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# Mapping the organizational socialization and onboarding literature: a bibliometric analysis of the field

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## ABSTRACT

This study provides a comprehensive review of the intellectual structure and current dynamics of onboarding and socialization research. Using the Web of Science (WoS) database, we found 452 research articles that met the inclusion criteria. Biblioshiny R-package and VOSviewer were used for the bibliometric analysis. We lay out the most prolific authors, journals, institutions and articles in this rapidly growing field. We find that current research is scattered all over different topics and disciplines. We identify five research fronts that authors have pursued in the last 5 years. Researchers have focused on: psychological contracts; the role of networks and relationship building; the changing work contexts in which organizational socialization takes place; the effects of newcomer proactivity and interactions with supervisors; onboarding in distinct areas like software engineering. Promising research avenues in this field can be distinguished in: different groups of newcomers; examining interactive effects between newcomers and socialization agents; and analyzing the evolving area of digital and virtual onboarding and organizational socialization.

## IMPACT STATEMENT

Efficient onboarding practices and processes not only expedite the productivity of new hires but also increase retention, satisfaction, and engagement. Using bibliometric methods, we analyze 452 research articles, unveiling key contributors and pivotal works in the evolving field of onboarding and organizational socialization. We carve out five research areas that hold potential for future research endeavors. By offering insights into the dynamics of successful organizational socialization, our work holds profound implications for cultivating welcoming and efficient workplaces for managers and HR departments.

## 1. Introduction

Organizations worldwide increasingly focus on onboarding and organizational socialization to meet growing challenges, such as lowering retention rates and increased virtualization and digitization (Hofmann et al., 2022; Sani et al., 2022). A recent survey involving 363 German HR officers and managers revealed that 86 percent recognized the imperative to improve their onboarding activities. Moreover, a compelling 88 percent believed that early fluctuation could be mitigated by enhanced onboarding efforts (Haufe, 2022). This indicates that practitioners have recognized the potential of advancing their onboarding activities. However, a notable gap exists between academic research on organizational socialization, primarily rooted in the scientific community of organizational behavior and psychology. Practitioners are, however, generally not familiar with models and theories about organizational socialization and the practical awareness of these models and theories. In contrast, practitioner literature often remains limited to

compiling best practices and superficial case studies (Klein & Polin, 2012). Additionally, researchers have identified the research field as highly dispersed (Batistič & Kaše, 2015), further highlighting the need for a cohesive and comprehensive overview for academia and management practitioners. To address these gaps and contribute to both academic and practical spheres, our objective is to conduct a thorough bibliometric analysis of the existing body of literature on onboarding and organizational socialization.

Organizational socialization is the process by which newcomers acquire the knowledge, skills, attitudes, and behaviors needed to adapt to the new role and to effectively operate in their new environment (Bauer et al., 2007; Van Maanen & Schein, 1979). Effective socialization can protect and maximize return on investment in hiring and training newcomers, and builds up the competitive advantage of human capital (Batistič, 2018). Research shows that organizational practices and newcomer behaviors affect newcomers' adjustment, which is related to job satisfaction, organizational commitment, job performance and turnover intention (Bauer et al., 2007; Saks et al., 2007). At the beginning of this century, the term onboarding emerged, especially in the practitioner literature (Wanberg, 2012). Although some authors use the terms onboarding and organizational socialization interchangeably, more conceptual clarity is achieved by defining onboarding as the sum of 'all formal and informal practices, programs and policies enacted or engaged in by an organization or its agents to facilitate newcomer adjustment' (Klein & Polin, 2012). As we show in this review, the number of publications about organizational socialization and onboarding is growing and dispersed over different subjects, which makes it difficult to effectively navigate through all the literature.

To gain a comprehensive understanding of scientific contributions to onboarding and organizational socialization at the intersection of organizational behavior, psychology and human resource management, this study uses a bibliometric analysis to figure out the intellectual structure of these research areas since Van Maanen and Schein (1979) introduced the concept of organizational socialization in 1979. A bibliometric analysis is a technique that employs statistical methods to analyze, structure and investigate a large body of literature. In doing so, scholars might discover 'hidden patterns' that facilitate the review process (Kraus et al., 2022). Throughout this paper, we aim to provide a coherent map of onboarding and organizational socialization research. We also identify contemporary clusters, emerging trends and novel research avenues, especially regarding the 'new normal' after the COVID-19 pandemic. The objectives of this research are to also identify research gaps and provide insights for potential research ideas in the field.

The findings offer two important contributions to the field. First, practitioners obtain an overview of the most relevant concepts and theories to implement and improve onboarding activities in their organizations. The second and main contribution is an academic one: we provide a comprehensive review of the intellectual structure of the field and identify areas where more research is needed. The purpose of this article is to, thus, address five research questions (RQs) by a bibliometric study.

RQ1. What are the publication trends in onboarding and organizational socialization?

RQ2. Who are the most influential authors, institutions and countries in the onboarding and organizational socialization field?

RQ3. What are the most influential publications about onboarding and organizational socialization?

RQ4. What is the intellectual structure of onboarding and organizational socialization research?

RQ5. What are the emerging and promising topics?

This paper is organized as follows: first, we provide an overview of the onboarding and organizational socialization literature. Then we describe the bibliometric methodology that we followed in this analysis. Next, we present and discuss our findings. Finally, we conclude by showing promising research avenues for future research.

## 2. Onboarding and organizational socialization background

The foundation of the socialization field lies in Van Maanen and Schein (1979) seminal work, which proposes that six bipolar tactics organizations might apply for the socialization of new employees. Jones (1986) operationalized these as 5-item self-report scales, which have widely been used in studies into socialization tactics (Ashforth et al., 1997). He classified the tactics as either institutionalized (collective, formal, sequential, fixed, serial, investiture) or individualized (individual, informal, random, variable, disjunctive, divestiture) (Jones, 1986). There is meta-analytic evidence that institutionalized socialization

tactics is negatively related to role ambiguity, role conflict, intentions to quit and turnover, and positively to self-efficacy, fit perceptions, job satisfaction, job performance, social acceptance and a custodial role orientation (Bauer et al., 2007; Saks et al., 2007). It has been criticized that the operationalization of investiture tactics of Jones (1986) differs from the original definition of Van Maanen and Schein (1979) because it measures social support more than identity affirmation. It is also unclear whether a change in the newcomer's identity may be envisaged (Ashforth et al., 1997; 2007; Ashforth & Saks, 1996). Although a large amount of the literature uses them, focusing on tactics has been subjected to considerable criticism. Very little guidance is available for organizations because they measure the degree of structure of organizational socialization, but do not offer information about what actual activities, events or content might be useful to be implemented by employers (Saks & Gruman, 2012).

