



Public Service Commission  
of Canada

Commission de la fonction publique  
du Canada

## **New Hires Survey Technical Paper #4**

# **Newly Hired Computer Systems Administrators**

### **Their recruitment experiences, job satisfaction and career plans**

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February 2002

**Canada** 

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## Executive Summary

In response to an increasingly competitive labour market and demographic changes in the Canadian population, the federal Public Service (FPS) is pursuing new strategies to recruit and retain employees. In recent years, the increase in demand for computer systems (CS) personnel, the move towards e-government and the intense competition for these workers, has made them a challenging group to hire and retain. For this reason, this report focuses on newly hired computer systems administrators in the FPS. It is based on research conducted by the Research Directorate of the Public Service Commission in a survey of recently hired indeterminate public servants across all occupational categories in January and February 2001. This survey examined the recruitment experiences, job satisfaction and career plans of a representative sample of the 8743 people hired into the indeterminate core of the FPS during the 12 month period between July 1, 1999 and June 30, 2000.

Approximately 10% or 101 respondents were in the Computer Systems Administrators occupational category. Of these, almost three quarters (73%, n=74) are male and the remaining quarter (27%, n=27) are female. The three most important reasons for taking their jobs with the FPS were job security (49%), an opportunity to work in their field of study (47%), and to make full use of their knowledge, skills and abilities (41%). Notably, they were much more likely to indicate job security than other respondents (33%).

Computer Systems Administrators were highly satisfied with such considerations as the FPS's offering sufficient flexibility to balance work and personal life, the organization's commitment to diversity in the workplace, and offering a wide variety of jobs. However, there was low satisfaction with the competitiveness of the FPS's salaries compared to the private sector and the speed of hiring decisions are made in a reasonable period of time. In regards to respondents' actual jobs, two statements were identified as less satisfactory: that they have a good opportunity to get a promotion and that respondents' present jobs makes full use of their education.

Despite positive assessments of working in the FPS generally and with their actual jobs, 44% of CSs compared to 25% of those in other occupational groups intend to leave within five years. This result indicates that the Computer Systems Administrators are a high risk group in terms of retention.

More specifically, CS respondents who indicated a low satisfaction with the competitiveness of the FPS's salaries compared to the private sector, were much more likely to indicate an intention to leave within five years than other respondents. Furthermore, CSs who were less satisfied with the degree to which their job utilized their educational qualifications and the opportunity to get a promotion are much more likely to indicate an intention to leave. The three most important reasons for intending to leave are: to earn more money; to increase opportunities for advancement; and to take advantage of a strong job market for their field of work.

## 1.0 Background

In May 2000 a preliminary report was released on findings from a survey of newly hired indeterminate employees in the federal Public Service (FPS).<sup>1</sup> The current report explores in further detail the issues of particular concern among respondents in the computer systems administration occupational group. Questions that are addressed include, how were they recruited to the FPS? What have been their experiences as new recruits? What are their intentions of remaining in the FPS?

The New Hires Survey (NHS) examined the recruitment experiences, job satisfaction and career plans of a representative sample of the 8743 people hired into the federal Public Service's indeterminate workforce between July 1, 1999 and June 30, 2000.<sup>2</sup>

Individuals are recruited into the FPS indeterminate workforce from the external labour market or internally, from those working on a term basis. During the one year period under investigation 3135 individuals or 37% were recruited from the external labour market and the remaining 5608 individuals or 63% were recruited from the term population.

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<sup>1</sup> McDougall, Brian; Nehme, Micheline; and van Gaalen, Rolina (March 2001) *Joining the Core Workforce: A Preliminary Report on the Survey of Newly Hired Indeterminate Employees in the Federal Public Service* (<http://www.psc-cfp.gc.ca/research>).

<sup>2</sup> Although this survey focused on the FPS as defined in the *Public Service Employment Act* (PSEA), those who were new hires (N=724) at the Canada Customs and Revenue Agency (CCRA) during that time period were also invited to participate in the study.

## 2.0 Methodology

Results from the New Hires Survey are based on an analysis of responses to a questionnaire by 990 public servants during a three-week period in January and February 2001. The questionnaire consisted of about 100 items covering a wide range of issues related to the recruitment and retention of people newly hired into the indeterminate workforce.

