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MULTIDIMENSIONAL WORK MOTIVATION SCALE VALIDATION STUDY OF THE ENGLISH VERSION IN AN ONLINE GIG WORK CONTEXT

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Abstract

The self-determination theory (SDT) is a macro theory of human motivation and personality that focuses on people's innate psychological needs and their desires for growth and development. The Multidimensional Work Motivation Scale (MWMS) is grounded in the SDT and was extensively researched and tested on different cultures, in different languages and in different contexts. The purpose of this research was to evaluate the applicability of the MWMS in a different and relatively new type of work, namely on online gig work. A sample of workers on the Clickworker.com platform (*N*=542) voluntarily answered the questionnaire. The result shows that, while most subscales are applicable in this context, the *Introjected regulation* subscale might need some adjustment for online work environments

Keywords: Self-determination theory (SDT); Multidimensional Work Motivation Scale (MWMS); gig economy; online gig work; factor analysis.

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Introduction

Gig economy

The gig economy is characterized by short-term labor contracting and the rise of non-traditional jobs, being facilitated by technological advancements (Donovan *et al.*, 2016; Oyer, 2020). It is also characterized by job decomposition, skillization, and capitalization of workers, as well as the integration of internal and external human capital (Zheng & Yang, 2020). The gig economy is also defined by the transformation of labor power into a commodity, mediated by digital platforms (Gandini, 2019). The gig economy has low barriers to entry and is influenced by local economic conditions (Huang *et al.*, 2020). This has led to a surge in independent contractors and temporary workers, creating both opportunities and challenges (Parigi & Ma, 2016). However, it is associated with insecure work, lack of choice and control, and disempowerment, particularly for young adults (MacDonald & Giazitzoglu, 2019).

MacDonald and Giazitzoglu (2019) and Wood and Lehdonvirta (2021) highlight the precarious nature of gig work, with the latter introducing the concept of "algorithmic insecurity" as a key issue. Tran and Sokas (2017) and Wood *et al.* (2019) further emphasize the vulnerability of gig workers to wage theft, job insecurity, and lack of occupational health protections. Wood *et al.* (2019) and Vega *et al.* (2021) discuss the trade-off between autonomy and control, with the former noting the role of algorithmic management in shaping gig work experiences. Zwick (2018) and Churchill *et al.* (2019) contextualize these issues within the broader neoliberal industrial relations and the changing labour market, respectively, with the latter also highlighting the gendered and generational inequalities in the gig economy.

The gig economy presents a range of regulatory challenges, with licensing and misclassification being the most prominent issues (Wardhana *et al.*, 2020). These challenges are further complicated by the need to respect workers' rights and the role of the state (Pulignano, 2019). The application of traditional labour regulations to gig work is uncertain, and there is a need for creative and ambitious regulatory frameworks (Stewart & Stanford, 2017). The classification and regulation of online platforms and gig workers, as well as the treatment of paid and unpaid work, are key regulatory questions (Koutsimpogiorgos *et al.*, 2020). The Fourth Industrial Revolution introduces additional challenges, such as labour displacement and the need for new regulatory approaches (de Ruyter *et al.*, 2018). Despite the growth of labour platforms, there has been a failure to effectively regulate gig work (Collier *et al.*, 2017).

The gig economy has also raised legal and policy questions, particularly regarding the protection of gig workers (Donovan *et al.*, 2016; Parigi & Ma, 2016) and the applicability of traditional labour regulations (Stewart & Stanford, 2017), ethical concerns related to algorithmic control and worker status (Tan *et al.*, 2021),

and the need for a regulatory framework and policy responses (Pulignano, 2019). Key issues include licensing, misclassification, safety, tax, externalities, wage, benefits, privacy, and discrimination (Wardhana *et al.*, 2020). The gig economy also challenges the traditional concept of employment, leading to the need for a new legal status and social protection for gig workers. These discussions highlight the complexity of gig work and the need for innovative legal and policy solutions. Despite its benefits, the gig economy has been criticized for shifting risk and responsibility onto workers (Woodcock & Graham, 2020).

Online gig work

Online gig work, a key component of the gig economy, is characterized by short-term contracts and is facilitated by digital platforms (Banik, 2019). This type of work can encompass a wide range of activities, from web-based tasks to location-based services (Bérastégui, 2021). It is particularly prevalent among women, who often use it as a supplemental source of income (Bruckner & Forman, 2021). However, gig work is not without its challenges, including psychosocial risks and the potential for algorithmic control (Wood, Graham, Lehdonvirta, *et al.*, 2019). There is also a need for regulation to ensure fair wages and working conditions (Wood, Graham, & Amir Anwar, 2019).

