

This article has been published in a different version: Weststar, Johanna et Marie-Josée Legault (2017) "Why Might a Videogame Developer Join a Union?", *Labor Studies Journal*

Why Might a Videogame Developer Join a Union?

Johanna Weststar

Associate Professor

Western University

London, ON, Canada

weststar@uwo.ca

1-519-661-2111 x86148

Marie-Josée Legault

Professor

Téluq

Montréal, QC, Canada

marie-josée.legault@teluq.ca

Funding and Disclosure

This work was supported by the Social Sciences and Humanities Research Council of Canada under Grant 435-2013-0187. The authors declare that we have no conflict of interest.

INTRODUCTION

Union renewal remains an important topic because unions continue to struggle with membership decline across OECD countries. One reason for this decline is de-industrialization. Core union jobs in manufacturing have been replaced with a rising tertiary sector where unions have less historical presence. As such, the unionization of the service sector is an important opportunity for union growth. The challenges unions face in organizing low-wage service jobs have been well documented. However, the discussion of unionization in the growing sector of high-end service jobs such as business-to-business services, finance, and information and communications technology (ICT) is less developed (for exceptions see Amman, Carpenter & Neff, 2007; Haiven, 2006; van Jaarsveld, 2004).

Haiven (2006) placed high-skill and high-tech workers outside of the traditional “union zone” because of the high individual bargaining power presumed from their specialized knowledge and skills, and the typically high managerial concern and attentiveness exerted to attract and retain top talent. This latter condition accounts for the individual negotiation leverage of these workers. This model captures the status quo because outside of the public sector, very few knowledge workers in the ICT fields are unionized. However, Fiorito and Gallagher (2013) pointed out that knowledge workers may have lost individual bargaining power in the modern post-industrial era. This is due to the increasing number of people with advanced credentials and due to the movement of organizations to short-term producer strategies (Agarwal & Ferratt, 2006) that favor post-Fordist project-based structures where labor is sourced on demand and just-in-time (Hodgson, 2004). In the risk society articulated by Beck (1992), the burden of employment instability, technical obsolescence, disability, aging, parenthood, and other common challenges is increasingly placed on the shoulders of individuals. Coining the term ‘venture labor’ Neff (2012) characterized the modern day knowledge worker as an entrepreneur of the self, always jockeying to stay ahead in an increasingly precarious labor market (see also Barley & Kunda, 2004; Benner & Dean, 2000; Connelly & Gallagher, 2004). As well, technological change has reduced the barriers of entry to many fields and introduced greater global competition. For instance, high-end digital services can be outsourced around the globe through interfaces such as UpWork.com that match providers of project work with freelance labor. This increases the precariousness of jobs in the knowledge economy.

Yet, the historical record shows that it was often skilled workers who were able to form viable unions as a counter response to threats of devalue and deskilling (Fiorito & Gallagher, 2013) and forms of occupational closure, including unionization, have been a protective tool consistently utilized by technical and professional trades (Campbell & Haiven, 2011). Therefore, these employment challenges can encourage post-industrial knowledge workers to consider unionization.

One such group of knowledge workers is videogame developers (VGDs). These are the artists, programmers, designers, writers and other technical specialists who design and develop

videogames. Over the course of a systematic research program on VGDs, we have documented collective dissatisfaction with workplace conditions such as long hours, unlimited and uncompensated overtime (UUO), systemic underrepresentation of women, poor management, and employment insecurity (Legault & Weststar, 2012; Weststar & Legault, 2015; Peticca-Harris, Weststar & McKenna, 2015). We have also presented survey data from 2009 which showed a surprisingly high degree of interest in unionization on the part of VGD respondents. In the face of this apparent interest in, but lack of unionization (the classic representation gap articulated by Freeman & Rogers, 2006), we have qualitatively interrogated the fit of traditional mobilization theses (i.e., Kelly, 1998) for VGDs (Legault & Weststar, 2014, 2015a).

Among other barriers (Legault & Weststar, 2014, 2015a), we suggested that when workers carry out a cost-benefit analysis of unionisation, they find some drawbacks in the enterprise-based legal framework of unionisation in the Anglo-Saxon countries. Indeed, this model doesn't suit an industry where mobility of labor force and capital, both national and international, is paramount. The knowledge economy has brought up important challenges to the decentralized Wagnerian organizing model found in Anglo-Saxon countries.

This paper further explores the question of the adequacy of unionizing models for VGDs through a quantitative examination of voting propensity for two types of union: enterprise-based (i.e. single worksite, employer and union) and industry or sector-based (i.e., multi-worksite, multi-employer and single union). Our analysis relies on exclusive data from the 2014 International Game Developers Association Developer Satisfaction Survey (DSS) to test the relations between sociodemographic and occupational variables, on one hand, and voting proclivity toward enterprise and sector-based unionisation on the other hand.

The paper begins with a brief overview of the work characteristics of VGDs before reviewing the literature on voting propensity as it relates to the present study. We will then describe our data and methods before presenting our results and discussion. We conclude that factors related to voting propensity do differ depending on the union model at stake, that industry-based unions seem to be a better fit for VGDs and that some VGDs see unionization as a mechanism to improve the industry.

BRIEF OVERVIEW OF VGDs

In many respects, the labor process of videogame development typifies an anti-union archetype. The workers are predominately young and thrilled to be making games for a living. The industry operates under the project-based regime where each game is managed as a discrete project. Under this model staffing decisions are made for the duration of each game only. This results in high worker mobility both within and among game development studios locally, nationally and internationally. The project-based regime enforces a system of managerial control where worker commitment to the project and the team is obtained and ensured through reward systems based on merit and reputation (Legault, 2012; Weststar, 2015). In this system job placement is a recurrent test and so these workers have portfolio careers – they are as good as their last game. This means that their reputation is critical in ensuring that: a) they are retained at their current studio or are able to move to a good position elsewhere; and b) that they are assigned to the best games which have the largest budgets, best access to the newest technology and present the greatest opportunity for career success.

In many ways, this environment is not conducive to unionization (Legault & Weststar, 2015a). Yet, this environment has also created significant dissatisfaction among a high proportion of VGDs who sometimes come forward under various means of collective action (Legault, Weststar, 2013), though never in the form of wildcat strikes or job actions on the premises (Devinatz, 2003). Games are made under the iron triangle of project management constraints where a game of certain scope must be produced under a budget and schedule that is often fixed by an external publisher who markets and distributes the games. This contractual relationship reduces the creative autonomy of the development team and also transfers any risk of going over budget or schedule onto the workers themselves. The result is an industry that has been plagued by long and/or unpredictable work schedules and UWO (Legault & Weststar, 2015b). The model of mobility also transfers risk to the developers in the form of pervasive employment insecurity with little access to portable benefits or supports (Legault, 2013).