In the early 1990s, research into uncertainty reduction by proactive behavior on behalf of newcomers gained momentum. Due to economic and labor market changes, employees tended to more frequently experience socialization. Consequently, proactive newcomer behaviors have become particularly important for successful socialization (Cooper-Thomas & Burke, 2012; Zhao et al., 2022). From several studies, it is now well-established that newcomer proactivity positively affects socialization outcomes (Ashforth et al., 2007; Saks et al., 2011; Zhao et al., 2022). Of proactive behaviors, newcomer information-seeking has been investigated the most (Morrison, 1993; Ostroff & Kozlowski, 1992). In addition to information seeking, Ashford and Black (1996) introduced six additional proactive behaviors, which were grouped into four categories by Zhao et al. (2022): sensemaking (information seeking and feedback seeking); relationship building (general socializing, networking, and building a relationship with one's boss); positive framing; negotiating job changes. A meta-analysis of 43 studies found that three of the four categories, namely sensemaking, relationship building and positive framing, were positively related to successful socialization, with positive framing being the strongest predictor (Zhao et al., 2022). As we show in the bibliographic coupling, authors are increasingly interested in the interactive effects of newcomer proactive behavior in the socialization process (Bauer et al., 2019; Nifadkar, 2020)

At the turn of this century, a number of studies aimed to provide a comprehensive understanding of the organizational socialization field (Batistič & Kaše, 2015) by including various variables to explain the socialization process (e.g. Ashforth et al. (2007); Kammeyer-Mueller and Wanberg (2003); Kim et al. (2005). With the introduction of the Socialization Resources Theory by Saks and Gruman (2012), authors have increasingly examined how the resources that are provided during socialization are linked to newcomer adjustment and socialization outcomes (Bauer et al., 2019; Ellis et al., 2015; Harris et al., 2022; H. Liu et al., 2023; Saks & Gruman, 2018).

Recently, several authors have utilized the psychological contract to examine the dynamic process of the pathway through socialization. They found that perceived breach and fulfillment affect adjustment add up over time (Lapointe & Vandenberghe, 2021; Li et al., 2022; Woodrow & Guest, 2017, 2020).

In the wake of the Covid-10 pandemic, research is beginning to explore how newcomer adjustment functions in hybrid and virtual work environments (Mazzei et al., 2022; Russo, 2017; Yarbrough & Ramos Salazar, 2023).

To further explain the literature on onboarding and organizational socialization and to identify promising future research avenues, we conduct a bibliometric review of this research field. The specific methods and procedures of this technique are described in the following section.

## 3. Methodology

We apply a bibliometric methodology that involves using quantitative instruments to analyze bibliometric and bibliographic information (Groos & Pritchard, 1969). This method has become very popular lately in business research (Budler et al., 2021; Donthu, Kumar, Pandey, et al., 2021; Donthu, Kumar, Pattnaik, et al., 2021; Goodell et al., 2021; Kent Baker et al., 2020; Kumar et al., 2021; Mukherjee et al., 2022; Z. Xu et al., 2021). Unlike traditional systematic literature reviews, a bibliometric review allows information to be provided on areas characterized by large amounts of bibliometric and bibliographic information. In this paper, we follow the four-step process of Donthu et al. (2021) for bibliometric reviews: (1) defining

the aims and scope of the review; (2) selecting analysis techniques; (3) collecting data for analysis; (4) conducting the analysis and reporting the results.

### 3.1. Aims and scope of the analysis

Building on a co-citation analysis in which Batistič and Kaše (2015) identified three main theories to explain the socialization process, namely organizational reduction theory, sense-making and the social cognitive theory, we aim to show the research paths that have been devised ever since. As we show in the performance analysis, the number of publications has significantly grown. Therefore, we apply bibliographic coupling to discover emerging publication themes.

### 3.2. Choosing the techniques for the bibliometric analysis

A bibliometric analysis usually consists of two categories: performance analysis and science mapping. A performance analysis investigates the contributions of research constituents, such as authors, sources, institutions or countries. Typically used measures are the number of publications as a measure of productivity and of citations as a measure of influence and impact (Donthu, Kumar, Mukherjee, et al., 2021). We apply a performance analysis to show the development and trends in organizational socialization and onboarding research. Additionally, the most prolific authors, institutions, and countries are outlined, as are the most published journals and the most cited articles.

Bibliographic coupling assumes that two publications are related in content if they cite the same literature (Kessler, 1963). The number of common references defines the strength of the bibliographic coupling of the two publications. Unlike co-citation, which focuses on highly cited papers from the past, bibliographic coupling can be used to identify clusters of current and future research themes (Weinberg, 1974). This includes papers with obviously low citation rates that might be otherwise overlooked (Donthu, Kumar, Mukherjee, et al., 2021)

### 3.3. Data collection

We carried out our research in the Clarivate Analytics Web of Science (WoS) database, which is the most widely used one for bibliometric analyses in the management and organization field (Zupic & Čater, 2015). We limited our data collection to the Social Sciences Citation Index (SSCI) and Science Citation Index Expanded (SCI-Expanded) to focus on publications of a high scientific standard. In the search function, the keywords 'onboarding', 'organizational socialization' or 'employee socialization' needed to be present in the title, abstract or keywords. To exclude articles on onboarding in other domains, such as onboarding customers in the IT services field or the onboarding of clients in the social work domain, we combined those keywords with one of the following terms: employee, newcomer, new hire.

