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Institutional conditions and individual experiences in the career-entry period of Swiss medical residents – a qualitative study

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Summary

Background and objectives: The study investigated first-year residents' career entry experiences according to gender, clinical field and type of training hospital. In addition to quantitatively assessed workplace experiences [1], this paper reports qualitative data on institutional conditions as well as interpersonal and individual experiences encountered by junior physicians during their first year of residency.

Methods: The present study is part of the longitudinal Swiss physicians' career development study. After their first year of residency, participants were interviewed for the second time. The qualitative data of this second assessment are reported in this paper. A total of 1,861 terms were given by 342 junior physicians working in the two main clinical fields (internal medicine and surgical fields) with regard to positive and negative experiences in the career entry period. The answers were assigned to 12 categories (according to Mayring's content analysis [2]). These categories were then allocated to three superordinate subject areas: *Institutional conditions*, *Interpersonal experiences*, and *Individual experiences*.

Results: Institutional conditions accounted for 17% of all entries, with negative experiences – in particular, high workload – predominating. Within *Interpersonal workplace experiences* (41% of all responses), relationship experiences accounted for the largest proportion of all statements (25.7%), which were mainly positive. Individual experiences (42%) were assessed both positively (professional competence, learning, responsibility, and pleasure) and negatively (working under pressure and curtailment of one's private life). Female and male residents reported similar workplace experiences. Residents in surgical fields more often complained of a lack of professional support than those in internal medicine. Physicians working in university or big county hospitals had more negative experiences with regard to teaching than residents at smaller hospitals.

Conclusion: The junior physicians' career-entry experiences indicated that a genuine concept of education and training would greatly improve their workplace experiences. Furthermore, senior physicians should bear in mind that they are important role models for the junior staff.

Key words: junior physicians; career entry; institutional conditions; interpersonal and individual experiences; quality of relationships in training hospitals; internal medicine; surgical fields

Introduction

After graduating from medical school, junior physicians usually start their graduate training, which takes five to eight years on average, depending on subject area. In Switzerland, over 90% of junior physicians aspire to a specialty qualification. In Anglo-Saxon countries there are structured residency programs usually lasting three to four years only. In Germany, Switzerland and Austria, the specialist medical associations have issued specialty profiles and requirements with defined content and time limits. The lack of structured residency programs, however, means that the specialty qualification is quite often not achieved within the specified time frame. Over the last few years, training hospitals in Switzerland have been systematically evaluated in terms of quality of training and workplace ethos [3]. As far as we know, no such evaluation programs exist in Germany and Austria.

An increasing number of physicians are leaving clinical medicine in order to work in other paramedical fields. This trend can be attributed to disillusioning experiences in clinical fields during the career entry period [4, 5]. In Germany, 20% of medical students quit medical school before graduation. Of the graduates, a further 20% do not embark on clinical training, or leave clinical work

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at an early stage of their residency [6]. To our knowledge, no such data are available on the career paths of Swiss medical students and junior physicians. To remedy this deficiency, our research group launched in 2001 a prospective study design investigating career determinants of graduate students of the three medical schools in German-speaking Switzerland. The career planning of future physicians was influenced by gender as well as by personality traits. These results were found in the first study wave of the medical school graduates [7]. The quantitative data of the second wave, dealing with the residents' workplace experiences in clinical fields, showed differences according to gender, but also – independently of gender – according to medical specialty and type of training hospital [1].