FACTORS RELATED TO UNION VOTING PROPENSITY

Numerous sectoral, occupational, demographic and attitudinal variables have been studied in association with union voting propensity and the resulting corpus of results is relatively mixed (see Godard, 2008 for a review). In short, dissatisfaction with the job or aspects of it (e.g., pay), a union's instrumentality in addressing problems, and general beliefs about unions have been associated with voting propensity. As well, various facets of employer practices (e.g., human resource practices), job characteristics (e.g., autonomy and influence), pay, working conditions (e.g., workplace hazards), social influences (e.g., family and friend support), and demographic characteristics have been associated with voting propensity. Godard (2008) also noted that more research was needed into factors which tap into the institutional environment within which unionizing decisions are made. In particular he noted some research into the factors of distrust, desire for voice and representation, perceived injustice, fear of reprisal, fear of conflict, worker orientations and values, and political beliefs.

The present study is somewhat unique in the literature as it focuses on a single industry rather than a more heterogeneous general population. The relative homogeneity of our sample achieves a degree of institutional sensitivity because all respondents are embedded in the same broad industry and occupational context. This allows us to select variables that are informed by past research, but are also tailored to the institutional context of game development. However, the survey used in this research was not designed as a study of voting propensity per se; its purpose is a general benchmark of working experiences in the game industry. Therefore we must extrapolate some variables as best we can. All variables and their specifications, including question wording, coding and reliabilities, where applicable, are summarized in Table 1.

Beginning with dissatisfaction we included a multi-item scale to measure *work satisfaction* across five dimensions. Two items are general omnibus measures of job satisfaction and work/life balance of which varieties are commonly used in the literature and even as single-items are found to have high correlations with multi-item measures (Wanous, Reichers & Hudy, 1997). The remaining three items measure partial aspects of job satisfaction (Cabrita & Perista, 2006) that have also variously appeared as components of established scales (Fields, 2002). They are intrinsic aspects particularly salient to knowledge work/game development: autonomy/creative freedom, pride in tangible labor outputs, and work as fun (Weststar, 2015).

Previous studies have shown mixed results with regard to job autonomy as a factor of voting propensity (see Godard, 2008) and critics point to the exploitative potential of employee empowerment and involvement initiatives and the ‘work as play’ model (Dyer-Witthford & de Peuter, 2006). We have also observed that developers can have leeway in some aspects of their work, but not in others. Therefore, we do not have clear *a priori* expectation about the relationship between this collective satisfaction measure and voting propensity.

We also include a number of specific dissatisfaction measures that represent felt injustices among VGDs. One of the most important labor problems raised by workers in the industry is that of UVO (Legault & Weststar, 2015b; Legault, 2012, 2013). Pay dissatisfaction as a ‘bread and butter’ issue has been tested in previous studies though with varied results (see Godard, 2008). As compensation demands are often associated with union negotiations, we expect that feelings of dissatisfaction toward *general pay, bonuses, profit sharing, and overtime pay* will be positively associated with voting propensity. Though compensation schemes are unique within studios, the general practices and UVO issues are common across the industry; therefore we expect that these variables could be associated with both enterprise and industry union propensities. The specific survey questions were modeled from single items that have appeared in established satisfaction scales (Fields, 2002) and though these variables may sound similar, they represent unique aspects of complex pay schemes and do not exhibit correlations sufficient to warrant exclusions or the development of a single scale (Heneman & Schwab, 1985).

A number of additional variables reflect dissatisfaction stemming from contested overtime practices and also reflect dissatisfaction with the ‘nature of work’ in general. These were modeled individually from established scales (Fields, 2002). Regarding working conditions and overwork, we include *overtime intensity* as a multiplicative outcome of overtime frequency (weeks/year) and overtime duration (consecutive weeks) and a four item scale measuring elements of *fatigue* and overwork. Two items measure satisfaction with how job performance is evaluated (*unfair evaluation, under-valued work*). VGDs bemoan the fact that visibility (i.e., time at work) can easily become a factor of good evaluation and, as such, become a proxy for good performance due to the expected commitment to the project and the team. This is seen as an injustice that is salient among some game developers (Legault & Weststar, 2015a; Legault,

2013) and other project-based knowledge workers such as software programmers (O'Carroll, 2015). An additional item measures internal *advancement opportunity*. On the whole, the game industry relies on lateral moves and high mobility. We are invited to consider that mobility heightens the exposure of workers to the risk of investing personal time, talent and money in a campaign that will end up in gains for future workers, but not for him/her. According to the social dilemma framework of union organizing (Cardador, Grant, Lamare & Northcraft, 2017), workers engage in “a time-bound cost-benefit analysis whereby bargaining unit members have to decide whether the net future value of any potential benefit obtained from the union (which may or may not be returned) is worth the net present value of resources required to invest in union organising”. Though this theory is based on studies of stable work environments and have considered the effect of employment duration on workers' propensity to mobilize, we believe that their rationale holds when applied to mobility. Indeed, investing in union organising is less worthwhile if you do not expect to save a stable employment relationship, particularly in the context of an employer-based certification, but less so in the context of a sector-based certification. Therefore, insofar as this reduces the instrumentality of an enterprise-based union, lack of internal advancement opportunities will be negatively related to voting for an enterprise union, but may be related to an industry union which could provide portable protections and opportunities.

We do not have a direct measure of union instrumentality. We do include three dichotomized measurers for the presence of benefits that are commonly associated with unions – that is, for which unions have high perceived instrumentality: *health plan*, *pension plan* and *parental leave* (Long, 2013; Mishel & Walters, 2003). These gains are generally lacking within game studios beyond government minimums. The idea here is that workers might be more likely to vote for a union if they do not have these benefits because they feel that unions can achieve them. We also include two sets of variables that measure respondent knowledge of employment laws where they live (*know laws*) and the perceived adequacy of those laws (*sufficient laws*). Here we propose that unions will be seen as more instrumental, and therefore more desired, where the laws are not known and/or deemed insufficient. For these, we expect positive associations with both enterprise and industry union variables.

