Chapter 1

General introduction
This scenario opens with Jonathan, a medical resident embarking on his first day in the anesthesiology department. This morning, he feels quite nervous, though he is also eager to embrace the challenges that lie ahead. From locating the coffee machine to navigating the electronic medical records system, and from delivering patient care to understanding his colleagues and integrating into the healthcare team – a multitude of tasks demand his attention. Fortunately, Jonathan is not left to maneuver his first day on his own. Paula, a peer resident; Maaike, his program director and today his supervisor; and Jason, the anesthetic nurse, stand ready to assist him on this exciting day.

1.1 Transitions in medical education

Transitions are an integral part of medical education, spanning various stages from medical school to residency and beyond (1). These transitions involve shifts in roles, settings, and responsibilities, creating a continuum often referred to as ‘the medical continuum’ (2). Rather than fixed moments in time, transitions are dynamic processes, involving the movement of individuals from one set of circumstances to another (1,3). Consequently, they represent critically intense periods of learning in which residents engage with the specificities of their new environments and build working relationships with other healthcare professionals (3). Therefore, transitions are often perceived as challenging, even though they also present valuable opportunities for personal growth and professional development (4).

The transition from student to resident is often described as demanding, exhausting, and challenging (5–8). Residents commonly express concerns about the need to acquire extensive knowledge, as well as the pressures of meeting responsibilities, managing uncertainty, and handling suffering from patients, while also coping with high workloads and long working hours (5,7,8). Compounding these challenges, residents frequently rotate among departments during their curriculum, which necessitates adapting to new settings, roles, patients, and teams with each rotation (6,9,10). In each new setting, residents must navigate the ‘hidden rules’, such as the norms, customs, roles, responsibilities, and rules of interaction (6,11). What makes these transitions even more demanding is that residents often receive insufficient guidance, marked by low team support, inadequate orientations, and limited learning opportunities (6). Consequently, these transition periods can lead to stress, exhaustion, or, even worse, the onset of symptoms of depression (6–8,12).

Transitions also constitute intense learning periods with critical opportunities for growth and development (3,4,13). In each transition, residents can increase the breadth of their
knowledge and skills by participating in clinical work (14,15). Even more important, residents can learn how to adapt to new contexts (9,16,17). When residents change their work context because of rotations, they are forced to cope with multiple practice styles, which can increase their flexibility, efficiency, and ability to work more independently (9,16). To ensure that residents provide safe care in transitions, it is crucial that they are able to adapt to contextual changes and that they develop the necessary knowledge and skills in each new context (17).

### 1.2 Conceptual perspectives on transitions

In this thesis, we distinguish three conceptual perspectives to interpret how transitions can be understood: the educational perspective focuses on educational innovations to ease the transition, the developmental perspective emphasizes residents’ transformation in personal and professional development during the transition, and the social perspective focuses on the cultivation of social relationships in a supportive learning environment to ease their transition (13,18). The following subsections describe each perspective in detail. Note that because current research lacks sufficient information about the social perspective, we compare and contrast this perspective with educational and developmental perspectives.

#### 1.2.1 Educational perspective

The educational perspective focuses on narrowing the gap between student and resident, through courses and curriculum innovations to facilitate learning knowledge and skills (13). Studies from the educational perspective explore and assess how well medical schools prepare residents for practice; the findings show that residents often feel unprepared for practice (19–23). As a consequence, they perceive the transition as stressful, which affects their well-being (6,21). In response to reported feelings of unpreparedness and stress, undergraduate and postgraduate medical education programs have developed courses and curriculum innovations to facilitate residents’ learning of knowledge and skill development (24–30). For example, in the Netherlands, students can participate in an Acute Care Transitional Year aimed at increasing students’ acute care knowledge, clinical reasoning, skills, and performance in simulations (30). The United Kingdom has a similar program in which medical students can participate in assistantships, acting as assistants to junior doctors. Students who have aligned assistantship placements with their future resident team report feeling better prepared compared with those with unaligned assistantships (25). Other studies report success with postgraduate medical education boot camps or simulation sessions to enhance residents’ clinical skills, knowledge, and confidence (26–28). In summary, the educational perspective focuses on increasing
residents’ preparedness and decreasing their perceived stress. Programs implementing this perspective tend to prepare residents by training them in clinical skills and knowledge.

1.2.2 Developmental perspective
The developmental perspective focuses on empowering residents’ personal and professional development through learning from transformative experiences, by using reflective practices and adopting transferable learning strategies (13). During transition periods, residents face numerous transformative experiences that significantly shape them (31). These transformative experiences often occur in situations in which residents must handle uncertainty and responsibility, which may trigger stress (11,31). Research in this area has focused on activities that can enhance residents’ reflection and self-directed learning strategies, such as goal-setting by using portfolios (32–34), so they can handle the stress of these transformative experiences. In summary, the developmental perspective of the transition period centers on enhancing residents’ reflection and transferable learning strategies by capitalizing on transformative experiences.