Regarding the language of publications, in line with the best practices in systematic reviews and given the nature of our research, English was chosen as the search language. Concerning the type of documents, only peer-reviewed articles, reviews and conference proceedings were selected because they contain the most reliable knowledge. Using these search criteria, we obtained an initial sample of 452 documents.

## 4. Findings

The analysis results are presented in two sections. First, we show the findings of the performance analysis to offer an overview of the major contributions of the research constituents in the field. Second, we show the relationships between research constituents building on science mapping.

### 4.1. Performance analysis

Performance analysis allows researchers to determine the productivity (publication) and impact (citation) of the selected body of literature (Kraus et al., 2022). We used the R software package (Aria & Cuccurullo,

2017) to identify the most important parameters for the performance analysis. Figure 1 shows the year-wise publications on onboarding and organizational socialization and, thus, answers RQ1. Between 2011 and 2018, the number of publications tripled compared to the decade before, and continued to rise to 53 published papers in 2022.

The most prolific authors, institutions and countries (RQ2) are listed in Table 1. Alan M. Saks contributes most with 18 papers, which are cited more than 2500 times. Helena D. Copper-Thomas, Blake E. Ashforth, and Tayla N. Bauer follow with 14, 11, and 11 publications, respectively. The top-five prolific institutions are the University of Auckland, the Texas A&M University, the University of Toronto, the Portland State University and the University of Minnesota. The United States is the most productive country, with more than 500 publications, followed by China and Canada. In all, the authors of 45 countries have contributed to this research field.

Figure 2 shows the most publishing journals in the onboarding and organizational socialization field. The top three most prolific journals are: the Journal of Vocational Behavior, with 28 articles on onboarding and organizational socialization that have received 1994 citations; the Journal of Applied Psychology, with 25 articles that have received 4253 citations; the Journal of Organizational Behavior, with 12 articles that have received 643 citations. Notably, research into onboarding and organizational socialization can be found in journals in the Organizational Behavior, Applied Psychology and Human Resources Management fields. What this shows is how such research is located at the crossroads of these fields and that it is interdisciplinary in nature. Of the top 20 journals, 19 are ranked Q1 in the SCImago Journal ranking of the Scopus database, which indicates high research quality.

The most cited articles (RQ3) are listed in Table 2, which is led by the much recognized meta-analytic review of antecedents, outcomes and methods of newcomer adjustment by Bauer et al. (2007). They found evidence for a model in which organizational socialization tactics and information seeking
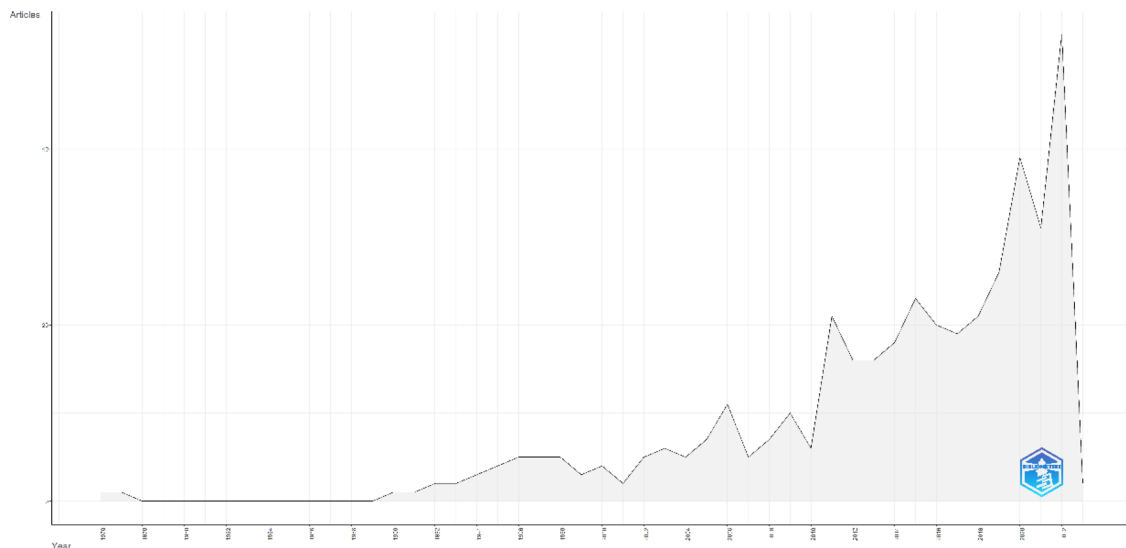


**Figure 1.** Annual distribution of the articles created with bibliometrix.

**Table 1.** Top publishing authors, institutions and countries.

| Author | NP | TC | Institution | NP | Country | NP | TC |
|---|---|---|---|---|---|---|---|
| Saks AM | 18 | 2544 | UNIV AUCKLAND | 23 | USA | 570 | 9242 |
| Cooper-Thomas HD | 14 | 430 | TEXAS A&M UNIV | 20 | CHINA | 214 | 701 |
| Ashforth BE | 11 | 1556 | UNIV TORONTO | 20 | CANADA | 109 | 2803 |
| Bauer TN | 11 | 1423 | PORTLAND STATE UNIV | 19 | UK | 73 | 475 |
| Erdogan B | 6 | 851 | UNIV MINNESOTA | 17 | ITALY | 47 | 173 |
| Gruman JA | 6 | 387 | ARIZONA STATE UNIV | 15 | GERMANY | 41 | 280 |
| Kammeyer-Mueller JD | 5 | 404 | MICHIGAN STATE UNIV | 14 | AUSTRALIA | 36 | 137 |
| Steinmacher I | 5 | 159 | BEIJING JIAOTONG UNIV | 13 | NEW ZEALAND | 33 | 192 |
| Kramer MW | 5 | 124 | IOWA STATE UNIV | 13 | THE NETHERLANDS | 32 | 226 |
| Song Z | 5 | 115 | SAPIENZA UNIV ROME | 12 | BELGIUM | 29 | 573 |

Note: NP = number of publications, TC = total citations.

