



Newcomers' Organizational Socialization: A Systematic Literature Review

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This paper systematically reviews research on organizational socialization by examining ten key theories within four major perspectives: Uncertainty Reduction, Identity Affiliation, Social Exchange, and Resource. We aim to address three main research questions: (1) What motivates individuals to engage in proactive socialization? (2) What mechanisms facilitate effective socialization? and (3) What resources are essential for successful newcomer integration? A multi-database search was conducted across Web of Science and PsycINFO, covering peer-reviewed empirical articles published since 2000. A total of 112 sources were included in the systematic review. The findings demonstrate how these theories have evolved to incorporate the growing influence of technology, diversity, and remote work, with significant adaptations to address organizational changes. The paper concludes by discussing the theoretical and practical implications of these developments, offering insights on how organizations can refine their socialization strategies to better support newcomers in today's dynamic work environments.

Keywords: Organizational socialization, uncertainty reduction, identity affiliation, social exchange, resource perspective

JEL: M10, M12, M14

Organizational socialization is a critical process that enables newcomers to appropriately integrate into the organization's culture, norms, and work environment, which is essential for both individual and internal success. It is linked to several key outcomes such as employee retention, performance, and goal achievement (Van Maanen *et al.*, 1979). Traditionally, this process has been examined through established theories like Uncertainty Reduction (Berger and Calabrese, 1974), Social Identity (Tajfel and Turner, 1985), and Social Exchange (Emerson, 1976), which have guided our understanding of how newcomers acquire knowledge, form connections, and adapt (Chao *et al.*, 1994). However, shifts in the modern workplace—including the prevalence of remote work, greater diversity, rapid technological adoption, and increasingly flexible organizational structures—introduce challenges to the applicability of these established theories (Ritz *et al.*, 2023). Although past research offers valuable insights into individual facets of socialization, much of it remains confined to single theoretical frameworks rather than offering an integrated approach that captures the complex realities of contemporary organizational settings (Haave *et al.*, 2023). Consequently, reevaluating and synthesizing existing frameworks is essen-

tial to ensure their relevance and utility in today's contexts.

To address these gaps, this systematic review examines current organizational socialization literature through ten key theoretical perspectives. It explores three primary research questions informed by identified limitations in previous studies. First, it considers what motivates newcomers to engage proactively in contemporary, often remote or diverse work settings, where traditional drivers of socialization may no longer apply. Second, it investigates the mechanisms that support socialization in increasingly virtual and fluid organizational structures, where established hierarchies and interaction patterns differ from conventional norms. Third, it identifies the critical resources necessary for effective socialization and how organizations can best provide them, particularly when informal learning and direct guidance are limited. By answering these questions, this review integrates multiple theoretical frameworks with today's organizational challenges, offering both academic and managerial insights. These contributions guide future research and inform practical strategies that ensure organizational socialization theories remain relevant and effective in evolving workplace environments.

METHODOLOGY

This study employed a systematic literature review using the Preferred Reporting Items for Systematic reviews and Meta-Analyses (PRISMA) systematic mapping technique to analyze the existing literature on organizational socialization, following the guidelines of Kitchenham *et al.* (2009). The approach provides an overview of the research landscape by evaluating the quality and quantity of evidence.

A well-defined search strategy was used to identify relevant articles from two major databases—Web of Science and PsycINFO—chosen for their comprehensive coverage of peer-reviewed journals in management, psychology, and organizational behavior. Search strings combined keywords like “organizational socialization,” “onboarding,” and “newcomer adjustment,” which were refined for relevance (see Table 1). The search focused on publications from 2000 to 2024 to include both historical and contemporary studies. The inclusion and exclusion criteria for screening articles are outlined in Table 2. Empirical studies published in English, with direct implications for organizational socialization, and supported by a clear theoretical framework were included. Studies such as literature reviews, conceptual papers, and those without empirical data or theoretical grounding were excluded.

The initial database search yielded 3,331 articles (1,837 from Web of Science and 1,494 from

Preliminary Strings	Selected Strings
Organizational socialization, onboarding, newcomer adjustment	Organizational socialization, onboarding, newcomer adjustment, organizational entry, employee socialization

Source: Authors' presentation

Table 1. Search Strings

Inclusion Criteria	Exclusion Criteria
1. Empirical research involving primary data collection	Non-empirical research such as literature reviews, conceptual papers, book chapters, meta-analyses, magazine articles, research reports, media comments, or short papers
2. Published in English	Articles not published in English, extended abstracts, conference proceedings, or articles under review
3. Explicit focus on organizational socialization	Studies that are unrelated to organizational socialization or focusing on specific socialization behaviors or tactics without direct implications for overall organizational socialization experience
4. Clear articulation of an overarching theoretical framework	Lack of theoretical grounding or conceptual clarity
Source: Authors' presentation	

Table 2. Inclusion and Exclusion Criteria

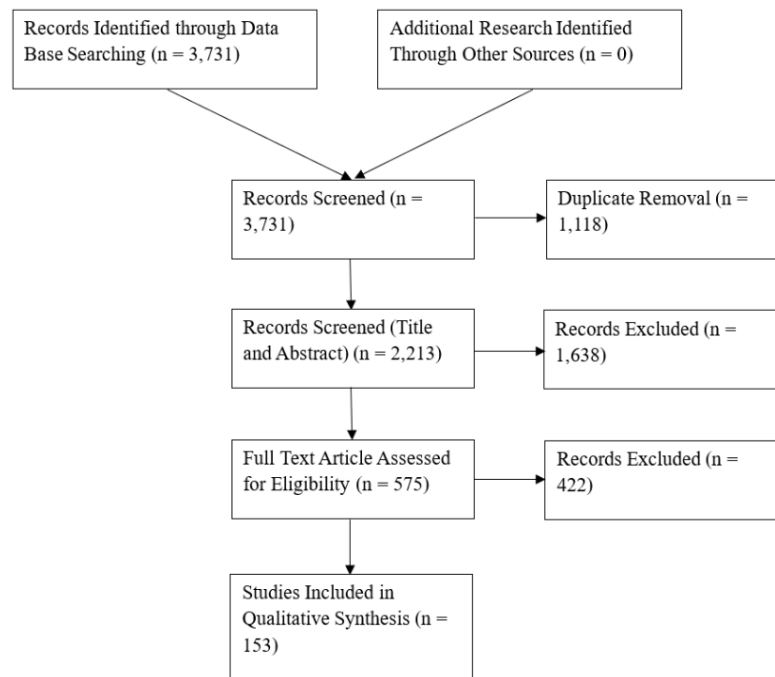
PsycINFO). After removing 1,118 duplicates, 2,213 articles were screened, and 1,638 were excluded based on relevance. A total of 575 articles advanced to full-text screening, and after further exclusions, 153 articles were included in the final review. Data extraction focused on key findings and theoretical frameworks, with articles categorized into four main perspectives: Uncertainty Reduction, Identity Affiliation, Social Exchange, and Resource Perspectives. This categorization was done through manual coding with reliability checks, with the results provided in the Appendix–II (please read supplementary file).