The career entry period has been described as being especially stressful, leading to emotional and physical exhaustion in some of the junior physicians [8–10]. One reason reported for this is the mismatch between what doctors were trained for and what they are required to do [11]. Other studies addressed issues of physicians' work and career satisfaction [12, 13]. Several causes for unhappiness were identified, such as being "overworked", "underpaid", and "inadequately supported". Landon [14] reported results from a US nationwide representative study in which 80% of physicians with direct patient care responsibilities declared themselves to be somewhat or very satisfied; the highest predictors for degree of satisfaction were patient care issues and relationships with patients and colleagues. Arnetz [15] maintained that the quality of leadership and the medical team had the greatest impact on the overall work atmosphere. Bovier et al. [16] identified five dimensions of work-related satisfaction among a sample of Swiss physicians practicing in the canton of Geneva: patient care, work-related burden, income/prestige, personal rewards, and professional relations with colleagues. A recent study by Luthy et al. [11] assessed difficulties experienced by internal-medicine residents during their first year of graduate training. The open-response procedure revealed nine categories extracted from content analysis, with "communication problems with patients, colleagues and senior staff" being mentioned most frequently, followed by "the experience gap between medical school and clinical care".

In the second wave of our prospective study, first-year residents not only filled out the multiple-choice items, but were also asked to write down three main positive and three main negative workplace experiences. Answers to free-response items reflected subjective experiences in a more differentiated and broader manner than would be possible using standardised multiple-choice item-instruments. The answers were subjected to content analysis. Based on this material, the following issues were investigated: (1) what are the residents' main positive and negative workplace experiences? and (2) are there differences according to gender, medical field (internal medicine versus surgical fields), and type of training hospital?

Methods

Study design

The present study is part of an ongoing *prospective survey of a cohort of graduates* of the three medical schools in German-speaking Switzerland, beginning in 2001 (T1). Of the 1004 registered final-year students, 719 (72%) participated in the first assessment (T1) [7]. Subjects were re-evaluated after two years in 2003 via a postal questionnaire (T2) consisting of multiple-choice and free-response items. The free-response items were imbedded in the multiple-choice questions addressing issues of workplace experiences. A total of 522 subjects participated in the second assessment (T2). At that time they had been working in hospital as doctors for about 12–15 months. There were no significant differences between the dropouts (T1–T2) and the subjects participating at both measurements in terms of socio-demographic data, personality traits, and career-related variables at T1. The qualitatively and quantitatively assessed data were analysed by different statisticians. Some results of the quantitative part of the second assessment addressing junior physicians' workplace experiences in clinical fields were published in a previous issue of this journal [1].

To ensure participants' anonymity, the returned questionnaires were only identified by a code. The respondents sent their addresses to an independent address-administration office, allowing for follow-up.

Instruments

The free-response items of the questionnaire addressed the residents' experiences working as doctors. The question read as follows:

What are the main positive and the main negative experiences in the career entry period? Please give three positive and three negative experiences.

Sample

Not all of the participants (n = 522) of the second assessment (T2) could be included in the qualitative analysis. Some of the respondents did not answer this question (n = 28); some worked in a research institution, industry, or a non-medical field (n = 55). Residents working in medical specialties that could not be assigned to the two main medical fields (internal medicine and surgical fields) (n = 97), were also excluded from the present analysis since these sub-samples would have been too small for comparisons. The study *sample* therefore consisted of 342 junior physicians (n = 196 females, 57.3%; n = 146 males, 42.7%). The mean age was 29.3 years (SD 2.3 y, range 26–44 years).

Clinical fields and distribution of the residents

Surgery, gynaecology & obstetrics, urology, and orthopaedics were categorised as *surgical fields*; *internal medicine* comprised all subspecialties of internal medicine and primary care. Distribution of the 342 (100%) residents was

as follows: *Surgical fields:* 129 females (37.7%), 92 males (26.9%); *Internal medicine:* 67 females (19.6%), 54 males (15.8%).

Workplace characteristics and distribution of the residents

The *workplaces* were categorised according to their accreditation as training hospitals: *Type "A" hospitals:* university hospitals or county hospitals, accredited for the whole of specialty training; *type "B" hospitals:* regional hospitals, accredited for at least two years' training; type "C" and "D" hospitals: small regional hospitals or highly specialised units, accredited for one year of training; research institutions; workplace not otherwise specified. For the following analyses, the workplace experiences of residents working in type "A" hospitals were compared with those working in "B", "C", or "D" hospitals. Distribution of the 342 (100%) residents working at various training institutions was as follows: Type "A" hospitals: 55 females (16.1%), 48 males (14.0%); type "B", "C" and "D" hospitals: 141 females (41.2%), 98 males (28.7%).