**Figure 2.** Most publishing journals. NP=number of publications, TC=total citations.

effect socialization outcomes *via* adjustment in the form of role clarity, self-efficacy and social acceptance. This article received 218 citations in the body of literature herein analyzed (local citations) and 694 global citations. The article of Ch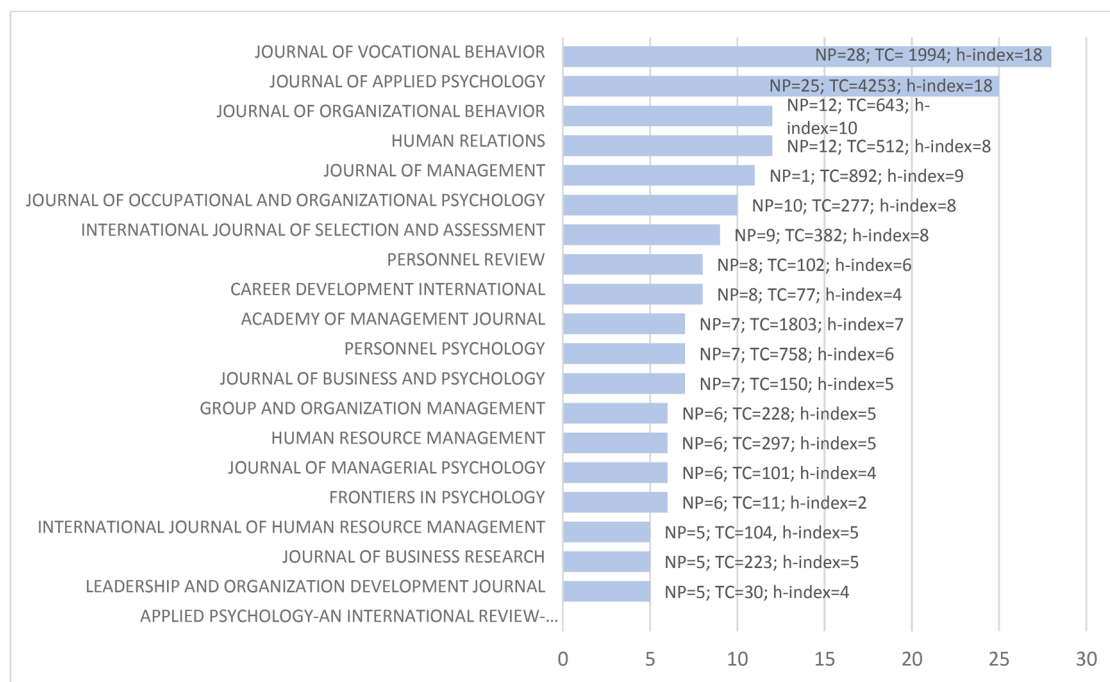ao et al. (1994), with 157 local citations and 576 global citations, focuses on the content of socialization and the multidimensionality of this construct. Ostroff and Kozlowski (1992) focus on the learning process during organizational socialization with their article in Personnel Psychology, with 138 local and 432 global citations. Saks and Ashforth (1997) review of organizational socialization research is cited locally and globally 126 and 367 times, respectively. The effects of socialization tactics are examined in the article of Ashforth and Saks (1996), with 118 local and 466 global citations.

## 4.2. Intellectual and influence structure of onboarding and organizational socialization research

As described in the Methodology section, science mapping is used to show the intellectual and influence structure of the research field to answer RQ4. As Batistič and Kaše (2015) provide a co-citation analysis of the organizational socialization literature for three research periods, we focus on adding a scientific map based on co-occurring keywords and examining future research paths through bibliometric coupling.

### 4.2.1. Thematic trends of onboarding and organizational socialization research with a co-occurrence analysis

To understand the current research directions and central themes of the field, we used VOSviewer (van Eck & Waltman, 2010) to obtain a visual map of keyword co-occurrence for articles from 2015 onward, which is shown in Figure 3. We can identify clusters about socialization outcomes (light blue), leadership and perceived organizational support (beige), socialization tactics (green), proactivity linked with stress, COVID-19 and digital onboarding (yellow), Information seeking, organizational entry and remote work (orange), open-source software with human resource management (red), psychological contract and supervisor support (pink), recruitment (blue), and social integration and role clarity (purple). We can see that research directions from 2015 onward are scattered with links to different disciplines.