Online gig work presents a range of challenges, including viability, organizational, identity, relational, emotional, and career-path uncertainty (Caza *et al.*, 2022). These challenges are further complicated by the asynchronous nature of online group work, which requires skills in technology, human relationships, and content-related tasks (Chang & Kang, 2016). The rise of gig work has also raised concerns about its measurement and regulation (Riggs *et al.*, 2019), and the limitations of household surveys in tracking its growth (Abraham *et al.*, 2019). Ethical and practical labour issues, such as the dehumanization of online laborers, have also been identified (Bederson & Quinn, 2011). The gig economy has introduced its own demands and constraints, leading to the emergence of gig literacies (Sutherland *et al.*, 2020). Despite the perceived flexibility of gig work, workers face structural and cultural-cognitive constraints that limit their control over scheduling. The digital organization environment has further complicated gig work, leading to a range of dilemmas for gig workers (Lehdonvirta, 2018).

The psychosocial risks of online gig work are multifaceted. Bérastégui (2021) highlights the hazards associated with the organization and management of gig work, while Paridon and Hupke (2009) emphasizes the need for improved ergonomic conditions. Christie and Ward (2019) and underscore the potential for physical and mental health risks, with gig drivers experiencing road safety hazards and online work exacerbating mental health issues. Bajwa *et al.* (2018) and Glavin & Schieman (2022) further explore the vulnerabilities and financial strain experienced by gig workers, which can impact their mental health. The ethical considerations of online interventions in mental health care are also crucial

(Cosgrove *et al.*, 2017). Gross (2018) calls for policy measures to address the mental health implications of gig work, including financial instability and the feedback economy.

Algorithmic control in online gig work has both positive and negative implications. On one hand, it can provide workers with flexibility, autonomy, and task variety (Shen, 2022; Wood, Graham, Lehdonvirta, *et al.*, 2019). However, it can also lead to low pay, social isolation, and overwork (Wood, Graham, & Amir Anwar, 2019). Workers' perceptions of algorithmic control can influence their behaviour, with some perceiving it as a positive force (Wiener *et al.*, 2023). Workers may also develop algorithmic competencies to navigate and manipulate these systems (Jarrahi & Sutherland, 2019). However, the use of algorithms can also create boundaries that limit workers' career development (Duggan *et al.*, 2022). Overall, while algorithmic control can offer benefits, it also presents challenges that need to be addressed.

Self-Determination Theory and Work Satisfaction

Self-Determination Theory (SDT) is a comprehensive theory of human motivation, emphasizing the importance of intrinsic motivation and the fulfilment of basic psychological needs (Deci *et al.*, 2017; Deci & Ryan, 2008; Olafsen & Deci, 2020). It posits that individuals are naturally growth-oriented and seek out relationships, connections, and challenges that aid in their development (Gunasekare, 2016). The theory has been applied in various fields, including coaching, instruction, and leadership, where it has been found to promote human flourishing and consistent performance (Meany, 2023). In the workplace, SDT has been shown to be a useful tool for promoting autonomous motivation, high-quality performance, and wellness (Deci *et al.*, 2017). It has also been linked to the satisfaction of basic psychological needs and the types of motivation displayed by employees (Olafsen & Deci, 2020).

Work satisfaction, also known as job satisfaction, is a complex and multifaceted concept that encompasses an individual's feelings and attitudes towards their job. It is influenced by a variety of factors, including the fulfilment of needs and aspirations, the sense of accomplishment, and the presence of supportive working conditions and colleagues (Molla, 2015). Job satisfaction has a significant impact on employee motivation, productivity, and organizational performance (Rao & Karumuri, 2019). It is closely related to the quality of work and the success of an organization (Sypniewska, 2014). Job satisfaction is also a key determinant of professional and economic efficiency (Tokareva & Tokarev, 2016). However, it can be negatively affected by factors such as job-related stress (George & K.A., 2018).

Research on work satisfaction among online gig workers has identified several key factors. Technostress, which arises from the intense and technology-enabled nature of work, has been found to negatively impact job satisfaction (Umair *et al.*, 2019). The type of gig work also plays a role, with direct sales workers reporting

higher job satisfaction than sharing economy workers (Gleim *et al.*, 2019). The perception of behavioural control and the role of emotional labour have been found to mediate the relationship between these factors and job satisfaction (Marquis *et al.*, 2018). The use of the Internet for professional purposes has been shown to enhance job satisfaction, particularly for workers in certain occupations and with higher income and education levels (Castellacci & Viñas-Bardolet, 2019). The number of benefits received and employment status have been identified as predictive factors for job satisfaction (Koncar & Helic, 2020). The demand-resource model and overall life satisfaction have also been found to influence satisfaction with work-life balance among freelancers (Davis *et al.*, 2014). Lastly, precarious work behaviour has been linked to career satisfaction among online entrepreneurs (Hamid *et al.*, 2018).

