, five years of runway
21 financially. And we can keep the team together. It’s not really about growth, we don’t
22 have the desire to grow to a 100 person team or, you know, become an Ubi[Soft]
23 Montreal.
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32 *Indie game marketing and business consultant, Western US*
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34 In contrast to software and start-up industry discourse, indie success is very rarely – if ever – defined in
35 terms of growing a studio in scale or profit, being bought out, or “IPOing” (selling shares and becoming a
36 publicly traded company). Rather, success is linked with the simple capacity to “keep on keeping on”. This
37 points to ideological differences between indie developers and software start-ups more generally, but more
38 importantly, it highlights a disconnect between developers and the larger funding infrastructure of the game
39 industry which *is* predicated upon a growth model of success.⁶ This prioritization of keeping one’s team
40 together also seems to counter the individualizing tendencies of creative work that McGuigan (2010)
41 identifies as emblematic of cultural industries. That the end goal of game development should be more
42 game development is telling and poses a fundamental challenge to conceptualizations of cultural work
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9 centred on the production of aesthetic, political, or economic value and distinction. We are drawn to this
10 idea because of what it reveals about cultural labour in game making; the perceived value lies less in the
11 cultural objects themselves (the games), or in the accumulation of capital, but in the sustained collective
12 engagement of making and sharing games with others.
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17 While some might argue that maintaining rather than expanding operations is simply the best
18 developers could hope for in the current economic climate, prevailing discourses in indie games itself seem
19 to argue the opposite, highlighting how economic and critical success leads to increased anxiety,
20 depression, and a distancing from both one's community and practice (Parkin, 2014; Schreier, 2017).
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22 Critical and market success, and the production and management work that come along with this success
23 can pull developers away from the idealized triad of games work. For example, we can see this in the
24 announcement that award-winning studio The Chinese Room was scaling back and "going dark" in order to
25 return to what they love: making games (Pinchbeck, 2017).
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32 For The Chinese Room and the developers we spoke to, 'good work' explicitly translates into
33 staying small, and staying with one's team:
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36 Ultimately our goal is to just be able to stay small and independent and continue creating
37 what we love to create. We don't want to grow into a company with employees or
38 anything like that... We don't have that desire.
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42 *Self-employed game developer on two-person team, Western US*

43 Again, here, success is directly opposed to growth, which is seen as endangering creative autonomy.
44 Sustainability desires are marked by conscious and moral efforts to economize responsibly with appropriate
45 consideration to non-economic goals (e.g. indie developers resist studio expansion, reject more lucrative
46 monetization models, pay subsistence wages rather than industry standards). 'good work' for developers is
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9 linked to social organization, creative autonomy, and the equitable distribution of resources and power
10 within small teams. But, in attempting to evaluate whether developers are actually undertaking ‘good
11 work’, we cannot simply look for evidence of profit satisfying over profit maximizing because, for
12 developers, profit maximizing behaviours don’t necessarily oppose sustainability discourses. The unspoken
13 spectre of precarity leads to a mentality of accumulating “runway” –storing resources such as payroll, rent
14 etc., in order to survive long unpredictable periods between successful game launches (see Cook, 2015).
15 Thus, profit maximizing can be justified as serving studio sustainability. Whether or not this sustainability
16 is actually achieved/achievable, or morally justifies profit maximizing, we believe that the expressed value
17 of sustainability is important in and of itself, as it is imagined in terms of continued collective engagements
18 rather than individualized successes (i.e. economic or symbolic outcomes) in cultural industries.
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Aligning with our ‘missing producer’ argument, many cultural industry scholars have noted the
downloading of production labour onto the backs of the artists who must now not only create original
content but must also produce, distribute, and market their work as well as shoulder community and
business management (Baym, 2015; Galuszka and Brzozowska, 2017; Kribs, 2016). While neoliberal
ideologies shift risks and responsibilities onto individuals, the success of cultural entrepreneurs depends on
how well they individually build and leverage collective creative networks, using favours, unpaid portfolio
work and ‘DIY’ labour to generate buzz and draw attention to their work (Scott, 2012). Now all cultural
workers must become self-motivated entrepreneurs, and in the absence of the differentiated human resource
structures of large studios, this is absolutely the case for indies. While the end-goal of developers is by and
large not entrepreneurial, the route towards sustainable development and keeping one’s team together is
presumed to involve adopting entrepreneurial mindsets and gaining business development (“biz dev”)