Statistical analysis

Other statisticians than those performing the quantitative data analysis analysed the qualitative data according to Mayring's content analysis [2] as follows: The respondents' handwritten answers (headwords or whole sentences) were transcribed into an Excel file. In a second step, *content categories* were inductively formulated, and their descriptions written down in a code manual (definition, examples, and rules for coding). In other words, the content categories were formulated blind to the results of the quantitatively assessed data. In a further step, the passages of text were encoded according to the code manual and assigned to the content categories. Frequency distributions were given for categories and tested with chi^2 tests for differences in gender, specialty, and type of training hospital. *Inter-rater reliability:* A random sample of 20% of the analysed questionnaires was submitted to three raters (staff from the department experienced in qualitative analyses). The index of concordance (ratio of identically rated answers to all rated answers) and Cohen's Kappa were calculated. Both coefficients for all 12 categories were between 0.8–1.0.

Results

Categories for positive and negative residency experiences

The residency experiences were assigned to 12 categories with positive or negative characteristics. These categories can be allocated to three superordinate subject areas.

Institutional workplace conditions (IWC)
- Structural conditions/Public health system: organisation, hierarchy
- Workload: time on duty, overtime, working-time models
- Income: (in)adequate income, financial independence

Interpersonal workplace experiences (IWE)
- Professional relationship: doctor-patient relationship, relationship to patients' relatives, to the medical team, and to senior physicians
- Acknowledgement from patients and their relatives, from senior physicians and other medical staff; professional acknowledgement in general
- Professional support from senior physicians and other medical staff

Individual experiences (IE)
- Professional competence in clinical work: self-confidence and problem-solving
- Learning in the medical specialty: continuous increase in professional knowledge and growing clinical experience
- Responsibility/Autonomy in daily clinical work: taking responsibility, acting independently
- Ability to work under pressure/Coping with work: strengthening of the ego, coping under pressure, being overtaxed, coping with workload
- Pleasure/Meaning in work: interesting and varied job, routine, administration
- Leisure time/Private life: balance between work and private life, family, and hobbies

Ranking and frequency distribution of positive and negative residency experiences

The 342 participants gave a total of 1,861 responses (5.4 per subject on average, no gender difference) with regard to their main job experiences during the first year of residency. Of these, 961 contained positive and 900 negative (critical) statements. Table 1 shows the assignment of the responses to the 12 categories in total, differentiated according to positive and negative content, and ranked by frequency.

A quarter of all responses – significantly more positive than negative ones – fall into the category *Professional relationship experiences*. In the categories *Ability to work under pressure*, *Structural workplace conditions*, *Professional support*, *Working hours*, *and Leisure time/Private life*, significantly more negative responses are given, while in the other categories significantly more positive experiences are reported. In the category *Income*, there were as many positive responses as there were negative ones.

Table 2 gives examples of residents' responses – both positive and negative assessments – for each category, organised according to the three superordinate subject areas: *Institutional workplace experiences*, *Interpersonal workplace experiences*, *and Individual experiences*.

Residency experiences and gender

In a further step, we investigated whether men's and women's job experiences differed. Female physicians had more entries under the cate-

Table 1

Ranking and frequency distribution of residents' responses (n = 1861) concerning positive and negative assessments of career-entry experiences by 342 residents.

