Outcomes of engagement: A systematic literature review and future research directions

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ABSTRACT

This study aims to present a systematic literature review of high-quality contributions in the research area of engagement focusing on studies that examine engagement outcomes. More specifically, a systematic review of the relevant literature on engagement outcomes is conducted providing a broad range of knowledge regarding the overall scope and the extent of each peer-reviewed article. Moreover, the study takes into consideration three types of engagement, i.e., work, employee, and job engagement, categorizing individual-level as well as organization-level outcomes of engagement. Additionally, based on a thorough examination of engagement outcomes, a further purpose of this study is to classify each engagement outcome factor into more general categories in respect of individual- and organizational-level outcomes of engagement. The systematic literature review was conducted drawing on an evidence base of 50 articles published in high-ranking journals during the years 2000–2022. The final results provide quantitative data regarding the scope and the extent of each article and map the individual- and organization-level outcomes of work, employee, and job engagement through an in-depth overview of the literature. Finally, future research directions are identified by providing added value to scholars interested in the engagement field of research.

1. Introduction

In the past two decades, there is a growing interest in the topic of engagement in both academic research and various business sectors. The term engagement comes from the distinguished psychologist Kahn [1], who developed the concept of personal engagement. According to Kahn [1], "*People bring in or leave out their personal selves during work-role performances, investing in physical, cognitive, and emotional energies into their work*". More specifically, employees are willing to work harder for their organization's interest as they are mentally involved and emotionally connected to their job.

Engagement is different from terms like employee commitment, satisfaction and motivation [2]. It is characterized by a strong emotional attachment to one's job, which motivates individuals to work at their best and strive for better outcomes. This emotional commitment encourages employees to invest their energy and effort into their work, resulting in higher levels of performance and productivity [3,4]. For example, Kwon and Kim [4] defined engagement as "*an activated state of full selves to bring something different to work*", while Shuck et al. [3] argue that employee engagement is a multidimensional construct that comprises cognitive, emotional, and behavioral components. They suggest that cognitive engagement involves employees' mental absorption and focus on their work,

emotional engagement involves employees' positive feelings and attitudes toward their work and organization, and behavioral engagement involves employees' willingness to go above and beyond their job requirements.

The most common types of engagement that have been examined in the extant literature are work, employee, and job engagement. Therefore, several studies consider and measure them as different constructs. For example, Schaufeli [5] examined "work engagement" considering it as the relationship of employees with their work. According to Schaufeli [5] and Schaufeli et al. [6], the definition of work engagement is more specific than the definition of employee engagement as the former focuses on employees' personal investment in their work which is characterized by vigor, dedication, and absorption on work. On the contrary, employee engagement focuses on the employees' relationship with both their work and the organization. More specifically, Saks [7] argued that employee engagement consists of job and organizational engagement meaning that employees are emotionally, cognitively, and behaviorally attached to both their job and their organization [8]. Even though work and job engagement have a similar meaning, several studies [1, 9] argue that job engagement involves a motivational process through which employees allocate their personal resources in an intensive and persistent way regarding their job performance.

Most studies [7,10,11] have examined engagement as a mediating factor which is affected by various constructs (antecedents) and affects various organizational outcomes. However, conceptual studies [12,13] have mostly focused on the antecedents of engagement, without taking into consideration the existing literature's valuable information regarding engagement-related outcomes. More specifically, in the systematic literature review, Wollard and Shuck [12] found 42 conceptual and empirically driven individual and organizational antecedents. Similarly, Kossyva et al. [13] conducted a systematic literature review regarding the definitions and antecedents of engagement taking into account articles published in highly regarded journals retrieved from the Academic Journal Guide (2018) during the years 2000–2021. The authors categorized antecedents of both work and employee engagement into individual- and organizational level finding 68 individual-level antecedents and 54 organizational-level antecedents overall. Moreover, this study [13] went one step further by classifying each factor into more general categories.

Additionally, several studies [14–16] highlight the need for further research to deepen our understanding of the outcomes of engagement, suggest that a broader perspective on engagement outcomes can help to advance our understanding of the relationship between engagement and employee (i.e., individual) and organizational outcomes. More specifically, Christian, Garza, and Slaughter [14] argue that existing research on engagement outcomes has focused primarily on individual-level outcomes, such as job satisfaction and performance, and that there is a need to expand the scope of research to include organizational-level outcomes. They suggest that by doing so, researchers and practitioners can gain a more complete understanding of the benefits of engagement and develop more effective strategies for promoting engagement and achieving these outcomes. Additionally, it was suggested that a better understanding of the outcomes of engagement is necessary to inform organizational policies and practices that can foster engagement [15]. Furthermore, Bailey et al. [16], highlight the need for further research to deepen our understanding of the mechanisms and processes that underlie the outcomes of engagement, as well as to explore its potential negative consequences.

The present study aims to conduct a systematic review of the existing literature on engagement outcomes, with a focus on high-quality research studies. This involves a comprehensive and rigorous examination of the existing body of literature to synthesize and analyze the findings related to engagement outcomes. More specifically, the study examines the scope, methodology, data analysis techniques, and geographical and industry coverage of the articles identified in the systematic review. This information offers a broad overview of the literature's scope and depth on engagement outcomes as well as insights into the study methodologies and contexts in which engagement outcomes have been researched.

Furthermore, the study categorizes the outcomes of engagement into individual- and organizational-level factors, building on the taxonomy proposed by Kossyva et al. [13]. Therefore, following Kossyva et al. [13] study, the present study provides a taxonomical classification of the existing literature on the outcomes of engagement considering work, employee, and job engagement by further categorizing each individual or organizational factor into a more general category. This classification sheds light on the key areas of focus in the literature on engagement outcomes. Additionally, the study outlines a future research agenda to guide further research in the field of engagement, serving as a reference point for the academic community and practitioners interested in engagement research.

The structure of the study consists of four sections. The first section presents the research methodology which includes four phases. Furthermore, the systematic literature review process is depicted and presented. In the second section, the analysis of results is reported which is based on the data extracted from the review process. The third section provides the main future research directions and finally, in the fourth section conclusions, limitations, and implications of the study are discussed.

2. Methodology

A systematic literature review is a review of "*a clearly formulated question that uses systematic and explicit methods to identify, select, and critically appraise relevant research and to collect and analyze data from the studies that are included in the review*" [17]. This method was chosen because it provides transparent and explicit protocols by which researchers search for and assess the field of studies relevant to a specific research topic. Even though a systematic literature review has its roots in medical and healthcare fields [18], its use as a methodological approach is rising in the research field of management [19,20]. According to Snyder [21] there are four basic phases to conducting a systematic literature review and evaluating its quality which are: (1) design the review, (2) conduct the review, (3) data abstraction, and (4) structure and write the review.

Having a proper research methodology is crucial for conducting a successful systematic literature review (SLR) and achieving the research objectives. The Cochrane Handbook, the CDR Report, and the PRISMA statement are widely used guideline methods for conducting and reporting high-quality SLRs [13,21]. Based on these methods, the research methodology was formulated and adapted to suit the specific requirements of the present study. Therefore, the research methodology includes the following steps: (1)

Formulation of research questions, (2) Systematic searching strategy (3) Data extraction, and (4) Analysis of results.

2.1. Formulation of research questions

The first phase of the systematic literature review involves the purpose of the study which is formulated by the following research questions.

RQ1. Which research methods and data analysis techniques were used and what is the geographical and industry scope in each case?

RQ2. Which are the outcomes of engagement?