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9 acumen, including investment-seeking, marketing, and PR skills. The conditions of funding effectively
10 force indies towards growth and accumulation, despite their stated goals.
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13 It became clear in our interviews that popular notions of the “indie entrepreneur”⁷ allow for the
14 conflation of a studio’s success with marketing and salesmanship skills, as we see below:
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17 There is this real concern that it’s getting harder and harder to get sales and I think the ironic
18 element of like the explosion indie games [are] seeing is that it’s almost starting to turn around and
19 have the same problems AAA does where marketing is, you know, crazy important. You know,
20 the teams that can afford to have someone hustle for them all the time, just by the nature again of
21 how that works, are going to benefit more, right. [...] That’s just the way it is. And the
22 unfortunate attitude that’s ingrained in a lot of people is if I just make something good it’s going
23 to be enough and it isn’t and that’s no less true of games than literally anything. Like if you do
24 something really, really good and you don’t put any work into making sure people find about it ...
25 Hey, it’s totally the case that like, you know, you can do the work for the sake of the work, right?
26 The satisfaction was in completing the thing, but you can’t – you just can’t reasonably expect the
27 world to pay attention if you didn’t really wave your hands at all.
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38 *Staff member, Indie MEGABOOTH*

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40 The issue with replacing the ‘missing producer’ with the ‘indie entrepreneur’ is that entrepreneurship
41 frameworks are too narrowly equated to marketing and biz dev, and often exist in tension with developers’
42 own goals and conceptions of ‘good work’. In other words, in embracing cultural entrepreneurship,
43 developers must become the very things they rejected in the mainstream industry. By contrast, we argue
44 that developers are undertaking something more complex than marketing and discoverability work:
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9 interface work that connects the game and team to select outside receptors, often via cultural
10 intermediaries.
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14 **Cultural intermediation and working at the interface**

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16 A large part of game-making isn't about creating the game at all, but involves aligning and
17 translating between different groups and connecting the team to the rest of the indie ecosystem. Aspects of
18 this work are alternately referred to as nexus work (Lingo and O'Mahony, 2010), brokerage (Foster and
19 Ocejo, 2015), and boundary work (O'Mahony and Bechky, 2008), and tie into larger discussions of trading
20 zones (Kellogg et al., 2006; O'Donnell, 2014). These are key tasks of developers as well as intermediary
21 actors and organizations.
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28 Following Leadbeater and Oakley's work on independent cultural entrepreneurs, cultural
29 intermediaries are the "missing middle" connecting indies to global economies. They "seek and promote
30 new talent, circulate ideas and trends, put people in touch with one another, set up venues and provide
31 access to commercial deals and a wider market" (1999: 45). In the shift from large scale to small-scale
32 game production, understanding cultural intermediaries' role curating and determining which games and
33 developers are visible to consuming publics, publishers, platform-holders, etc., is essential to understanding
34 both where 'missing' production work goes, and also how to address precarity within game development.
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36 Importantly, examining cultural intermediaries' work reveals the internal absence of socio-material
37 infrastructural work on indie teams that was, in the past, subsumed under producer, PR, marketing, and
38 management roles in larger studios. In short, cultural intermediaries such as festival and event organizers,
39 curators, community groups, funding organizations, and collaborative workspaces take on some of the
40 missing producer work in order to support, share knowledge across, and stabilize a geographically
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9 distributed ecosystem of small studios (Author 2017). As one indie developer and publisher puts it, “if you
10 want to mitigate some risks around your commercial game dev, *somebody* needs to do this junk” (Saltsman,
11 2018). However, many intermediaries are also precarious, relying on year-to-year donations and
12 sponsorships from large platforms and publishers looking to access indie talent (Author 2017).
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16 Work not outsourced to intermediaries falls to developers themselves (or is neglected completely).
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18 Indies take on labour far beyond the triad of designer-programmer-artist. In doing this “not” development