1.2.3 Social perspective
The social perspective contrasts with the educational and developmental perspective in its emphasis on the cultivation of social relationships and the creation of a supportive learning environment in which residents can effectively learn from one another, faculty members, and other healthcare professionals (13). Various social factors contribute to residents’ transitions, including the importance of receiving appropriate support, establishing social relationships to facilitate feedback exchange, and defining their own professional identity in the context of other healthcare workers’ professional roles and identities (5,10,31,35,36). Notably, support from colleagues and supervisors positively influences residents’ well-being, whereas the absence thereof can have detrimental effects (6). This support can manifest in various ways, such as orientation processes, the availability of supervisors, feedback mechanisms, established expectations, personal interest in the resident, the organization of social activities, and the provision of learning opportunities (6).

Although this body of research (5,6,10,31,35,36) highlights the importance of social factors in the transition from student to resident, it does not fully elucidate the processes through which residents acquire their social roles, effectively integrate into healthcare teams, and adapt to existing norms and customs. This process of adapting to the norms and values of a new group is recognized as socialization (37), and it is vital for residents, who must become integral members of healthcare teams to provide complex patient care (38–40). Nevertheless, the specific strategies residents employ for adapting to the established norms and customs of the healthcare team, how they experience barriers in their integration process, and how they deal with these barriers all remain unexplored.
In addition, little research addresses strategies other healthcare professionals or organizations use to help residents adapt to their new role.

In summary, both literature and practice have given explicit attention to educational and developmental perspectives, which involve preparation for medical resident roles through a focus on learning clinical skills and knowledge (24–30), and to reflection and discussion, facilitated through tools such as portfolios (32–34). In contrast, a notable knowledge gap exists in understanding the social perspective and its practical implications. This thesis contributes to extant literature by shedding light on how residents adapt to their new healthcare teams by learning the norms and customs, how they experience barriers in social integration, how they cope with these barriers, and what other healthcare professionals and organizations can do to facilitate their socialization process.

1.3 Theories

To explore the social perspective knowledge gap, we use the theories of organizational socialization (OS), social capital (SC), and social networks (SN). This thesis works from a constructivist paradigm, in which reality is subjective and context-specific, such that no ultimate truth exists (41). In a constructivist paradigm, theories are often used to gain a deeper understanding of the phenomenon studied (42). These theories act as ‘lenses’ for examining complex problems and social issues (43). Each theory emphasizes specific aspects of the data, equipping the researcher with tools for analysis (43). For example, OS theory distinguishes individual and organizational strategies, which helps shed light on strategies residents use in their transition and strategies other healthcare professionals use to help residents adapt (44,45). The SC and SN theories enable identification of people in residents’ social networks who help them adapt and the nature of the support these people provide (46–48). The following subsections describe each theory and justify their use herein.

1.3.1 Organizational socialization strategies

1.3.1.1 Individual strategies

Organizational socialization theory describes individual tactics or strategies to adapt to a new role (45). Among the various taxonomies used in other studies, this thesis draws on the five general tactics described by Chao: monitoring, inquiry, job changes, establishing social relations, and information seeking (45). Previous research studying business graduates transitioning into their first job and preclinical medical students transitioning into clinics shows that individual strategies such as information and feedback seeking, relationship building, job-change negotiating, and positive framing contribute to clarifying the newcomers’ role in acculturating and socially integrating (49–52). Business
graduates and medical students often perceive uncertainty when they enter their new role, and using these individual strategies can help them reduce uncertainty (49–52). Although medical residents also perceive uncertainty when they enter their new role and must learn how to socially integrate into their new healthcare team (11), whether they use similar strategies remains unclear. That said, due to the similarities in the context, we assume that individual tactics from OS constitute a promising lens to better understand residents’ strategies to adapt to their new role (44).

1.3.1.2 Organizational strategies
This theory also describes organizational tactics, which refer to organizations’ efforts to facilitate the transition process of individuals (44). In the medical resident setting, these strategies can be the interaction between residents and other healthcare professionals or the impact of policy at department and hospital level on residents’ transition. OS theory suggests six organizational tactics, framed as dichotomies: collective–individual, formal–informal, sequential–random, fixed–variable, serial–disjunctive, and investiture–divestiture (44). Table 1 presents summaries of each tactic.