The articles included in this review were selected based on their alignment with the theoretical framework and the strength of their empirical support. Given the nature of this study as a systematic literature review, traditional statistical effect measures (such as risk ratios or mean differences) were not applicable. Instead, the synthesis of findings was based on qualitative categorization, grouping studies by their theoretical frameworks. This approach enabled a comprehensive synthesis of key themes, trends, and theoretical perspectives relevant to organizational socialization.

A holistic mapping approach was used to organize the literature, identifying key themes, trends, and research gaps in organizational socialization. The PRISMA flow diagram (Figure 1) illustrates the selection process. Adhering to PRISMA guidelines (PRISMA checklist, Appendix–I), the review employed well-established databases to ensure a rigorous and transparent process, with the mapping technique facilitating the identification of both foundational and emerging areas in the field, highlighting avenues for future research.

RESULTS

This section synthesizes significant contributions of ten key theories in organizational socialization, categorized into four perspectives—Uncertainty Reduction, Identity Affiliation, Social Exchange, and Resource Perspective. These perspectives collectively demonstrate motivations, mechanisms, and resources involved in organizational socialization in contemporary workplaces.



Source: Authors' presentation

Figure 1. PRISMA Flow Diagram

Uncertainty Reduction

The Uncertainty Reduction Theory (URT) underscores newcomers' need to mitigate task-related and social ambiguities to achieve stability and comfort (Berger and Calabrese, 1974). Katz (1980) illustrates how uncertainty fuels information-seeking in early socialization stages, while effective tactics such as strategic HR practices bolster newcomer adjustment, role clarity, and trust (Peng *et al.*, 2023). Mentorship and leadership are instrumental in reducing role ambiguity (Brunsdon and Curtner-Smith, 2023), supporting professional confidence (Schuth *et al.*, 2023), and shaping migrant newcomers' experiences in supportive corporate cultures (Grosskopf *et al.*, 2022). In remote or virtual contexts, supervisor support and informal connections alleviate anxiety and improve integration (Cai *et al.*, 2023; Coppe *et al.*, 2023), while personal uncertainty avoidance strategies influence organizational fit and turnover intentions (Cai *et al.*, 2020). Artificial Intelligence (AI) based onboarding platforms further diminish ambiguity (Ritz *et al.*, 2023), reinforcing the importance of structured onboarding, consistent mentorship, and feedback loops for successful adjustment (Cooper-Thomas and Burke, 2012). Uncertainty reduction correlates with higher task mastery, role clarity, job performance, and commitment (Ashforth *et al.*, 2007; Saks *et al.*, 2007), aided by standardized roles that enhance both mastery and Clarity (Hsiung and Hsieh, 2003). Additionally, acquiring information mediates relationships between

socialization tactics and newcomer attitudes, expediting learning processes (Cooper–Thomas and Anderson, 2006).

Identity Affiliation

The identity affiliation perspective, essential to organizational socialization, underscores proactive socialization motivation among new employees. Grounded in the Need-to-Belong and Social Identity Theory (SIT), it stresses the inherent human desire to be part of social groups, influencing newcomers' proactive behaviors. These theories collectively highlight how identity affiliation drives newcomers to actively engage in socialization, aiming to become integral to their new work environment.

– Need-to-Belong Theory

Originally grounded in Maslow's (1943) framework and expanded by Baumeister and Leary (1995), the Need-to-Belong Theory posits that humans inherently seek acceptance within social groups. In organizational contexts, this need drives identity formation, commitment, job satisfaction, and proactive behaviors (Wanberg, 2012). Digital environments similarly fulfill—and sometimes complicate—this motivation, as newcomers use social media, smartphones, and online networks to connect but risk ostracism when excluded (Haldorai *et al.*, 2020; James *et al.*, 2017; Kim *et al.*, 2016; Yarberry and Sims, 2021).

– Social Identity Theory (SIT)

Social Identity Theory (SIT) (Tajfel and Turner, 1985) further clarifies how identifying with favorable groups boosts self-esteem (Hogg and Terry, 2001), reduces uncertainty (Hayashi, 2013), and fosters role clarity and performance (Kammeyer-Mueller, Schilpzand, *et al.*, 2012; Smith *et al.*, 2017). Organizational values, leadership styles, and locus of control shape how newcomers form these identities (Çiçek, 2023; Lee, 2013), while balancing individuality and conformity emerges as critical in specialized settings (Benson *et al.*, 2016). Recent studies emphasize the significance of inclusive leadership for diverse newcomers (Dai and Fang, 2023), cross-cultural identity negotiations (Omanović and Langley, 2023), and strong team identification to support disabled employees (Sanclemente *et al.*, 2024). Mentorship and peer relationships ease discrimination-based challenges (Karam *et al.*, 2023) and foster professional socialization in sports (Vasquez and Wallhead, 2023), with diversity and inclusion initiatives enhancing social integration (Sial *et al.*, 2023). Not all identity expressions accelerate socialization, as newcomers' online conversational strategies may not yield immediate acceptance (Burke *et al.*, 2010), yet highlighting authentic self-expression rather than solely organizational identity can improve retention and performance (Cable *et al.*, 2013). Experienced newcomers who adapt personal identities often integrate more smoothly (Beyer and Hannah, 2002), and multiple role models further enrich personal

and professional identity formation (Filstad, 2004), underscoring the broad influence of identity affiliation on organizational socialization.

Social Exchange Theory (SET)

Social Exchange Theory (SET), rooted in Emerson (1976), examines how both tangible and intangible exchanges shape organizational relationships. Its reciprocal nature (Homans, 1958) highlights that positive exchanges—such as supportive leadership and mentoring—foster beneficial outcomes, whereas negative ones (e.g., incivility) can hinder future interactions. This principle is central to understanding how contextual factors affect newcomers' integration and performance (Jokisaari, 2013; Nifadkar, 2020), as also noted in Uncertainty Reduction and Identity Affiliation perspectives. Research shows that organizational and supervisory support elevates job satisfaction, commitment, and knowledge acquisition (Baranik *et al.*, 2010; Caesens *et al.*, 2016; Perrot *et al.*, 2014), while incivility contributes to learning difficulties and turnover (Ghosh *et al.*, 2013). Leadership and socialization tactics likewise improve relationship building, learning, and adjustment (Korte, 2010).