Although designed by the Research Directorate of the Public Service Commission (PSC), the survey was administered via the Internet by the Ipsos-Reid polling company under contract to the PSC. Each potential respondent was sent by E-mail a letter of invitation to participate in the study, a unique personal identification number (PIN), and the Internet address of the survey. Employees were sent several reminder notices encouraging them to participate in the study.

## 2.1 Population and Sample

The study population consisted of 8743 people recruited into the core workforce between July 1, 1999 and June 30, 2000, and 724 people recruited into the Canada Customs and Revenue Agency (CCRA) during this period. Table 1 presents the population profile.

**Table 1:**  
New Hires in the Indeterminate Workforce of the FPS, July 1999 – June 2000

	External Recruits	Term Conversions	Total
<b>Occupational Categories</b>			
Executive	29	3	32
Scientific and Professional	505	770	1275
Administrative and Foreign Service	1221	1746	2967
Technical	378	347	725
Administrative Support	474	1973	2447
Operations	527	168	1295
Others	1	1	2
<b>Regions</b>			
Atlantic	231	422	653
Quebec (except NCR)	210	464	674
National Capital Region (NCR)	1282	2479	3761
Ontario (except NCR)	234	861	1095
Prairies	517	456	973
Alberta	252	361	613
British Columbia	340	506	846
Territories	69	57	126
<b>Employment Equity Groups</b>			
Women	991	2690	3681
Persons with Disabilities	50	183	233
Visible Minorities	228	391	619
Aboriginal Peoples	117	270	387
<b>Agencies outside the PSEA</b>			
Canada Customs and Revenue Agency (CCRA)	783	1074	1867
<b>Totals</b>			
With CCRA	3928	6682	10610
Source: Data supplied by the Information Management Division of the Public Service Commission			

The sampling procedure was as follows. For new hires in the FPS subject to the PSEA, a representative sample of 4328 people was randomly selected to participate in the study. To facilitate our analysis of the experiences of new hires from the various Employment Equity (EE) groups, we over-sampled by inviting all those who identified themselves as Aboriginal peoples, visible minorities and persons with disabilities to participate.

## **2.2 Survey Respondent Profile**

The 990 respondents in this study obtained their indeterminate jobs in the FPS through two channels of recruitment: over half (52%) were external hires, while the remainder (48%) were recruited from the term population. English was the first language of 67% of all respondents and French for 28% of respondents. The average age of respondents was 36 years of age, which generally reflects younger new recruits as compared to the overall FPS workforce which has an average age of 45 years.

More women respondents came from the ranks of the term conversions than the external recruits. Among the new hires from the term population, two thirds (67%) were women. In contrast, only 46% of respondents who were recruited externally were women.

One-third (33%) of all respondents had a bachelor's degree, while 27% had a post-graduate degree (e.g. a master's, professional or doctoral degree). A further 25% had a college/technical certificate or diploma, including CEGEP. Only 15% had a high school diploma or apprentice/trade credentials. A larger proportion of university trained new hires entered the core workforce through external recruitment (68%) than from the term population (50%).

The strategy of oversampling for Employment Equity (EE) groups resulted in a proportionately large representation of Aboriginal peoples (8%), persons with disabilities (4%) and visible minorities (19%) among the respondents.

## **2.3 Distribution of Respondents by Department/Agency and by Region**

Survey respondents were working in numerous departments and agencies. Among those departments and agencies with especially large representations were Human Resources Development Canada (15%), the Canada Customs and Revenue Agency (11%) and Public Works and Government Services (7%). Additionally, respondents employed at Statistics Canada accounted for 6% of the responses, while four other departments (i.e. Environment Canada, Justice, Health Canada and Transport Canada) accounted for 5% of the total.

Almost two thirds (68%) of respondents were employed in one of the following two occupational categories: scientific and professional (20%), and administrative and foreign service (48%). Only two respondents employed as executives completed the survey. The proportions of the other three occupational categories are as follows: technical (10%), administrative support (20%) and operational (2%). The low response rate among those in the operational category is due to technical constraints, such as not having access to E-mail or to the Internet in their workplaces.