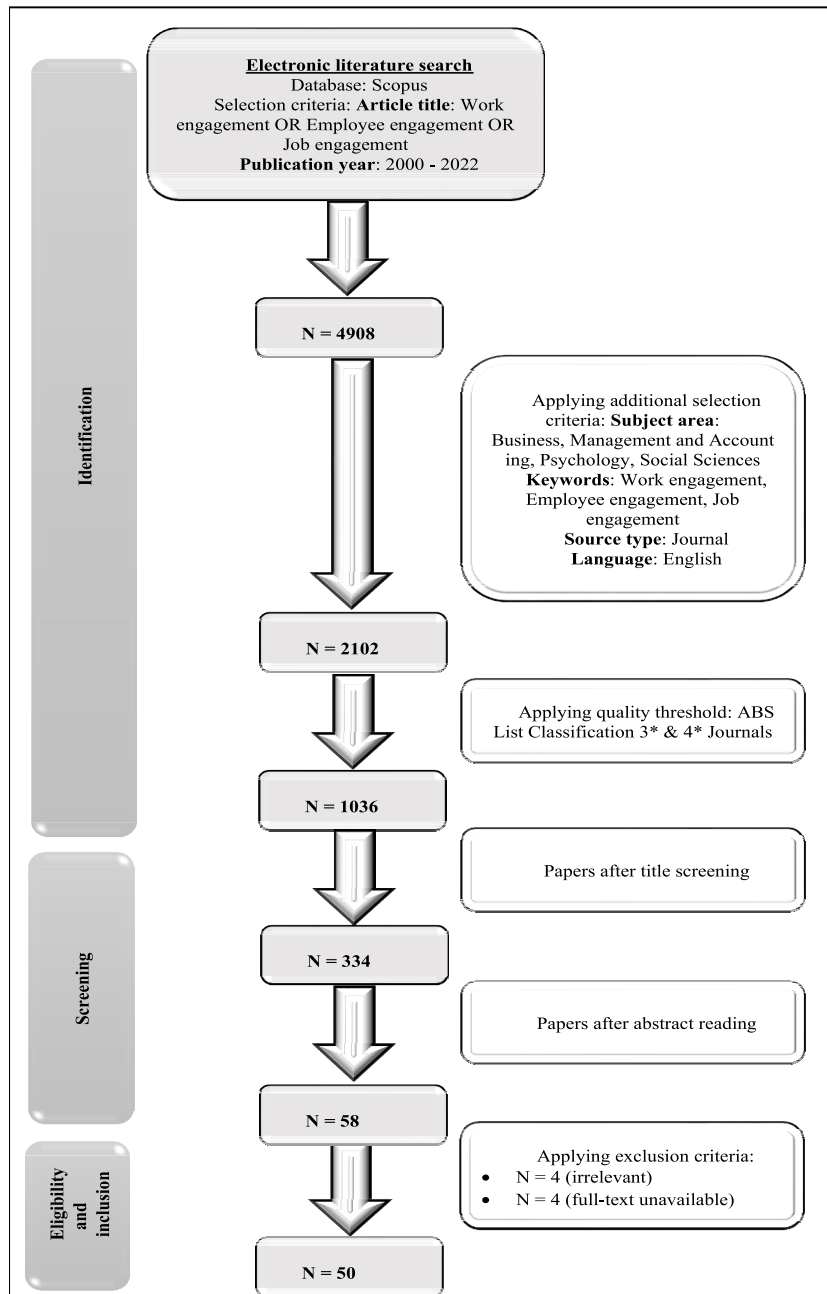**RQ3.** What are some new future research directions?

Fig. 1. Systematic literature review process.

2.2. Systematic searching strategy

The study's search strategy includes the following three substeps: identification, screening, and eligibility.

2.2.1. Identification

In order to conduct the systematic literature review process, the authors used the Scopus Database which represents a highly recommended source by many academics who have conducted systematic review analyses [20,22]. In this respect, the search terms were defined which were included in the article title. Therefore, the three terms related to engagement included in the search were "Work Engagement" OR "Employee Engagement" OR "Job Engagement" during the publication years 2000–2022. Additionally, in terms of keywords, the terms "Work Engagement" OR "Employee Engagement" OR "Job Engagement", were included. Moreover, additional selection criteria were applied regarding the subject area, the source type, and language. In terms of the subject area, the criteria used were in the areas of "Business, Management and Accounting", "Psychology" and "Social Sciences". The source type used was "Journal" and the language of the articles chosen was "English".

2.2.2. Screening

The systematic literature review (SLR) was focused on three- and four-rated journals retrieved from the Academic Journal Guide by Chartered ABS (https://charteredabs.org/academic-journal-guide-2018/). At this point, it is worth noting that the ABS Academic Journal Guide constitutes a highly regarded journal list that includes the perceptions of distinguished editors and scientific committees [23]. Therefore, the process of inclusion and exclusion criteria of the relevant articles was established.

2.2.3. Eligibility

In terms of inclusion criteria, as mentioned above, a quality threshold was applied by using 3* and 4* Journals from the ABS List Classification. Regarding the field of search, the terms "Work Engagement" OR "Employee Engagement" OR "Job Engagement" were used in both article title and keywords (see Design the review). Furthermore, the articles included in the study were published from 2000 to 2022 (see Design the review). Additionally, both empirical and conceptual articles were included in the systematic literature review process.

In terms of exclusion criteria, the articles excluded from the study were comprised of articles that were irrelevant to the research question of this study as well as articles whose full text was unavailable to the authors.

2.3. Data extraction

In the third phase, the first search comprising the criteria of article title and publication year resulted in 4908 articles. The second search included additional selection criteria, such as subject area, keywords, source type, and language, and generated 2102 articles. In the next step, the authors used a quality threshold in order to include articles that were published in journals that were ranked in category 3* or above based on the AJG Guide. Therefore, the third search generated 1036 articles relevant to engagement. After a title screening, non-relevant articles to the topic were discarded resulting in 334 articles. Each of these articles' abstracts was reviewed, excluding articles that were not related to the outcomes of work, employee, and job engagement. Subsequently, the fourth search yielded 58 articles. Following this result, after a full-text screening, 4 articles were excluded as irrelevant since they were not fully related to the study's research questions. Additionally, 4 articles were excluded as the full text was unavailable. At the end of the process, a total of 50 were included in the systematic literature review. An overview of the study's systematic literature review process is given in Fig. 1.

Table 1
Journals per database and research method adopted in the reviewed articles per journal.

Database	Journal	Qualitative	Quantitative	Theoretical
APA PsycNet	Journal of Applied Psychology		2	
Emerald insight	International Journal of Contemporary Hospitality Management		2	
Jstor	Academy of Management Journal		1	
	Journal of Business Ethics		1	
Sage	Current Directions in Psychological Science			1
	Group and Organization Management		1	
	Human Relations		3	
Science Direct	Human Resource Management Review		1	2
	International Journal of Hospitality Management		3	
	Journal of Vocational Behavior		6	
	Tourism Management		1	
Taylor & Francis Online	European Journal of Work and Organizational Psychology		2	
	International Journal of Human Resource Management		13	
	Work and Stress		2	1
Wiley Online Library	Human Resource Management		3	
	Journal of Occupational and Organizational Psychology		1	
	Journal of Organizational Behavior		4	

Table 2
Research methodology and data analysis techniques per study.

Article	Research Methodology	Data Analysis Techniques
Rich, Lepine and Crawford (2010)	Quantitative Questionnaire-based survey Cross-sectional study	Confirmatory factor analysis, means, standard deviations, correlations
Shin, Hur and Choi (2018)	Quantitative Questionnaire-based survey Cross-sectional study	Means, standard deviations, correlations
Xanthopoulou, Bakker, Demerouti and Schaufeli (2009)	Quantitative Questionnaire-based survey Longnitudinal study	Means, standard deviations, Cronbach's alphas, correlations, SEM (AMOS software package)
Bakker, Schaufeli, Leiter, Taris (2008)	Theoretical Position paper	Argumentation
Alfes, Shantz, Truss and Soane (2013)	Quantitative Questionnaire-based survey Cross-sectional study	Scale reliabilities, means, standard deviations, inter-scale correlations, confirmatory factor analyses, hierarchical multiple regressions
Montani, Vandenberghe, Khedhaouria and Courcy (2020)	Quantitative Questionnaire-based survey Cross-sectional study	Confirmatory factor analysis, means, standard deviations, correlations, regression analysis
Bakker, Tims and Derks (2012)	Quantitative Questionnaire-based survey Cross-sectional study	SEM on a partial disaggregation model (bootstrap analysis option in AMOS software package), means, standard deviations, correlations
Zhong, Wayne and Liden (2016)	Quantitative Questionnaire-based survey Cross-sectional study	Confirmatory factor analysis, means, standard deviations, internal consistency reliabilities, correlations
Gruman and Saks (2011)	Theoretical Model-based	Theoretical model
Gawke, Gorgievski, Marjan and Bakker (2017)	Quantitative Questionnaire-based survey Longnitudinal study	Latent change score-model (LCS), correlations
Lu, Wang, Lu, Du and Bakker (2014)	Quantitative Questionnaire-based survey Longnitudinal study	Confirmatory factor analysis, means, standard deviations, reliabilities, correlations
Karatepe (2013)	Quantitative Questionnaire-based survey Cross-sectional study	Confirmatory factor analysis, structural equation modeling (SEM) through LISREL 8.30, means, standard deviations, correlations
Bakker (2011)	Theoretical Literature review	Evidence-based model
Eldor and Harpaz (2016)	Quantitative Questionnaire-based survey Cross-sectional study	Means, standard deviations, correlations, multiple regressions
Salanova and Schaufeli (2008)	Quantitative Questionnaire-based survey Cross-sectional study	Structural equation modeling (SEM) - AMOS program, means, standard deviations, correlations, internal consistencies
Schmitt, Den Hartog and Belschak (2016)	Quantitative Questionnaire-based survey Cross-sectional study	Confirmatory factor analysis, hierarchical regression analysis, means, standard deviations, reliabilities, intercorrelations
Albrecht and Maurty (2020)	Quantitative Questionnaire-based survey Cross-sectional study	Confirmatory factor analysis, structural equation modeling (SEM) - AMOS software package, means, standard deviations, reliabilities, correlations
Halbesleben and Wheeler (2008)	Quantitative Questionnaire-based survey Longnitudinal study	Intercorrelations, confirmatory factor analysis, discriminant validity analysis, usefulness analysis, means, standard deviations, reliabilities