Methodology

The Multidimensional Work Motivation Scale (MWMS) has been extensively studied and validated in various contexts and languages. Gagné *et al.* (2010) identified four types of motivation, while in Gagné *et al.* (2014) and dos Santos *et al.* (2022) we can find confirmation of the scale's cross-cultural validity. Gagné *et al.* (2010, 2014) and dos Santos (2022) also provided additional validation evidence in different languages and countries. Posch *et al.* (2019) and Neves & Coimbra (2018) further validated the scale in the context of crowd workers and teachers, respectively, with Neves *et al.* identifying demotivation as a key dimension. Smokrović *et al.* (2018) and Trépanier *et al.* (2022) both found the scale to be reliable and valid.

The MWMS was applied on the Clickworker platform, a global online platform that connects freelancers with businesses and individuals who need help with various micro-tasks and digital projects. It operates as a crowdsourcing marketplace, facilitating tasks that require human intelligence and cannot be readily automated. The study was carried out between March 9th 2023 and June 6th 2023 using the Clickworker platform in order to make sure all respondents are working on at least one online work platform, clickworker.com in our case. The inclusion criteria in selecting the participants were the location, they had to be from the European Union, to be English speakers, as the questionnaire was provided only in this language, and to be at least 18 years old.

Most of the respondents were from Germany (133 – 24.5%), Italy (84 – 15.5%), Spain (80 – 14.8%), France (53 – 9.8%), Portugal (53 – 9.8%), Austria (36 – 6.6%), Romania (31 – 5.7%), the other 13.3% of participants being from other countries, in small numbers, for a total of $N = 542$ participants. Of these participants, 46.7% are women, 53% are men and 0.4% prefer not to say. The age of the participants is between 18 and 75, with the mean (M) = 36.77 and a standard deviation (SD) = 10.578.

Table 1 presents the respondent's employment status, other than online work platforms. As we can see, most of both males and females also work classic jobs, either full or part time, or are self-employed. The most important difference here is the significantly higher number of males working full-time jobs compared to females, the numbers being reversed when talking about part-time jobs.

Table 1. Employment status

Employment status, not counting online work platforms	Female	Male	Prefer not to say
Employed full-time (40+ hours a week)	88	155	0
Employed part-time (less than 40 hours a week)	46	25	1
Self-employed	40	41	0
Student	21	26	0
Unemployed (currently looking for work)	23	23	0
Unemployed (currently not looking for work)	19	5	0
Retired	5	7	0
Never been employed	3	2	1
Other	8	3	0
Total	253	287	2

As shown in Table 2, most participants spend less than 10 hours per week working online on work platforms and the difference between males and females is not significant, both genders presenting similar work time patterns.

Table 2. Time spent working online

| Time spent working on online work platforms	Female	Male	Prefer not to say
Less than 5 hours/week	128	123	0
5-10 hours/week	61	81	0
10-20 hours/week	32	38	2
20-30 hours/week	19	22	0
30-40 hours/week	6	18	0
More than 40 hours/week	7	5	0
Total	253	287	2

Results and discussion

For the Multidimensional Work Motivation Scale's internal reliability analysis, we used the Cronbach Alpha coefficient, which has a value of .91, value that sits well above the minimum acceptable threshold, indicating a high level of reliability. The results of internal consistency, item-total and inter-item correlations are presented in Table 3. Cronbach alpha coefficients for all the scale's components were above .82, which is a very good indicator that all components are internally consistent even though the components consist of only 3 (with one exception of 4) factors. The lowest item-total correlation was .62 (item ExtMat3).

Table 3. Results of the MWMS

Construct	Cronbach alpha	Item	Cronbach's alpha if item deleted	Item-total correlation	Inter-item correlations* (range)
Amotivation		Am1	.87	.76	
	.89	Am2	.83	.80	[.70, .76]
		Am3	.83	.79	
External regulation (Social)		ExtSoc1	.88	.85	
	.92	ExtSoc2	.90	.83	[.79, .82]
		ExtSoc3	.88	.85	
External regulation (Material)		ExtMat1	.74	.68	
	.82	ExtMat2	.70	.70	[.55, .66]
		ExtMat3	.80	.62	
Introjected regulation		Introj1	.80	.69	
		Introj2	.80	.67	
	.85	Introj3	.92	.64	[.44, .79]
		Introj4	.78	.72	
Identified regulation		Ident1	.84	.85	
	.90	Ident2	.89	.78	[.72, .81]
		Ident3	.87	.81	
Intrinsic motivation		Intrin1	.89	.80	
	.91	Intrin2	.87	.82	[.75, .80]
		Intrin3	.86	.84	