In his review Godard (2008; 380) presented a number of isolated studies that examined “more specific and institutionally informed” measures to explain voting propensity. We include a number of those insofar as our data will allow and as they resonate with game developers. First, Gomez, Gunderson and Meltz (2002) and Barling, Kelloway and Bremmerman (1991) found positive associations between certain worker values or orientations to the job and voting propensity (i.e., ‘Marxist’ or ‘humanist’ work beliefs; traditional union values like seniority). In a similar vein, Godard (2011) found a positive correlation between a multi-item measure of organizational commitment (as measured in relation to the employer) and voting propensity. He reasoned that union joining is typically interpreted as an act of disloyalty to the company; however he ultimately concluded that job quality was more important than attitudes. Nonetheless, the perception of loyalty and commitment seems pertinent in a post-industrial project-based workplace. Dyer-Witthof and de Peuter (2006: 601) attested that the “game industry is historically steeped in the ludic entrepreneurialism of the ‘Californian ideology’ (Barbrook & Cameron, 1996)” and is “thus presumed to be fundamentally at odds with the definition of the workplace as a site of labor conflict.” This sentiment often surfaces in discussions of cultural labor; it is embedded in Neff’s (2012) notion of venture labor, manifests in discussions of ‘passion’ for the work (Harvey & Shepherd, 2016), and coalesces in normative professional commitments. Therefore, without a definitive expectation, we offer up a number of variables, albeit ad hoc, in an attempt to further explore the impact of a strong orientation to the work on voting propensity: *job sacrifice*, *time commitment* and a three-level categorical variable measuring the degree of identification with the work as self – *job is life*, *job is career*, *job is job*. The former two are modeled from single items which have appeared in established scales (Fields, 2002).

In this same vein we include three additional exploratory variables. One measures the level of *trust* in the competence of management. The second – *access to voice* - measures the degree to which management seeks input from workers and acts on it, arguably expanding worker influence. These were modeled from components of established scales (Fields, 2002). Under typical theories of adversarial industrial relations we might expect high trust and alternative voice mechanisms to act as union substitutes, particularly at the enterprise level. However, it is unclear whether these assumptions will hold in a sample of game developers where the degrees

of separation between managerial and non-managerial developers is often small as both face negative repercussions of external competitive forces (Legault & Weststar, 2016), and there is a shared occupational identity (Weststar, 2015). The third variable here is a categorical marker of the type of project-management method (Fitsilis, 2008) being utilized to shape and control the labor process in the workplace. Due to the constraints of the survey we are unable to include a full suite of human resource practice measures (Godard, 2009); however this variable captures elements of HR and the labor process in that traditional “Waterfall” approaches signify a more hierarchical and inflexible work process, while “Agile” approaches signify some elements of high-commitment, high-involvement workplaces. These models will be discussed more in the results below, but in short, Agile/Scrum is more flexible and collaborative. It focuses on getting a ‘viable’ product as soon as possible in the development process so that subsequent decisions and modifications can be made looking at the real product. This is a more participatory and iterative process in comparison to the Waterfall approach which attempts to plan everything from the start with a small sub-set of the team, and often the pieces only come together at the last minute.

The literature on expected management *reprisal* has suggested that other factors (i.e., union tactics; Bronfenbrenner & Hickey, 2004; Yates, 2000) may be more important to union organizing drives or voting propensity and also that strong anti-union tactics can backfire by angering employees (Bronfenbrenner, 1997; Fiorito, 2001). Specifically Godard (2011) found a strong positive association with voting propensity when a negative management response was deemed ‘somewhat likely’ as opposed to ‘unsure.’ On the other hand, according to the social dilemma framework of union organizing (Cardador et al., 2017), workers’ fear of managerial opposition could heighten the negative effects of the exposure to the risk of investing personal time, talent and money in vain, of the environmental uncertainty (plausibility to reach a first contract) and of the social uncertainty (expectation of others to be favorable to unionisation) on worker support. In short, a negative management response is supposed to show a negative association with voting propensity. In fact, these two opposite relations could turn out in different contexts. But in high technology work environments, characterized by lightweight production capital, low capital / labor ratio and widespread sources of workforce, capital has proven to be mobile and moving business is easy (Devinatz, 2005).

We therefore include a 4-level categorical variable measuring different types of *employer reprisal* (Table 1). We feel that this measure adds context to the specific type of management response beyond what can be achieved with a general likelihood question about a “negative response”. We do not propose a specific relationship, but generally expect a weaker association between managerial response and voting for an industry union because the impact of reprisal is removed from the workplace; however, this may not be the case in a highly reputation-based industry.

We also assess the impact of perceived *peer group attitudes* toward unions. This is important in an environment that is assumed to be anti-union due to stereotypical beliefs about worker values and the labor process and through the rhetoric of the industry itself. Kelly’s (1998) mobilization theory emphasizes the importance of inter-group cohesion in the establishment of an ‘us’ mentality and social custom theory emphasizes the importance of fitting in with peer group norms (Visser, 2002). The social dilemma framework of union organizing suggests that negative perceptions of the voting propensity of coworkers is a factor of social uncertainty, whereas social homogeneity and cohesion are positive factors of social certainty (Cardador et al., 2017). Therefore we expect that positive perceptions of coworker voting propensity will be positively related to both enterprise and industry unionism.

Also building on Godard (2011) we include 5 measures of unique aspects of job and employment insecurity as they are salient challenges in project-based workplaces (*state of the industry, job opportunities, job insecurity, employment insecurity, and laid off*). High insecurity could be negatively associated with an enterprise union because the threat of studio closure, relocation, and outsourcing are very real concerns among VGDs (Legault & Weststar, 2014, 2015a). However, these same conditions could lead to increased desire for an industry union because it could be seen as a support or as a protectionist hiring hall in times of unemployment.

We also include standard controls: *occupation; company type; part-time; company size; years in industry; years in job; female; and country/region*. Despite the homogeneity of our sample from an industry perspective, there are sufficient relevant distinctions in the make-up of studios within the industry that warrant a control for company type. For instance, a development studio owned

by a publishing company with a quasi-monopsonistic hold over distribution rights (i.e., Nintendo) is quite different from an independent studio engaged in self-publishing online.

DATA AND METHOD

We use data from the 2014 DSS survey, a cross-sectional, non-random, self-report survey that was administered online by the International Game Developers Association (IGDA) in partnership with the authors (Edwards Weststar, Meloni, Pearce & Legault, 2014; Weststar & Legault, 2015). The IGDA is a non-profit membership organization of people who work in the videogame industry which aims to connect members with their peers, promote the professional development of its members and game development as a profession, and advocate on issues that affect the video game community. It is not a union and does not behave like one.