Table 2 (*continued*)

Article	Research Methodology	Data Analysis Techniques
Byrne, Peters and Weston (2016)	Quantitative Questionnaire-based survey Longnitudinal study	Confirmatory factor analysis, structural equation modeling (SEM) - AMOS software package, intercorrelations
Bakker, Demerouti, and Ten Brummelhuis (2012)	Quantitative Questionnaire-based survey Cross-sectional study	Confirmatory factor analysis, moderated structural equation modeling (MSEM) - AMOS software package, means, standard deviations, correlations
Breevaart, Bakker, Demerouti and Derks (2016)	Quantitative Questionnaire-based survey Cross-sectional study	Multilevel structural equation modeling (SEM) - MPLUS software, means, standard deviations, intraclass correlations, inter-correlations, internal consistencies
Mackay, Allen and Landis (2017)	Quantitative Meta-analytic path analysis	Meta-matrix representing 1161 unique correlations
Wang, Lu and Siu (2015)	Quantitative Questionnaire-based survey Longnitudinal study	Confirmatory factor analysis (LISREL 8.80), means, standard deviations, correlations
Jung and Yoon (2016)	Quantitative Questionnaire-based survey Cross-sectional study	Exploratory factor analysis, confirmatory factor analysis, structural equation modeling (SEM) - AMOS software package, reliability, correlation
ling Siu, fang Lu, Brough, qin Lu, Bakker, Kalliath, O′Driscoll, Phillips, qing Chen, Lo, Sit and Shi (2010)	Quantitative Questionnaire-based survey Longnitudinal study	Means, standard deviations, reliablities, correlations, SEM analysis (LISREL 8.70)
Eldor and Vigoda-Gadot (2017)	Quantitative Questionnaire-based survey Cross-sectional study	Confirmatory factor analysis (AMOS software), analysis of variance (ANOVA), path analysis, multiple hierarchical regression analysis, means, standard deviations, intercorrelations
Airila, Hakanen, Schaufeli, Luukkonen, Punakallio and Lusa (2014)	Quantitative Questionnaire-based survey Longnitudinal study	Means, standard deviations, correlations, structural equation modeling (SEM) with maximum likelihood (ML) estimation and the AMOS 18.0 software package
Kane-Frieder, Hochwarter and Ferris (2014)	Quantitative Questionnaire-based survey	Regression analyses, slope tests, means, standard deviations, intercorrelations
Alfes, Truss, Soane, Rees and Gatenby (2013)	Quantitative Questionnaire-based survey Cross-sectional study	Confirmatory factor analysis, means, standard deviations, correlations, structural equation modeling (SEM) using maximum likelihood estimation in AMOS 18.0
Salmela-Aro and Upadyaya (2018)	Quantitative Questionnaire-based survey Cross-sectional study	Structural equation modeling (SEM), means, variances, reliabilities, correlations
Shantz, Alfes and Latham (2016)	Quantitative Questionnaire-based survey Cross-sectional study	Scale reliabilities, means, standard deviations, interscale correlations, analysis of variance (ANOVA)
Shantz, Alfes, Truss and Soane (2013)	Quantitative Questionnaire-based survey Cross-sectional study	Confirmatory factor analyses, means, standard deviations, correlations, latent variable structural equation modeling (SEM) using maximum likelihood estimation in AMOS 18
Yalabik, Popaitoon, Chowne and Rayton (2013)	Quantitative Questionnaire-based survey Cross-sectional study	Means, standard deviations, reliabilities, correlations, confirmatory factor analysis, structural equation modeling (SEM)
Boon and Kalshoven (2014)	Quantitative Questionnaire-based survey Cross-sectional study	Multilevel structural equation modeling (SEM), means, standard deviations, correlations
Kwon and Kim (2020)	Theoretical Integrated conceptual framework	Examination of 34 empirical studies
Hooi (2019)	Quantitative Questionnaire-based survey	Structural equation modeling (SEM), confirmatory factor analysis

Table 2 (*continued*)

Article	Research Methodology	Data Analysis Techniques
Bhatnagar (2012)	Cross-sectional study Quantitative Questionnaire-based survey	Means, standard deviations, internal reliabilities, inter-correlations, regression analysis, structural equation modeling (SEM) - MPlus (version 6.11), Satorra–Bentler scaled test
Bal, de Cooman and Mol (2013)	Cross-sectional study Quantitative Questionnaire-based survey	Means, standard deviations, reliabilities, correlations, structural equation modeling (SEM) - LISREL 8.72
Haynie, Mossholder and Harris (2016)	Longitudinal study Quantitative Questionnaire-bIntased survey	Means, standard deviations, reliabilities, correlations, marker analysis, confirmatory factor analysis, regression analysis
Scrima, Lorito, Parry and Falgares (2014	Cross-sectional study Quantitative Questionnaire-based survey	Means, standard deviations, correlations, structural equation modeling (SEM) - AMOS 6.0
Shuck, Nimon and Zigarmi (2017)	Cross-sectional study Quantitative Secondary sources of data	Confirmatory factor analysis, commonality analysis, correlations
De Clercq, Bouckenooghe, Raja and Matsyborska (2014)	Quantitative Questionnaire-based survey	Means, standard deviations, correlations, regression analysis, path analysis
Yalabik, van Rossenberg, Kinnie and Swart (2015)	Longnitudinal study Quantitative Questionnaire-based survey	Means, standard deviations, correlations, confirmatory factor analysis, structural equation modeling (SEM) - Mplus 7.0 software
Jung and Yoon (2018)	Cross-sectional study Quantitative Questionnaire-based survey	Confirmatory factor analysis, means, standard deviations, correlations, structural equation modeling (SEM) - AMOS version 22.0
Son and Kim (2019)	Cross-sectional study Quantitative Questionnaire-based survey	Means, standard deviations, correlations, confirmatory factor analysis, structural equation modeling (SEM) - AMOS
Barbier, Hansez, Chmiel and Demerouti (2013)	Cross-sectional study Quantitative Questionnaire-based survey	Structural equation modeling (SEM) - LISREL 8.80, means, standard deviations, correlations, internal consistencies
Radic, Arjona-Fuentes, Ariza-Montes, Han and Law (2020)	Longnitudinal study Quantitative Questionnaire-based survey	PLS path modeling, coefficient of determination, predictive relevance, and standardized root mean square residual (SRMR) analysis
Mostafa (2019)	Cross-sectional study Quantitative Questionnaire-based survey	Exploratory factor analysis, confirmatory factor analysis, generalized multilevel structural equation modeling, (GMSEM) in Stata, means, standard deviations, correlations, one-way analysis of variance (ANOVA)
Maden-Eyiusta (2021)	Cross-sectional study Quantitative Questionnaire-based survey	Confirmatory factor analysis, means, standard deviations, correlations, scale reliabilities, hierarchical linear modeling
Ampofo and Karatepe (2022)	Cross-sectional study Quantitative Questionnaire-based survey Longnitudinal study	Confirmatory factor analysis - Analysis of Moment Structures version 25, means, standard deviations, correlations, structural equation modeling (SEM)

2.4. Results

The fourth phase includes the data analysis and the report of the information which was extracted from the literature review process. Every article out of the final 50 that were included in the review, was classified into different categories including the name of author(s), year of publication, article title, journal's name, methodology, outcomes of engagement, objectives, key findings and future research directions, country and industry/sector if they were empirical papers. The following analysis of results is based on these data.

3. Analysis of results

3.1. RQ1: research methods and data analysis techniques were used and the geographical and industry scope in each case

Table 1 shows the journals per database and the research methods adopted in the studies under review. Most articles that examined the topic of engagement outcomes were published in journals included in three databases: Science Direct, Taylor & Francis Online and Wiley Online Library. It is worth mentioning that 46 out of 50 articles adopted a quantitative research method, while none of the articles adopted a qualitative method to examine engagement outcomes.

In addition to Table 1, Table 2 presents a summary of the research methodology as well as data analysis techniques used in each study under review. As shown in Table 3, 44 out of 46 quantitative studies used questionnaire-based surveys, while 2 of them used

Table 3

Geographical and business scope of empirical articles.