SET's broader applications reveal that social identification and trust affect turnover intentions, innovation, and knowledge sharing (Avanzi *et al.*, 2014; Park *et al.*, 2015; Schaubroeck *et al.*, 2013). More recent work explores how leadership influences newcomers' psychological states (Frögéli *et al.*, 2023) and how social exchange mediates transition shock for newly graduated nurses (Li *et al.*, 2023). Socialization supports organizational citizenship behaviors (Adil *et al.*, 2023), fosters role clarity and emotional attachment (Sial *et al.*, 2023), promotes well-being in virtual settings (Woo *et al.*, 2023), and drives effective communication and knowledge sharing via social media (Ghosh *et al.*, 2023). Vocational training coupled with trainer support can stabilize identification and engagement (Maué *et al.*, 2023). Research further indicates that socialization tactics bolster newcomer embeddedness, reduce turnover, and shape team-based outcomes through reciprocal relationships (Allen, 2006; Allen and Shanock, 2013; Chang *et al.*, 2009; Chen and Klimoski, 2003; Chen *et al.*, 2011; Chong *et al.*, 2021). Proactive newcomer behaviors also thrive on reciprocal support from coaches, peers, and organizations, strengthening assimilation, commitment, and satisfaction (Cranmer, 2018; Cranmer *et al.*, 2017).

– Psychological Contract Perspective

The psychological contract, an evolving implicit agreement between newcomers and organizations (Rousseau, 1989), extends beyond early socialization stages (Delobbe *et al.*, 2016) and influences proactive behaviors, role clarity, and stress management (Woodrow and Guest, 2017). Fulfilling this contract improves tenure and adjustment (Buckley *et al.*, 2002). Recent studies illuminate its complexity: organizational socialization tactics shape contract formation, influencing job satisfaction and commit-

ment (Kim and Moon, 2021; Manuti *et al.*, 2016). Contract fulfillment partially mediates relationships between socialization tactics and attachment-related outcomes, while breach can shift organizational identification and elevate turnover intentions (DeBode *et al.*, 2017; Tatachari, 2014).

Affective commitment also mediates the link between breach, turnover intentions, and emotional exhaustion (Lapointe *et al.*, 2013). Knowledge sharing, balanced employment relationships, and social benefits further shape newcomers' contract perceptions over time (Aranibar *et al.*, 2022; Jiang *et al.*, 2022; Payne *et al.*, 2015). Technology use, patronage, and supportive socialization predict contract fulfillment, mitigate job stress, and enhance organizational commitment (Audrin and Audrin, 2023; Lee and Wei, 2021).

Resource Perspective

The resource-based perspective in organizational socialization emphasizes the roles of personal, social, and organizational resources in aiding newcomers' adjustment. It includes the personal capital approach, stressing individual resources in proactive socialization, and considers the impacts of organizational insiders (social network theory) and the organization itself (social resources theory). Theories like Conservation of Resources (COR), Person-Environment fit (P-E fit), and Attraction-Similarity-Attrition (ASA) model further integrate these resources, highlighting the importance of aligning individual attributes with organizational needs, showing how resource exchange and conservation improve newcomers' fit perception and socialization outcomes.

– The Personal Capital Approach

The Personal Capital Approach (Luthans and Youssef, 2004) underscores how human, social, psychological (PsyCap), and cultural capital collectively shape newcomers' proactive socialization. Human capital—knowledge and expertise—affects the success of socialization tactics, with factors such as work experience and cognitive ability influencing proactive behaviors (Batistič, 2018; Kim *et al.*, 2005). Technological capabilities also play a role: Zheng *et al.* (2023) highlight AI-focused collaboration tools that facilitate newcomer integration. Social capital, outlined by Nahapiet and Ghoshal (1998), supports learning, career development, role clarity, and organizational commitment (Bauer *et al.*, 2007; Fang *et al.*, 2011; Morrison, 2002), while PsyCap—including hope, optimism, resilience, and self-efficacy—promotes positive job attitudes, performance, and lower turnover (Kašpárková *et al.*, 2018; Luthans, 2002; Luthans and Youssef, 2007; Saks and Gruman, 2012; Seligman, 1998; Snyder, 2000; Song and Chathoth, 2010). Recent findings show that inclusive leadership strengthens newcomers' psychological resources (Dai and Fang, 2023) and that perceived organizational support fosters PsyCap, influencing retention and engagement (Song *et al.*, 2023; Zhou *et al.*, 2022). Cultural capital, related to familiarity

with organizational norms, also shapes acceptance and fit (Bauer and Erdogan, 2014).

In support of broader resource perspectives, evidence indicates that resource exchange in virtual groups fosters cognitive discussions and knowledge access (Ahuja and Galvin, 2003; Borgatti and Cross, 2003), while employment type, mentoring, and feedback seeking affect newcomer proactivity, retention, and satisfaction (Benzinger, 2016; Finkelstein *et al.*, 2003; Fu *et al.*, 2005). Structured or informal processes—such as empowerment, autonomy support, and coaching—further reinforce role clarity, emotional engagement, and adaptation (Chen, 2005; Chen *et al.*, 2011; Chong *et al.*, 2021; Cousins *et al.*, 2006; Gruman *et al.*, 2006; Jia *et al.*, 2021; Lapointe and Vandenberghe, 2018; Liu *et al.*, 2021). Pre-entry work experience, cultural orientation, volunteering stages, or national contexts also shape socialization outcomes, as they enhance fit, commitment, and success (Carr *et al.*, 2006; Fan and Wanous, 2008; Hart and Miller, 2005; Haski-Leventhal and Bargal, 2008; He *et al.*, 2020; Hooghe, 2005; Hsiung and Hsieh, 2003; Korte, 2010; Kowtha, 2018). Multiple role models, tailored policies, and curiosity support complex socialization (Filstad, 2004; Gardner, 2008; Gómez, 2009; Harrison *et al.*, 2011), while perceived similarity, P-O fit, trust, and empowerment emerge as key relational mechanisms (Jokisaari and Nurmi, 2009; Kammeyer-Mueller, Simon, *et al.*, 2012; Kammeyer-Mueller, Schilpzand, *et al.*, 2012; Khorramabad, 2021; Kjeldsen and Jacobsen, 2013; Klein *et al.*, 2006; Livi *et al.*, 2018; Nifadkar, 2020; Zou *et al.*, 2015). Altogether, these resource-oriented constructs strengthen or complement the more general principles of uncertainty reduction, identity affiliation, and social exchange, underscoring how personal capital and supportive networks drive effective newcomer socialization.