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<thead>
<tr>
<th>Socialization Tactic Dichotomy</th>
<th>Description</th>
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<tbody>
<tr>
<td>Collective–individual</td>
<td>The degree to which newcomers are socialized in a group with common experiences or separated from other newcomers, such that they have ‘a more or less unique set of experiences’ (44)</td>
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<tr>
<td>Formal–informal</td>
<td>Whether newcomers participate in a structured program tailored to their role of newcomer, separated from regular employees, or in a program that does not distinguish the newcomers’ role from other roles, so they learn their new role through trial and error</td>
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<tr>
<td>Sequential–random</td>
<td>The degree to which the organization plans the socialization as a gradual process or a more random one, in which the sequence of steps is unknown or ambiguous</td>
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<tr>
<td>Fixed–variable</td>
<td>The degree to which the organization expects that socialization occurs within a fixed time frame or a more variable one, giving newcomers few cues as to when to expect a given boundary passage</td>
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<tr>
<td>Serial–disjunctive</td>
<td>The degree to which newcomers are socialized with the help of role models, or not</td>
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<tr>
<td>Investiture–divestiture</td>
<td>The degree to which organizations build on the capabilities and values newcomers acquired previously and affirm their gained self-image, or deny and strips away certain newcomer characteristics and rebuild newcomers’ self-image</td>
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Note: This table is summarized from Van Maanen and Schein (44).
Previous studies on business graduates making the transition into their first job have demonstrated that organizational tactics significantly influence their adaptation (53,54). Similarly, research on student nurses transitioning into their first job as graduated nurses has highlighted the importance of organizational tactics (e.g., quality of orientation programs, supportiveness of senior staff, safety of the work environment) in predicting a successful transition (55). To our knowledge, no research has identified the six organizational tactics with medical residents. To optimize residents’ transition, program directors (PDs) use various organizational approaches, including formal and informal socialization strategies (56), but residents often experience these strategies as inadequate or absent for various reasons, including high resident-to-supervisor ratios, scheduling challenges, shift work, or service-related work pressure (56). Moreover, scholars have used the newcomer perspective often in researching transitions (51–53,57), but research from the PD perspective is scarcer (58). Perspectives on the different organizational tactics in a medical resident setting (according to both residents and PDs), and whether residents differ in their preferences for certain tactics remains uncertain though, creating a notable gap in current research.

1.3.2 Social capital and social networks theories
To provide comprehensive insight into how residents navigate their transition by leveraging social dynamics within the healthcare team, this thesis builds on SN and SC theories. To date, these theories have not been applied to the transition from medical student to resident. Residents face many barriers in becoming integral members of the healthcare team, especially when they seek clinical support (38,59,60). These barriers include hierarchical structures, the dual roles of supervisors (balancing guidance in patient care with resident supervision and assessment) (38,59), a lack of familiarity among team members (9,10,61), instances of pushback, and feelings of uncertainty (62). Understanding how residents use their social networks and related support to address these barriers is not possible without understanding the composition of residents’ social networks. In turn, SN theory is instrumental in exploring the relationships residents form and understanding the dynamics within their network, elucidating how individuals are connected and form a social network (47,63). To unravel how residents employ their social networks to overcome barriers, we turn to SC theory, which posits that people cultivate relationships with actors in their network for resources such as information, expertise, and support (48). These resources contribute to the achievement of goals that could not have been achieved otherwise (64). Coleman’s theory is particularly pertinent here; it predicts that people act to optimize specific outcomes and invest in their relationships with others according to whether they believe they will benefit from such investments (65). Although studies have acknowledged the interconnectedness of SN and SC theories (66), the specific ways in which residents leverage their social capital to navigate barriers remains unexplored.
1.4 Research questions and outline of the dissertation

Transitions present various challenges and opportunities for junior doctors (1,3,4,6). These challenges primarily revolve around the complexities of patient care delivery and the integration into healthcare teams as accepted members (1,6,11). To gain acceptance within healthcare teams, residents must learn the team’s norms and values, a process recognized as socialization (37–40). Although researchers have explored educational and developmental perspectives in relation to residents’ transitions, the social perspective, encompassing the cultivation of social relationships and the creation of a supportive learning environment in which residents can effectively learn from others, remains less understood. In particular, little research addresses which strategies residents themselves use to integrate within their new healthcare team, how they use their social capital and social networks to deal with barriers in integrating within this team, various organizational strategies, and whether residents differ in their preferences for organizational strategies.

Therefore, this thesis seeks to bridge research gaps by addressing the following questions:

1. How do residents navigate the social challenges and opportunities of the transition from student to resident?
2. How do interpersonal and organizational factors affect residents’ transition?

To address these questions, we have structured this thesis in several chapters. Chapter 2 is centered on the following research questions: (1) What kind of individual OS strategies do residents use in their transition? (2) What are residents’ experiences with OS strategies other healthcare professionals use to facilitate their transition? (3) How do residents perceive the impact of OS strategies of other healthcare professionals on their own adaptation efforts? To answer these research questions, Chapter 2 describes an interview study with residents.