19 work, they build ties to larger cultural economic arrangements. This becomes readily apparent in the
20 spatially and temporally limited milieu of the exhibition hall, which represents a high stakes, and often
21 costly, opportunity to ‘connect’ the game to the outside world. This demanding exhibition scenario distills
22 and compresses multiple roles and identities into individual, exhausted developer bodies. Within this space,
23 developers are always hustling as they juggle multiple “hats” – community management, quality assurance,
24 HR, marketing, R&D agent, spokesperson, CEO, corporate relations officer, etc. – and simultaneously
25 carry out wider socialization and creative work as they mingle at late night mixers, seek inspiration within
26 the seemingly endless aisles of games, and bunk with other developers in low-cost hostels and Airbnb pads.
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36 On and off the show floor, savvy indie developers attempt to secure, move, and combine both
37 material and human resources, with or without the assistance of external intermediaries. They too become
38 mediating agents, the interface between the team and the larger games ecosystem, connecting to other
39 teams, fans, consumers, funding agencies, and third-party providers and platforms. Successfully
40 interweaving these multiple roles means balancing the conflicting goals of multiple actors – for example,
41 bridging the commercial interests of platforms with the creative interests of indie scenes. One developer
42 working on a variety of contract, table-top, and indie game projects refers to himself as “hat rack” due to
43 his multiple roles:
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9 I do the day-to-day accounting of the company and make sure everybody gets paid. I do the HR
10 when I'm bringing people on. I do all the business development of shaking hands and kissing
11 babies. But when it comes down to it, the work that I get paid for is a mix of both engineering and
12 design. For this plan right now I've been doing a lot of different stuff: Tech art (where I'm kind of
13 putting levels together); level design; I've done, you know, quite a bit of engineering on our client
14 work; and then I've also been helping this client in a way where I'm teaching him how to launch
15 his first game and giving him all the experience of the past five or six years that brought onto me
16 of the successes and pitfalls that he might have to worry about while working on the game and
17 releasing it to the world.
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26 *Independent studio head, founder of local game development community in Eastern US.*
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28 In addition to being a formative member of one of the world's largest local indie communities, this
29 developer takes on considerable work not only creating games, but also sustaining a company that employs
30 multiple other developers and carries out significant mentorship. It's important to note that in the above
31 quote, only "engineering and design" is considered real "paid" work. Everything else related to running a
32 studio, including finances, HR, PR, and mentoring, is a second shift of missing production work.
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38 Acting as interface, developers such as those quoted above articulate the relation between the
39 team, the evolving game object, and the social-material world of its engagement. They become a kind of
40 heterogeneous engineer (Law, 1987), translating and transforming object and context in a series of
41 negotiations and trials (Suchman, 2000). In the compressed time-space of the show floor, it is about
42 responding to the person immediately viewing the game, rapidly selecting and then performing the
43 appropriate role in response: instantaneously reframing what both the game and team are. The delicate
44 boundary work of aligning what seem to be conflicting interests (e.g. what a player wants the game to be
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9 may clash with what fellow developers, YouTubers and streamers, platform holders, and team members
10 each want it to be) is dependent on skilled articulation work that is centered on forging and maintaining
11 relationships, and tuning themselves, their teams, and the game in response to unanticipated developments.
12
13 As Star and Strauss argue, articulation work is invisible to rationalized models of work because it is about
14 managing the unpredictable: it is work that gets things back on track in the face of contingencies (Star and
15 Strauss, 1999; Strauss, 1988). This kind of work is ‘missing’ in much of indie development partly because
16 it is so adaptive and socially dependent it resists easily categorization. This leads us to posit that the most
17 successful developers are those that master relational labour, that of building and maintaining productive,
18 intimate, and seemingly authentic connections with whomever is standing across from them.
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28 **Expanding the concept of relational labour**