– The Social Network Approach

The social network approach highlights how interpersonal ties shape job comprehension, resource exchange, and integration (Fang *et al.*, 2017; Tichy *et al.*, 1979), with network size, density, range, and status significantly affecting socialization outcomes (Hatmaker, 2015). Strong, diverse networks enhance task mastery and commitment (Morrison, 2002), while higher network status and size facilitate adjustment (Fang *et al.*, 2011). Structural and relational embeddedness (Granovetter, 1992) jointly influence knowledge and role clarity: weak ties can boost creativity (Zhou *et al.*, 2009), strong ties anchored in trust support mastery (Krackhardt *et al.*, 2003), and brokerage positions in sparse networks foster performance (Burt, 2004). Central advice networks correlate with better job outcomes, although network concentration may impede group performance (Sparrowe *et al.*, 2001). Relational ties further provide social support and facilitate critical information exchange, strengthening adjustment through attitude convergence (Casciaro and Lobo, 2008; Hansen *et al.*, 2005; Jokisaari and Nurmi, 2012; Well-

man and Frank, 2017).

Recent research underscores sustained interactions as vital for newcomer support (Batistič and Kaše, 2022), clarifies how practical social connections aid network integration (Korte and Lin, 2013), and demonstrates that forming effective ties improves task performance (Yuan *et al.*, 2020). Social media also broadens this perspective by enhancing cultural understanding, organizational learning, and affective commitment (Gonzalez *et al.*, 2013; Guo *et al.*, 2021), while network structure can impact job and work-group performance (Jokisaari, 2013) and spur innovative outcomes via sparse connections and active information sharing (Jokisaari and Vuori, 2014). By emphasizing how structural and relational components interact, this approach complements other resource-based perspectives in illustrating that robust network ties function as important conduits for support, information exchange, and socialization success.

– Socialization Resources Theory (SRT)

Socialization Resources Theory (SRT) extends the Job Demand–Resource model (Demerouti *et al.*, 2001) by focusing on how mentoring, peer support, and other key resources enhance newcomers' transitions (Saks and Gruman, 2012). Empirical work shows that mentoring bolsters newcomer well-being through socialization, particularly for proactive individuals (Cai *et al.*, 2021), while onboarding usefulness directly and indirectly boosts course engagement via social integration (Nolan *et al.*, 2023). In supervisor–subordinate dynamics, perceived organizational support (POS) affects the link between leader–member exchange (LMX) delegation and role clarity, influencing job satisfaction (Jokisaari and Vuori, 2018). Studies also emphasize that received support fosters assimilation and job satisfaction (Cranmer, 2018; Cranmer *et al.*, 2017), whereas parental and peer support mitigate stress levels and promote institutional attachment (Pool *et al.*, 2022). High-status vertical connections and strong horizontal ties improve assimilation (Fang *et al.*, 2017). Finally, uncertainty reduction can curb job demands' detrimental effects, though not always increasing engagement (Saks and Gruman, 2018).

– Conservation of Resources (COR) Theory

The Conservation of Resources (COR) Theory (Hobfoll, 1989; Saks and Gruman, 2014) proposes that newcomers enter organizations with limited resources, seeking both to preserve and acquire additional ones for stress management and smoother adjustment (Ellis *et al.*, 2015; Lapointe and Vandenberghe, 2018). Resources may take various forms, from ethical judgment (Kammeyer–Mueller, Simon, *et al.*, 2012) to social support from leaders and peers, although individuals with fewer resources may become overwhelmed by proactive behavior (Bolino *et al.*, 2010; Lin *et al.*, 2011; Liu *et al.*, 2021). Recent scholarship has connected COR Theory to supervisor–subordinate relations, leader–member exchange,

career transitions, and shared resource pools in digital communities (Anzollito and Cooper, 2022; Cai *et al.*, 2023; Chen and Cooper–Thomas, 2023; Liu *et al.*, 2023; Sullivan and Ariss, 2022; Xing *et al.*, 2021). Various studies also highlight that personal, social, and material resources influence early newcomer adjustment, work engagement, and retention (Bauer *et al.*, 2021; Deng *et al.*, 2023; Lan *et al.*, 2020; Pai, 2023; Schuth *et al.*, 2023; Wang *et al.*, 2023).

Additional inquiries demonstrate that structured onboarding and supportive leadership mitigate resource depletion and isolation, especially during remote or hybrid work (Cimperman, 2023; Smith–Miller *et al.*, 2023; Yarbrough and Ramos Salazar, 2023). Likewise, organizational values and leadership have been shown to affect socialization and performance improvement (Syaputra *et al.*, 2023), with remote arrangements underscoring how resource availability and managerial support protect well-being (Sweet *et al.*, 2023). By illustrating the interplay between resource gains, losses, and conservation strategies, COR Theory complements the broader resource perspective, reinforcing that newcomers' access to, and preservation of, both tangible and intangible resources underpin effective socialization.

– Person–Environment Fit (P–E Fit)

The P–E Fit framework (French *et al.*, 1974) and Schneider's ASA model (1987) both emphasize resource alignment between individuals and organizations. Fit can be supplementary, where personal and organizational attributes overlap, or complementary, where each fulfills the other's needs (Edwards and Shipp, 2007). Studies link relationship building, framing activities, and social context to student–university or person–job fit (P–O fit) (Chi *et al.*, 2020; Deng and Yao, 2020; Moayed *et al.*, 2020), while supervisors shape how newcomers' fit is evaluated and promoted (Dufour *et al.*, 2022). Proactive behaviors may arise when organizational supplies for autonomy are mismatched with personal needs (Yu and Davis, 2016), and workplace incivility can affect managerial commitment through perceived P–O misfit (Nguyen and Vu, 2023). Organizational socialization further reinforces individual–organization alignment (Khorramabad, 2021).

P–O fit, functioning both as an antecedent and outcome of socialization (Bauer *et al.*, 2019), enhances proactive behavior, task mastery, and role clarity, moderates the influence of PsyCap on performance, and impacts job satisfaction during “honeymoon” and “hangover” phases (Boswell *et al.*, 2005; Choi *et al.*, 2020). Aligning newcomers' values with organizational culture (Cooper–Thomas and Anderson, 2006; Cooper–Thomas *et al.*, 2004) strengthens fit perceptions, aided by proactive socialization tactics (Saks and Gruman, 2012). Recent work demonstrates that training and development programs can further improve competence and fit, facilitating adaptation (Lee, 2024), thus underscoring the critical role of resource congruence in effective newcomer integration.

– Attraction–Similarity–Attrition (ASA) Model

The Attraction–Selection–Attrition (ASA) model (Schneider, 1987) provides a resource–oriented lens on how organizations form their culture through the individuals they attract, select, and retain. Resource alignment is pivotal, as employees look for organizations that match their skills, values, and beliefs, while organizations select those who best fulfill their needs; mismatches typically lead to departures (van Vianen, 2000). Organizational socialization then shapes how employees perceive their work environment, reinforcing this resource alignment (Cooper–Thomas *et al.*, 2004).