Component validity was tested with the factor analysis based on eigenvalue > 1, the results of which are presented in Table 4, while in Graph 1 we present the scree plot. The results of the Bartlett's test of sphericity is 8131,762, (171), $p <$ .001 and the Kaiser-Meyer-Olkin coefficient of .912 indicate that the sample data is suitable for factor analysis. The initial eigenvalues were 7.98, 3.82, 1.40 and 1.11. These four factors accounted for 75.29% of variance.
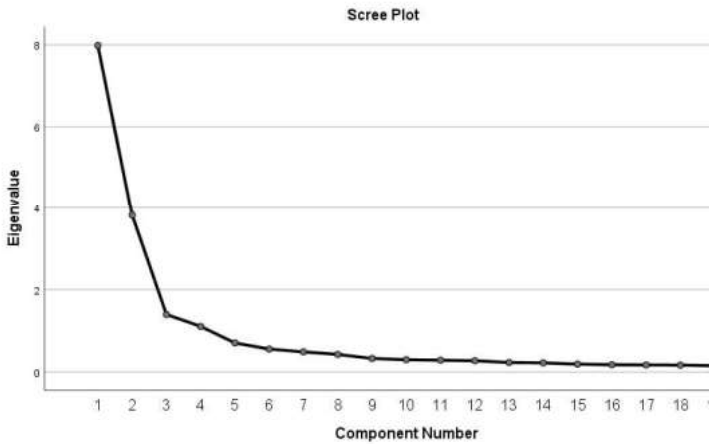
Graph 1. Scree Plot

Table 4. Factor Analysis based on Eigenvalue > 1

Construct Items	Fact.1	Fact.2	Fact.3	Fact.4
Intrinsic motivation				
Intrin1: Because the work I do is interesting.	0.865			
Intrin2: Because what I do in my work is exciting.	0.856			
Intrin3: Because I have fun doing my job.	0.860			
Identified regulation				
Ident1: Because I personally consider it important to put efforts in this job.	0.819			
Ident2: Because putting efforts in this job aligns with my personal values.	0.791			
Ident3: Because putting efforts in this job has personal significance to me.	0.784			
Introjected regulation				
Introj1: Because I have to prove to myself that I can.	0.658	0.444		
Introj2: Because it makes me feel proud of myself.	0.735	0.386		
Introj3: Because otherwise I will feel ashamed of myself.		0.809		
Introj4: Because otherwise I will feel bad about myself.		0.766		

Extrinsic regulation - social				
ExtSoc1: To get others' approval (e.g., supervisor, colleagues, family, clients...).		0.782		
ExtSoc2: Because others will respect me more (e.g., supervisor, colleagues, family, clients...).		0.771		
ExtSoc3: To avoid being criticized by others (e.g., supervisor, colleagues, family, clients...).		0.801		
Extrinsic regulation - material				
ExtMat1: Because others will reward me financially only if I put enough effort in my job (e.g., employer, supervisor...).				0.887
ExtMat2: Because others offer me greater job security if I put enough effort in my job (e.g., employer, supervisor...).				0.787
ExtMat3: Because I risk losing my job if I don't put enough effort in it.				0.651
Amotivation				
Am1: I don't struggle because I really feel that I'm wasting my time at work.			0.846	
Am2: I do little because I don't think this work is worth putting efforts into.			0.886	
Am3: I don't know why I'm doing this job, it's pointless work.			0.852	
Eigenvalues (rotated solution)	5.49	4.02	2.58	2.21
Total variance (%) by factors (rotated solution)	28.90	21.18	13.59	11.62

The MWMS items did not load on a six-factor structure as in Gagné *et al.* (2014), but we believe it is worth mentioning that, following the model by Gagné *et al.* (2014) and doing a six-factor extraction, the initial eigenvalues of factors five and six are .71 and .56, values that are considered too low. Similarly to the four-factor model, items *Introj1* and *Introj2* loaded on the same factor with the whole *Identified regulation* construct and only cross-loaded (.40 and .33) with the factor containing items *Introj3* and *Introj4*. On the other hand, differently from the four-factor model, items *Introj3* and *Introj4* loaded in a separate factor, not on the same one as the *Extrinsic regulation – social* construct, but cross-loaded with it (.44 and .58).

The difference in the number of factors obtained, four in this study's case, six in other studies (Gagné *et al.*, 2014; Smokrović *et al.*, 2018) could be explained by the different work environment of the participants, online in this study's case, versus offline, in classical jobs, in the other studies, or by the fact that gig workers are doing different small tasks every day or even in a single day, versus classical

employees, who are doing mainly the same thing, albeit with some variation in most of the cases.