Authors	Year	Industry/Sector	Country
Halbesleben, J.R.B.; Wheeler, A.R.	2008	Cross-industry	USA
Salanova, M.; Schaufeli, W. B.	2008	ICT & Telecom company	Spain & the Netherlands
Xanthopoulou, D.; Bakker, A.B.; Demerouti, E.; Schaufeli, W.B.	2009	Electrical engineering and electronics company	the Netherlands
ling Siu, O.; fang Lu, J.; Brough, P.; qin Lu, C.; Bakker, A.B.; Kalliath, T.; O′ Driscoll, M.; Phillips, D.R.; qing Chen, W.; Lo, D.; Sit, C.; Shi, K.	2010	Cross-industry	China
Rich, B.L.; Lepine, J.A.; Crawford, E.R.	2010	Firefighters (Fire service)	USA
Bakker, A.B.; Demerouti, E.; Ten Brummelhuis, L.L.	2012	Cross-industry	the Netherlands
Bakker, A.B.; Tims, M.; Derks, D.	2012	Cross-industry	the Netherlands
Bhatnagar, J.	2012	Cross-industry	International/Cross-national
Alfes, K.; Shantz, A. D.; Truss, C.; Soane, E. C.	2013	Service sector	UK
Alfes, K; Truss, C.; Soane, E.C.; Rees, C.; Gatenby, M.	2013	Service sector	UK
Bal, P..; de Cooman, R.; Mol, S.T.	2013	Financial services	the Netherlands
Barbier, M.; Hansez, I.; Chmiel, N.; Demerouti, E.	2013	Public	Belgium
Karatepe, O.M.	2013	Hospitality (Hotels)	Romania
Shantz, A.; Alfes, K.; Truss, C.; Soane, E.	2013	Banking	UK
Yalabik, Z.Y.; Popaitoon, P.; Chowne, J.A.; Rayton, B.A.	2013	Consultancy and construction firm	UK
Airila, A.; Hakanen, J.J.; Schaufeli, Wilmar B.; Luukkonen, R.; Punakallio, A.; Lusa, S.	2014	Firefighters (Fire service)	Finland
Boon, C.; Kalshoven, K.	2014	Cross-industry	International/Cross-national
De Clercq, D.; Bouckenooghe, D.; Raja, U.; Matsyborska, G.	2014	IT	Ukraine
Kane-Frieder, R.E.; Hochwarter, W.A.; Ferris, G.R.	2014	Sample 1: State agency Sample 2: Financial management organization Sample 3: Business school alumni Sample 4: Health care	USA
Lu, Chang-qin; Wang, Hai-jiang; Lu, Jing-jing; Du, Dan-yang; Bakker, A. B.	2014	High-tech	China
Scrima, F.; Lorito, L.; Parry, E.; Falgares, G.	2014	Cross-industry	Italy
Wang, H.J.; Lu, C.Q.; Siu, O.L.	2015	Insurance	China
Yalabik, Z.Y.; van Rossenberg, Y.; Kinnie, N.; Swart, J.	2015	Services (HR field)	UK
Breevaart, K.; Bakker, A.B.; Demerouti, E.; Derks, D.	2016	Cross-industry	the Netherlands
Byrne, Z.S.; Peters, J.M.; Weston, J.W.	2016	Cross-industry	USA
Eldor, L.; Harpaz, I.	2016	Cross-industry	Israel
Haynie, J.J.; Mossholder, K.W.; Harris, S.G.	2016	Industrial equipment	USA
Jung, H.S.; Yoon, H.H.	2016	Hospitality	South Korea
Schmitt, A.; Den Hartog, D.N.; Belschak, F.D.	2016	Cross-industry	the Netherlands
Shantz, A.; Alfes, K.; Latham, G.P.	2016	Manufacturing	UK
Zhong, L.; Wayne, S. J.; Liden, R.C.	2016	Cross-industry	China
Eldor, Liat; Vigoda-Gadot, Eran	2017	Cross-industry	Israel
Gawke, J.C.; Gorgievski, Marjan J.; Bakker, A. B.	2017	Public	the Netherlands
Salmela-Aro, K.; Upadyaya, K.	2018	Health care	Finland
Shin, Y.; Hur, W.M.; Choi, W.H.	2018	Study 1: Flight attendants Study 2: Hotel employees	South Korea
Jung, H.S.; Yoon, H.H.	2018	Hospitality	South Korea
Hooi, L.W.	2019	Cross-industry	India
Mostafa, A.M.S.	2019	Hospitality	UK
Son, S.J.; Kim, D.Y.	2019	Hospitality	South Korea
Albrecht, S.L.; Marty, A.	2020	Cross-industry	Australia
Montani, F.; Vandenberghe, C.; Khedhaouria, A.; Courcy, F.	2020	Cross-industry	Canada & USA
Radic, A.; Arjona-Fuentes, J.M.; Ariza-Montes, A.; Han, H.; Law, R.	2020	Hospitality	Miami/USA
Maden-Eyiusta, C.	2021	Cross-industry	Turkey
Ampofo, E.T.; Karatepe, O.M.	2022	Hospitality (Hotel)	Ghana

meta-analytic path analysis and secondary sources of data. The theoretical studies include a position paper, a literature review, model-based research and an integrated conceptual framework. Additionally, a variety of techniques were employed for data analysis. For example, 26 quantitative studies used confirmatory factor analysis for construct validation and the factorial structure of the measures. Furthermore, 24 out of 44 questionnaire-based survey studies used the structural equation modeling (SEM) technique in order to assess the proposed relationships among the constructs, while almost all quantitative studies used descriptive statistics and correlations. Additionally, 10 studies adopt a time series approach as their primary methodology. It is noteworthy to mention that there is an absence of qualitative research in the field which suggests a potential gap in the current understanding of engagement outcomes from a qualitative perspective.

In Table 3 the name of author/-s and publication year are referred and the geographical and business scope of each study are classified. The classification shows that studies examined the research topic of this study in several industries. However, apart from cross-industry studies, most of them come from the services sector in general, including ICT, hospitality, and financial services. In terms of geographical scope, the reviewed studies examined engagement outcomes in several countries. Most of the studies were conducted in countries such as the Netherlands (8 studies), the UK (7 studies), the and USA (7 studies), while two studies were conducted at a cross-national level. The concentration of studies in the Netherlands, UK, and USA may be due to factors such as research funding, established research infrastructure, and academic expertise in conducting research related to the services sector and engagement outcomes in these countries.

Based on the combined data from Table 2 and Table 3 and it can be observed that the majority of empirical studies that utilized Structural Equation Modeling (SEM) as a statistical technique were conducted in Europe and Asia. Furthermore, these studies have focused on the services sector, such as hospitality, financial services, and health care. The observation that SEM-based empirical studies have focused on the services sector in Europe and Asia may indicate that researchers in these regions have shown particular interest in studying this sector. The concentration of studies in these countries may be attributed to various factors, such as the availability of research funding, established research infrastructure, and academic expertise in utilizing SEM as a statistical technique.

3.2. RQ2: outcomes of engagement

Following Wollard and Shuck's [12] definitions of individual-level and organizational-level antecedents, individual-level outcomes are constructs that are related to individual employees' perceptions, psychological conditions, skills, and abilities, constituting the end result of engagement. Organizational-level outcomes are constructs that are applicable to the whole organization, constituting the final result of engagement [12].

The taxonomical classification of engagement outcomes at both individual and organizational levels can provide a comprehensive

Table 4
Outcomes of engagement.

Outcomes/Engagement	Individual-level	Organizational-level
Work	Personal resources[a]	Job resources[a]
	Employee intrapreneurship	Job tension
	Proactive work behavior[a]	Person–job fit
	Active learning behavior	Leader-rated job performance
	Affective commitment	Firm performance
	Job crafting	Contextual performance
	Life satisfaction	Client satisfaction[c]
	Work-family enrichment	Extra-role customer service
	Family-to-work enrichment	Organizational deviance
	Work ability	Work intensity
	Employee contributions	
Employee	Physical strains	Supervisory commitment
	Job commitment	Innovation
	Job involvement	
	Burnout	
	Deviant behavior	
	Work centrality	
	**Coping strategies[c]	
	Improved performance[c]	
	Employee effectiveness[a,c]	
Both Work & Job	In-role performance	
Both Employee & Job		Organizational citizenship behavior
Both Work & Employee	Innovative behavior[b]	Job performance[b]
	Extra-role performance[a]	
Work/Employee/Job	Turnover intentions	Organizational commitment
	Intention to quit/leave	Task performance
	Job satisfaction	

**Proposed as a mediator.

a. Denotes outcome which includes sub-factors.

b. Denotes outcome with both conceptual and empirical evidence.

c. Denotes conceptual outcome.

understanding of the multifaceted nature of engagement and its impacts. This comprehensive understanding can lead to more informed decision-making and interventions that consider the complex dynamics between individual-level and organizational-level outcomes. Mapping the results of work engagement at both individual and organizational levels can facilitate an integrated approach to engagement interventions. By considering the outcomes of engagement at both levels, organizations can develop strategies that align individual and organizational goals.