Scholars have linked ASA to homogeneity in culture and complementary socialization processes. Giberson *et al.* (2005) and Satterwhite *et al.* (2009) show how the ASA cycle affects newcomer integration, while Dickson *et al.* (2006) and Kammeyer–Mueller, Schilpzand, *et al.* (2012) indicate that attraction and selection foster consensus on organizational climate, with socialization fine–tuning employees’ resources through interpersonal interactions (Gonzalez *et al.*, 2013). Initial similarities with supervisors can bolster perceived fit (Kammeyer–Mueller, Schilpzand, *et al.*, 2012). Choi and Chung (2017) underscore the temporal divergence between ASA’s pre–entry emphasis on resource alignment and socialization’s post–entry adaptation, a view shared by De Cooman *et al.* (2009). This interplay highlights the complexity of resource alignment and its implications for both organizational culture and individual acclimatization.

DISCUSSION

The discussion section synthesizes the insights derived from the systematic review to address the three research questions guiding this study. In the following sections, we examine the motivations for proactive engagement in socialization, the mechanisms that facilitate effective integration, and the critical resources required for newcomers to thrive within their organizational environments.

Motivations for Proactive Engagement in Socialization

The motivations for newcomers’ proactive engagement in socialization can be explained through several theoretical lenses. The URT provides a foundational understanding of how newcomers engage proactively to manage ambiguity. During the initial stages of organizational entry, newcomers actively seek information from supervisors and peers to clarify their roles and reduce uncertainties, which helps to increase their comfort and effectiveness (Katz, 1980; Saks *et al.*, 2007). Structured onboarding programs, including formal orientation and mentorship initiatives, significantly reduce this uncertainty and thus foster proactive engagement (Peng *et al.*, 2023; Ritz *et al.*, 2023; Torlak *et al.*, 2024). AI–based onboarding tools also offer real–time feedback that reduces ambiguity, leading to smoother transitions during the onboarding process (Cai *et al.*, 2023).

The Identity Affiliation Perspective, incorporating SIT and the Need-to-Belong Theory, explains that a fundamental motivator for newcomers is the desire to affiliate with the organization and feel a sense of belonging. This identity alignment drives proactive engagement, prompting newcomers to participate in social activities, team meetings, and workplace groups to foster relationships and reinforce their role in the organization (Hayashi, 2013; Tajfel and Turner, 1985). The Need-to-Belong Theory elaborates on the inherent human desire to be part of a group, motivating individuals to engage in formal and informal socialization activities that foster organizational identification and personal engagement (Baumeister and Leary, 1995; Yarberry and Sims, 2021).

Moreover, the P-E fit framework contributes to understanding proactive engagement by emphasizing alignment between newcomers' values and the organization's culture. When individuals perceive congruence between their own characteristics and the organization's values, they are more likely to engage actively, reinforcing a positive sense of fit and enhancing socialization outcomes (Giberson *et al.*, 2005; Schneider, 1987). Taken together, these perspectives make clear that newcomers' proactive socialization efforts stem from the interplay of reducing personal uncertainty, forging a meaningful identity within the group, and perceiving value congruence, thereby directly addressing Research Question 1.

Mechanisms Facilitating Socialization

The mechanisms that facilitate socialization can be comprehensively understood through the social exchange perspective. SET highlights the importance of reciprocal relationships, such as mentoring and supervisor support, in facilitating socialization. These relationships provide emotional reassurance and practical support, contributing to the successful adjustment of newcomers (Baranik *et al.*, 2010; Nifadkar, 2020). For example, leadership behaviors that involve consistent feedback and transparent communication are particularly impactful, as they help newcomers adjust by reducing anxiety and clarifying expectations (Frögéli *et al.*, 2023). Psychological Contract Theory builds on SET by emphasizing implicit, mutual expectations between newcomers and their organizations. Fulfilling these expectations leads to increased job satisfaction and commitment, which is crucial for effective socialization (Rousseau, 1989). For instance, mentoring relationships that meet newcomers' expectations for support and guidance can help build trust, improve job satisfaction, and enhance organizational commitment (Audrin and Audrin, 2023).

The identity affiliation perspective also explains mechanisms that facilitate socialization through identity formation. Newcomers integrate more effectively when they identify with their team and the broader organization. Practices such as inclusive leadership play a critical role in supporting identity

formation, especially for individuals from diverse or underrepresented backgrounds (Omanović and Langley, 2023; Sial *et al.*, 2023). Inclusive leadership fosters an environment that encourages participation, mitigates social barriers, and promotes a sense of belonging.

P–E fit Theory provides another essential mechanism for effective socialization. When there is congruence between a newcomer's skills and attributes and the organizational environment, the newcomer is more likely to integrate smoothly, experience higher job satisfaction, and develop role clarity (Edwards and Shipp, 2007; French *et al.*, 1974). The concept of complementary fit—where newcomers' unique skills match the organization's needs—plays a vital role in facilitating effective socialization and organizational commitment (Deng and Yao, 2020). Overall, these theoretical lenses show that socialization mechanisms function optimally when reciprocal, trust-based exchanges occur in supportive identity contexts, and when organizational environments align with newcomers' attributes, thereby providing a direct answer to Research Question 2.

Critical Resources for Effective Socialization

Effective socialization requires both personal and organizational resources, as highlighted by the Resource Perspective. Organizational resources, such as structured onboarding programs, mentorship opportunities, and AI-based onboarding systems, are particularly important during the initial stages of socialization. These tools provide real-time feedback, instant updates, and targeted training, all of which reduce ambiguity and foster quicker integration (Smith–Miller *et al.*, 2023; Yarbrough and Ramos Salazar, 2023). Moreover, virtual onboarding programs that offer workplace tours, Q&A sessions, and timelines of role-specific milestones help to further reduce anxiety and increase role clarity (Cai *et al.*, 2021).

The COR Theory emphasizes that access to adequate resources is crucial for reducing stress and facilitating adjustment. Mentoring relationships that offer both emotional support and practical advice can significantly mitigate the stress experienced by newcomers, leading to higher satisfaction and better performance (Cranmer, 2018; Ghosh *et al.*, 2013; Hobfoll, 1989). Strong social network resources also play an important role in socialization, providing newcomers with practical information, emotional support, and a sense of community that enhances role clarity and job performance (Fang *et al.*, 2011; Morrison, 2002).

The Personal Capital Approach extends the Resource Perspective by emphasizing the role of human, social, and psychological capital in effective socialization. Human capital, which includes prior work experience and job-specific skills, facilitates smoother integration into the organization (Batistič, 2018). Social capital, defined by the strength of relationships and networks, gives newcomers access to valuable information and career advancement opportunities, which significantly influences integration

and engagement (Nahapiet and Ghoshal, 1998). PsyCap, encompassing resilience, optimism, and self-efficacy, further helps newcomers to adapt to new roles by enabling them to overcome challenges during the onboarding process (Luthans and Youssef, 2007; Zhou *et al.*, 2022). Training programs that focus on developing PsyCap have been found to enhance newcomer engagement and reduce turnover intentions (Saks and Gruman, 2012; Song *et al.*, 2023).