The total sample size of the dataset was 2198; however, we restricted the sample to include only non-managerial respondents working in the core business of making games. Others took the survey such as students, game studies academics, journalists, etc. Team leads were included, but project managers, middle managers and senior managers were excluded; these made up a large part of the total sample. We also excluded respondents who did not register a clear ‘vote yes’ or ‘vote no’ response to the dependent variables (i.e., those who were not sure or who did not want to disclose). This excluded about 15% of the non-managerial core-development sample. Therefore the final sample used for the analysis was 452 for the enterprise union dependent variable and 474 for the industry union dependent variable. Workers in Anglo-Saxon countries where the union certification models are primarily enterprise-based (i.e., US, Canada, UK, Australia) made up 74% of the total sample. It is not possible to report a response rate as the population from which the survey was drawn (i.e., people who saw and had the ability to take the survey) is not known. The survey was distributed through the IGDA membership communications, but was also communicated broadly at a large industry event that included non-IGDA members as well as through the personal networks of the researchers, through social media and through general word of mouth. Among this sample 31% were members of the IGDA, 24% had been members in the past, 11% planned to become members and 34% were not and had

never been members. The survey was completed anonymously online and did not collect any identifying data beyond basic demographic characteristics and country of work.

Two correlation analyses and two logistic regression analyses were performed using two dependent variables: 1) “If a vote were held today to form a union at your company/studio, how would you vote?” and 2) “If a unionization vote were held today for a national videogame industry union in your country, how would you vote?” The latter question was preceded by a short preamble indicating that “some unions represent workers and negotiate issues across an entire industry rather than workplace by workplace (like the Writer’s Guild of American or the Alliance of Canadian Cinema, Television and Radio Artists (ACTRA))”. Both were coded with 0 = vote against and 1 = vote for.

RESULTS & DISCUSSION

Table 1 presents the descriptive statistics of the variables used in the analyses including the correlation between each independent variable and the two dependent variablesⁱ. Table 2 presents the logistic regression results as coefficients and odds ratios for ease of interpretability. Given the large number of independent variables and the relatively weak strength of many of the significant bivariate associations, it is not surprising to see many of these relationships drop out or change in significance in the regression analysis. That said, it may be that these analyses may have lacked the power to detect small effects (Green, 1991) and the model could be refined and tested with a larger population in future research. Additional tests were conducted for multicollinearity and parameter instability. The parameter estimates did not change significantly with the systematic addition and removal of variables nor in tests of random sub-samples. In the final analyses, variance inflation factors (VIF) were below 4 and tolerance tests were above 0.2 for all variables (O’Brien, 2007).

[Insert Table 1 and Table 2 here]

VGDs are in favor of unions

The mean of the enterprise union vote indicates that 66% of the sample would vote for a union at their studio and 34% would not. This is in itself an important finding that counters the prevailing rhetoric of individualism, meritocracy, flexibility and subjugation to the work that is the archetype of the autonomous knowledge worker. The percentage only increases when the industry union is considered with 82% of the sample voting in favor.

The type of union matters

As would be expected there is a significant correlation between the two dependent variables (enterprise and industry union), but importantly this relationship is of only moderate strength. This supports the notion that the propensity to join an enterprise-based union is different from that of joining an industry-wide union. It seems that many game developers recognize the structural limitations to enterprise unions and see an industry-wide solution as preferable or more possible. As both Table 1 and Table 2 show, the pattern of the relationships with the independent variables is not identical for enterprise unionism and industry unionism.

Some factors relate more to the localized environment of individual workplaces while others tap into needs that resonate across the industry. This can be seen in the negative correlations between the variables measuring access to health care, parental leave and a pension plan and the industry unionism variable. These are not benefits typically available to small shops or entrepreneurs and in the context of highly mobile workers across all workplaces, universal or portable benefits make more sense than those tied to an employer. In the opposite vein, the variables that tap into localized working conditions are related to enterprise unionism and not to an industry union. For instance, signals of commitment to the job at hand and the localized management team (i.e., willingness to make sacrifices for the job, willingness to work overtime even when not required, trust in management, and access to voice through a collaborative manager) are negatively correlated with voting for an enterprise union. Negative sentiments about the local treatment and conditions are positively correlated with voting for an enterprise union (i.e., under-valued work, unfair evaluations, job insecurity). These local versus industry differences are also captured in the regression results (discussed more below).

Specific Factors Related to Voting Propensity

Social Influences

The most significant relationships for both enterprise and industry unionism were positive associations with the measures of perceived union support on the part of co-workers. This captures an important aspect of both mobilization theory (Kelly, 1998) and the social dilemma framework of union organizing (Cardador, et al., 2017) where group cohesion and group perceptions are very important to develop the necessary sense of group injustice and in-group solidarity. This inclination to go with the crowd has also been theorized through social custom theory. In our data, the odds of voting for an enterprise union are 10 times higher for developers who perceived co-worker support for a union than those who perceived a lack of support (almost 17 times higher for industry unionism). This relationship holds even when the perceived co-worker support is split 50/50, though the odds are smaller (2 times more likely; not significant for industry unionism). Even developers who preferred not to say how they thought their co-workers would vote are associated with increased odds of voting for a union (4 times for enterprise, 6 times for industry) compared to those who reported that the majority of their co-workers would vote against the union.

Our results also provide some corroboration of past research that shows an impact of managerial opposition and tactics. The correlation analysis showed a positive association between management acceptance of a local union drive and developer support of the union. At the other pole, the data also showed a positive association between strong management hostility to a local certification drive and developer support of the union. In the middle we see that a reasoned and informed opposition by management was associated with developers voting no. This is the case for both enterprise and industry union votes. However, only the results for industry union hold in the regression analysis; an informed, but largely hands-off managerial opposition to a *local* organizing drive is associated with a one-third reduction in the odds of voting for an *industry* union. Developers who preferred not to say how management might respond were also associated with a no vote. This negative relationship between perceived managerial attitudes towards a local drive and voting for an industry union is contrary to our tentative expectations. However, as suggested above, it may be due to the high mobility and high reliance on reputation for successful employment. Local relationships can easily impact future employability and

developers may feel the need to align themselves with certain employers. On the whole, these results suggest that game developers are less influenced by aggressive management approaches, but are open to considering management's viewpoint against unions.