According to Tremblay *et al.* (2009), the different types of motivation can be aligned along a continuum that begins, at the low end, with amotivation that is followed by external regulation, after which comes introjected regulation and identified regulation, and finishing, at the high end, with integrated regulation. This continuum of the types of motivations could be an explanation for the item loadings in this study. As shown in other studies (Neves & Coimbra, 2018), all items belonging to the *Intrinsic (Integrated) motivation* and the *Identified regulation* constructs are loading on the same factor, but here we also have two of the items from the *Introjected regulation* construct. These three constructs are consecutive on the motivation continuum described above (Tremblay *et al.*, 2009). In a similar way, the other two items of the *Introjected regulation* construct are loading on the same factor with all items of the *Extrinsic (External) social regulation* construct, these two constructs being also consecutive on continuum described by Tremblay *et al.* (2009).

Conclusion

The objective of this study was to validate the MWMS, an instrument based on the multidimensional concept of motivation from the self-determination theory. The scale has been extensively tested in different languages and cultures by its authors (Gagné *et al.*, 2014) and others (dos Santos *et al.*, 2022; Neves & Coimbra, 2018; Smokrović *et al.*, 2018; Trépanier *et al.*, 2022) and showed good results.

In our study, in an online gig work context, that differs from all other contexts this scale was applied in, we showed that the items are not all very good indicators of the scale's constructs and that the factors are not as adequately individualized like in the other studies using this scale. In our case, the scale demonstrated four factors of which: two contain the exact items of two different constructs namely the *Amotivation* and the *Material extrinsic regulation*; another factor contains all the items corresponding to the *Social extrinsic regulation* construct and two items corresponding to the *Introjected regulation* construct, and the fourth factor contains all items corresponding to two different constructs (*Intrinsic motivation* and *Identified regulation*) and two items corresponding to the *Introjected regulation* construct. The *Intrinsic motivation* and *Identified regulation* sub-scales have been known to be difficult to separate statistically (Neves & Coimbra, 2018).

The differences found between the scale's constructs and the factor structure are not immense considering that the concepts are linked and positioned on a continuum, their loadings into factors being consistent with the theory, but this result shows that, while most subscales are applicable in this context, the

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Introjected regulation subscale might need some adjustment for online work environments.

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References

Abraham, K. G., Haltiwanger, J., Sandusky, K., & Spletzer, J. (2019). The Rise of the Gig Economy: Fact or Fiction? *AEA Papers and Proceedings*, *109*, 357-361; DOI: 10.1257/pandp.20191039.

Bajwa, U., Gastaldo, D., Di Ruggiero, E., & Knorr, L. (2018). The health of workers in the global gig economy. *Globalization and Health*, *14*(1), 124; DOI: 10.1186/s12992-018-0444-8.

Banik, N. (2019). *Could Online Gig Work Drive Economic Growth* (World Economy Brief). Korea Institute for International Economic Policy. https://ideas.repec.org/p/ris/kiepwe/2019_017.html.

Bederson, B. B., & Quinn, A. J. (2011). Web workers unite! Addressing challenges of online laborers. *CHI'11 Extended Abstracts on Human Factors in Computing Systems*, 97–106; DOI: 10.1145/1979742.1979606.

Bérastégui, P. (2021). Exposure to Psychosocial Risk Factors in the Gig Economy: A Systematic Review. *SSRN Electronic Journal*; DOI: 10.2139/ssrn.3770016.

Bruckner, C., & Forman, J. B. (2021). Shoring Up Shortfalls: Women, Retirement and the Growing Gigsupp Economy. *SSRN Electronic Journal*; DOI: 10.2139/ssrn.3801283.

Carlos Alvarez de la Vega, J., E. Cecchinato, M., & Rooksby, J. (2021). "Why lose control?" A Study of Freelancers' Experiences with Gig Economy Platforms. *Proceedings of the 2021 CHI Conference on Human Factors in Computing Systems*, 1–14; DOI: 10.1145/3411764.3445305.

Castellacci, F., & Viñas-Bardolet, C. (2019). Internet use and job satisfaction. *Computers in Human Behavior*, *90*, 141-152; DOI: 10.1016/j.chb.2018.09.001.

Caza, B. B., Reid, E. M., Ashford, S. J., & Granger, S. (2022). Working on my own: Measuring the challenges of gig work. *Human Relations*, *75*(11), 2122–2159; DOI: 10.1177/00187267211030098

Chang, B., & Kang, H. (2016). Challenges facing group work online. *Distance Education*, *37*(1), 73-88; DOI: 10.1080/01587919.2016.1154781.

Christie, N., & Ward, H. (2019). The health and safety risks for people who drive for work in the gig economy. *Journal of Transport & Health*, *13*, 115-127; DOI: 10.1016/j.jth.2019.02.007.

Churchill, B., Ravn, S., & Craig, L. (2019). Gendered and generational inequalities in the gig economy era. *Journal of Sociology*, *55*(4), 627-636; DOI: 10.1177/1440783319893754.

Collier, R. B., Dubal, V. B., & Carter, C. (2017). Labor Platforms and Gig Work: The Failure to Regulate. *SSRN Electronic Journal*; DOI: 10.2139/ssrn.3039742.