The process of the literature review revealed that there are fifteen individual-level outcomes of work engagement, eleven individual-level outcomes of employee engagement, one individual-level outcome of both work and job engagement, two individual-level outcomes of both work and employee and three individual-level outcomes of work, employee and job engagement, while there are eleven organizational-level outcomes of work engagement, two organizational-level outcomes of employee engagement, one organizational-level outcome of both employee and job engagement, one organizational-level outcome of both work and employee engagement and two organizational-level outcomes of work, employee and job engagement (Table 4).

More specifically, all of the individual-level outcomes of work engagement were identified with empirical evidence and four of them include sub-factors, i.e. personal resources comprise the facets of self-efficacy, organizational-based self-esteem, and optimism, and proactive work behavior includes personal initiative and voice. Moreover, three individual-level outcomes of employee engagement were reported as conceptual and one of them includes sub-factors; i.e. employee effectiveness comprises the facets of focal performance, contextual performance, and turnover intention. One individual-level outcome was identified as a mediator of the relationship between employee engagement and an outcome. Regarding both work and job engagement, one individual-level outcome was identified with empirical evidence, while in terms of both work and employee engagement, one individual-level outcome was identified with both conceptual and empirical evidence and one individual-level outcome of both work and employee engagement includes sub-factors; i.e. extra-role performance comprises the facets of proactivity, knowledge sharing, creativity and adaptivity. Regarding work, employee, and job engagement, all of the individual-level outcomes were identified with empirical evidence.

In terms of organizational-level outcomes, ten organizational-level outcomes of work engagement were identified with empirical evidence and one was reported as conceptual. Moreover, two of the organizational-level outcomes of work engagement include sub-factors; i.e. job resources comprise the facets of autonomy, social support, supervisory coaching, performance feedback, and opportunities for professional development. Furthermore, two organizational-level outcomes of employee engagement were reported with empirical evidence. Regarding both employee and job engagement, one organizational-level outcome was identified with empirical evidence, while one organizational-level outcome of both work and employee engagement was identified with both conceptual and empirical evidence. In terms of work, employee, and job engagement, two organizational-level outcomes were identified with empirical evidence.

Based on the above table (Table 4), the study at hand represents a pioneering effort to provide a taxonomical classification of the existing literature on the outcomes of engagement, utilizing a more general categorization approach, building upon the work of Kossyva et al. [13]. By categorizing the individual and organizational outcomes of engagement into broader categories, this study aims to provide a systematic and organized framework for understanding the diverse outcomes associated with engagement.

Therefore, the current study further classifies each factor into a more general category regarding the individual and organizational outcomes of engagement (Table 5 and Table 6). It is worth noting that some of these factors may belong to more than one category, for example, the factor "active learning behavior" belongs to both Psychological/Mental factors and Feelings and beliefs. Based on the definitions of each factor, the individual-level outcomes of work engagement, employee engagement, work, and job engagement, as well as work, employee and job engagement, could be classified into the following general categories (Table 5).

More specifically, the general categories of both work and employee engagement are feelings and beliefs, work skills, and psychological/mental factors, while work engagement additionally includes the general category of social exchange dimensions. Furthermore, work skills are included as a general category in both work and job engagement, while feelings and beliefs are included in work, employee, and job engagement.

Feelings and beliefs refer to the attitudes of employees toward their working environment. Some of the factors included in this category are personal resources [24], affective commitment [25], life satisfaction [26], turnover intentions [27,28], and job

Table 5
General categorization of engagement's individual-level outcomes.

Individual Outcomes/ Engagement	General categories	Factors of each category
Work	**Feelings and beliefs**	personal resources, affective commitment, life satisfaction, personal factors
	Work skills	work ability, job crafting, proactive work behavior, employee contributions, contextual performance
	Psychological/Mental factors	active learning behavior
	Social exchange dimensions	work-family enrichment, family-to-work enrichment
Employee	**Feelings and beliefs**	job commitment, job involvement
	Work skills	self-report innovative work behavior, coping strategies, improved performance, employee effectiveness
	Psychological/Mental factors	physical strains, burnout, deviant behavior, work centrality
Both Work & Job	**Work skills**	in-role performance
Work/Employee/Job	**Feelings and beliefs**	turnover intentions, job satisfaction
	Work skills	extra-role performance, innovative behavior, task performance

Table 6

General categorization of engagement's organizational-level outcomes.

Organizational Outcomes/Engagement	General categories	Factors of each category
Work	**Work characteristics**	job resources, job tension, work intensity, firm performance
	Cultural and organizational factors	organizational deviance, client satisfaction, extra-role customer service
	HR and leadership factors	leader-rated job performance
	Social exchange relationships	person-job fit
Employee	**Cultural and organizational factors**	innovation
Both Employee & Job	**Cultural and organizational factors**	organizational citizenship behavior
Both Work & Employee	**Work characteristics**	job performance
Work/Employee/Job	**Cultural and organizational factors**	organizational commitment

satisfaction [29,30]. In particular, it was found that there is a positive relationship between work engagement and personal resources meaning that high levels of engagement can lead to the creation of more personal resources [24]. Furthermore, work engagement has a positive effect on affective commitment, while it has a negative effect on employee turnover intention [28]. Additionally, it was found that both employee and job engagement are negatively related to employees' intention to quit their job [31,32]. According to Salmela-Aro and Upadyaya [26], work engagement is associated with employees' life satisfaction. Similarly, Haynie et al. [33] found that highly engaged employees are more satisfied with their job.

Work skills refer to the competencies and abilities of employees in order to manage their work demands in an effective way. Some of the factors included in this category are work ability [34], job crafting [35], extra-role performance [36], and innovative behavior [37]. In particular, it was found that work engagement is positively associated with work ability [34] as well as job crafting [35]. Furthermore, according to Eldor and Harpaz [36], employee engagement has a positive effect on extra-role performance behaviors, such as employee proactivity, knowledge sharing, creativity, and adaptivity. Similarly, high levels of employee engagement can lead to employee innovative behavior [37].

Psychological/Mental factors represent employees' emotions towards their job and their organization as well as their spiritual well-being. Some of the factors included in this category are active learning behavior [38], and deviant behavior [39]. According to Bakker et al. [38], when employees' conscientiousness is increased, there is a positive relationship between work engagement and active learning. Additionally, work engagement is negatively related to deviant behavior [39].

Social exchange dimensions include work-family enrichment and family-to-work enrichment factors [40]. According to Siu et al. [40], work engagement facilitates work-family enrichment as well as fully mediates the relationship between family-friendly organizational policies and work–family enrichment. Additionally, work engagement fully explains the association between supervisor support, job autonomy, and work-family enrichment, and the relationship between family support and family-to-work enrichment.

Similarly, at organizational-level, the outcomes of work engagement, employee engagement, employee and job engagement, work and employee engagement, as well as work, employee, and job engagement could be classified into the following general categories (Table 6).

More specifically, the general categories of both work and employee engagement are work characteristics, cultural and organizational factors, HR and leadership factors, and social exchange relationships.

Work characteristics refer to various job specifications and principles within an organization. Some of the factors included in this category are job resources [24], job tension, work intensity [29], and job performance [41]. In particular, it was found that work engagement is related to job resources over time [24]. Furthermore, work engagement positively predicts job tension as well as work intensity provided that politics perceptions are high [29]. According to Karatepe [42], work engagement can lead to job performance. In addition, it mediates the relationship between job crafting and increased job performance [41].

Cultural and organizational factors represent the policies and processes of an organizational environment. Some of the factors included in this category are organizational deviance [43], extra-role customer service [42], innovation [44], and organizational commitment. According to De Clercq et al. [43], work engagement is negatively related to organizational deviance. Furthermore, work engagement can result in high levels of extra-role customer service [42]. In addition, it was found that work engagement has a significant and positive impact on innovation performance [44], as well as it fully mediates the relationship between high-commitment HRM and organizational commitment [45].

HR and leadership factors include the factor of leader-rated job performance [46]. Specifically, it was found that engagement has a positive impact on leader-rated job performance. Additionally, it was found that when leaders use more transformational leadership behaviors, high levels of work engagement can lead to higher performance ratings from their leader [46].

Social exchange relationships include the factor of person-job fit [35]. It was found that work engagement has a positive effect on person-job fit through job crafting. In particular, it positively relates to changes in demands–abilities fit when it comes to changes in physical job crafting and positively relates to changes in needs–supplies fit when it comes to changes in relational job crafting [35].

4. RQ3: future research directions

The study provided information for future research recommendations through the categorized 50 articles of the systematic literature review process. The list of the main future research suggestions of the reviewed articles is mentioned in Appendix 1.