Insecurity

The correlation data suggest that developers who feel positively about the state of the industry, who feel that job prospects look good, and who have a high degree of confidence that they would easily find a new job are less inclined to support a union at the enterprise or industry level. However, those with higher levels of insecurity have a positive voting propensity. These are developers who worry that their job won't last and those who have recently experienced a lay-off. It is this insecurity which maintains influence on voting for an industry union in the regressions, however, in a mixed way. Developers who have been laid off in the past two years are associated with 2.6 times the odds of voting for an industry union than those who have not and 1.8 times the odds of voting for an enterprise union. But, the odds for developers who worry that their jobs will not last are reduced by two-thirds with respect to industry unionism. This suggests that, controlling for feelings about general job opportunities and personal employability, those who live in fear for their own job may be afraid to rock the boat. However, workers who have actually experienced unemployment due to the structural nature of the industry may be more likely to see the benefits of a both an enterprise and industry union.

In this same vein, we see a significant positive relationship with feeling that the labor laws are not sufficient - specifically should a dispute arise between an employee and an employer. The odds of voting for an enterprise union are 3.3 times higher for a person who feels the laws are not sufficient to protect them in such a dispute than for someone who feels they are sufficient. These results are not surprising; job security, fair treatment and protection against mistreatment are hallmarks of unionism. Workers who are feeling generally vulnerable due to past job loss and/or powerlessness under the law have more motivation to seek out protections from another source. What is interesting is that game developers seem to identify certain protections or vulnerabilities with certain types of unions in that VGDs seem to perceive that an enterprise union could solve some and an industry union could solve others. VGDs are torn, because different loci of protection will work more or less advantageously for different problems.

Factors of Discontent

A number of significant relationships were found between each of enterprise and industry unionism and factors related to discontent. Unions are often associated with the bread and butter issues; pay and pay dissatisfaction have been connected to voting propensity (Godard, 2008). The correlation analyses show that dissatisfaction with various dimensions of pay (base pay, bonuses, profit sharing, overtime pay) is an associational marker for voting propensity and that these correlations are stronger for enterprise union; however, the associations largely do not hold in the regression analyses. Only unfair bonuses reached significance at the 10% level for enterprise unionism. This suggests that, in conjunction, other factors are more important to a game developer's decision to vote for a union than pay dissatisfaction. Given that these workers are relatively well paid, this is an important consideration for the framing of injustice in any future organizing attempt. That said, of all the aspects of pay dissatisfaction, the lack of adequate bonus compensation for working overtime may be the most salient.

Somewhat surprisingly, the feeling of being overworked or fatigued reached significance only at the 10% level for enterprise unionism and in the bivariate analysis fatigue was negatively associated with enterprise union voting propensity. Overtime intensity had no significant relationships. It has been argued that extreme overwork may hinder the ability of project-based workers to critically evaluate or resist their conditions (Peticca-Harris, Weststar & McKenna, 2015). This is because their focus is only on surviving to the next milestone and their expectation is always of eventual relief in recognition of their loyalty (O'Carroll, 2015). However, workers have been unionizing for years from a state of duress. Therefore, taken alone, fatigued workers may see the struggle for a union as one more thing to do, but in the context of other occupational and socio-demographic characteristics, a fatigued worker is generally more likely to support a union. That said, it has been argued that unions have been unsuccessful at resisting work intensification and lean production (Hurley & Gindin, 2015). Specifically, long or unpredictable hours and short, uncompromising deadlines are central components in the project-based management regime of game development. The low significance for enterprise union and lack of significance for industry unionism may suggest that game developers do not see unions as a solution to their challenges of overwork per se.

There were four additional significant relationships between variables that measured aspects of discontent and industry unionism which were not significant or marginally significant in the enterprise union regression. This fits as each of these variables is highly oriented to an industry-view. First, to strongly agree that there was no opportunity for promotion at their place of work was associated with odds ratio of voting for an industry union that was about 1.4 times higher than those who strongly disagreed to that statement. Due to the project-based nature of the industry, workers are highly mobile and often use lateral moves among studios to progress in their careers. This orients the workers' attention to the occupation or industry level for career ladders. In this context, an industry union that could both facilitate and provide protection in these many job transactions seems to make sense to workers who are feeling stuck in their current job.

Second, the type of project management method (Fitsilis, 2008) which governs the labor process was found to be related to voting propensity. The game industry has been moving toward more formalized project management tools in an attempt to better plan and control the game development process. The iterative, flexible, customer-focused Agile/Scrum approach, adopted from the information technology industry, has become dominant as opposed to the traditional, linear and more rigid Waterfall approach. The odds of voting for an enterprise union was 1.4 times higher among those working under the Waterfall approach compared to those with no specific development process. The rigidity and top-down style of the Waterfall approach may produce more negative local working conditions in terms of autonomy, creative freedom, influence and also working hours and scheduling which prompt desire for a local union. These issues apply less to industry unionism.

Conversely, the presence of Agile/Scrum may generally signal a preferred labor process. Working under Agile/Scrum game development processes was associated with a reduction in odds (0.4) of voting for an industry union compared to those with no specific process, and there was no significant relationship with enterprise unionism. As its name belies, the nature of the Agile approach is to reduce barriers to efficient work flow, increase communication across teams and with client groups, reinforce individual and team autonomy to solve problems, and allow for

maximum flexibility and creativity in an iterative creation process. Though these goals are not always well met, the work ethos created by such tenets causes workers to make new demands of their governing and representative structures and to reject forms that seem antithetical, such as the traditionally conceived rigidity and bureaucracy of unions. In this way, the negative relationship between the presence of Agile and the propensity to vote for an industry union and the lack of relationship with an enterprise union might indicate a general sense of lack of fit between the perception of how games must be made and the traditional stereotype of how a union operates.

In some ways the Agile approach operationalizes some, but not all of the features of ‘Alternative Work Practices’ which Godard (2009) found to have a U-shaped relationship with voting propensity; however game studios also bear some high commitment features of ‘New HR Practices’ which Godard (2009) found to have a positive relationship with voting propensity. Additional research is required to: a) accurately capture the nuances in human resource practice in the game industry and across studios; b) compare them to high-commitment work environments’ ideal-type; and c) compare union propensity in high commitment work environments within the project-based context.