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30 *Aligning with the cultural entrepreneurship and intermediation work described above, numerous*
31 *researchers show how networking and ‘connecting with others’ are now essential skills, while*
32 *acknowledging this work is commonly unremunerated and gendered (Duffy, 2016), relies on compulsory*
33 *sociality (Neff et al., 2005) and encourages the tokenization of social relationships (Wittel, 2001). In this*
34 *section, we deploy Baym’s (2015) concept of relational labour to show how this networking is now seen by*
35 *game developers as a critical part of cultural work. In describing relational labour, we show how it can*
36 *undermine and challenge as much as it can enhance games work. We argue that the practices and costs of*
37 *relational labour are not organizationally acknowledged partly because they are negatively associated with*
38 *the production work and the alienated industry labour that indies are rejecting. Drawing attention to the*
39 *‘missing’ tasks described above allows us to develop a deeper understanding of the value and forms*
40 *(positive and negative) of relational labour in games, including what – on an organizational level – this*
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9 work looks like and whether it is actually effective in combatting precarity. Unpacking the dual nature of
10 relational labor is the first step in starting to reform these practices. This duality occurs on multiple scales.
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12 As we demonstrate in this section, relational labour is both freely chosen and forced, self-exploitative and
13 empowering, authentic and instrumental, collectivizing and individualizing. Ultimately, relational labour is
14 both a cause of and a solution to the problem of sustainable games production.
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18 First introduced by Nancy Baym (2015), the term “relational labour” describes work premised on
19 building and maintaining relationships. In digital cultural contexts where consumers are no longer
20 conditioned to pay for content, relational labour is seen as key to financial stability. For example, Baym
21 uses the indie music scene to illustrate how musicians leverage social media to make themselves visible,
22 and more importantly *accessible* to audiences (Baym, 2012). This intense labour of connection is used to
23 signal ‘authenticity’ and humanity, an important factor in nudging audiences/fans to pay for media content
24 (i.e. to buy music they are conditioned to download for free, and/or to provide economic support via other
25 means such as buying live tickets and merchandise, crowdfunding, or patronage). In games, we’d argue that
26 these forms of labour are not new at all but are simply made more visible through social media and online
27 connectivity. The digital traces of these practices reveal their importance, particularly in terms of helping
28 cultural producers reach a more geographically distributed audience.
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40 Baym argues that regardless of whether one is producing creative works or not, we are now
41 compelled to connect with customers and clients, cultivating audiences which function as affectively
42 engaged communities. Relational labour is not restricted to the cultural industries. It occurs, for example, in
43 the late-night parties of tech industry and start-up workers (Neff et al., 2005). This aligns with other
44 arguments that contemporary work is about evoking affect – producing pleasant, comfortable, exciting
45 feelings in others (Adkins and Jokinen, 2008; Hardt, 1999). It is no longer enough to create an engaging
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9 product (even an affectively engaging one) in an attention economy. The production of affect and building
10 lasting customer loyalty beyond the lifespan of an individual cultural artifact or product (e.g. one song, or
11 film, or game) is achieved by offering access to creators themselves. Indie consumers ‘buy in’ to the
12 creators and the communities of taste and identification that surround them, rather than consuming the
13 static object of the game.⁸
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19 This shift in the tenor and tone of labour is also described by other concepts such as “emotional
20 labour”, “affective labour”, “immaterial labor”, “venture labour”, and “creative labour.” Baym argues that
21 what is new here is the emphasis on the “ongoing communicative practices and skills of building and
22 maintaining interpersonal and group relationships that is now so central to maintaining many careers”
23 (Baym, 2015: 20). This is different from traditional emotional labour (Hochschild, 1983) in three important
24 ways. Firstly, in contrast to emotional labourers who manage feelings in single encounters, relational labour
25 emphasizes the creation and maintenance of ongoing, persistent, and ubiquitous relationships –particularly
26 given the always-on connectivity of social networks such as Twitter and Facebook. Secondly, most
27 emotional labour scholars position emotional displays to manage customer feelings as alienating,
28 contrasting emotion expressed as part of work with ‘real’ emotion, but relational labour emphasizes the
29 dialectics between personal relationships and professional labour and the blurring of economic and social
30 relationships, leisure time and work time, consumers/clients and community. Following this, the
31 relationships game developers build through relational labour are seen to be rewarding as personal
32 relationships irrespective of their potential cultural and economic rewards. They *are* authentic and ongoing,
33 even as they simultaneously serve an instrumental function.
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47 Relational labour can also be differentiated from affective labour, which is commonly linked to
48 immaterial labour (Hardt and Negri, 2001), which ties the production and manipulation of affect directly to
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9 the operation of capitalism. As a concept, affective labour has been critiqued for being ill-defined,
10 inadequately distinguished from emotional labour, and over-optimistically operating as both a site of
11 resistance and empowerment as well as exploitation (Hesmondhalgh and Baker, 2008).⁹ While relational
12 labour is subject to the critique that it is too often painted in empowering rather than exploitative terms, we
13 find that –unlike affective labour- it is much more clearly defined and demarcated, emphasizes the
14 materiality of developer’s work (rather than immateriality), and more closely mirrors how developers
15 describe their own activities.
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22 Whereas Baym locates relational labour in terms of connecting to fans and audiences and the
23 commodification of those relationships, we are leveraging the concept to speak to a much broader
24 phenomenon that does not always directly link to commodification. The relational labour that game
25 developers perform on show floors and after-parties reaches beyond player audiences and potential
26 consumers. Perhaps even more importantly, personal-professional relationships are developed with
27 journalists/critics, publishers, platform holders, service providers, sponsors, investors, and the larger
28 development support networks and cultural intermediaries described above. Establishing and leveraging
29 this network is seen as central to ensuring a studio’s success: a personal sense of connection influences fans
30 to support indies, but it also influences press and streamers, curators and selection committees, and
31 publishers, platforms, and investors in their decisions on whom to showcase and support. As with Baym’s
32 musicians, there is a spectrum of how developers approach this relational labour, from those who view their
33 creative careers primarily as a way to build meaningful friendships within a like-minded community (an
34 internally valued end-in-itself and indicator of ‘good work’), and those who view these relationships in
35 instrumental terms as a route to financially sustainable creative production. Regardless of how it is framed,
36 however, the non-game-making work performed by indie developers is increasingly vital to sustainability.
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9 Growing one's network, while acknowledged to be time consuming, expensive, and just plain
10 exhausting, is accepted as an inherent good in indie circles. Making the most of this relational labour
11 takes extensive and tedious preparation work, with highly uncertain rewards. Take the following
12 developer's account of the advantages of exhibiting with a group of developers in the Indie
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17 MEGABOOTH:

18 Discoverability is the hardest problem in games, getting people to know about your game. The
19 Indie MEGABOOTH helps with that a lot, not only from a "public space selling you [game]
20 copies" standpoint but from all the other things that I mentioned that were important to me:
21 contacts with press, contacts with, or relationships with platform holders or making friends with
22 other developers. Maybe you wouldn't call that discoverability per se but it helps solve all those
23 problems at the same time. [...] It helps with establishing those relationships. So being discovered
24 with platform holders, I guess, discoverability in that sense to make that process smoother. You
25 know, indie developers are – a lot of them are developing games in hubs where there's lots of
26 other indie developers and good communities there. Others are not, so the Indie MEGABOOTH
27 helps with shrinking the distance between people.
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38 *Self-employed game developer, founder of local game development community in the Western US.*

39 While this developer only made \$150 in game sales during the event and spent considerably more to travel
40 to Seattle, they considered this a successful showing. This was made possible by extensive preparation
41 work, going through 700 press contacts provided by the showcase organizers one-by-one and sending them
42 personalized emails inviting them to check out the game, which led to interviews and meetings with
43 platform holders such as Sony and Microsoft.
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Developers are thus counseled to cultivate their networks, accumulating contacts in a meaningful way that goes beyond the superficial collection of business cards or LinkedIn contacts (see, for example, Kazemi, 2005). It also extends to fostering stronger connections to other developers and intermediaries, forming and reifying the indie community and the developer's place within it. These networks of contacts work as sites of informal knowledge exchange and expertise, and serve as a primary resource when a developer is looking for work, looking to hire, searching for creative inspiration, or seeking professional advice. In this way, relational labour undergirds a kind of gift economy in independent production. Developers who lack economic resources instead exchange favours, labour, contacts and expertise, and signal boost each other, potentially translating the cultural capital embedded in games makers to symbolic (reputational) and economic (financial) capital that can be used to sustain production (see Scott, 2012).

This relational labour is almost always in excess of indies' full-time roles as designers, artists, or programmers. Developers struggle to rationalize the time and resources they spend on these uncertain prospects – time spent away from 'real' development work. But, they work a double-shift at major industry events, such as PAX and GDC, and year-round at local events and on social media, because they believe constant networking will lead to opportunities such as publishing offers or endorsements from popular streamers. In this sense, due to the unending stream of networking opportunities (exhibits, forums, community engagement, blogs, meet-ups, etc.), developers are never *not* working.

This double shift networking is encapsulated by one developer's story. After the PAX convention had closed for the day, the developer noticed one of the PAX founders with their entourage headed their way, and frantically worked to re-start their game servers.

But it was at a moment when I thought, wow, you know, we're okay, we're funded for the next little while. We're not running out of runway at a fast rate. Both games are being well received.

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9 But if you were a little company and you know, you were on the opposite side, you know, you
10 didn't see Jerry coming up and so you put your things away and you packed up and then you left,
11 and then you went off to grab dinner somewhere and didn't even realize that Jerry Holkins had
12 come by to see your awesome game that you're working your ass off for. It's an awful lot of power
13 they have, and I don't think they're abusing it, I don't think it's like – he was self-effacing; he
14 came in and he was like “Am I too late, am I too late? Are you guys okay, can I play the game? Is
15 that okay?”. Like he was super-nice, super-reasonable, but he has a lot of power.

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22 The group stopped to play their game, but in a “nerve-wracking” and somewhat uncomfortable moment, he
23 watched them walk past by another set of exhibitors who had similarly scrambled to re-set all their
24 equipment:
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28 They knew something was up, and he didn't miss it, and he just sort of like walked by and it's like
29 “Oh, shit, he just walked by us.” You know, this guy – who again, a blog post could totally
30 transform, you know, the number of visitors you get coming into your site. They can concurrently
31 bring down your website...
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36 He further reflects on the power of these unpredictable, serendipitous moments of connection with
37 influential figures to shape the success of one studio *versus* another:
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40 I don't want to be like the kind of guys who have to impress people and like throw out the red
41 carpet, but you might have to. You know, internet comes along, App Store comes along and Steam
42 Greenlight comes along, everyone shouts about how this is going to emancipate us all and how
43 we're going to be like transformed, we're not going to have publishers anymore, everything's
44 going to be okay, it's all the craze now. And like, that doesn't happen, because some people make
45 money out of these things and if two products are equally good, but one has all this, you know,
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9 momentum behind it and the connections and there are human beings going and like sell this and
10 get it in front of other people, and they're hustling in a way that this company is not, then no, this
11 one's probably going to win and that one's probably going to lose. And maybe that's not fair, but
12 it's the way it works.
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16 *Indie game developer, living in Central Canada, working for indie studio based in US.*