**Table 2.** Most cited articles.

| Authors | Title | Year | Journal | LC | GC | GC / Y |
|---|---|---|---|---|---|---|
| Bauer, T.N.; Erdogan, B. ; Bodner, T.; Truxillo, D.M.; Tucker, J.S. | Newcomer Adjustment During Organizational Socialization: A Meta-Analytic Review of Antecedents, Outcomes, and Methods | 2007 | JOURNAL OF APPLIED PSYCHOLOGY | 218 | 694 | 40,82 |
| Chao, G.T.; O'Leary-Kelly, A.M. Wolf, S.; Klein, H.J.; Gardner, P.D. | Organizational Socialization: Its Content and Consequences | 1994 | JOURNAL OF APPLIED PSYCHOLOGY | 157 | 576 | 19,20 |
| Ostroff, C.; Kozlowski, S.W.J | Organizational socialization as a learning process - the role of information acquisition | 1992 | PERSONNEL PSYCHOLOGY | 138 | 432 | 13,50 |
| Saks, A.M.; Ashforth, B.E. | Organizational Socialization: Making Sense of the Past and Present as a Prologue for the Future | 1997 | JOURNAL OF VOCATIONAL BEHAVIOR | 126 | 367 | 13,59 |
| Ashforth, B.E.; Saks, A.M. | Socialization tactics: Longitudinal effects on newcomer adjustment | 1996 | ACADEMY OF MANAGEMENT JOURNAL | 118 | 466 | 16,64 |
| Saks, Alan M.; Uggerslev, Krista L.; Fassina, Neil E. | Socialization tactics and newcomer adjustment: A meta-analytic review and test of a model | 2007 | JOURNAL OF VOCATIONAL BEHAVIOR | 109 | 268 | 15,76 |
| Ashforth, B.E.; Sluss, D.M.; Saks, A.M. | Socialization tactics, proactive behavior, and newcomer learning: Integrating socialization models | 2007 | JOURNAL OF VOCATIONAL BEHAVIOR | 78 | 257 | 15,12 |
| Gruman, Jamie A.; Saks, Alan M.; Zweig, David I. | Organizational socialization tactics and newcomer proactive behaviors: an integrative study | 2006 | JOURNAL OF VOCATIONAL BEHAVIOR | 72 | 165 | 9,17 |
| Morrison, EW | Newcomers' relationships: The role of social network ties during socialization | 2002 | ACADEMY OF MANAGEMENT JOURNAL | 71 | 551 | 25,05 |
| Wanberg, C.R.; Kammeyer-Mueller, J.D. | Predictors and outcomes of proactivity in the socialization process | 2000 | JOURNAL OF APPLIED PSYCHOLOGY | 68 | 291 | 12,13 |
| Kim, T.Y.; Cable, D.M.; Kim, S.P. | Socialization tactics, employee proactivity, and person-organization fit | 2005 | JOURNAL OF APPLIED PSYCHOLOGY | 67 | 231 | 12,16 |
| Kammeyer-Mueller, J.; Wanberg, C.; Rubenstein, A.; Song, Z. | Support, Undermining, and Newcomer Socialization: Fitting in During the First 90 Days | 2013 | ACADEMY OF MANAGEMENT JOURNAL | 63 | 183 | 16,64 |
| Bauer, T.N.; Green, S.G. | Testing the combined effects of newcomer information seeking and manager behavior on socialization | 1998 | JOURNAL OF APPLIED PSYCHOLOGY | 60 | 157 | 6,04 |
| Bauer, T.N.; Green, S.G. | Effect of newcomer involvement in work-related activities - a longitudinal study of socialization | 1994 | JOURNAL OF APPLIED PSYCHOLOGY | 51 | 150 | 5,00 |
| Haueter, J.A.; Macan, T.H.; Winter, J. | Measurement of newcomer socialization: Construct validation of a multidimensional scale | 2003 | JOURNAL OF VOCATIONAL BEHAVIOR | 49 | 102 | 4,86 |
| Major, D.A.; Kozlowski, S.W.J. | Newcomer information seeking: Individual and contextual influences | 1995 | INTERNATIONAL JOURNAL OF SELECTION AND ASSESSMENT | 46 | 281 | 9,69 |
| Allen, N.J.; Meyer, J.P. | Organizational tactics - a longitudinal analysis of links to newcomers' commitment and role-orientation | 1990 | ACADEMY OF MANAGEMENT JOURNAL | 43 | 303 | 8,91 |
| Chen, G; Klimoski, R.J. | The impact of expectations on newcomer performance in teams as mediated by work characteristics, social exchanges, and empowerment | 2003 | ACADEMY OF MANAGEMENT JOURNAL | 37 | 215 | 10,24 |
| Klein, H.J.; Weaver, N.A. | The effectiveness of an organizational-level orientation training program in the socialization of new hires | 2000 | PERSONNEL PSYCHOLOGY | 36 | 148 | 6,17 |
| Ellis, A.M.; Nifadkar, S.S.; Bauer, T.N.; Erdogan, B. | Newcomer Adjustment: Examining the Role of Managers' Perception of Newcomer Proactive Behavior During Organizational Socialization | 2017 | JOURNAL OF APPLIED PSYCHOLOGY | 32 | 78 | 9,67 |

Note: LC = local citations, GC = global citations, GC/Y = global citations per year.