Firstly, the reviewed empirical studies [24,42,47] suggested that the construct of (work/employee/job) engagement should be further empirically tested along with its relationship with the identified engagement outcomes, across different countries,

industries/sectors, and occupations. More specifically, future research suggestions highlight the importance of collecting data from different countries, especially developing countries such as Nigeria and Turkey, to further validate the findings. Furthermore, it is suggested that further studies should be conducted in various industries, such as high technology and biotechnology industries, as well as in different occupations to provide additional insights of employee characteristics. Additionally, future research is needed to further examine cross-national and international samples, as there are only two reviewed articles at international/cross-national level. Based on the reviewed articles' suggestions, the authors further suggest the examination of engagement outcomes in different cultural environments and in firm sizes. Moreover, comparative studies should be useful in terms of geographical clusters (e.g., Asian countries) as well as countries, whether developed or developing.

In terms of research design, several reviewed studies [48–50], recommend that experimental and longitudinal studies should be conducted to test causality among the variables. Furthermore, a longitudinal design is suggested to further examine the curvilinear relationship between engagement and various job outcomes, such as turnover intention and extra-role customer service. Moreover, further research it is suggested that more qualitative studies are needed due to the fact that only 2% of the reviewed studies have a qualitative approach. Additionally, the combination of both quantitative and qualitative approaches could be useful for the generalization of the findings. Another recommendation involves the use of larger samples in the future by using a multilevel structural equation modeling (SEM) method [36].

Furthermore, the examination of more outcomes of engagement is recommended [51], such as the commitment of professionals depending on the perceived organizational support, more individual-level outcomes related to well-being, behavior and performance outcomes, more objective measures regarding counterproductive behaviors and workplace deviance as well as the prediction of various organizational outcomes taking into consideration individuals' perception of organizational politics. In addition, several reviewed studies [27,52] suggest the use of more objective measures to assess engagement outcomes by using the responses of supervisors, colleagues, or external observers with the application of job rating forms. It is worth mentioning that from the identified engagement outcomes, some of them have been investigated both as antecedents and outcomes of engagement, such as personal resources, job resources, person–job fit, job crafting, affective commitment, and work ability. According to Airila et al. [34], future research is suggested to examine the possible reciprocal relationships between work engagement and work ability over time. Furthermore, Xanthopoulou et al. [24] found that personal resources, as well as job resources, are both classified as antecedents and outcomes at different periods of time.

In general, it was found that most reviewed studies examined engagement as a mediator which is influenced by various antecedents and influences several outcomes. Therefore, the majority of future research suggestions provided are focused on (work, employee, or job) engagement, as it is considered the main construct under investigation.

5. Conclusions, limitations and implications

In the present study, a systematic literature review has been conducted in the research area of engagement, focusing on the outcomes of work, employee as well as job engagement. More specifically, the study's purpose was to comprehensively examine the scope of engagement outcomes, the methodology and data analysis techniques used in the identified articles, as well as the geographical and industry coverage of the studies included in the systematic review. Furthermore, the study presented valuable information regarding high-ranking studies on engagement outcomes and provided a taxonomical classification of the current literature on engagement outcomes in the past 22 years, applying them to more general categories. The outcomes of three different types of engagement, i.e., work, employee, and job engagement, were categorized into individual-level and organizational-level outcomes. Additionally, taking into consideration the definitions of each factor, the engagement outcomes were further grouped using a more general categorization. The study also categorized and presented some new directions for future research in the field of engagement outcomes. These insights can be used to propose new directions for future research, highlight potential areas of exploration, and suggest avenues for advancing the field of engagement outcomes.

By using a more general categorization approach, this study seeks to provide a comprehensive and holistic overview of the outcomes of engagement, encompassing individual-level and organizational-level outcomes. This approach can contribute to a deeper understanding of the complex relationship between engagement and its outcomes, providing valuable insights for organizations and practitioners interested in promoting positive outcomes associated with engagement in the workplace.

Furthermore, the study has some limitations that should be acknowledged. First, the dataset used in the study may not be exhaustive, as it only includes articles from three- and four-rated journals from the ABS Academic Journal Guide (2018). While these journals are considered highly esteemed and reputable [23], excluding studies published in one- and two-rated journals from the ABS list may result in valuable contributions being missed. Additionally, the study's reliance on the ABS Academic Journal Guide as the sole source for journal selection may introduce potential biases. While the ABS list is highly regarded, it may not capture all relevant studies in the field of engagement, as there are other reputable journals that may publish valuable research on this topic. For instance, the results of our systematic literature review (SLR) indicated a lack of qualitative studies focused on engagement outcomes in articles published in 3- and 4-rated journals based on the Academic Journal Guide (2018). This absence of qualitative studies suggests a gap in the current literature, with limited exploration of the subjective experiences, contextual factors, and intricate outcomes associated with engagement. This presents an avenue for future researchers to contribute by conducting qualitative studies that delve deeper into these qualitative aspects and offer a more comprehensive understanding of engagement outcomes.

Additionally, a critical view of our systematic literature review (SLR) revealed that the majority of studies on engagement have heavily relied on the use of structural equation modeling (SEM) applied to cross-sectional surveys focused on specific regions or countries. This methodological approach, while popular, has its limitations and raises concerns about the generalizability of findings.

The predominant use of SEM in cross-sectional designs restricts the ability to establish causal relationships between engagement and its outcomes. It provides a snapshot of the relationship at a particular point in time without considering the temporal dynamics or potential confounding factors. This limitation hinders our understanding of the complex nature of engagement outcomes and the underlying mechanisms driving them. Moreover, the emphasis on cross-sectional surveys in specific regions or countries may limit the external validity of the findings. Engagement is influenced by various cultural, organizational, and contextual factors, which may differ across regions and countries. By focusing on a specific region or country, there is a risk of overlooking important cultural nuances and context-specific variables that shape engagement outcomes. Furthermore, the reliance on self-reported survey data raises concerns about common method bias and social desirability bias. Alternative data sources, such as objective performance metrics or observer ratings, could provide a more objective and comprehensive understanding of engagement outcomes. To overcome these limitations and advance the field, researchers should consider employing more diverse and innovative methodological approaches. Longitudinal designs, experimental studies, or mixed methods approaches could offer a deeper understanding of the causal relationships, temporal dynamics, and contextual influences on engagement outcomes. Exploring alternative data sources and employing triangulation methods could also enhance the reliability and validity of findings.

Secondly, the use of a single database source, such as Scopus, may limit the scope and comprehensiveness of the literature review in the study. While Scopus is a widely used and reputable database, it may not capture all relevant studies on engagement outcomes, as there are other databases and sources that may contain relevant literature. To enhance the rigor and comprehensiveness of the literature review, future research could consider using multiple databases or sources, conducting a systematic search across different platforms, and including a broader range of journals, conference proceedings, and grey literature. This would help to ensure that a more diverse and representative set of studies is included in the analysis and that the findings are more robust and applicable to a wider range of contexts.

Thirdly, the time frame of the study, which includes articles published in the last two decades, may limit the generalizability of the findings. The field of engagement research is dynamic, and newer studies may have emerged since the cut-off date of the literature review. This could impact the comprehensiveness and relevance of the findings, as newer research may have different perspectives or findings on the outcomes of engagement.

Additionally, the study provides both theoretical and practical implications which are worth mentioning. The theoretical implications of this study are significant as it contributes to the field of engagement research by examining the constructs that are affected by engagement, i.e., engagement outcomes. As there are no existing systematic literature reviews on this topic, this study serves as a valuable mapping tool for the academic community, providing a comprehensive overview of the research in the field of engagement and identifying areas for further research and exploration. From a practical standpoint, this study has implications for evidence-based management, particularly for HR professionals. The structured research map provided by this study can serve as a valuable resource for HR professionals to better understand the outcomes of engagement at both individual and organizational levels over the past 22 years, contributing to a comprehensive body of knowledge. HR professionals can leverage this research map to inform their decision-making processes and interventions aimed at improving employee engagement in the workplace. The findings from the study can help HR professionals identify key areas of focus and prioritize their efforts to enhance engagement outcomes, both at the individual and organizational levels. This can include designing targeted engagement programs, implementing evidence-based HR policies and practices, and developing interventions that align with the findings of the research map.

Author contribution statement

Dorothea Kossyva, Georgios Theriou: Conceived and designed the experiments; Performed the experiments; Analyzed and interpreted the data; Contributed reagents, materials, analysis tools or data; Wrote the paper.

Vassilis Aggelidis, Lazaros Sarigiannidis: Conceived and designed the experiments; Performed the experiments; Analyzed and interpreted the data; Contributed reagents, materials, analysis tools or data.