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18 More broadly, Boltanski and Chiapello (2007) argue that network metaphors shape our perception of work,
19 how we interact with it and others, how we rationalize our actions, and ultimately how we define our vision
20 of the "good life" - the end goals of our labour. The line between work and leisure blurs, as one's personal
21 interests, extracurricular, and social relationships all serve, in some shape or another, to build one's
22 network in addition to their skills/portfolio in anticipation of the next project. What is meant by
23 "connecting" is generally unspecified, erased and obscured, collapsed into marketing and networking,
24 which is taken on piecemeal by developers. The 'network' becomes a structuring diagram and operational
25 rhetoric, explaining how agile non-hierarchical workplaces are organized, but also doing substantial
26 discursive duty. Following Marwick (2013), 'networking' becomes shorthand for the ways in which
27 individual developers now acquire and display the markers of status that make their games worthy of
28 investment and attention, reflecting the mindset of accumulation (more contacts is always better).
29 Relational labour's emphasis on connecting with others evokes a rosier version of Wittel's (2001) network
30 sociality, with "building one's network" as the individualized accumulation and tokenization of social ties
31 that then can be instrumentally leveraged for career success.
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45 Rather than emphasizing calculating self-promotion, instrumental networking, and overt
46 marketing, an indie developer must be read as authentic and genuinely interested in socialization. Thus,
47 developers are now tasked with "hosting" in terms of making encounters amiable and emotionally
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9 satisfying, and creating a space for those on and around the show floor (or on Twitter and Twitch feeds) to
10 connect with one another (Veijola and Jokinen, 2008). Relational labour is both freely chosen *and* enforced
11 in the sense that the social labour of connecting with audiences, potential employers, collaborators,
12 platform holders, etc. is rarely compensated but increasingly expected, and is often framed as an intrinsic
13 reward – sharing one’s passion with others (Duffy, 2016; Kerr, 2016; McRobbie, 2016). Although these
14 connections could potentially serve instrumental purposes as a safety-net in precarious times - leading to
15 jobs, or funding, or technical and moral support - they are discursively framed as intrinsically fulfilling,
16 offering a sense of place and legitimacy within developer communities irrespective of any financial
17 outcomes.
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26 In this sense, it is important to acknowledge the dual nature of relational labour: it is both freely
27 chosen and enforced, empowering and self-exploitative, collective yet individualizing, authentic and
28 instrumentalized. Increasingly, developers acknowledge the importance of relational labour, explicitly
29 linking this socially-rooted connection work with sustainability and success, yet this always-on, never-
30 ending, unbounded, invisible work also is part of what makes indie development so unpredictable,
31 exhausting, and unsustainable. Thus, the link between relational labour and sustainability is the focus of our
32 last section.
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42 **Rethinking cultural production and entrepreneurship**

43 We know cultural production is precarious. We know the distinction between entrepreneurship
44 and creativity is blurring (McRobbie, 2016). We also know cultural producers don’t explicitly talk about
45 precarity (de Peuter et al., 2017), and larger social and economic trends towards individualism mean
46 precarity is increasing, pressuring cultural producers to turn to entrepreneurialism as a response
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9 (McGuigan, 2010). Because contemporary cultural work is rooted both in individualizing discourses of
10 creative genius and wider neoliberal pressures to individualize responsibility and risk (Bauman, 2000;
11 Beck, 1992), this state of affairs is valorized as empowering and self-actualizing, downplaying its negative
12 effects on employment conditions, remuneration, and the 'good life'. Thus, the possibility of non-alienated
13 labour in more co-operative systems of production is often dismissed as a romantic delusion, and collective
14 support structures are eroded, de-regulated, de-funded, and downsized until they disappear. In the search
15 for non-alienated, sustainable labour, independent cultural producers become lower-costs tools of capitalist
16 systems rather than the opposition.
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24 Kate Oakley (2014) argues that cultural workers become cultural entrepreneurs, not because they
25 value being self-employed or desire to become industry titans, but because this is the path of least
26 resistance to finding any creative work at all. Thus, the turn to "forced" entrepreneurship allows cultural
27 workers to access more empowering discourses (i.e. I launched a start-up, I am a studio owner), rather than
28 directly acknowledge precarity (i.e. I am unemployed, I have no income). However, she argues these new
29 forms of cultural entrepreneurship offer opportunities for re-thinking 'good work' and, following Banks
30 (2007), the ethical orientation to cultural work in terms of working conditions, who is able to participate
31 and be paid for this work, and one's engagement with local communities. We think that game developers'
32 discursive prioritization of sustained collective engagements over accumulation or acclaim, may gesture to
33 less individualizing and more stable structures for creative work in general. However, this is predicated
34 upon two things: 1) rethinking economic growth as an inherent good, particularly in terms of cultural
35 entrepreneurship's relationship to sustainability, and 2) re-assessing the link between relational labour and
36 sustainability, including outlining the different forms relational labour takes in cultural work in order to
37 better understand its benefits, harms, and ultimate effectiveness. Both of these require much further work.
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To address the first point, we believe that emphasizing sustainability talk in games is an important avenue of study because it can reorient cultural entrepreneurship discourse in more positive directions. It illustrates the need to rethink commonly assumed “goals” of indie entrepreneurship and how we – and policy makers - evaluate success. For the developers we spoke to, commercial and artistic success weren’t end-goals, but instead were framed as means towards more predictable and long-term collaborative practices: ‘good work’. This desire for ‘good work’ undergirds indie’s rejection of less-precarious work in AAA games, as well as their resistance to moving to other industries with better working conditions and pay. While developers many not explicitly mention precarity, sustainability talk is where issues of risk, volatility and working conditions are broached. While this is a responsabilized discourse in that developers blame themselves for failing or succeeding, it is not individualized in the ways we might expect, given the emphasis on individualization in cultural industries elsewhere (McGuigan, 2010). It is concerned with keeping the team together and building enduring -rather than ephemeral - connections to fans, fellow developers, and local communities. Here, breakout critical and financial success might actually endanger ‘good work’ because it requires a larger scale of production and changes to workplace organization as the studio grows. To manage this growth in scale, developers are pushed towards hierarchical management structures and/or business relationships they explicitly rejected as alienating within the mainstream industry. Coupled with the pressure to replicate past successes, “making it” financially endangers developers’ position in the relatively flat organization of game developer communities: one is set on a pedestal apart from other developers as a celebrity, influencer, or potential patron, rather than a fellow creator (Parkin, 2014).