Rank	Category	Responses (total) n (%)	Positive assessment n (%)	Negative assessment n (%)	p
1	Professional relationship (IWE)[1]	478 (25.7)	298 (16.0)	180 (9.7)	<0.001
2	Ability to work under pressure (IE)[2]	180 (9.8)	60 (3.2)	120 (6.4)	<0.001
3	Acknowledgement (IWE)	172 (9.2)	117 (6.3)	55 (3.0)	<0.001
4	Learning (IE)	168 (9.0)	123 (6.6)	45 (2.4)	<0.001
5	Structural conditions (IWC)[3]	147 (7.9)	10 (0.5)	137 (7.4)	<0.001
6	Professional competence (IE)	139 (7.5)	109 (5.9)	30 (1.6)	<0.001
7	Professional support (IWE)	121 (6.5)	48 (2.6)	73 (3.9)	<0.01
8	Pleasure / Meaning (IE)	115 (6.2)	82 (4.4)	33 (1.8)	<0.001
9	Workload (IWC)	110 (5.9)	6 (0.3)	104 (5.6)	<0.001
10	Leisure time / Private life (IE)	91 (4.9)	6 (0.3)	85 (4.6)	<0.001
11	Responsibility / Autonomy (IE)	87 (4.7)	70 (3.8)	17 (0.9)	<0.001
12	Income (IWC)	53 (2.8)	32 (1.7)	21 (1.1)	n.s.
	Total	1861 (100.0)	961 (51.6)	900 (48.4)	n.s.

[1] IWE: Interpersonal workplace experiences, [2] IWC: Institutional workplace conditions, [3] IE: Individual experiences

Table 2

Examples of residents' responses concerning positive and negative assessments of career-entry experiences.

Category	Examples of positive assessment	Examples of negative assessment
Institutional workplace conditions (IWC)		
Structural conditions	"The hospital administration has acknowledged that physicians' working conditions must be improved." "The clinic has a good organizational structure."	"The physicians' workplaces are badly equipped, and we don't have a place where we can work undisturbed." "The administrative investment is much higher than the work with the patient."
Workload	"I'm surprised that job-sharing is accepted by the chief physician and feasible in everyday clinical work." "The 50-hour/week workload can be achieved."	"There are few opportunities to get time off for overtime." "I suffer from the high workload and irregular working hours."
Income	"Finally I'm earning my own money." "I'm glad to be financially independent."	"There is no return on investment." "The wages are too low compared to other academics. I work time-and-a-half, and get a 50% wage."
Interpersonal workplace experiences (IWE)		
Professional relationship	"I appreciate the cooperative relationship among us residents and with the nurses, and no longer feel like a lone fighter, as I did during medical school." "I've encountered great professional, personal, and emotional competence in our team." "The chief and senior physicians treat us junior physicians respectfully."	"I often encounter communication problems between patients and doctors, and between nurses and doctors." "Some patients are ungrateful and react aggressively to medical staff." "As a woman I often feel discriminated against." "There is a lot of rivalry in terms of who can do the operation."
Acknowledgement	"Patients appreciate my commitment and express acknowledgement and praise, which is very encouraging and motivating."	"The chief and senior physicians give neither positive nor negative feedback on our work."
Professional support	"The senior physicians take plenty of time to discuss the medical issues that arise." "The chief and senior physicians are prepared to listen to our concerns."	"They only look to see that the work gets done, and pay no attention to residents' purposeful and structured career advancement." "I'm left on my own in critical situations, and still have to assume a high level of responsibility."
Individual experiences (IE)		
Professional competence	"I feel more confident from day to day, and can apply what I have learnt." "I like the practical part of medicine; operating gives me a good feeling." "I've made a lot of progress in handling emergency patients."	"I feel that medical school ill prepared me for clinical work, and am afraid of not being up to its demands." "I've made mistakes at work, which had serious consequences for the patients."
Learning	"I've learnt a lot from concrete medical situations instead of learning from a textbook." "I've made a lot of progress in doing my clinical work autonomously."	"There is little active teaching, and the residency is not properly structured, but instead consists of on-the-job learning." "The senior physicians are not trained in the culture of knowledge transfer."
Responsibility / Autonomy	"I'm able to take over responsibility for patients and my clinical work." "I can solve some of the clinical issues autonomously."	"I often feel like a maid-of-all-work." "I'm grumbled at in the emergency room, am stuck between the patient, nursing staff and senior physician, am supposed to do everything, and yet can't make any decisions." "I've a lot of obligations, but few skills".