Cosgrove, V., Gliddon, E., Berk, L., Grimm, D., Lauder, S., Dodd, S., Berk, M., & Suppes, T. (2017). Online ethics: Where will the interface of mental health and the internet lead us? *International Journal of Bipolar Disorders*, *5*(1), 26; DOI: 10.1186/s40345-017-0095-3.

Davis, S. N., Shevchuk, A., & Strebkov, D. (2014). Pathways to Satisfaction with Work-Life Balance: The Case of Russian-Language Internet Freelancers. *Journal of Family and Economic Issues*, *35*(4), 542-556; DOI: 10.1007/s10834-013-9380-1.

de Ruyter, A., Brown, M., & Burgess, J. (2018). Gig work and the Fourth Industrial Revolution: Conceptual and Regulatory Challenges. *Journal of International Affairs*, *72*(1), 37-50.

Deci, E. L., Olafsen, A. H., & Ryan, R. M. (2017). Self-Determination Theory in Work Organizations: The State of a Science. *Annual Review of Organizational Psychology and Organizational Behavior*, *4*(1), 19-43; DOI: 10.1146/annurev-orgpsych-032516-113108.

Deci, E. L., & Ryan, R. M. (2008). Self-determination theory: A macrotheory of human motivation, development, and health. *Canadian Psychology / Psychologie Canadienne*, *49*(3), 182-185; DOI: 10.1037/a0012801.

Donovan, S. A., Bradley, D. H., & Jon O Shimabukuru. (2016). *What Does the Gig Economy Mean for Workers*. Congressional Report Service. https://sgp.fas.org/crs/misc/R44365.pdf.

dos Santos, N. R., Mónico, L., Pais, L., Gagné, M., Forest, J., Cabral, P. M. F., & Ferraro, T. (2022). The multidimensional work motivation scale: Psychometric studies in Portugal and Brazil. *Management Research: Journal of the Iberoamerican Academy of Management*, *20*(2), 89-110; DOI: 10.1108/mrjiam-07-2021-1206.

Duggan, J., Sherman, U., Carbery, R., & McDonnell, A. (2022). Boundaryless careers and algorithmic constraints in the gig economy. *The International Journal of Human Resource Management*, *33*(22), 4468–4498; DOI: 10.1080/09585192.2021.1953565.

Gagné, M., Forest, J., Gilbert, M.-H., Aubé, C., Morin, E., & Malorni, A. (2010). The Motivation at Work Scale: Validation Evidence in Two Languages. *Educational and Psychological Measurement*, *70*(4), 628–646; DOI: 10.1177/0013164409355698.

Gagné, M., Forest, J., Vansteenkiste, M., Crevier-Braud, L., van den Broeck, A., Aspeli, A. K., Bellerose, J., Benabou, C., Chemolli, E., Güntert, S. T., Halvari, H., Indiyastuti, D. L., Johnson, P. A., Molstad, M. H., Naudin, M., Ndao, A., Olafsen, A. H., Roussel, P., Wang, Z., & Westbye, C. (2014). The Multidimensional Work Motivation Scale: Validation evidence in seven languages and nine countries. *European Journal of Work and Organizational Psychology*, *24*(2), 178–196; DOI: 10.1080/1359432x.2013.877892.

Gandini, A. (2019). Labour process theory and the gig economy. *Human Relations*, *72*(6), 1039–1056; DOI: 10.1177/0018726718790002.

George, E., & K.A., Z. (2018). Job Satisfaction and Job-Related Stress. In E. George & Z. K.A. (Eds.), *Psychological Empowerment and Job Satisfaction in the Banking Sector* (pp. 87-126). Palgrave Pivot; DOI: 10.1007/978-3-319-94259-9_4.

Glavin, P., & Schieman, S. (2022). Dependency and Hardship in the Gig Economy: The Mental Health Consequences of Platform Work. *Socius: Sociological Research for a Dynamic World*, *8*, 1-13; DOI: 10.1177/23780231221082414.

Gleim, M. R., Johnson, C. M., & Lawson, S. J. (2019). Sharers and sellers: A multi-group examination of gig economy workers' perceptions. *Journal of Business Research*, *98*, 142-152; DOI: 10.1016/j.jbusres.2019.01.041.

Gross, S.-A., Musgrave, G., & Janciute, L. (2018). *Well-Being and Mental Health in the Gig Economy: Policy Perspectives on Precarity* (Vol. 4). University of Westminster Press; JSTOR. http://www.jstor.org/stable/j.ctv5vdf26.

Gunasekare, U. L. T. P. (2016). Self Determination Theory (SDT): A review on SDT as a Complementary Theory of Motivation. *Kelaniya Journal of Human Resource Management*, *11*(1), 58; DOI: 10.4038/kjhrm.v11i1.28.