The third and fourth significant relationships pertain to years worked in the industry as a whole and to years worked with the current employer. The number of years that someone has worked in the industry was negatively associated with industry unionism, though the effect size was low and the significance at the 0.1 level. On the other hand, the number of years in the current job was positively associated with voting for an industry union. Here, each year in the same job was associated with close to a 1.2 increase in the odds of voting for a union. It is not surprising that people with long tenure in the industry as a whole are not in favor of an industry union; they made their careers under the current system and have a vested interest in maintaining the status quo. The time in current job result is more interesting and takes us to a discussion of employee voice (more below). The default mechanism for employee discontent in the game industry is exit; as noted above developers frequently make lateral moves to secure and develop their careers. Therefore, those who stay longer with one employer are demonstrating an increased commitment to that place and may be more inclined to exercise their voice function. Under this rationale one

might expect a positive relationship with enterprise union. The lack of this finding suggests that additional investigation may be required. Indeed, there is a widespread use of individual negotiation in these environments that is sufficient to achieve the aims of some workers (Legault & Weststar, 2013). What we cannot account for at this point is what drives VGDs to opt for individual rather than collective and organized voice.

Commitment and a Desire for Voice?

We would now like to discuss four final significant relationships. First, the odds of voting for an industry union was 1.5 times higher for developers who felt that management seeks employee input and acts on it (*access to voice*) for each increase on the scale. Second, developers with high work satisfaction were also associated with voting for an industry union with two times the odds times for each increase on the scale. Respectively these translate to 7.5 and 10 times higher odds across the range of the scale strongly agree-strongly disagree scale used. Recall that satisfaction is here being measured by a multi-item variable that includes quality of life, general job satisfaction, creative freedom, work is fun and pride in games made. Therefore these results suggest that workers who are happy with their work and who have opportunity to have input into that work are more likely to vote for a union across their industry. From a mobilization standpoint focused on dissatisfaction, this seems counterintuitive. However, we argue that the emphasis on satisfaction with the activity of making games rather than the job per se is important in the context of game development and arguably project-based knowledge work more broadly. First, it reorients localized antagonism toward a particular employer or managerial team towards an industry-wide solution to protect and reclaim the work itself. Second, it frames the desire for voice and representation in a constructive sense where workers love aspects of their work and wish to work together to protect those aspects. However, there may be a boundary to this effect for some workers because the regression results also indicate that the willingness to make sacrifices for the job is negatively associated with voting for an industry union.

To broaden the discussion, we feel that taken collectively, our results add to the literature which suggest that many workers seek additional collective decision-making influence and collective solutions in their workplaces (Campolieti, Gomez & Gunderson, 2011), and that unionization intentions can occur in the face of satisfaction (Devinatz, 2003) and ‘progressive HR’ practices.

Indeed, Machin and Wood (2005) found no support for the union substitution effect of HRM practices and argued for a complementarity between unions and HRM practices. As well, in their “Introduction” to the updated edition of “What Workers Want”, Freeman and Rogers (2006) re-asserted that American workers desired more say and influence in their workplaces than what they had and they desired a form of collective activity as a means to achieve it. Freeman and Rogers (2006: 1) stated that, “Even workers whose management had instituted employee involvement committees to consult with them on workplace decisions wanted more voice and power in the process.” However, most workers desired co-operative and non-adversarial relations in order to reap the full benefits of mutual respect and power sharing (Freeman & Rogers, 2006). Godard’s (1997) conclusions from a survey of Canadian workers were similar in that he suggested that unions increase their activities along their integrative function. The integrative function of unions suggests that unions can reduce feelings of discontent, decrease the sense of isolation felt by individual workers, and help build a sense of trust toward management or the organizational status quo through protections, reassurance, and conflict resolution and voice mechanisms. Godard (1997: 635) stated that “workers may now seek a more “positive” form of control, one which entails either control over, or participation in control over, the workplace in general” and connected this to the employee involvement literature where a positive role has been articulated for unions. As noted above, his later work (Godard, 2009) also showed that high commitment and high involvement workplaces can be associated union voting propensity.

Our study shows that VGDs, as emblematic of contemporary project-based knowledge workers, may exhibit these desires. Specifically, our findings regarding the positive relationship between each of our access to voice variable and our satisfaction composite and the intention to vote for an industry union fit well with Freeman and Rogers’ (2006) conclusions that workers seek more voice even in the presence of voice or autonomy mechanisms and Godard’s (2009) conclusions that high commitment workplaces can introduce features that some workers perceive negatively. Our findings may also forge a connection to the multiple commitment literature (Meyer, Allen & Smith, 1993). Though the evidence is mixed, research has shown that workers can exhibit dual commitment to both their union and their organization in certain industrial relations climates (see Lee, 2004) and also dual commitment to their union and their profession or occupation (Campbell, 2013). On the whole, game developers are deeply committed to their occupation and

to their specific game project. Indeed, their ‘passion’ for the work is taken for granted and can be linked to heightened risk of exploitation (Harvey & Shepherd, 2016; Weststar & Legault, 2012). The results of our study seem to suggest that there is a group of game developers who believe that a union can help them to continue doing the work they love. Faced with high employment insecurity many do not want to leave their workplace, they feel that the experiences at other studios are no better, but they are no longer willing to make the sacrifices. In this context voice becomes particularly attractive.

This research may reinforce the notion of voice and mutual commitment in the desire to have a union. As such, it has the potential to help re-orient the thinking around union joining behaviors from factors rooted in negative experiences to those that have positive orientations toward employers, organizations or occupations. The evidence here seems to support the notion that the choice to have a union is not a destructive or unreasonable or contrary choice, but that even committed workers reject ‘own the soul’ working environments that ask too much of their authentic selves.

CONCLUSION

This paper contributes to the union renewal literature by examining the union voting propensity of a group of workers in the high-tech tertiary sector of video game development. We used exclusive data from a survey of VGDs working primarily in Anglo-Saxon countries to examine the factors related to voting propensity toward different forms of unionization. Specifically, our data indicated that 66% of VGDs would vote for a union at their studio and 34% would not. The percentage in favor increased to 82% when an industry union was considered. When looking at the factors related to voting propensity, our data indicated that the type of unionism matters and that industry unionism is a salient model for project-based knowledge workers. This is an important policy dimension given that the legal structures and norms in Anglo-Saxon countries tend to support decentralized enterprise-based unionism. It is also important for unions insofar as their organizing tactics remain geared toward a shop by shop approach or, at least, a localized geographical approach.