Tab. 2 cont.

Category	Examples of positive assessment	Examples of negative assessment
Ability to work under pressure	"I like to test my coping ability in stressful situations." "I've improved a lot in managing critical clinical situations."	"I often feel inadequate, because I can't do my work as well as I'd like to." "I'm suffering from physical symptoms caused by the stress at work."
Pleasure / Meaning	"Finally I have a defined position and status in everyday working life." "I'm pleased to see things going well which I have only just learnt." "I enjoy learning about new aspects of medicine without the pressure of an exam."	"I feel uneasy when I perceive some senior physicians' indifference." "Working in medicine means a lot of routine work." "There is little intellectual challenge, but still a high responsibility for patients."
Leisure time / Private life	"I enjoy going home in the evening, when I'm no longer forced to read textbooks and prepare for exams, but can think of other things." "Working as a doctor makes me feel socially integrated." "I've more time for my hobbies than during medical school."	"I often feel drained, personal relationships suffer tremendously from the huge claim work make on my time." "If I ask for time off as compensation for working overtime, I'm labeled as lacking commitment." "I'm neglecting extraprofessional interests."

gory *Professional support* ($p < 0.05$), males under the categories of *Income* ($p < 0.001$), *Professional competence* ($p < 0.10$), and *Responsibility/Autonomy* ($p < 0.10$). Figure 1 illustrates the frequency distribution of entries for positive and negative residency experiences for all 12 categories, in terms of the total number of entries per gender, organised according to the three superordinate subject areas.

For ***positive experiences***, female physicians had significantly more entries ($p < 0.10$) in the category *Acknowledgement*, male physicians in the categories *Income* ($p < 0.05$) and *Professional competence* ($p < 0.10$). As regards ***negative experiences***, women more often reported a lack of professional support ($p < 0.05$), while men mentioned too-low an income ($p < 0.001$). Comparing the frequency of positive and negative entries within each gender group, a difference was found only in the category *Professional support*, with females reporting negative experiences significantly more often than males.

Residency experiences and clinical field or type of training hospital

There were only slight differences between residents' job experiences in internal medicine and surgical fields. Residents working in surgical fields more often reported insufficient professional support ($p < 0.05$). In some sub-categories of the category *Professional relationship*, physicians working in internal medicine encountered more positive experiences in terms of doctor-patient relationship ($p < 0.01$) and relationship with senior physicians ($p < 0.05$). A comparison of workplace experiences in "A" hospitals with those in "B", "C", and "D" hospitals revealed that residents of "A" hospitals more often claimed inadequate teaching ($p < 0.01$). Physicians working in smaller hospitals reported more positive experiences in the *General professional acknowledgement* sub-category of the category *Acknowledgement* ($p < 0.01$).