The Social Network Approach provides further insights into the impact of network characteristics—such as network size, density, and diversity—on socialization outcomes. For instance, weak ties in diverse networks provide newcomers with novel information and perspectives that are crucial for creative problem-solving (Granovetter, 1992; Zhou *et al.*, 2009). In contrast, strong relational ties offer substantial emotional support, which helps newcomers manage stress and adapt effectively (Batistič and Kaše, 2022; Wellman and Frank, 2017).

The P-E fit Theory and the Psychological Contract framework further underscore the importance of aligning individual and organizational resources. When newcomers' psychological contracts are fulfilled and their personal values align with organizational values, they are more likely to experience job satisfaction and effective integration into the organizational culture (Edwards and Shipp, 2007; Rousseau, 1989). By synthesizing these resource-oriented frameworks, it becomes clear that effective socialization depends on a well-rounded set of personal, social, and technological supports—confirming the central importance of resource alignment and availability for Research Question 3.

Synthesis of Theoretical Perspectives and Research Questions

The findings from this systematic review provide a comprehensive understanding of how the different theoretical perspectives connect to the research questions guiding this study. Each theoretical lens—Uncertainty Reduction, Social Identity, Social Exchange, and Resource Perspectives—offers a distinct but complementary explanation of newcomer socialization, addressing motivations for proactive engagement, mechanisms of socialization, and the resources required for effective integration. Specifically, newcomers' motivations for proactive engagement stem from their need to reduce ambiguity and a desire for belonging, as explained by URT and SIT. URT highlights the effectiveness of interventions such as AI-guided onboarding modules in reducing ambiguity, while SIT emphasizes the value of team-building exercises and inclusive practices in fostering a sense of belonging. Examples include AI-guided onboarding modules that reduce role ambiguity (URT) and team-building exercises that strengthen group identity (SIT). The review further highlights mechanisms that facilitate socialization in modern organizations, including mentoring, leadership support, and social networks, as highlighted by the social exchange perspective. Mentoring programs and leadership support provide newcomers

with the emotional and informational resources they need to adjust and thrive. P–E fit Theory further emphasizes the importance of matching individual skills with organizational needs to facilitate effective integration. Finally, the findings reveal resources critical for effective socialization, as explained by the Resource Perspective. Structured onboarding programs, access to mentoring, and the development of PsyCap all contribute to improved role clarity and newcomer engagement. Additionally, having access to a diverse social network facilitates creativity and problem-solving, further enriching the socialization experience through dynamic knowledge sharing and collaborative learning.

CONCLUSION

This systematic review provides a comprehensive understanding of organizational socialization by addressing three key research questions. First, the motivation for proactive socialization is largely driven by newcomers' need to reduce uncertainty and establish a sense of belonging. Theories such as URT and Identity Affiliation reveal that newcomers actively seek information and align themselves with social groups to achieve clarity and inclusion within their new environments. Second, the review identifies various mechanisms that facilitate socialization in modern organizations. The social exchange perspective underscores the importance of reciprocal relationships, where support from supervisors and colleagues aids in newcomer adjustment. The identity affiliation perspective shows how forming social identities within a new organization fosters a sense of belonging and identity, promoting the alignment between newcomers and organizational culture. Third, resources play a critical role in effective socialization. Personal capital, social networks, and digital tools are essential in enabling newcomers to adapt to the challenges of their roles. The alignment between individual attributes and organizational resources, as highlighted by theories such as P–E fit and COR, leads to improved job satisfaction, commitment, and successful integration.

IMPLICATIONS

– Theoretical Implications

This review advances theoretical understanding in organizational socialization by offering specific contributions across four major perspectives: Uncertainty Reduction, Identity Affiliation, Social Exchange, and Resource. Each perspective is reconsidered in light of technological advancements, remote work dynamics, and the rise of AI-assisted systems, resulting in significant theoretical expansions.

The Uncertainty Reduction Perspective has traditionally emphasized interpersonal interactions, such as supervisor support and peer mentoring, as central to reducing newcomers' ambiguity. However, the

increasing reliance on digital platforms in modern workplaces calls for a broader conceptualization (e.g., Stofberg *et al.*, 2021). We propose a dual-layer model of uncertainty reduction that includes both interpersonal and technological mechanisms. While interpersonal uncertainty reduction continues to rely on social interactions, technological uncertainty reduction occurs through AI-driven systems that provide real-time feedback, automated onboarding processes, and role-specific guidance. This suggests that uncertainty management is no longer confined to human interactions but includes a parallel process facilitated by digital tools. Notably, this dual-layer approach may be more salient in hybrid or fully remote organizations, where newcomers must navigate a mix of face-to-face guidance and asynchronous digital support. In traditional, predominantly on-site workplaces, the technological layer may supplement rather than transform the established interpersonal processes. Future research could explore how these two layers intersect and whether they operate independently or reinforce each other during the onboarding process.

In addition to reframing uncertainty reduction, we suggest that identity affiliation extends beyond traditional, in-person relationships. In contemporary organizations, identity formation increasingly occurs in both physical and digital workspaces (e.g., Hirst and Humphreys, 2020). We introduce the concept of digital identity affiliation, where newcomers simultaneously construct organizational identities through traditional team interactions and virtual platforms. This hybrid identity formation reflects the blending of online and offline experiences, reshaping how newcomers perceive their roles and integrate into workplace cultures. Additionally, the rise of AI-powered support systems suggests that individuals might develop attachment bonds with non-human agents, such as chatbots and virtual assistants, further expanding the boundaries of identity formation (e.g., Xie and Pentina, 2022). However, the extent to which digital identity affiliation takes hold may depend on newcomers' digital literacy, previous virtual team experience, and the organizational reliance on virtual communication. For instance, employees who are early-career professionals, international hires facing cultural or linguistic barriers, or those in project-based roles may find digital identity formation particularly valuable, as it grants them rapid, flexible access to diverse informational and social resources. In more traditional or regulated settings, digital identity affiliation may serve as a complementary rather than dominant pathway to belonging. This perspective underscores the need for identity affiliation to account for both human and technological actors in shaping social belonging and role identity in digital workplaces.