## 3.0 Results

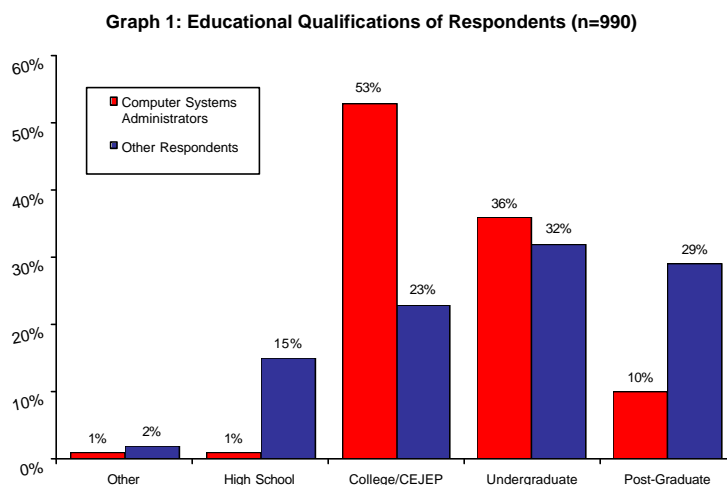
### 3.1 Characteristics of the Computer Systems Administrators

Of the 990 respondents who participated in the survey 101 or 10% were in the computer system administrators occupational category. Of these, almost three quarters (73%, n=74) are male and the remaining quarter (27%, n=27) are female. Almost one quarter (22%) of CSs identified themselves as visible minorities, and six percent identified themselves as persons with disabilities.

In terms of regional distribution, most (70%) of these respondents are located in the National Capital Region (NCR); 13% are in Ontario (excluding the NCR), while smaller proportions are in the Atlantic region (5%), Quebec (excluding NCR) (5%), British Columbia (4%), Manitoba and Saskatchewan (2%), and Alberta (1%).

Status prior to becoming indeterminate employees varies significantly between the CSs and other respondents. Specifically, CSs were much less likely to be recruited internally from term positions. Although half (50%) of respondents in all other occupational categories were recruited internally, only 38% of CSs were done so. Thus, almost two thirds (62%) of CSs were external recruits.

The computer systems respondents are a well-educated group. Over half (53%) had completed college/CEGEP or technical training, and almost one half (46%) had either an undergraduate (36%) or graduate degree (10%). Only one percent had either high school or 'other' educational qualifications. While other occupational groups in the sample were more widely distributed across the educational groups, the CSs are concentrated in the college and undergraduate categories (Graph 1).



A comparison between the CSs and three other large occupational groups, namely clerical and regulatory (CR), economics, sociology and statistics (ES), and program administration (PM), and all others reveals statistically significant differences. The CSs are more likely to have college/technical qualifications than those in the CR (40%) group. However, they are less likely

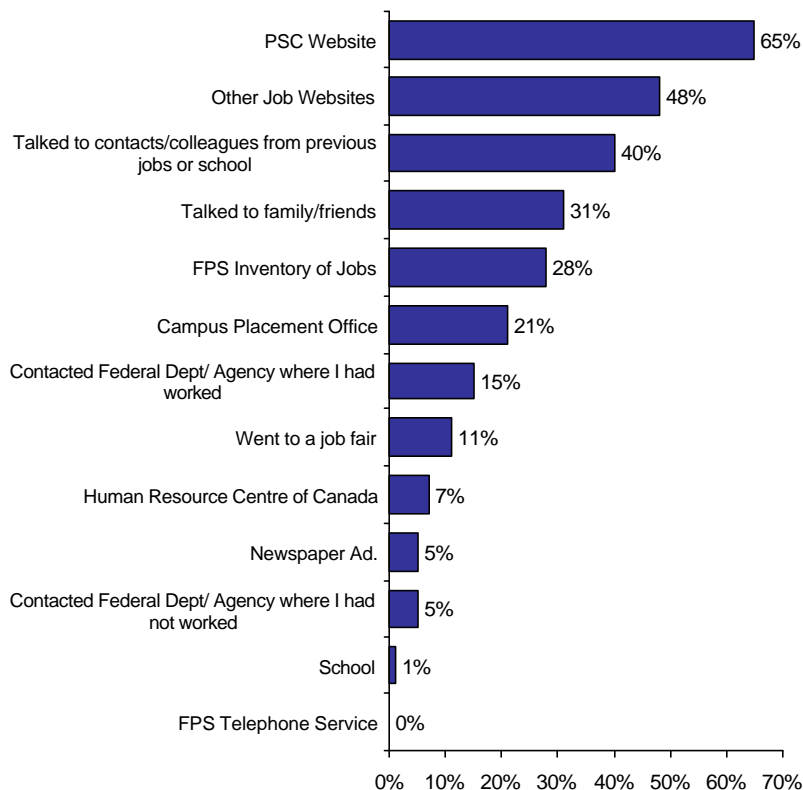
to have a bachelor’s degree compared to those in the PM (43%) group. They are also less likely to have post-graduate training as compared to ESs (77%).