Hamid, S. F., Ishak, N. A., Hussein, N., & Hussain, I. A. (2018). Precarious Work Behaviour on Career Satisfaction. *Social and Management Research Journal*, *15*(2), 119; DOI: 10.24191/smrj.v15i2.5003

Huang, N., Burtch, G., Hong, Y., & Pavlou, P. A. (2020). Unemployment and Worker Participation in the Gig Economy: Evidence from an Online Labor Market. *Information Systems Research*, *31*(2), 431–448; DOI: 10.1287/isre.2019.0896.

Jarrahi, M. H., & Sutherland, W. (2019). Algorithmic Management and Algorithmic Competencies: Understanding and Appropriating Algorithms in Gig Work. In N. G. Taylor, C. Christian-Lamb, M. H. Martin, & B. Nardi (Eds.), *Information in Contemporary Society* (Vol. 11420, pp. 578-589). Springer International Publishing; DOI: 10.1007/978-3-030-15742-5_55.

Koncar, P., & Helic, D. (2020). Employee Satisfaction in Online Reviews. In S. Aref, K. Bontcheva, M. Braghieri, F. Dignum, F. Giannotti, F. Grisolia, & D. Pedreschi (Eds.), *Social Informatics* (pp. 152-167). Springer International Publishing.

Koutsimpogiorgos, N., Van Slageren, J., Herrmann, A. M., & Frenken, K. (2020). Conceptualizing the Gig Economy and Its Regulatory Problems. *Policy & Internet*, *12*(4), 525-545; DOI: 10.1002/poi3.237.

Lehdonvirta, V. (2018). Flexibility in the gig economy: Managing time on three online piecework platforms. *New Technology, Work and Employment*, *33*(1), 13-29; DOI: 10.1111/ntwe.12102.

MacDonald, R., & Giazitzoglu, A. (2019). Youth, enterprise and precarity: Or, what is, and what is wrong with, the 'gig economy'? *Journal of Sociology*, *55*(4), 724-740; DOI: 10.1177/1440783319837604.

Marquis, E. B., Kim, S., Alahmad, R., Pierce, C. S., & Robert Jr., L. P. (2018). Impacts of Perceived Behavior Control and Emotional Labor on Gig Workers. *Companion of the 2018 ACM Conference on Computer Supported Cooperative Work and Social Computing*, 241-244; DOI: 10.1145/3272973.3274065.

Meany, B. C. (2023). Review of self-determination theory and its application in coaching, instruction, and leadership. *MOJ Sports Medicine*, *6*(1), 50-52; DOI: 10.15406/mojsm.2023.06.00139.

Molla, Md. I. H. (2015). Ensuring Job Satisfaction for Managing People at Work. *Global Disclosure of Economics and Business*, *4*(2), 155-166; DOI: 10.18034/gdeb.v4i2.144.

Neves, L., & Coimbra, J. L. (2018). Validation Study in the Educational Context of the Portuguese Version of the Multidimensional Work Motivation Scale. *Paidéia (Ribeirão Preto)*, *28*(0); DOI: 10.1590/1982-4327e2803.

Olafsen, A. H., & Deci, E. L. (2020). Self-Determination Theory and Its Relation to Organizations. In A. H. Olafsen & E. L. Deci, *Oxford Research Encyclopedia of Psychology*. Oxford University Press; DOI: 10.1093/acrefore/9780190236557.013.112.

Oyer, P. (2020). The gig economy. *IZA World of Labor*; DOI: 10.15185/izawol.471.

Paridon, H. M., & Hupke, M. (2009). Psychosocial Impact of Mobile Telework: Results from an Online Survey. *Europe's Journal of Psychology*, *5*(1); DOI: 10.5964/ejop.v5i1.282.

Parigi, P., & Ma, X. (2016). The gig economy. *XRDS: Crossroads, The ACM Magazine for Students*, *23*(2), 38-41; DOI: 10.1145/3013496.

Posch, L., Bleier, A., Lechner, C. M., Danner, D., Flöck, F., & Strohmaier, M. (2019). Measuring Motivations of Crowdworkers: The Multidimensional Crowdworker Motivation Scale. *ACM Transactions on Social Computing*, *2*(2), 1-34; DOI: 10.1145/3335081.

Pulignano, V. (2019). Work and Employment under the Gig Economy. *Partecipazione e Conflitto*, *12*(3), 629-639; DOI: 10.1285/I20356609V12I3P629.

Rao, K. S., & Karumuri, V. (2019). Job satisfaction: A conceptual framework. *EPRA International Journal of Multidisciplinary Research*, *5*(9), 191-198.