This reconfiguration of uncertainty reduction and identity formation also fundamentally reshapes our understanding of social exchange and resource perspectives. The SET traditionally focuses on reciprocal exchanges between newcomers and organizational insiders, including managers and peers (Emerson, 1976). We extend this framework by proposing the concept of digital reciprocity, where reciprocal excha-

nges occur between employees and AI-driven systems. For example, newcomers might receive personalized coaching, career development tips, and performance recommendations from AI platforms in return for completing tasks and providing data inputs. This form of digital reciprocity will likely be most pronounced in organizations that rely heavily on virtual platforms and remote work arrangements, whereas on-site or less tech-dependent firms may see AI support as an auxiliary resource rather than a primary exchange partner. Moreover, the psychological contract between employees and organizations may also extend to digital systems, as employees develop expectations regarding continuous AI support and personalized development pathways. In highly innovative, flexible industries (e.g., IT, consulting), newcomers might embrace and trust these digitally mediated relationships readily. By contrast, in more traditional or heavily regulated sectors, the interplay between digital reciprocity and psychological contracts may be constrained by formal protocols and cultural expectations that limit non-human agency in socialization. These evolving dynamics challenge the traditional human-centric view of SET, prompting future research on trust formation, fairness perceptions, and role expectations in AI-mediated environments.

Similarly, the Resource Perspective requires an updated framework that recognizes the dynamic interplay between human and technological resources. We propose the concept of dynamic resource bundling, where personal, social, and organizational resources are continuously reconfigured through technology-enhanced processes. Personal resources now include digital resilience, reflecting newcomers' capacity to adapt to rapidly changing technological environments (e.g., Qi and Yang, 2024). Social resources extend beyond traditional workplace networks to include virtual communities, online forums, and professional platforms that provide emotional and informational support. Organizational resources, such as AI-driven onboarding platforms and virtual mentorship programs, act as active agents that facilitate learning, task completion, and career advancement. In knowledge-intensive or fluid, project-based industries, these dynamic resource configurations can significantly enhance knowledge sharing and adaptation, while more regulated sectors may find their scope limited by compliance requirements and standardized procedures. The particular combination of resources that newcomers leverage will also depend on their digital proficiency, cultural background, and the organization's technological maturity.

By clarifying these boundary conditions and contingencies, these theoretical contributions gain practical nuance. Recognizing that the applicability and impact of dual-layer uncertainty reduction, digital identity affiliation, digital reciprocity, and dynamic resource bundling depend on organizational structures, occupational roles, workforce composition, and cultural contexts allows both researchers and practitioners to better gauge when and how to employ these new insights. In doing so, these expanded

frameworks become not only more robust conceptually but also more strategically useful, guiding tailored interventions that resonate with specific organizational and individual circumstances.

– Practical Implications

This systematic review illustrates that newcomers to organizations are motivated to reduce uncertainty, establish a sense of belonging, and align their personal capabilities with the organization's culture and demands. Ensuring clarity in roles, fostering supportive relationships, and providing environments in which newcomers' values and skills resonate with those of the organization are all central to successful integration. Collectively, these insights have direct implications for improving newcomer experiences, enhancing performance, and reducing turnover—objectives that are critically important in contemporary, often hybrid or remote, work settings.

Several practical strategies emerge from these findings. To minimize ambiguity and associated turnover risks, providing realistic job previews, structured onboarding sessions, and consistent feedback can help newcomers establish role clarity early on (Peng *et al.*, 2023; Ritz *et al.*, 2023). In hybrid or remote contexts, where informal interactions are limited, practices that encourage mentorship, inclusive leadership, and team-building activities help strengthen newcomers' sense of community and belonging (Dai and Fang, 2023; Sial *et al.*, 2023; Torlak *et al.*, 2024). Sustainable support networks, enabled by both personal connections and digital communication platforms, ensure ongoing access to information and emotional backing, ultimately improving retention and well-being (Fang *et al.*, 2017; Morrison, 2002).

Embracing technology-mediated solutions further streamlines integration. Digital onboarding platforms, AI-guided training modules, and virtual collaboration systems expedite learning, bridge informational gaps, and tailor support to individual newcomers, all of which are critical in geographically dispersed work settings (Cimperman, 2023; Yarbrough and Ramos Salazar, 2023; Zheng *et al.*, 2023). Simultaneously, aligning newcomer expectations with organizational values and career trajectories—through transparent communication, honoring psychological contracts, and leveraging inclusive recruitment and selection processes—fosters trust, stability, and long-term organizational commitment (French *et al.*, 1974; Rousseau, 1989).

By employing these evidence-based strategies, organizations can effectively address practical challenges such as role confusion, social isolation, resource scarcity, and complex work arrangements. In doing so, they create an environment conducive to newcomer success, satisfaction, and sustained engagement, ultimately benefiting both the individuals and the broader organization.

LIMITATIONS AND FUTURE DIRECTIONS

While this systematic review provides a comprehensive overview of organizational socialization research, several limitations suggest avenues for future inquiry. First, the review's focus on empirical studies with primary data collection may have excluded investigations that, though not explicitly framed in terms of organizational socialization, could offer valuable insights into related behaviors and tactics. Subsequent reviews could broaden their inclusion criteria, incorporating studies centered on constructs such as informal learning or professional identity development, to capture a more diverse range of socialization strategies. Second, the relatively strict selection criteria and limited availability of studies—particularly those addressing complexities in remote, hybrid, and gig-based work—resulted in a modest final sample. This highlights a gap in literature, as evolving workplace structures challenge traditional frameworks of socialization. Future research should expand both its temporal and topical scope to explore how newcomers adapt in dynamic, digitally mediated environments.

Additionally, this review emphasized studies with explicit theoretical underpinnings, potentially overlooking research grounded in emerging or implicit frameworks. Future scholarship could relax this criterion to embrace interdisciplinary perspectives, drawing on fields such as human–computer interaction, cross-cultural psychology, and social network analysis. By doing so, researchers can generate innovative theoretical models that capture the interplay of technology, culture, and human interaction in shaping newcomer experiences. To build more nuanced and multifaceted theories of organizational socialization, scholars should employ diverse and methodologically rigorous research designs. For example, field experiments in organizations implementing AI-based onboarding tools could randomly assign newcomers to receive different forms of mentoring (traditional, AI-driven, or blended) and track their adjustment, performance, and retention over time. Longitudinal designs, including multi-wave surveys and longitudinal social network analyses, can illuminate how digital identity affiliation and dynamic resource bundling evolve as newcomers gain experience. Such approaches could reveal how newcomers' support networks shift from reliance on assigned mentors to more fluid, distributed ties involving both human and AI-based actors. Qualitative methods—such as interviews, ethnographies, and diary studies—would complement these quantitative approaches, offering deeper insights into newcomers' sensemaking processes, trust formation, and relational dynamics with AI-driven systems. These could be conducted in varying organizational and cultural contexts, thereby uncovering how norms and values shape the acceptance and efficacy of digital reciprocity and technologically mediated socialization. Cross-cultural comparisons can further clarify how cultural dimensions influence the uptake of these theoretical expansions, while mixed-methods approaches and multi-level modeling enable researchers to parse out how organization-level infrastructures, team-level leadership behaviors, and individual-level newcomer characteristics interact to shape socialization outcomes. Finally, diversity, equity, and inclusion (DEI) considerations remain vital. Research should examine how AI-based

interventions and virtual onboarding processes can be designed to promote inclusive socialization, particularly for newcomers from underrepresented groups who may experience heightened isolation or bias. Comparative studies across various demographic and cultural settings would help identify specific strategies or tools foster equitable integration and well-being.