### 4.2.2. Emerging research via bibliographic coupling

The fifth research question (RQ 5) aims to identify new and promising research areas in organizational socialization and onboarding. Like Donthu, Kumar, Pandey, et al. (2021), Andersen (2021) and Rojas-Lamorena et al. (2022), we conducted a bibliographic coupling analysis by concentrating on recent publications. We filtered publications from 2018 onward, and the bibliographic coupling executed in VOSviewer (van Eck & Waltman, 2010) allowed us to identify five research fronts, which appear in Figure 4.
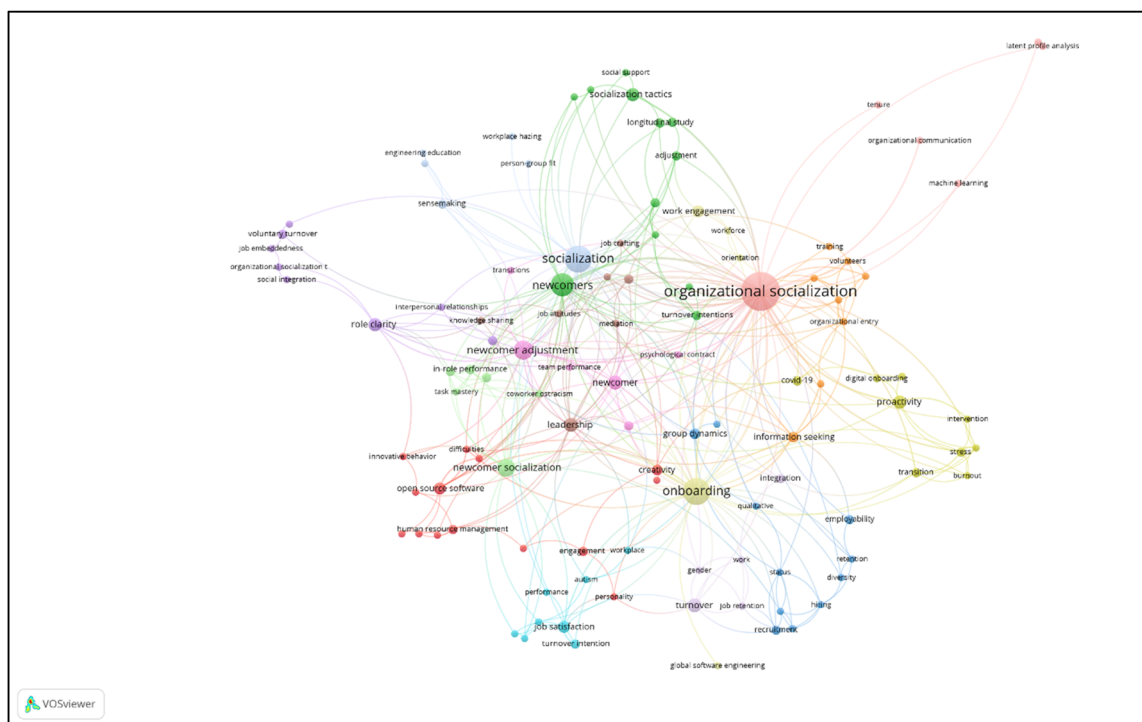
**Figure 3.** Co-occurrence analysis map created with VOSviewer.
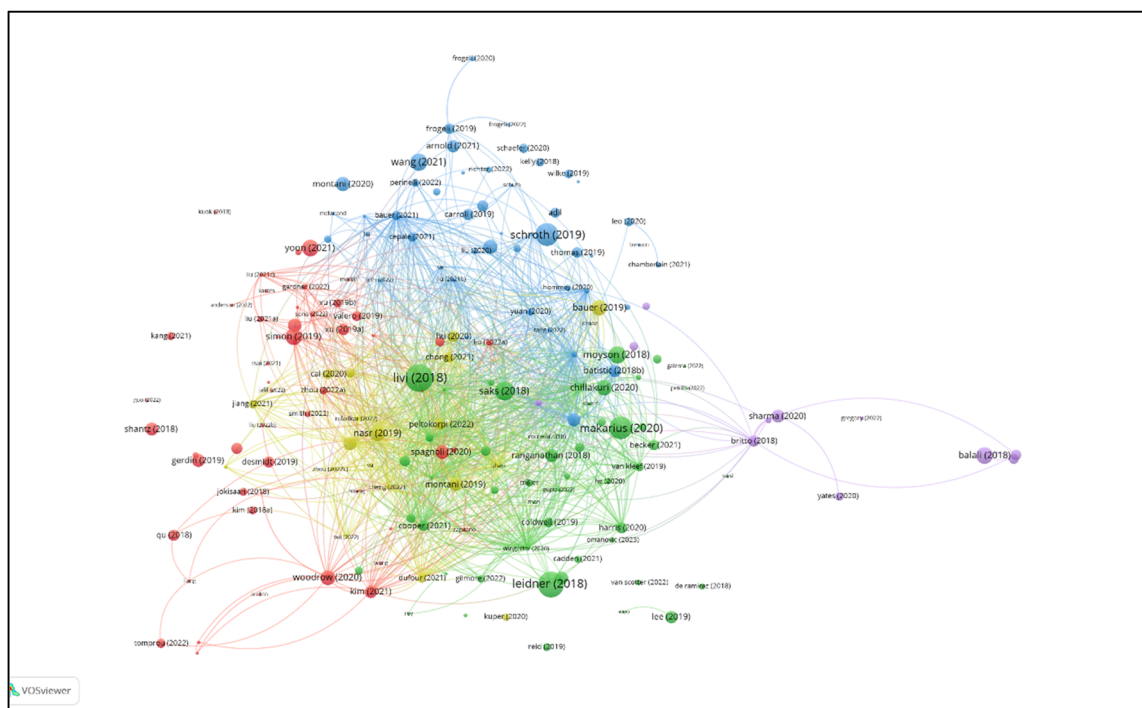


**Figure 4.** Network visualization of bibliometric coupling from 2018-2022 created with VOSviewer.

*4.2.2.1. Research front #1: psychological contracts and psychological capital.* Research front #1 covers 28 percent of the organizational socialization and onboarding articles published in the last 5 years. A central theme in this cluster is the concept of psychological contracts in the organizational socialization domain. Woodrow and Guest (2020) identified pathways through socialization, and depending on the perceived breach or fulfillment of psychological contracts. The concept of psychological contracts has gained attention in two ways. First, authors wish to determine how psychological contracts form during

socialization, e.g. by analyzing how socialization tactics and supervisor behaviors affect psychological contracts (Kim & Moon, 2021). Second, research is interested in psychological contract breach or fulfillment effects on newcomers (Lapointe & Vandenberghe, 2021).

In this cluster, we also find articles dealing with psychological capital, which Zhou et al. (2022) find related to perceived organizational support. Xu et al. (2019) demonstrate that employee psychological capital mediates the relationship between organizational socialization and work engagement.

**4.2.2.2. Research front #2: resources in organizational socialization and changing work contexts.** Research front #2 contains 28 percent of the articles analyzed with bibliographic coupling. In one of them, Saks and Gruman (2018) criticize that the concentration in uncertainty reduction focuses too much on 'minimizing and reducing negative effects of job demands rather than on providing newcomers with resources that are necessary to facilitate work engagement and socialization' (Saks & Gruman, 2018). Along with this view, the authors in research front #2 shift the focus to the role of resources and how they affect motivation and adjustment. Cooper et al. (2021) examine the exchange of identity resources between team newcomers and incumbent team members. Harris et al. (2022) show that receiving helpful resources from socialization agents positively relates to relational learning and socialization outcomes.

Another resource, namely socio-technical capital, is examined by Makarius et al. (2020), who propose a framework for socializing and integrating AI to help to mitigate the challenges that occur in AI-employee integration.

Beyond resources, articles that deal with the changing work context can be found in this cluster. The COVID-19 pandemic boosted remote work, which impacted new employees' onboarding. Sani et al. (2022) studied digital onboarding challenges. They point out that digital onboarding reduces social connection in the workplace, meaningful work, transparency and trust. At the same time, there are hints that some newcomers, especially introverted personalities, may benefit from digital onboarding because it might reduce hostility in the workplace. The authors stress that organizations need to strengthen their onboarding processes and make room for considerable human interactions to address digital onboarding disadvantages. Newcomers also have to adapt to digital socialization by acquiring digital skills and learning how to foster digital social interactions. Petrilli et al. (2022) examined digital onboarding by an ethnographic methodology. Their analysis showed in digital contexts that new employees noted that finding the right information, being proactive and receiving immediate feedback were difficult. The authors argue that to be successful, digital onboarding requires structured practices and distinct attention. Woo et al. (2022) examined information-seeking tactics, such as organizing virtual small talks or utilizing digital repositories, through which newcomers addressed the arising challenges of remote socialization during the COVID-19 pandemic.