Data availability statement

Data included in article/supp. material/referenced in article.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Appendix 1. Future research suggestions

A/A	Authors	Year	Main future research suggestions

(*continued*)

A/A	Authors	Year	Main future research suggestions
1	Rich, B.L.; Lepine, J.A.; Crawford, E.R.	2010	1. Explore implications of engagement in the context of existing cognitive choice theories of motivation. 2. Examine the influence of self-regulation on the three psychological conditions. 3. Examine other means by which engagement contributes to performance advantages for organizations. One potential avenue is to examine whether engagement manifests itself as a property of work groups and teams.
2	Shin, Y.; Hur, W.M.; Choi, W.H.	2018	1. It is necessary to replicate the present findings by using more diverse samples that represent different job types and characteristics. 2. Collect data from multiple countries to validate the study findings for the Asian employee population.
3	Xanthopoulou, D.; Bakker, A.B.; Demerouti, E.; Schaufeli, W.B.	2009	1. Incorporate additional objective ratings, particularly when it comes to job resources. 2. Future studies should try to replicate results in other occupations.
4	Bakker, Arnold B.; Schaufeli, Wilmar B.; Leiter, Michael P.; Taris, Toon W.	2008	1. Examine daily changes in work engagement (diary research) 2. Use multiple waves with short and longer periods between the waves of data collection to examine the short- and long-term consequences of work engagement. 3. Test the 1hypothesis that fostering engagement goes beyond preventing burnout. 4. Systematic studies that evaluate the impact of new management procedures or personal routines on work engagement. 5. Investigate whether engagement is highest when people encounter regulatory fit between their chronic (preferred focus) and task-induced regulatory state. 6. Further work is needed to consider whether absorption is a core aspect of work engagement or an outcome of energy and identification, and on the role of professional efficacy. Resolving these questions requires further development in theory and measurement.
5	Alfes, K.; Shantz, A. D.; Truss, C.; Soane, E. C.	2013	1. Incorporate employee engagement as a mediating mechanism through which HRM practices influence individual and organizational outcome variables. 2. Further analyze how contextual variables, such as an employee's trust in the organization, can foster individual and collective perceptions of the work climate as moderators of the relationship between individual attitudes and behaviors. 3. Experimental or longitudinal research designs to substantiate the causality of the hypotheses. 4. Collect data from multiple sources to investigate findings further.
6	Montani, F.; Vandenberghe, C.; Khedhaouria, A.; Courcy, F.	2020	1. Future research should use experience sampling methodology and diary approaches to examine the relationships among these constructs (workload, work engagement, and innovative work behavior) at the within-person level. For example, explore how job demands in the morning influence change in daily work engagement and innovative work behavior. 2. Examine whether mindfulness indirectly benefits work engagement and innovative behavior by influencing perceptions of one's workload.
7	Bakker, Arnold B.; Tims, Maria; Derks, Daantje	2012	1. Further test the enactment hypothesis by using a more robust research design, for example by combining trait proactive personality questionnaire information with a daily diary study of what employees do during their workday. 2. Examine whether job crafting is equally applicable to other samples and work settings (e.g. manufacturing, entrepreneurs). 3. Studies among dyads of coworkers or teams should investigate the consequences of job crafting at the group level.
8	Zhong, L.; Wayne, S. J.; Liden, R.C.	2016	1. Future research would benefit from testing the hypothesized model in the present study within a longitudinal design. 2. Future research needs to disentangle POS, leader support, and high-performance HR practices. 3. Other mediating variables, such as job satisfaction, empowerment, organizational commitment, collective or team engagement, engagement culture, and other moderating variables, such as Chinese guanxi exchange, should be explored.
9	Gruman, J. A.; Saks, A.M.	2011	Explore the linkages in the model of engagement management and on the relationship between employee engagement and job performance.
10	Gawke, J. C.; Gorgievski, M.J.; Bakker, A.B.	2017	1. Combine self-report measures with other indicators of employee well-being. Examples are physiological measures of stress or other ratings of employee intrapreneurial behavior.

(*continued*)

A/A	Authors	Year	Main future research suggestions
			2. Adopt a time series approach with at least three-time waves.
			3. Investigate possible negative effects of employee intrapreneurship on employee well-being, such as employee exhaustion and stress, which may occur in case intrapreneurial projects fail, and how these impacts positive and negative employee outcome variables (e.g., in-role work performance and counterproductive work behaviors).
11	Lu, Chang-qin; Wang, Hai- jiang; Lu, Jing-jing; Du, Dan-yang; Bakker, A. B.	2014	1. Extend the possible individual characteristics that affect the work engagement-fit perception relationship, such as individual perceived control.
			2. Replication of findings by using the objectively measured fit (e.g., creating a fit index by using individual and work characteristics).
			3. Use a three-wave longitudinal design to conceptualize and test dynamic mediated relationships better.
12	Karatepe, O.M.	2013	1. Use longitudinal data for testing the relationships reported in this study would be beneficial.
			2. Incorporate creative performance into the research model would provide a better picture of the mediating role of work engagement in the relationship between HPWPs and relevant performance outcomes.
			3. Use cross-national samples would be beneficial for evaluating the applicability of the research model to other countries (e.g., Nigeria, Turkey, and China).
13	Bakker, A. B.	2011	1. Conduct multilevel studies of leaders and their followers, as not much is known about how leaders influence their followers' engagement and the mechanisms that explain this influence.
			2. Investigate engagement over shorter periods like weeks and days.
14	Eldor, L.; Harpaz, I.	2016	1. Other research designs, for example, experimental and longitudinal, are recommended.
			2. A qualitative approach and using indicators of learning objectives are recommended.
			3. Include other elements such as ethical climates, accountability, transparency, and organizational politics instead of focusing on just the learning climate.
			4. Use of larger samples at the unit and organizational levels with a multilevel SEM framework.
15	Salanova, M.; Schaufeli, W. B.	2008	1. The research model could be tested in the future using expert ratings and interviews to assess job resources and proactive behavior, respectively.
			2. Future longitudinal research should investigate the dynamic, reciprocal nature of job resources, work engagement, and proactive behavior.
16	Schmitt, A.; Den Hartog, D. N.; Belschak, F.D.	2016	1. Investigate whether the model of this study also holds for other forms of discretionary work behavior (e.g., affiliative organizational citizenship behavior) to know whether we can generalize the current findings to the broader domain of discretionary work behaviors.
			2. Collect data on proactivity from multiple colleagues to assess the level of agreement between evaluations or include different sources such as self-reports and leader evaluations in addition to colleague evaluations.
			3. More rigorous sampling approaches are needed to investigate the generalizability of the findings.
			4. Replicate the findings in a larger sample of dyads using a more extensive strain scale.
			5. Experimental research is needed.
			6. Conduct a diary study:
			$\sqrt{}$ to investigate whether the relationships and processes as specified in this conceptual model operate similarly across the within-person level of analysis.
			$\sqrt{}$ to investigate the interplay of multiple resource categories such as volatile and stable, structural resources.
17	Albrecht, S. L.; Marty, A.	2020	1. Determine if combinations of personality facets most influence employee's psychological connection to their work and their performance.
			2. Integrate additional constructs within an elaborated JD-R model.
			3. Include additional individual factors such as core self-evaluation, positive affect, proactive personality and PsyCap, and additional well-being, behavioral, and performance related outcomes.
			4. Consider the moderating effects of the identified personality facets on the relationship between job resources and engagement and on the relationship between self-efficacy and engagement.

(*continued*)