Furthermore, the ideology and approach of the union matters and representational agents need to fit contemporary employment contexts. Like other workers who turn to unions due to discontent, our results suggest that VGDs demand unions that can protect against poor treatment, but they also desire unions that can otherwise adapt to accepted norms of work demands. For instance, the results indicated that developers who worked under the Agile or Scrum game development process were 40% less likely to vote for an industry union compared to those whose studios have no specific process. As its name belies, the nature of the Agile approach is to reduce barriers to efficient work flow, increase communication across teams and with client groups, reinforce individual and team autonomy to solve problems, and allow for maximum flexibility and creativity in an iterative creation process. Though these goals are not always well met, the work ethos created by such tenets causes workers to make new demands of their governing and representative structures. Therefore, even in the face of moderate support for enterprise unionism and higher support for industry unionism, as they are traditionally conceived, the unions that will ultimately work best in the game industry are likely ones with less standardization, less bureaucracy, more room for creative problem-solving, reduced barriers between employee and manager and with a greater tolerance for unpredictability, merit evaluation and adaptation in working conditions (i.e. working time).

Though much more work is required in this area, our data lend support to the argument that high commitment and high involvement workplaces can engender a desire for collective representation and voice such as is offered through unionization. Whether this is because such workplaces step over a breaking point line where the requirement for full alignment with employer goals becomes untenable and a source of discontent, whether this represents the existence of dual commitment where a representative agent like a union is seen as necessary to protect the work that people love, or whether there is a combination of these forces is not yet clear, but is a critical area of future study for project-based knowledge workers.

Established industrial relations theories and frameworks of mobilization and collective action (in their most general and encompassing sense) were designed prior to 2000 and major transformations in the globalised knowledge economy. As a conclusion, we must note that these tools bear the mark of an economy dominated by manufacturing and bureaucracy. Though we

have found some similarities between our data and the general literature on why workers join unions, we feel that these tools are generally ill-equipped in capturing the dilemmas of project-based creative industries. Indeed, these workers are locally and internationally mobile, have unstable employment relationships, and face reputation-driven placement systems. These systems produce the double consequence of: 1) having to keep the success of the project and the satisfaction of the client as a priority; and 2) elevating the value of merit above any egalitarian union ideology and seniority system. These features limit the ability of mobilisation and collective action theories and models to account for the mobilisation desires and realities of these new knowledge workers. Therefore, future research would be well aided by quantitative approaches designed for the question at hand, and, perhaps more crucially, thorough qualitative approaches which can inform the design of future models and provide deep explanatory text.

REFERENCES

- Agarwal, R. & Ferratt, T. W. (2006). Validation of Human Resource Strategies in Information Technology. In *IT Workers: Human Capital Issues in a Knowledge-Based Environment*. F. Niederman & T. W. Ferratt, Eds. Charlotte, NC: Information Age Publishing. Chapter 1: 3-44.
- Amman, J, Carpenter, T & Neff, G. (2007). *Surviving the New Economy*. : Routledge.
- Beck, U. (1992). *Risk Society: Towards a New Modernity*. Thousand Oaks, CA: Sage Publications.
- Benner, C. & Dean, A. (2000). Labor in the new economy: Lessons from labor organizing in Silicon Valley. In *Nonstandard Work: The Nature and Challenges of Changing Employment Relationships*. F. Carré, M. Ferber, L. Golden & S. Herzenberg, Eds. Champaign, IL: Industrial Relations Research Association.
- Barley, S. & Kunda, G. (2004). *Gurus, Hired Guns and Warm Bodies: Itinerant Experts in a Knowledge Economy*. Princeton, NJ: Princeton University Press.
- Barling, J., Kelloway, K. & Bremmerman, E. (1991). Pre-employment predictors of union attitudes. *Journal of Applied Psychology*, 76(5): 725-731.
- Bronfenbrenner, K. (1997). The role of union strategies in NLRB certification elections. *Industrial and Labor Relations Review*, 50(2): 195-212.
- Bronfenbrenner, K. & Hickey, R. (2004). "Changing to organize: A national assessment of union strategies. In R. Milkman & K. Voss (eds.). *Rebuilding Labor: Organizers and Organizing in the New Union Movement*. Ithaca, NY: Cornell University Press.
- Cabrita, J. & Perista, H. (2006). Measuring job satisfaction in surveys: Comparative analytical report. Dublin, Ireland: Eurofound.
<https://www.eurofound.europa.eu/observatories/eurwork/comparative-information/measuring-job-satisfaction-in-surveys-comparative-analytical-report>
- Cardador, M.T., Grant, B.C., Lamare, J.R., & Northcraft, G.B. (2017, in press). To be or not to be unionized? A social dilemma perspective on a worker's decision to support union certification. *Human Resource Management Review*,
<http://dx.doi.org/10.1016/j.hrmr.2017.03.003>
- Campbell, S. (2013). The applicability of commitment models in a unionized professional workplace. *International Journal of Organizational Analysis*, 21(4): 488-503.

- Campbell, S. & Haiven, L. (2011). Struggles on the frontier of professional control: Leading cases from Canada. *Economic and Industrial Democracy*, 33(4): 669-689.
- Campolieti, M., Gomez, R. & Gunderson, M. (2011). What accounts for the representation gap? Decomposing Canada—US differences in the desire for collective voice. *Journal of Industrial Relations*, 53(4): 425-449.
- Connelly, C. & Gallagher, D. (2004). Emerging trends in contingent work research. *Journal of Management*, 30(6): 959-983.
- Devinatz, Victor G. (2003). “Imagine that—A wildcat at Biomed!” Organizational justice and the anatomy of a wildcat strike at a nonunion medical electronics factory. *Employee Responsibilities and Rights Journal*, 15(2): 55-70
- Devinatz, Victor G. (2005). High-tech production workers’ fear of unionizing: A Wheeler–McClendon model analysis of a union organizing campaign at a US medical electronics factory. *Employee Responsibilities and Rights Journal*, 17(3): 143–160
- Dyer-Witthford, N. & de Peuter, G. (2006). “EA Spouse” and the crisis of video game labor: Enjoyment, exclusion, exploitation, exodus. *Canadian Journal of Communication*, 31(3): 599-617.
- Edwards, K., Weststar, J., Meloni, W., Pearce, C. and Legault, M-J. (2014). 2014 Developer Satisfaction Survey: Summary Report. International Game Developers Association. <http://www.igda.org/?page=dss2014>
- Fields, D. L. (2002). Taking the measure of work: A guide to validated scales for organizational research and diagnosis. Thousand Oaks, CA: Sage Publications Inc.
- Fiorito, J. (2001). Human resource management practices and worker desire for representation. *Journal of Labor Research*, 12(2): 334-354.
- Fiorito, J. & Gallagher, D. (2013). Distrust of employers, collectivism, and union efficacy. *International Journal of E-Politics*, 4(4): 13-26.
- Fitsilis, P. (2008). Comparing PMBOK and Agile Project Management Software Development Processes. In *Advances in Computer and Information Sciences and Engineering*, edited by Tarek Sobh, pp. 378-383. Dordrecht: Springer Netherlands.
- Freeman, R. & Rogers, J. (2006). *What workers want*. Ithaca, NY: ILR Press.
- Godard, J. (1997). Beliefs about unions and what they should do: A survey of employed Canadians. *Journal of Labor Research*, 18(4): 621-639.