To help organizations to prepare for Generation Z in the workplace, Chillakuri (2020) explored the expectations of this generation for effective onboarding, and Tharenou and Kulik (2020) examined the organizational socialization of the skilled migrants employed in mature developed economies.

**4.2.2.3. Research front #3: networks.** Research front #3 contains 27 percent of the publications on organizational socialization and onboarding. A social network perspective, like taken by Yuan et al. (2020), drew attention to social capital as a resource that facilitates newcomer adjustment. Bakker et al. (2021) examined how personal network development influenced the mobilization of social capital for newcomers. Zhou et al. (2022) analyzed newcomers' social networks with other newcomers in the same cohort, and in the same and different units. They showed that a moderate number of connections and frequency of interaction between newcomers in the same work unit accelerated the development of role clarity, unlike excessive intra-unit peer relationships. The authors examined work relationships as mechanisms for effective organizational socialization. Batistič and Kaše (2022) found that the persistence of information-support relationships was more relevant than socialization tactics. Liu et al. (2021) looked at newcomers' interpersonal relationships and showed that an increase in coworker exchange quality positively affected newcomer performance over time.

The role of newcomers' external networks was examined by Anzollitto and Cooper (2022), who found that strong relational identities external to the organization favored the socialization process by providing newcomers with social support and psychological well-being.

***4.2.2.4. Research front #4: newcomer proactivity and interactions with supervisors.*** Research front #4 comprises 11 percent of the articles published in the last 5 years. The authors focused on articles dealing with newcomer proactivity and interactive effects, especially with supervisors, during socialization. Zhao et al. (2022) conducted a meta-analysis of 45 samples from 43 studies, and showed that newcomer proactive behavior was generally beneficial for their socialization. Positive framing came over as the strongest predictor for the reviewed outcomes, whereas relationship building had the most significant variance in social integration. Cheng et al. (2022) examined job crafting as a self-advancement strategy during, which went beyond proactive behavior by not aiming at alignment with organizational norms, but creating working conditions by newcomers that function well for them. They found that job crafting enhanced the perception as organizational insiders.

To better understand the mechanisms of newcomer proactive behaviors, the authors studied interactions with supervisors during the organizational socialization process. Bauer et al. (2019) examined how servant leadership moderated the effect of newcomer proactive behavior on employee socialization outcomes. Nifadkar (2020) analyzed how newcomers developed mental images of warmth and competence of their supervisors, and how these schemas influenced their information-seeking behavior and adjustment. An interactionist perspective was emphasized by Nasr et al. (2019), who showed the positive effect of support and informational justice from supervisors on newcomer role clarity and social integration profits from institutionalized tactics. In contrast, those tactics substituted coworker-referenced fairness and support. Chong et al. (2021) used the Self-Determination Theory (SDT) as a framework for studying newcomer adjustment. They showed a significant influence of supervisor autonomy support on affective commitment and decreased withdrawal cognitions *via* psychological need satisfaction. The reasons why supervisors may not support newcomers to adjust were examined by Nifadkar and Wu (2022).

***4.2.2.5. Research front #5: onboarding in software engineering and open-source projects.*** With only six percent of the articles published in the last 5 years, research front #5 was the smallest. In this cluster, the authors explored onboarding among distinct groups of newcomers, mainly in the software industry. Britto et al. (2018, 2019) examined the onboarding of software developers in globally distributed projects. They revealed that remote onboarding and lack of cross-site contacts made networking more difficult, which were common challenges in such projects. In the IT sector, onboarding activities have been viewed as a means to mitigate the shortage of skilled software engineers and low retention rates (Sharma & Stol, 2020). Understanding codebases is often difficult for software developers who are newcomers. The process of passing on this information by experts to newcomers during onboarding was examined by Yates et al. (2020). In open-source software projects, the onboarding of new contributors is essential for their success (Balali et al., 2018). This is why several researchers have examined the onboarding of newcomers to OSS projects. Steinmacher et al. (2019) identified social barriers that hindered newcomers. Balali et al. (2018) studied mentoring as a means to overcome initial contribution barriers. Research front #5 shows that activities and processes in onboarding differ between occupations and industries, challenges are huge, where the frequency of onboarding processes and the level of digitalization are high (Table 3).

## 5. Conclusion and Implications

In conclusion, using the bibliometric methodology combining performance analysis with science mapping, this study allowed us to unravel the bibliometric characteristics and intellectual structure of organizational socialization and onboarding. Relying on 452 publications, our performance analysis demonstrated an almost exponentially increasing research interest in this domain. By identifying influential authors, key journals, and seminal works, we provide researchers, managers, and HR-responsibles with valuable guidance to navigate in this field of research. The VOSviewer software was used for mapping and graphically describing co-occurrence of keywords and bibliographic coupling to identify five future research fronts. This study holds both academic and practical implications, offering a foundation for future research and highlighting organizational practices around onboarding and organizational socialization.