Paradoxically, while developers may not embrace the end-goals and individualized values of cultural entrepreneurship, emulating these strategies is seen as key to ensuring survival in an unpredictable

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9 industry. Casting oneself as an entrepreneur – complete with pitches and business plans – allows
10 developers to access investor networks and creative industries funding. Yet, in order to access the funds
11 that allow for economic stability, developers must promise to grow, expand and potentially become “big
12 business” themselves. Successful outcomes are predicated upon espousing a desire to become the very
13 thing they reject. Thus, funding policies, particularly cultural policies that frame studio growth as an
14 inherent and unquestioned good, may undermine the values and models of ‘good work’ that the cultural
15 producers we spoke to actually value. Following the work of McRobbie (2016), de Peuter et al. (2017) and
16 others, we suspect that policies that prioritize the funding of collective organizations, cultural
17 intermediaries, and community support agencies rather than over-emphasizing small enterprise growth
18 offers potential solutions, but much work is yet to be done. This includes investigating whether
19 collaborative production communities such as shared workspaces, not-for-profit support organizations, and
20 local hubs are empirically linked with the long-term survival and satisfaction of small studios. This would
21 allow us to more clearly evaluate the links between games, collective values, and sustainable modes of
22 production.
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36 It is our view that longstanding and complex inequalities and injustices in the game industry can
37 be better discerned and redressed by shifting the frame of the conversation away from both individualizing
38 aspects of creative work and gross ideologies of games as art or games as commerce. This brings us to our
39 second point. If we want to take sustainability in the game industry seriously, we need to make social
40 organization – not individual actors, the games themselves, nor the larger political economic structures of
41 the industry – our central unit of analysis. The role of the producer has only seemingly disappeared; the
42 functions it served, holding together the heterogeneous parts of the game, the team, and the surrounding
43 community and industry are now more important than ever. Part of the unpredictability in indie games, we
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9 contend, arises from a poverty of language for articulating the broader context in which the work of game-
10 making takes place, as opposed to the more common attempts to measure and valorize individual games
11 and developers. As we have argued, in the move towards small-scale games making, indies jettisoned
12 producers because producers represented industry modes of work, values, and creative constraints they
13 were fleeing from. But indies are now struggling with the very real problem of how to manage production
14 processes without a producer. Due to their association with soulless corporate “suits”, undervalued care
15 work, and the alienated labour of mainstream industries, crucial aspects of the work of cultural production
16 are made invisible.
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24 From speaking and working with developers, it is clear to us that the ways in which they now
25 organize (i.e. constellations of artists, programmers, and designers) don't leave space for new roles
26 dedicated to this specialized work, and much of it is oversimplified into “marketing” and “networking”
27 language that is ill-suited to the more complex reality. In the absence of a shared descriptive language to
28 acknowledge ‘missing’ production work, developers struggle to construct knowledge, envision and move
29 towards effective team organization, and sustain their studios, let alone survive outside of corporate
30 hierarchies. Without this language, they cannot first recognize and then evaluate what actually works
31 versus what doesn't. They wear multiple hats, endlessly interfacing and taking on impossible workloads
32 resulting in self-exploitation, exhaustion, the potential instrumentalization of social ties, and the
33 problematic leveraging of ‘passion’, creative freedom, and emotional investment used to justify these
34 harms. In this sense, indie development replicates the mainstream industry's worst issues in the name of
35 creative autonomy.
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47 Thus, more research is needed to evaluate the full range of work performed in independent cultural
48 production, particularly relational labour. To facilitate more informed discussion of what sustainable
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9 development actually looks like, and how it is composed and best organized, we must go beyond interviews
10 and observation at public events. More work within studios is needed to address our unresolved questions.
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12 What does everyday developer work look like? What practices characterize relational labour? How is
13 'missing producer' work distributed, recognized and rewarded, particularly along lines of gender? Do
14 studios that prioritize relational labour survive longer than those that don't? Is sustainability impossible
15 without the harmful effects of constant relational labour? If so, can we ameliorate these harms? What
16 practices exist to organize and limit work and ensure it is more manageable, fair, and sustainable? Are
17 emergent management practices and non-hierarchical organizational models in indie games (i.e. co-ops, flat
18 pay-scales all employees, profit-sharing etc.) conducive to 'good work'? These questions are especially
19 salient in light of increasing awareness of labour issues and collective organizing in the game industry
20 (Schreier, 2018; Short, 2016; Weststar and Legault, 2017). In short, we need to continue making invisible
21 labour more visible so that it can be valued, evaluated, and compared to other cultural industries, and so
22 that practices and techniques proven to promote 'good work' and creative justice can be shared more
23 widely.
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38 **Acknowledgements**