Chapter 3 addresses the following research questions: (1) How do residents establish and mobilize (make use of) their social capital? (2) In challenging situations, what barriers do residents experience and why, with regard to mobilizing social capital? (3) In challenging situations, how do residents use their social network to deal with barriers? The research design is an interview study with residents.

Chapter 4 describes the strategies that PDs use to facilitate organizational socialization of newcomer residents using an interview study with program directors.

Chapter 5 reports the results of a Q-Methodology study that investigates patterns in residents’ preferences for onboarding strategies in their new work environment.
The knowledge presented herein contributes to improving transitions on multiple levels, providing recommendations for individual residents to optimize their transitions, as well as guidance for healthcare team members (supervisors, nurses, fellow residents), departments and hospitals to enhance residents' transitions.

1.5 Overview of the studies

This thesis presents four empirical studies to answer the central research question, followed by a general discussion. Table 2 provides an overview of the presented empirical studies. Chapter 6 provides a discussion of the theoretical implications of the findings presented herein, describes the practical implications of this thesis, and suggests avenues for further research.

Box 1. Context of the research conducted in this thesis

In contrast with several other countries, the Netherlands offers a distinctive transition path from student to resident. The majority of doctors do not immediately embark on specialty training after graduation from medical training; instead, they commence their careers as residents not in training. Although this period is not mandated, currently residents gain approximately 3.5 years of work experience as residents not in training on average before starting with specialty training (67). The residents not in training period differs from the specialty training period, in that it lacks any curriculum with formal learning goals or Entrustable Professional Activities (EPAs), nor is there any official PD (68,69). This trajectory contrasts with specialty training, in which residents benefit from a formal curriculum, individualized training plan, regular feedback, and (programmatic) assessment through EPAs (69,70). However, in both tracks, the focus is not explicitly on how to integrate and function well into a healthcare team. Therefore, a better (scientific) foundation is needed on how to improve the social aspects of residents’ transitions and how faculty, departments, and hospitals can offer guidance in the transitions.
Table 2. Overview of the empirical chapters

<table>
<thead>
<tr>
<th>Chapter</th>
<th>2: Transitioning to residency: A qualitative study exploring medical residents’ perspectives on strategies for adapting to residency</th>
<th>3: Exploring medical residents’ uses of social capital: A qualitative ego-social network study</th>
<th>4: Learning the ropes: Strategies program directors use to facilitate organizational socialization of newcomer residents—A qualitative study</th>
<th>5: Patterns of medical residents’ preferences for organizational socialization strategies to facilitate their transitions: A Q-study</th>
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<tbody>
<tr>
<td>Theoretical lens</td>
<td>Organizational socialization</td>
<td>SC and SN theories</td>
<td>Organizational socialization</td>
<td>Organizational socialization</td>
</tr>
<tr>
<td>Research questions</td>
<td>1. What kind of individual OS strategies do residents use in their transition?</td>
<td>1. How do residents establish and mobilize (make use of) their social capital?</td>
<td>What strategies do program directors use to facilitate organizational socialization of newcomer residents?</td>
<td>Which patterns can be identified in residents’ preferences for onboarding strategies in their new work environment?</td>
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<tr>
<td></td>
<td>2. What are residents’ experiences with OS strategies other healthcare professionals use to facilitate their transition?</td>
<td>2. In challenging situations, what barriers do residents experience with regard to mobilizing social capital, and why?</td>
<td>3. In challenging situations, how do residents use their social network to deal with barriers?</td>
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<td></td>
<td>3. How do residents perceive the impact of OS strategies of other healthcare professionals on their own adaptation efforts?</td>
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<tr>
<td>Design</td>
<td>Theory informing study design</td>
<td>Sequential two-phase design</td>
<td>Theory informing study design</td>
<td>Mixed-methods design</td>
</tr>
<tr>
<td>Context and participants</td>
<td>16 second year specialty training residents of several hospital-based specialties and two hospitals</td>
<td>29 participants, of whom 16 were second-year specialty training residents and 13 were residents not in training of several hospital-based specialties and hospitals</td>
<td>17 program directors of several hospital-based specialties and eight hospitals (one academic and seven teaching hospitals) in the Netherlands</td>
<td>51 junior residents (residents not in training or first- or second-year specialty training residents) at several hospital-based specialties, at several hospitals</td>
</tr>
<tr>
<td>Data sources</td>
<td>Exploratory interviews</td>
<td>Exploratory and semi-structured interviews supplemented with egocentric network analysis</td>
<td>Semi-structured interviews</td>
<td>Sorted q-sorts, demographic questionnaire, and explanation of the sorted q-sorts.</td>
</tr>
</tbody>
</table>

Notes: This dissertation is based on journal articles, so some repetition of information across chapters was unavoidable.