**Table 3.** Research fronts.

| Research Front | Color in Figure 4 | References | Potential research themes |
|---|---|---|---|
| #1 Psychological contracts and psychological capital | red | K. Kim & Moon, 2021; Lapointe & Vandenberghe, 2021; Woodrow & Guest, 2020; J. Xu et al., 2019 | Further explore the dynamics of the psychological contract during socialization through longitudinal research methods. Examine the formation of psychological contracts during newcomer socialization. The influence of psychological capital on organizational socialization. |
| #2 Resources in organizational socialization and changing work contexts | green | (Cooper-Thomas et al., 2020; Harris et al., 2022; Petrilli et al., 2022; Saks & Gruman, 2018; Sani et al., 2022; Woo et al., 2022) | Investigate factors that influence the content of newcomer socialization. Examine through longitudinal research what resources are critical at different points during the socialization process. Organizational socialization in nontraditional working arrangements, i.e. contingent workers, remote workers, distributed projects. Job design features relating to nontraditional work arrangements i.e. task variety, job complexity. |
| #3 Networks | blue | (Bakker et al., 2021; Batistič & Kaše, 2022; J. Liu et al., 2021; Yuan et al., 2020; Zhou et al., 2022) | Examine relationship building among newcomers over the adjustment process. Investigate the dynamics of network creation by newcomers during socialization. |
| #4 Newcomer proactivity and interactions with supervisors | yellow | (Bauer et al., 2019; Nasr et al., 2019; Zhao et al., 2022) | Explore different proactive behaviors and their dynamics. Investigate how supervisors and different leadership styles i.e. servant leadership influence newcomer proactivity. Examine what individual factors will lead to more proactive behaviors among newcomers. |
| #5 Onboarding in software engineering and open-source projects | purple | (Balali et al., 2018; Britto et al., 2018; Sharma & Stol, 2020; Steinmacher et al., 2019) | Combine literature from Open-Source software development with literature on organizational socialization. Develop specific onboarding strategies for distinct groups of professions such as software engineers. |

## 5.1. Implications for academic research

The objective of this paper was to provide a comprehensive review of the intellectual structure of the field, to gain one-stop overview to the field and to identify areas where more research is needed. As shown in the bibliographic coupling, the authors took several research avenues. First, it can be stated that the diverse types of newcomers, types of organizations and the different situations in which onboarding takes place have been separately examined. For instance, a branch of research on onboarding in open-source projects can be observed on the right side of Figure 4. These articles have almost no links to the body of literature on organizational socialization. Further research would benefit from bringing together insights from both research areas. Additionally, articles that deal with onboarding software professionals, contingent workers, project team members or generation Z newcomers can be found. A 'one-size–fits-all' approach does not seem suitable for a diverse workforce. Consequently, more research is needed to systematically assess the needs and expectations of different groups of newcomers.

Second, recent research questions the assumption that newcomer proactivity relates to newcomer adjustment independently of organizational insiders. Some authors have aimed to examine how newcomers' interactions with colleagues and their' rapport with their supervisors influence the proactive behavior-adjustment relationship. In doing so, the context in which newcomer proactive behavior takes place gains attention. Further research should explore different proactive behaviors and their dynamics. It should also be examined how supervisors and different leadership styles influence newcomer proactivity.

Third, networks are regarded more thoroughly as an important factor for successful adjustment. In the future, social network analyses and ethnographic methods might be useful for gaining deeper insights into the development and effect of social networks.

The authors have also explored psychological contract breaches as critical points in newcomer adjustment and successful organizational socialization. Future research might investigate the conclusion of psychological contracts as well of the mechanisms of their breach and fulfillment through longitudinal research methods.

Literature on organizational socialization has shifted from the uncertainty avoidance to a more resource-oriented perspective. Despite considerable empirical support for this approach, more research is needed, especially with a longitudinal design, to examine what resources are critical at different points during the socialization process.

Finally, the shift to more remote working calls for research into digital onboarding tools and practices, and also for ways to overcome barriers in virtual onboarding. Although some authors have started examining how this can be successfully done and what job design features might be helpful hereby, we believe that there are many more questions to be asked. Recent research into remote work calls for examining strategies through which organizations can enhance employees' digital connectivity (Aleem et al., 2023), which would also provide valuable insights for onboarding employees working remotely. Bridging the onboarding and organizational socialization research fields with recent research on remote work, computer mediated work, and the use of digital tools and AI, would be very valuable to adjust to the new work contexts in the digital age.

## 5.2. Practical implications

Considering practitioners' perspective, other aspects can be added to the ones highlighted in the previous section. When designing the onboarding processes for their new employees, organizations are well advised to think about the interactions that take place between newcomers and their peers and supervisors. The mechanisms that form and eventually breach psychological contracts are important to consider because they affect important organizational socialization outcomes.

Managers and particularly HRM should know about the pivotal role supervisors take in the socialization process. Several studies in this review underscore the positive effects of supervisor support on newcomers. Furthermore, servant leadership has proven beneficial for organizational socialization, especially when newcomer proactivity is absent. Incorporating these aspects into leadership training programs, companies can significantly enhance the onboarding experience for new hires.

Additionally, managers and HRM should acknowledge that building networks with colleagues, especially within the same unit, enhances newcomer adjustment, as building social capital is an important factor in socialization. Therefore, relationship-building activities should be part of the onboarding strategy, and supervisors should be sensitized to this direction. This is even more important in hybrid or virtual work environments where less informal communication takes place.

The younger generation expects installments or effective onboarding practices, as well as growing digitization and virtualization of workplaces. Moreover, they also afford more formal onboarding processes. This not only has the potential to improve the socialization process but also can be a factor in attracting new talent.

In conclusion, a comprehensive onboarding strategy can foster the integration of newcomers into the organization, and significantly contribute to retention, engagement, satisfaction, commitment and performance of their employees.

## 5.3. Implications for policy makers

Our research can have implications for policy makers in terms of reviewing and updating labor policies to ensure alignment with the challenges posed by virtual onboarding. Policy makers might consider incentivizing and providing resources for effective virtual training programs during onboarding, potentially offering subsidies or tax credits. Addressing technology access and connectivity issues could be crucial, leading policymakers to explore initiatives supporting efficient virtual platforms. Summarizing, if virtual onboarding becomes a lasting trend, policy makers should revisit remote work policies and regulations.

## 6. Limitations

As in all scientific research, our study has several limitations that need to be noted. First, we obtained the analyzed papers exclusively from the Web of Science database. Although this database includes the journals with the strongest scientific impact, we may have left out some articles that are not included

in the database indices that we chose for the analysis. Other studies may include results from Scopus or other databases to overcome this limitation.

Second, our review is limited to the type of analysis, namely a bibliometric analysis. Future reviews may use other types of review methods, such as meta-analysis or structured literature reviews, to gain deeper insights into the relationships between the constructs employed in the organizational socialization and onboarding literature.

## Disclosure statement

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## Data availability statement

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