### 3.2 Recruitment Patterns

Prior to joining the FPS, a large proportion (59%) of CSs were working, while 40% were going to school. Only two percent were not looking for work. Among those who were working prior to joining the FPS, 58% were employed in the private sector. One in 20 (5%) were working in each of the public service, public sector outside the FPS or in other public service organizations (e.g. provincial, territorial); six percent in the broader public service (i.e. hospitals, universities); and only one percent in not-for-profit or non-governmental organizations.

As one might expect, among the three most valuable job search activities in finding out about their first job was looking at the PSC website (jobs.gc.ca) (65%) and looking at other Internet job websites (48%) (Graph 2). However, more traditional methods were also considered useful, including talking to contacts or colleagues from previous jobs or school (40%) and talking to family, friends and their contacts (31%). Formal methods were found to be of value for a moderate proportion of CSs. For example, among their top three activities 28% indicated they placed their names on an inventory for a FPS job and 21% went to a campus based placement office. However, only the second figure was statistically significant in comparison to all other respondents. Of all the other respondents combined, 12% indicated that they found going to a campus based placement office to be a valuable activity compared to 21% of the CSs. This finding indicates that these visits are a good recruitment tool for this occupational group.

**Graph 2: Top Three Search Activities in Finding out about First Job in FPS (n=101)**





Interestingly, 15% of CS respondents felt that contacting a federal government department or agency where they had previously worked was one of their most useful job search activities. This indicates that those who have worked for the public service previously probably on a casual or temporary basis consider employment here even after they no longer work for the FPS. Thus, maintaining contact with such individuals may be a possible strategy to recruit them back to the FPS on an indeterminate basis.

Approximately equal proportions of CSs indicated a preference for working in the private sector (42% versus 25% of all respondents in all other groups) or the FPS (39% versus 54% of all others) prior to accepting a Public Service job. Compared to those in all other occupational groups, the CSs are more likely to state a preference for working in the private sector. However, 13% of these respondents versus 9% of those in all other groups indicated that they did not know what sector of the economy they preferred to work in when searching for work. A small proportion (5% versus 1% of all others) indicated that they had no preference.

There were no statistically significant differences in the number of job offers received by CSs as compared to respondents in all other occupational groups. This finding indicates that they are not necessarily more in demand by external employers when compared to all other groups. Nonetheless, it is worth knowing that 23% of CSs had no job offers from external employers, 19% had one job offer, 22% had two job offers, 7% had three job offers and 29% had four or more job offers.

Over two thirds of CS respondents (69%) both had access to the Internet and used it in their job searches. Over one quarter (27%) of them had access to the Internet, but did not use it in their job searches. This is surprising considering that a large number of them indicated that the PSC job website (65%) and other websites (48%) were valuable search tools on the Internet.

Among the reasons CS respondents identified as important for taking their jobs with the FPS are the following: job security (49%), an opportunity to work in their field of study (47%), to make full use of their knowledge, skills, and abilities (41%), to gain experience in this type of work (27%), benefits (27%), an opportunity to get in the FPS (22%), and salary (20%). It is important to highlight that CSs were much more likely to choose job security as one of their top three reasons for accepting their jobs compared to all others (33%). Reasons such as workplace diversity (2%), needing money to pay bills or debts (5%) and a desire to make a contribution to the country (5%) were selected by only a small number of CSs, as was the case for the sample as a whole.