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40 engaging discussions as well as future research directions.
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44 **Notes**

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46 1. For example, the ESAC reports that there are 596 studios in Canada, growing 21% from 2015 to
47 2017 alone. The vast majority (496) have 25 employees or less, emphasizing the rapid growth of
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9 small independent studios. In contrast, only 26 studios have 100 employees or more
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11 (Entertainment Software Association of Canada, 2017).
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- 13 2. All participants were either exhibitors or working in the Indie MEGABOOTH space. Only two
14 interviewees were not developers (defined as having worked on game projects within the previous
15 five years). Interviews took place in quiet, public spaces, and typically lasted between 45 to 90
16 minutes. Each interview was recorded with consent, transcribed and manually coded. The quotes
17 used in this paper are from PAX 2015, in Seattle, Washington.
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 - 20 3. In total, we interviewed 57 participants (50 male, 6 female and 1 non-binary). This included 47
21 game developers, 1 journalist, 1 games publisher, 2 volunteers, and 6 Indie MEGABOOTH staff.
22 A subset of 5 developers were interviewed twice (with at least 12 months separating the
23 interviews). These follow-ups gauged whether interviewee views had changed over time, as well
24 as shared and validated our preliminary findings.
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 - 27 4. The competitiveness of the contemporary games market was spurred by lowering price points and
28 influential “free-to-play” games premised upon attention economies and platform capitalism, but it
29 is also the result of the “democratization of game development”. Low cost or free development
30 tools, from engines and audio mixers, and the relative accessibility of platforms, from app stores,
31 to discount bundles, to PC digital storefronts, has led to an oversaturation of games and aspiring
32 small-scale teams.
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 - 35 5. Following Scott, due to their youth, psychological resilience, independence, flexibility, and
36 unattachment to family or place, cultural entrepreneurs partially exemplify the “‘perfectly’ mobile
37 worker of neo-classical labour market theory”, however, their motivations are not reducible to
38 economic interest, as the necessity of reproducing labour power is in continual negotiation with
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9 their artistic and expressive interests (2012: 242). Given the emphasis on unattachment, mobility
10 and independence, cultural entrepreneurs are often single, childless men.

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13 6. In order to secure publisher or venture funding, which are both predicated on a studio earning
14 many times the initial investment, studios seeking financial support must position themselves as
15 hungry for rapid growth and studio expansion on a short timeline, running counter to the indie
16 ideal of sustainability without significant growth.
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20 7. In games, Jason Della Rocca, industry consultant, investor, and former chair of the International
21 Game Developers Association (IGDA) popularized “indie entrepreneur” terminology (see, for
22 example, Della Rocca, 2016). Indies, in direct contrast to the mainstream industry and contractors
23 for-hire, are presumed to have both creative freedom and legal independence. They are
24 subdivided further by drives for artistic distinction and/or commercial viability. “Indie
25 entrepreneurs”, according to Della Rocca, exhibit each of these drives simultaneously. Positioned
26 against both “starving artists” who reject corporatization, and “sell-outs” who lack artistic passion
27 and blindly seek profits, indie entrepreneurs balance commercial intent with creative vision (his
28 examples include Jon Blow, Rami Ismail, and Eric Zimmerman). Given indie has traditionally
29 been defined as a rejection of commercialization, this marks a continual – if not productive –
30 tension, wherein developers must demonstrate familiarity with both life worlds. In response to
31 perceived industry demands, indie entrepreneurs are always on the verge of becoming “suits” and
32 risk being labelled as inauthentic, exploiting indie communities rather than contributing to them.
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45 8. This explains the phenomenon of amassing hundreds of unplayed games in one’s Steam library,
46 whilst continually adding more each sale. Purchasing these games acts as signifier that one
47 affiliates with and belongs to a specific community.
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9 9. Wissinger's (2007) work on fashion models draws from recent social and cultural theory related to
10 affect to recuperate affective labour, emphasizing models' always-on production of relationships
11 and social networks as a precondition to employment, and their adaptive management of flows of
12 affect (which can be read as a precondition to emotion), as a way of maintaining continued
13 employment. These complex activities resist a simplistic one-to-one linkage between prompting
14 affect for financial reward. However, by nature of its autonomist Marxist framework, this may
15 gloss over the gendered nature of modelling, lump highly paid elite models into the same
16 precarious class as low-paid health care workers, and not offer a strong enough differentiation
17 from emotional labour (McRobbie, 2016: 105–106) .
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