Discussion

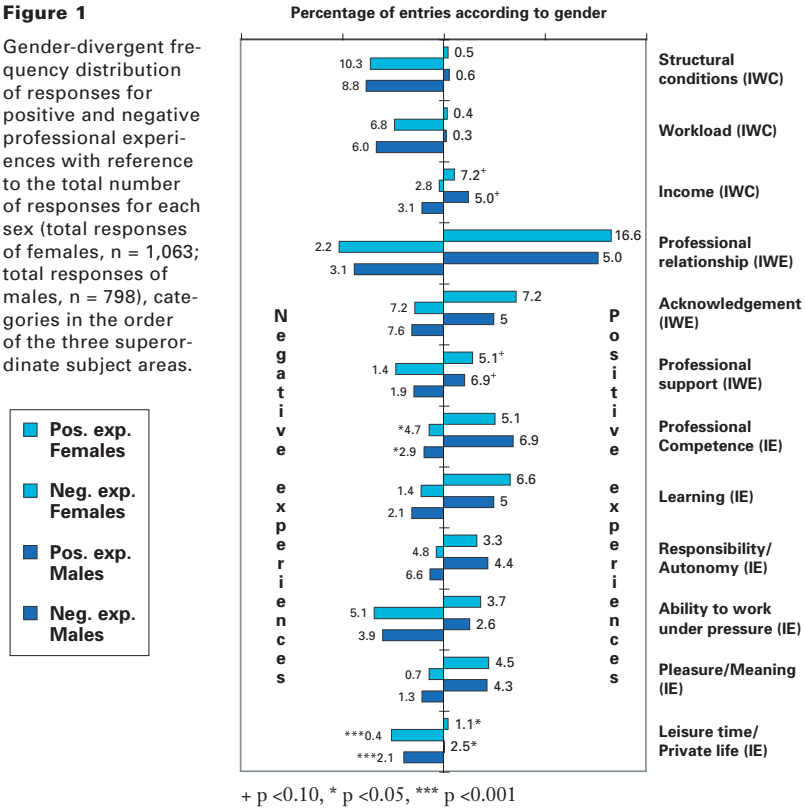
Recently we reported on junior physicians' initial career-planning and workplace experiences in clinical fields, assessed by quantitative measurements [1, 7]. The present *qualitative study* focused on the statements of those participants working either in internal medicine or in surgical fields. The data were analysed according to Mayring's qualitative content analysis [2]. The 12 response categories identified were assigned to three superordinate subject areas: *Institutional*, *Interpersonal*, *and Individual experiences*.

Looking first at the *ranking and frequency distribution of residents' responses*, it is striking that the category *Professional relationship* accounted for a quarter of all comments, while statements concerning *Private life*, *Responsibility / Autonomy* and *Income* amounted to <5%. At the first assessment, a similar ranking was noticed with regard to factors influencing choice of specialty: 87% of graduates rated patient care and cooperative teamwork as the second-most important factor, just after versatility of the specialty, while income was only in tenth place out of fourteen [17]. Although junior physicians complained of a tremendous curtailment of their private life, their positive experiences in terms of professional relationships seemed to far outweigh the sacrifices they make in terms of their personal life. In general, they also accepted the fact that they do not have a great deal of autonomy and responsibility in patient care at the very outset of their clinical training.

Institutional workplace conditions accounted for 16.6% of all entries, with negative experiences predominating (14.1% of all entries) (see table 2). Long and irregular working hours in particular contributed to this result. In the quantitative data analysis, the results of multivariate analyses of covariance on workplace experiences also pointed to the importance of workload [1]: The higher the workload, the worse workplace conditions and the relationship between professional commitment and reward (effort-reward imbalance) were rated.

Figure 1

Gender-divergent frequency distribution of responses for positive and negative professional experiences with reference to the total number of responses for each sex (total responses of females, n = 1,063; total responses of males, n = 798), categories in the order of the three superordinate subject areas.



+ p <0.10, * p <0.05, *** p <0.001

Other authors also described the high workload and low income as common concerns of residents [11–13].

Statements on professional relationships, acknowledgement, and support can be assigned to the category of *Interpersonal workplace experiences* (see table 2). These accounted for 41% of all entries. This result indicates that junior physicians attributed great importance to the relationship ethos at the workplace, especially within the medical team. Within the subject area interpersonal workplace experiences, relationship experiences at work accounted for 25.7% of all statements, with significantly more being of a positive rather than a negative nature. In the quantitative data, the positive social relationships at work greatly outweighed the negative ones, too [1]. Similar results were reported in other studies [13, 16, 18, 19]: Aspects of professional relations such as peer support, work-group cohesiveness, and supportive, goal-oriented, and structured leadership were predictors of work satisfaction, low perceived work stress, and well-being. The junior physicians in our study especially appreciated the work with patients, the gratitude of the latter, and the cooperative relationship among residents and nurses; factors which are also described by Landon [14]. Being treated respectfully by senior physicians and feeling well supported professionally also contributed significantly to the positive perception of experiences. However, residents also reported communication problems among the medical staff and a lack of feedback on their work. Eighty-eight percent of the residents in Luthy et al.'s study [11] also identified communication problems at work as one of their major concerns. Furthermore, the young doctors complained of communication problems with patients, either owing to language barriers or demanding behaviour.