Job selection reasons are associated with intentions to leave. Specifically, CSs who considered the opportunity to gain work experience as one of their most important reasons for accepting a job were much more likely (68%) to indicate that they will leave than those CSs who did not select this reason (35%). Those CSs who valued job security were much less likely to indicate an intention to leave (33%) than those (54%) who did not consider this an important factor in making their decision to accept their job offers.

### 3.3 Job Satisfaction

Respondents were asked to indicate whether they agree or disagree with a series of statements regarding working in the FPS. Many CS respondents agreed or strongly agreed with the following items: the FPS offers sufficient flexibility to balance work and personal life (96%); there is commitment to diversity in the workplace (92%); a wide variety of jobs (87%); a good quality work environment (82%); and interesting work (80%). These respondents were divided on four items: there is good employee morale (60% agreement); the FPS values employees (59% agreement); encourages independent thinking (55% agreement); and is open to change (45% agreement).

The two statements that solicited the greatest disagreement among CSs were: the FPS has competitive salaries compared to the private sector (41% disagreed and 50% strongly disagreed) and that hiring decisions are made in a reasonable period of time (33% disagreed and 35% strongly disagreed). When we compare disagreement on these indicators between the CSs and all other occupational groups we found that the others are less likely to disagree with the salary statement (49%), but no statistically significant differences were found between CSs and all others regarding the timeliness of hiring decisions. Also, conducting an intra-group analysis reveals that CSs who were hired as external recruits (61%) were more likely to disagree than term conversions (44%) that the FPS offers competitive salaries compared to the private sector.

Satisfaction with their particular jobs was high, with many respondents agreeing or strongly agreeing with 13 of the 15 statements. The highest levels of agreement were found in relation to the following statements: in my work unit my colleagues treat me with respect (97%); every individual regardless of race, colour, gender or disability is accepted as an equal member of the team (90%); I know what my manager expects from me (87%); my department/agency is a good place to work (87%); and I get adequate recognition from my manager when I do a good job (80%).

There were only two statements that CS respondents indicated significantly less satisfaction: that they have a good opportunity to get a promotion (38% disagreement) and that respondents' present job makes full use of their education (34% disagreement). Again, these are areas where efforts could be made to improve the satisfaction of this group, and ultimately, the retention of new recruits. There were no statistically significant differences on these indicators between the CSs and respondents in all other occupational groups.

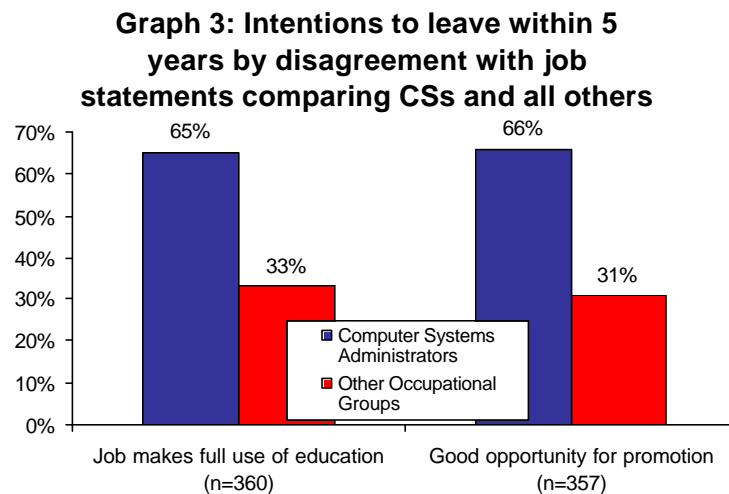
### 3.4 Career Plans

Over two fifths (44%) of computer systems administrators indicate an intention to leave within five years, while 25% of those in other occupational groups intend to leave within five years. This result indicates that the computer systems administrators are clearly a high risk group in terms of retention.

More specifically, CS respondents who disagreed with the statement, 'The FPS has competitive salaries compared to the private sector', were much more likely to indicate an intention to leave within five years than other respondents. Fully 44% of those who were in disagreement with this statement indicated an intention to leave compared to 33% of other respondents. Even larger

differences were found on the statement, ‘The FPS makes hiring decisions in a reasonable period’ and intentions to leave. For example, while 28% of those in other occupational categories who disagreed with this statement have an intention to leave within five years, 46% of CSs who disagreed with this statement plan to do so. These two indicators highlight problems with compensation and the hiring process. Ways of expediting the hiring process should be a focus in order to lower the risk of losing new recruits in the CS group in particular and all employees in general.