By addressing these limitations and embracing these rigorous, contextually attuned methods, scholars can substantially advance theoretical and empirical knowledge of organizational socialization. Such efforts will not only elucidate the dynamic interplay of technology, culture, and human relationships in shaping newcomer experiences but also inform practitioners on how to create more inclusive, adaptive, and effective socialization processes in an increasingly complex organizational landscape.

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Section and Topic	Item #	Checklist item	Location where item is reported
TITLE			
Title	1	Identify the report as a systematic review.	Page 23
ABSTRACT			
Abstract	2	See the PRISMA 2020 for Abstracts checklist.	Page 23
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of existing knowledge.	Page 23
Objectives	4	Provide an explicit statement of the objective(s) or question(s) the review addresses.	Page 24
METHODS			
Eligibility criteria	5	Specify the inclusion and exclusion criteria for the review and how studies were grouped for the syntheses.	Page 24
Information sources	6	Specify all databases, registers, websites, organisations, reference lists and other sources searched or consulted to identify studies. Specify the date when each source was last searched or consulted.	Page 24
Search strategy	7	Present the full search strategies for all databases, registers and websites, including any filters and limits used.	Page 24
Selection process	8	Specify the methods used to decide whether a study met the inclusion criteria of the review, including how many reviewers screened each record and each report retrieved, whether they worked independently, and if applicable, details of automation tools used in the process.	Page 24
Data collection process	9	Specify the methods used to collect data from reports, including how many reviewers collected data from each report, whether they worked independently, any processes for obtaining or confirming data from study investigators, and if applicable, details of automation tools used in the process.	Page 25
Data items	10a	List and define all outcomes for which data were sought. Specify whether all results that were compatible with each outcome domain in each study were sought (e.g. for all measures, time points, analyses), and if not, the methods used to decide which results to collect.	Page 25
	10b	List and define all other variables for which data were sought (e.g. participant and intervention characteristics, funding sources). Describe any assumptions made about any missing or unclear information.	Page 25
Study risk of bias assessment	11	Specify the methods used to assess risk of bias in the included studies, including details of the tool(s) used, how many reviewers assessed each study and whether they worked independently, and if applicable, details of automation tools used in the process.	Page 25
Effect measures	12	Specify for each outcome the effect measure(s) (e.g. risk ratio, mean difference) used in the synthesis or presentation of results.	Page 25
Synthesis methods	13a	Describe the processes used to decide which studies were eligible for each synthesis (e.g. tabulating the study intervention characteristics and comparing against the planned groups for each synthesis (item #5)).	Page 25
	13b	Describe any methods required to prepare the data for presentation or synthesis, such as handling of missing summary statistics, or data conversions.	Page 25
	13c	Describe any methods used to tabulate or visually display results of individual studies and syntheses.	Page 24-25
	13d	Describe any methods used to synthesize results and provide a rationale for the choice(s). If meta-analysis was performed, describe the model(s), method(s) to identify the presence and extent of statistical heterogeneity, and software package(s) used.	Page 25
	13e	Describe any methods used to explore possible causes of heterogeneity among study results (e.g. subgroup analysis, meta-regression).	n/a



Section and Topic	Item #	Checklist item	Location where item is reported
	13f	Describe any sensitivity analyses conducted to assess robustness of the synthesized results.	n/a
Reporting bias assessment	14	Describe any methods used to assess risk of bias due to missing results in a synthesis (arising from reporting biases).	Page 25
Certainty assessment	15	Describe any methods used to assess certainty (or confidence) in the body of evidence for an outcome.	Page 25
RESULTS			
Study selection	16a	Describe the results of the search and selection process, from the number of records identified in the search to the number of studies included in the review, ideally using a flow diagram.	Page 25-26
	16b	Cite studies that might appear to meet the inclusion criteria, but which were excluded, and explain why they were excluded.	Page 26
Study characteristics	17	Cite each included study and present its characteristics.	Appendix-I
Risk of bias in studies	18	Present assessments of risk of bias for each included study.	n/a
Results of individual studies	19	For all outcomes, present, for each study: (a) summary statistics for each group (where appropriate) and (b) an effect estimate and its precision (e.g. confidence/credible interval), ideally using structured tables or plots.	n/a
Results of syntheses	20a	For each synthesis, briefly summarise the characteristics and risk of bias among contributing studies.	n/a
	20b	Present results of all statistical syntheses conducted. If meta-analysis was done, present for each the summary estimate and its precision (e.g. confidence/credible interval) and measures of statistical heterogeneity. If comparing groups, describe the direction of the effect.	n/a
	20c	Present results of all investigations of possible causes of heterogeneity among study results.	n/a
	20d	Present results of all sensitivity analyses conducted to assess the robustness of the synthesized results.	n/a
Reporting biases	21	Present assessments of risk of bias due to missing results (arising from reporting biases) for each synthesis assessed.	n/a
Certainty of evidence	22	Present assessments of certainty (or confidence) in the body of evidence for each outcome assessed.	n/a
DISCUSSION			
Discussion	23a	Provide a general interpretation of the results in the context of other evidence.	Page 25-33
	23b	Discuss any limitations of the evidence included in the review.	Page 40-42
	23c	Discuss any limitations of the review processes used.	Page 40-42
	23d	Discuss implications of the results for practice, policy, and future research.	Page 37-40
OTHER INFORMATION			
Registration and protocol	24a	Provide registration information for the review, including register name and registration number, or state that the review was not registered.	n/a
	24b	Indicate where the review protocol can be accessed, or state that a protocol was not prepared.	n/a



PRISMA Checklist

Appendix-I

Section and Topic	Item #	Checklist item	Location where item is reported
	24c	Describe and explain any amendments to information provided at registration or in the protocol.	n/a
Support	25	Describe sources of financial or non-financial support for the review, and the role of the funders or sponsors in the review.	n/a
Competing interests	26	Declare any competing interests of review authors.	n/a
Availability of data, code and other materials	27	Report which of the following are publicly available and where they can be found: template data collection forms; data extracted from included studies; data used for all analyses; analytic code; any other materials used in the review.	n/a