A/A	Authors	Year	Main future research suggestions
18	Halbesleben, J. R.B.; Wheeler, A.R.	**2008**	1. Consider carefully the unique contribution of engagement rather than the simple zero-order correlation. 2. Expand data collection to include repeated measures, perhaps in the context of a cross-lagged panel design.
19	Byrne, Z. S.; Peters, J.M.; Weston, J.W.	**2016**	1. Develop better measures of engagement.
20	Bakker, A. B.; Demerouti, E.; Ten Brummelhuis, L. L.	**2012**	No future suggestions
21	Breevaart, K.; Bakker, A. B.; Demerouti, E.; Derks, D.	**2016**	1. Examine gain cycles of self-leadership and work engagement, for example, by looking at how self-leadership in one week influences work engagement in the next week, how work engagement influences self-leadership in the next week, and so on.
22	Mackay, M.M.; Allen, J.A.; Landis, R.S.	**2017**	1. A future meta-analysis that includes only longitudinal research and uses cross-lagged panel analysis could be helpful in clarifying both the magnitude and direction of effects between the study variables. 2. Examine a broader array of employee effectiveness indicators. 3. Assess performance at the collective and business-unit level of analysis.
23	Wang, Hai Jiang; Lu, Chang Qin; Siu, Oi Ling	**2015**	1. Experimental design is needed to address the causal direction of the relationships among the variables. 2. Examine other potential mechanisms explaining the effect of organizational justice. 3. Investigate which individual factors (e.g., personality) moderate the strength of the interactive effect of job insecurity and organizational justice on work outcomes.
24	Jung, Hyo Sun; Yoon, Hye Hyun	**2016**	1. Introduce elements that are specific to hospitality industries. 2. Examine variables in the meaning of work that induce negative work behaviors, such as intensification of turnover and counterproductive behaviors. 3. Investigate other personal factors that might moderate the link between employees' attitudes and meaning of work.
25	ling Siu, Oi; fang Lu, Jia; Brough, Paula; qin Lu, Chang; Bakker, Arnold B.; Kalliath, Thomas; O'Driscoll, Michael; Phillips, David R.; qing Chen, Wei; Lo, Danny; Sit, Cindy; Shi, Kan	**2010**	No future suggestions regarding engagement
26	Eldor, Liat; Vigoda-Gadot, Eran	**2017**	1. Examine the relationship between organizational citizenship behavior, personal initiative, and engagement. 2. Examine the potential overlap with other related concepts such as organizational citizenship behavior and role of expansion.
27	Airila, Auli; Hakanen, Jari J.; Schaufeli, Wilmar B.; Luukkonen, Ritva; Punakallio, Anne; Lusa, Sirpa	**2014**	1. Apply more objective indicators of job resources, particularly of work ability. 2. Investigate the effect of (and possible reciprocal relationships between) work engagement on work ability, as well as a full panel design including job and personal resources measured at all study points. 3. Test the research model using a shorter time lag, a full panel design, and with a larger sample size.
28	Kane-Frieder, Rachel E.; Hochwarter, Wayne A.; Ferris, Gerald R.	**2014**	1. Examine boundary conditions capable of increasing or attenuating engagement's wide-ranging effects. 2. Examine whether individuals perceive politics to occur at different levels of the organization and how these multi-level perceptions differentially predict organizational outcomes. 3. Examine the characteristics of individuals who appraise organizational politics as a challenge worth pursuing versus a hindrance needing to be minimized. 4. Examine whether engaged individuals actually engage in more political behavior as a way to capitalize on the opportunities provided by organizational politics.
29	Alfes, Kerstin; Truss, Catherine; Soane, Emma C.; Rees, Chris; Gatenby, Mark	**2013**	1. Collect data from multiple sources. 2. Assess whether there are differences in individuals' perceptions based on their occupational background. 3. Analyze whether different leadership styles have a differential impact on employees' perception of, and attributions to, HRM systems. 4. Assess to what extent line managers' perceptions of HRM practices influence their employees' perceptions of HRM practices, using multilevel data from different data sources in the organization.
30	Salmela-Aro, Katariina; Upadyaya, Katja	**2018**	1. A longitudinal design is needed. 2. Greater diversity and better measures of personal and job-related demands and resources are needed. 3. Develop a scale measuring demands and resources that also includes the emerging novel demands such as digitalization and diversity.
31	Shantz, Amanda; Alfes, Kerstin; Latham, Gary P.	**2016**	1. Objective measures of workplace deviance are desirable.

(*continued*)

A/A	Authors	Year	Main future research suggestions
			2. Future research should control for time 1 levels of turnover intentions and deviance in order to partial out the stable effects that are associated with the criterion (Sturman, 2007), thereby reducing the influence of same-source variance. 3. Explore other potential moderating variables, with different foci, such as the moderating effect of team dynamics, supervisor support, or coworker support in relation to work engagement and team performance (stressor-support specificity theory).
32	Shantz, Amanda; Alfes, Kerstin; Truss, Catherine; Soane, Emma	2013	1. Delve deeper into the longitudinal dimensions of work engagement.
33	Yalabik, Zeynep Y.; Popaitoon, Patchara; Chowne, Julie A.; Rayton, Bruce A.	2013	1. Examine multiple mediators (e.g., the three critical psychological states, intrinsic motivation, job satisfaction, etc.) of the relationship between job design and performance outcomes to determine whether engagement is the sole mediator. 2. Explore the role of individual moderating constructs on the work design to engagement and/or work design to performance relationship. 3. Employ longitudinal or experimental designs to provide more definitive conclusions regarding the relationship between work characteristics and employee engagement.
34	Boon, Corine; Kalshoven, Karianne	2014	1. Include both intended and perceived high-commitment HRM and study how both affect work engagement and organizational commitment. 2. Explore how other HRM systems affect work engagement. 3. Study HRM from the perspective of organizational resources as well as organizational demands. 4. Include actual HR practices. 5. Use a more focused setting to replicate the findings.
35	Kwon, Kibum; Kim, Taesung	2020	1. Further research into a variety of demand types and by extension, into the psychological/circumstantial mechanism of hindering and challenging.
36	Hooi, Lai Wan	2019	1. Consider other constructs or theories to generate a profound understanding of what affects firm performance or EE. 2. Further analysis is necessary to fully understand which 'black box' effectively enhances the HR system-firm performance linkage. 3. Undertake a longitudinal study with a bigger sample size covering MNCs across the globe to verify the generalizability of the results
37	Bhatnagar, Jyotsna	2012	1. Conduct follow-up studies on specific industries that are known for innovation (i.e., high technology and science, biotechnology, and pharmaceutical industries). 2. Examine more moderators and mediators amongst these variables which could emerge in the psychological empowerment, work engagement and innovation relationship.
38	Bal, P. Matthijs; de Cooman, Rein; Mol, Stefan T.	2013	1. Test this model by using other sources of information, such as supervisor and colleague ratings, and also focus more on objective behavioral outcomes, such as job performance and actual turnover. 2. Investigate the role of prior work experience in determining the dynamics of psychological contracts with work outcomes. 3. Investigate the empirical distinction in the meaning of fulfillment, breach, and violation within a psychological contract perspective.
39	Haynie, Jeffrey J.; Mossholder, Kevin W.; Harris, Stanley G.	2016	1. In future tests of the model, researchers might also incorporate interactional justice dimensions. 2. Examine our model with separate collections of study variables at time-lagged intervals to further enhance causality arguments. 3. Test the linkage between distributive justice-outcome relations while including both positive affect and organizational identity to determine how these factors contribute to the emergence of job engagement from distributive justice. 5. Investigate the association of justice with both job engagement and job embeddedness.
40	Scrima, Fabrizio; Lorito, Lucrezia; Parry, Emma; Falgares, Giorgio	2014	1. Test the model using a more representative sample. 2. Develop a longitudinal model to verify the directionality of the effects.
41	Shuck, Brad; Nimon, Kim; Zigarmi, Drea	2017	1. Examine the underlying meaning and quality of measurement used in the nomological network of engagement. 2. Focus on disentangling effect as a common factor between like constructs and engagement. 3. Examine state and trait engagement as it relates to the positioning of the engagement construct, job attitudes, and affect (positive and negative) in connection with actual job performance.

(*continued*)

A/A	Authors	Year	Main future research suggestions
42	De Clercq, Dirk; Bouckenooghe, Dave; Raja, Usman; Matsyborska, Ganna	2014	1. Adopt multilevel approaches to compare work engagement at individual versus dyadic levels and its effect on counterproductive behaviors. 2. A longitudinal design could distinguish the short-term from long-term effects of goal congruence, as well as track possible fluctuations in the effect of work engagement. 3. Include multiple industries and countries could provide additional insights into the relative importance of employee characteristics in converting perceived fit with the organization into withdrawal from adverse behaviors.
43	Yalabik, Z.Y.; van Rossenberg, Y.; Kinnie, N.; Swart, J.	2015	1. Future longitudinal studies might be a solution to common method bias and might further contribute to the current understanding of engagement -commitment link in PSF by focusing on the directionality between the two constructs. 2. Focus on differentiating how perceived support from the organization, the team, or the client, impact the link between the engagement and commitment of professionals. 3. Measure engagement with each of the four foci and to include the other types of commitment, i.e. normative and continuance commitment.
44	Jung, H.S.; Yoon, H.H.	2018	1. Longitudinal studies should be conducted. 2. Use variables that take demographic characteristics into consideration. 3. Use more objective measurement tools and evaluation. 4. Use additional variables for estimating an organization's performance.
45	Son, S.J.; Kim, D.Y.	2019	1. A longitudinal study needs to be considered for future research.
46	Barbier, M.; Hansez, I.; Chmiel, N.; Demerouti, E.	2013	No future suggestions regarding engagement or engagement outcomes.
47	Radic, A.; Arjona-Fuentes, J.M.; Ariza-Montes, A.; Han, H.; Law, R.	2020	1. Use a longitudinal time horizon. 2. Use the original JD-R model, in which job demands have a moderating effect on the relationship between job resources and work engagement. 3. Conduct univariate analyses of variance on larger samples.
48	Mostafa, A.M.S.	2019	1. Studies using experimental or longitudinal designs are required to test causality. 2. Future research in different contexts is required to determine the generalizability of the findings.
49	Maden-Eyiusta, C.	2021	1. Future research needs to depend on longitudinal and experimental designs to provide more rigorous support about the direction of causality. 2. Employ measures taken from multiple sources (e.g., supervisors' ratings of employee engagement).
50	Ampofo, E.T.; Karatepe, O.M.	2022	1. Use managers' assessment of employees' turnover intentions and work engagement would be more beneficial

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