Riggs, L., Sin, I., & Hyslop, D. (2019). *Measuring the 'gig' economy: Challenges and options* [Motu Working Paper]. Motu Economic and Public Policy Research; DOI: 10.29310/WP.2019.18

Shen, L. (2022). The Impact of Algorithmic Control on Human Resource Management in the Gig Economy. *Scientific Journal of Economics and Management Research*, *4*(7), 1-6.

Smokrović, E., Francl Žvanut, M., Bajan, A., Radić, R., & Žvanut, B. (2018). Translation and validation of the Croatian version of the Multidimensional Work Motivation Scale. *Management Journal of Contemporary Management Issues*, *23*(1), 193–202; DOI: 10.30924/mjcmi/2018.23.1.193.

Stewart, A., & Stanford, J. (2017). Regulating work in the gig economy: What are the options? *The Economic and Labour Relations Review*, *28*(3), 420–437; DOI: 10.1177/1035304617722461.

Sutherland, W., Jarrahi, M. H., Dunn, M., & Nelson, S. B. (2020). Work Precarity and Gig Literacies in Online Freelancing. *Work, Employment and Society*, *34*(3), 457-475; DOI: 10.1177/0950017019886511.

Sypniewska, B. A. (2014). Evaluation of Factors Influencing Job Satisfaction. *Contemporary Economics*, *8*(1), 57-72; DOI: 10.5709/ce.1897-9254.131.

Tan, Z. M., Aggarwal, N., Cowls, J., Morley, J., Taddeo, M., & Floridi, L. (2021). The ethical debate about the gig economy: A review and critical analysis. *Technology in Society*, *65*, 101594; DOI: 10.1016/j.techsoc.2021.101594.

Tokareva, Y., & Tokarev, A. (2016). *Job satisfaction as a factor of professional and economic efficiency*. The 10th International Days of Statistics and Economics, Prague.

Tran, M., & Sokas, R. K. (2017). The Gig Economy and Contingent Work: An Occupational Health Assessment. *Journal of Occupational & Environmental Medicine*, *59*(4), e63-e66; DOI: 10.1097/JOM.0000000000000977.

Tremblay, M. A., Blanchard, C. M., Taylor, S., Pelletier, L. G., & Villeneuve, M. (2009). Work Extrinsic and Intrinsic Motivation Scale: Its value for organizational psychology research. *Canadian Journal of Behavioural Science / Revue Canadienne Des Sciences Du Comportement*, *41*(4), 213-226; DOI: 10.1037/a0015167.

Trépanier, S.-G., Peterson, C., Gagné, M., Fernet, C., Levesque-Côté, J., & Howard, J. L. (2022). Revisiting the Multidimensional Work Motivation Scale (MWMS). *European Journal of Work and Organizational Psychology*, *32*(2), 157-172; DOI: 10.1080/1359432x.2022.2116315.

Umair, A., Conboy, K., & Whelan, E. (2019). *Understanding the Influence of Technostress on Workers' Job Satisfaction in GIG-Economy: An Exploratory Investigation*. The 27th European Conference on Information Systems (ECIS), Stockholm & Uppsala, Sweden.

Wardhana, V. H. K., Herlina, M. G., Bangsawan, S., & Tuori, M. A. T. (2020). Regulatory Developments in the Gig Economy: A Literature Review. *The Winners*, *21*(2), 141-153; DOI: 10.21512/tw.v21i2.6758.

Wiener, M., Cram, W. A., & Benlian, A. (2023). Algorithmic control and gig workers: A legitimacy perspective of Uber drivers. *European Journal of Information Systems*, *32*(3), 485-507; DOI: 10.1080/0960085X.2021.1977729.

Wood, A. J., Graham, M., & Amir Anwar, M. (2019). Minimum Wages for Online Labor Platforms?: Regulating the Global Gig Economy. In A. Larsson & R. Teigland, *The Digital Transformation of Labor (Open Access): Automation, the Gig Economy and Welfare*. Routledge.

Wood, A. J., Graham, M., Lehdonvirta, V., & Hjorth, I. (2019). Good Gig, Bad Gig: Autonomy and Algorithmic Control in the Global Gig Economy. *Work, Employment and Society*, *33*(1), 56-75; DOI: 10.1177/0950017018785616.

Wood, A. J., & Lehdonvirta, V. (2021). Platform Precarity: Surviving algorithmic insecurity in the gig economy. *SSRN Electronic Journal*; DOI: 10.2139/ssrn.3795375.

Woodcock, J., & Graham, M. (2020). *The gig economy: A critical introduction*. Polity.

Zheng, Q., & Yang, W. (2020). *The Characteristics of The Gig Economy* [Preprint]. Economics; DOI: 10.33774/coe-2020-ldcpg.

Zwick, A. (2018). Welcome to the Gig Economy: Neoliberal industrial relations and the case of Uber. *GeoJournal*, *83*(4), 679-691; DOI: 10.1007/s10708-017-9793-8.