- Godard, J. (2008). Union Formation. In *Handbook of Industrial and Employment Relations*, edited by Paul Blyton, Ed Heery, Nick Bacon and Jack Fiorito, pp. 375-405. London: Sage Publications.
- Godard, J. (2009). Institutional environments, work and human resource practices, and unions: Canada versus England. *Industrial and Labor Relations Review*, 62(2): 173-199.
- Godard, J. (2011). Uncertainty and the correlates of union voting propensity: An organizing perspective. *Industrial Relations*, 50(3): 472-496.
- Gomez, R., Gunderson, M & Meltz, N. (2002). Comparing youth and adult desire for unionization in Canada. *British Journal of Industrial Relations*, 40(3): 521-42.
- Green, S.B. (1991). How many subjects does it take to do a regression analysis? *Multivariate Behavioral Research*, 26 (3), 499-510.
- Haiven, L. (2006). Expanding the union zone: Union renewal through alternative forms of worker organization. *Labor Studies Journal*, 31(3): 85-116.
- Harvey, A. & Shepherd, T. 2016. When passion isn't enough: Gender, affect and credibility in digital game design. *International Journal of Cultural Studies*. Pre-published online. 1-17. doi: 10.1177/1367877916636140
- Heneman, H. G. III & Schwab, D. P. (1985). Pay satisfaction: Its multidimensional nature and measurement. *International Journal of Psychology*, 20: 129-141.
- Hodgson, D. (2004). Project work: The legacy of bureaucratic control in the post-bureaucratic organization. *Organization*, 11(1): 81-100.
- Hurley, M. & Gindin, S. (September 6, 2015). Work overload: Time for a union strategy. *The Bullet*. E-Bulletin No. 1158.
- Kelly, J. (1998). *Rethinking Industrial Relations: Mobilization, Collectivism and Long Waves*. New York, NY: Routledge.
- Lee, J. (2004). Company and union commitment: Evidence from an adversarial industrial relations climate at a Korean auto plant. *International Journal of Human Resource Management*, 15(8): 1463-1480.
- Legault, M.-J. (2012). So into it they forget what time it is? Video game designers and unpaid overtime. In Jemielniak, D. & Marks, A. *Managing Dynamic Technology-Oriented Business: High-Tech Organizations and Workplaces*. Hershey, IGI Global, coll. Information Science Reference, 82-102.

- Legault, M.-J. (2013). IT firms' working time (de)regulation model. *Work, Organization, Labour and Globalisation*, 7(1).
- Legault, M.-J. & Weststar, J. (Oct. 2012). "More than the numbers: Independent Analysis of the IGDA 2009 Quality of Life Survey." <http://www.gameqol.org/igda-qol-survey/>
- Legault, M. J. & Weststar, J. (Jan 9, 2013). Are game developers standing up for their rights? *Gamasutra Features*.
http://www.gamasutra.com/view/feature/184504/are_game_developers_standing_up_.php
- Legault, M. J. & Weststar, J. (2014). "Comment jouer la régulation dans l'industrie du jeu vidéo?" *Relations Industrielles/Industrial Relations*, 69(1): 136-158.
- Legault, M. J. & Weststar, J. (2015a). The Capacity for Mobilization in Project-Based Cultural Work: A Case of the Video Game Industry. *Canadian Journal of Communication*, 40(2): 203-221.
- Legault, M.-J. & Weststar, J. (2015b). Working time among video game developers 2004-2014. <http://www.gameqol.org/igda-qol-survey/>
- Long, G. (2013). Difference between union and non-union compensation, 2001-2011. *Monthly Labor Review*. April. <https://www.bls.gov/opub/mlr/2013/04/art2full.pdf>
- Machin, S. & Wood, S. (2005). Human resource management as a substitute for trade unions in British workplaces. *Industrial & Labor Relations Review*, 58(2): 201-218.
- Meyer, J. Allen, N. & Smith, C. (1993). Commitment to organizations and occupations: Extension and test of a three-component conceptualization. *Journal of Applied Psychology*, 78(4): 538-551.
- Mishel, L. & Walters, M. (2003). How unions help all workers. Economic Policy Institute Briefing Paper 143. http://www.epi.org/publication/briefingpapers_bp143/
- Neff, G. (2012). *Venture Labor: Work and the Burden of Risk in Innovative Industries*. Cambridge, MA: MIT Press.
- O'Brien, R.M. (2007). A caution regarding rules of thumb for variance inflation factors. *Quality & Quantity* 41:673-690.
- O'Carroll, A. (2015). *Working time, knowledge work and post-industrial society: Unpredictable Work*. Hampshire, UK: Palgrave MacMillan.

- van Jaarsveld, D. (2004). Collective representation among high-tech workers at Microsoft and beyond: Lessons from WashTech/CWA. *Industrial Relations*, 43(2): 364-385.
- Visser, J. (2002). Why fewer workers join unions in Europe: A social custom explanation of membership trends. *British Journal of Industrial Relations*, 40(3): 403-430.
- Wanous, J., Reichers, A. & Hudy, M. (1997). How good are single-item measures? *Journal of Applied Psychology*, 82(2): 247-252.
- Peticca-Harris, A., Weststar, J. & McKenna, S. (2015). The perils of project-based work: Attempting resistance to extreme work conditions in video game development. *Organization*, 22(4): 570-587.
- Weststar, J. (2015). Understanding video game developers as an occupational community. *Information, Communication and Society*, 18(10):1238-1252.
- Weststar, J. & Legault, M.-J. (2012). Facts and discussion about hours of work in the video game industry. In A. Bracken & N. Guyot, (Eds). *Cultural perspectives of video games: From designer to player*. Oxford, UK: Interdisciplinary Press.
- Weststar, J. and Legault, M.-J. (2015). 2014 Developer Satisfaction Survey: Employment Report. International Game Developers Association. <http://www.igda.org/?page=dss2014>
- Yates, C. (2000). Staying the decline in union membership: Union organizing in Ontario, 1985-1999. *Relations industrielles/Industrial Relations*, 55(4): 640-671.

Endnotes

ⁱ A full correlation matrix was not included due to its size, but is available upon request.