Individual experiences (see table 2) at the workplace accounted for 42.1% of all entries, with statements of a positive nature predominating. Not only the constant increase in knowledge, but also the fulfilment and pleasure of working as a doctor were mentioned as vital aspects. Becoming aware of the limits of both one's ability to cope with pressure and one's productive capacity preponderated among the negative experiences. Residents in our study as well as in the study by Luthy et al. [11] reported experiencing a gap between medical school preparation and the demands of clinical care. As described in other studies and found in our own, junior physicians not infrequently developed physical and psychological symptoms within the career entry period as a result of being overtaxed [8, 10, 19]. Another problem often mentioned is the poor quality of teaching in residency [1]. This grievance played an important role in the perceived workplace climate [20] and as a selection criterion for the residency choice of future graduates [21].

Women and men had similar residency experiences, as can be seen from the quantitative [1] as well as the present qualitative data. The few differences that were found reflected common gender stereotypes. Women gave more responses on the subject of professional support, complaining mainly about the lack thereof. Men made more statements regarding professional competence, responsibility/autonomy, and income. It seemed that female doctors tended to expect more professional support in the career entry period, while male doctors saw professional self-confidence, self-efficacy and prestige as being the main issues. Female doctors also tended to receive more acknowledgement from patients, probably because they place greater value on the doctor-patient-relationship [22]. This result was found as early as the first wave of the survey [23]: when considering what specialty to choose, close contact with patients was important for female students, while the expected income played a more important role for male students.

Residents working in surgical fields reported unsatisfactory professional support significantly more often than their *colleagues in internal medicine*. A number of physicians started their graduate training in a surgical field, wanting to specialise in internal medicine or primary care later on [24]. These residents hoped that clinical experience in surgery would help them feel better prepared for and more competent in other specialties later on. In a number of specialties, a year's surgical training was even recognised as part of the curriculum. The fact that only 56.6% of the graduates had already decided what specialty to pursue later on [23] was another reason why many chose to start their graduate training in a surgical field; obtaining an assistantship in surgery is fairly easy, gives them some clinical practice, and buys them some time to think about what specialty they eventually want to

commit themselves to. However, chief physicians might tend to give junior physicians who do not apply for a surgical residency more administrative work on the ward, rather than supporting them specifically in the surgical specialty. In internal medicine, junior physicians had significantly more positive relationship experiences with patients and senior physicians than in surgical fields. Residents in internal medicine spent more time with patients and significant others than doctors in surgical fields. Furthermore, they received more supervision from their senior physicians, as attested to in several statements.

Residents working in *big training hospitals* complained significantly more often about poor teaching than those working in smaller *hospitals* or *highly* specialised units. In addition to patient care, senior physicians at large hospitals often had time-consuming demands placed on them in terms of research, student training and administrative tasks, which left only little time for teaching residents. They often only looked whether the work got done, and paid too little attention to residents' purposeful and structured career advancement. Junior physicians working in smaller hospitals received significantly more acknowledgement than their colleagues in big hospitals. These findings can most easily be explained by the more direct and personal communication and contact within the medical team, with senior physicians, and with patients. In hospitals primarily geared to patient care, with few research and teaching obligations, a higher value is presumably placed on the doctor-patient relationship and interdisciplinary communication with the nursing staff.

In summation, the present study revealed that the quality and culture of relationships in hospitals strongly influenced the experiences of the career-entry period. "Career-entry shock" was partly caused by unsatisfactory training, especially by a lack of a real concept of education and training for the junior staff. A core-curriculum initiative such as in Canada [25], consisting of sessions on communication and teaching skills, health-care management and ethical, medico-legal, and lifestyle issues, should also be encouraged in Switzerland to improve graduate medical training. Furthermore, senior physicians should be aware of their importance as role models for junior physicians in their career-entry period.

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