Taking a closer look at respondents’ satisfaction with their actual jobs, CSs who are less satisfied with the degree to which their job utilizes their educational qualifications and the opportunity to get a promotion are much more likely to indicate an intention to leave (Graph 3). For example, whereas one third of respondents from all other occupational groups who disagreed with the statement that their job makes full use of their qualifications indicated an intention to leave, almost two thirds (65%) of CSs had such an intention. Similarly, while 31% of those in other occupations who disagreed that they have a good opportunity to get a promotion plan on leaving, over twice as many (66%) CSs who also disagreed with this statement plan on leaving. These findings highlight two key areas of lower satisfaction which are associated with intentions to leave the FPS. Both the issues of fully utilizing CSs’ educational qualifications and opportunities for promotion are under the jurisdiction of departments and the Treasury Board Secretariat. It is important to point out that these are employees’ perceptions, and as such, it maybe the case that an increase in the awareness of how new recruits could more fully utilize their educational qualifications and explore promotional opportunities is needed.

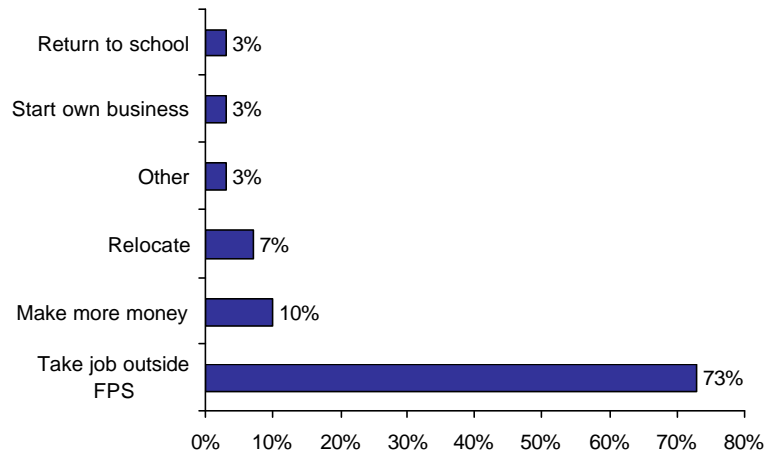


### 3.5 Reasons for planning to leave the FPS

The main reason that CSs are planning to leave is in order to take up employment outside of the FPS (Graph 4). Almost three quarters (73%) of those who intend to leave indicated this reason, while one tenth indicated earning more money was the reason they plan to leave. The difference between the reasons cited indicates that there are specific issues inherent in working in the FPS which are fuelling CSs’ intentions to leave.

Among these CS respondents who intend on leaving within three years, 53% are searching for work on a casual basis, that is less than three times a week, while 43% are not searching at all. Given that only a small proportion (4%) of those planning on leaving are actively searching for work, that is, three times a week or more, attending to the issues identified above could improve the chances of retaining these workers.

**Graph 4: Reasons for Planning to Leave  
FPS Within Three Years (n=30)**



Respondents were asked to indicate how important certain factors are to their decision to leave the FPS. Four items were indicated as very important or important by the largest proportion of CSs and they are: to earn more money (90%); to increase opportunities for advancement (87%); to take advantage of a strong job market for their field of work (83%); and to make better use of their skills and abilities (80%). These reasons were also mentioned by all respondents, however, these results indicate that CSs place a greater emphasis on earning more money, opportunities for promotion and taking advantage of a strong job market in their field.

Additional factors identified as very important or important to their intention to leave are the following: to get more recognition for good performance (63%); improve opportunities for training (60%); get more meaningful work (60%); to find a job where the impact of their work is visible (57%); and to find a job in one's field of study (53%). Although these reasons are not specific to CSs, they do represent areas where improvements could be targeted.

## 4.0 Conclusion

This report has described the recruitment experiences, job satisfaction and career plans of newly hired Computer Systems Administrators. Most importantly, they have a higher risk of intending to leave the FPS than other occupational groups.

Similar to others in the sample, they found the PSC job website a valuable tool in searching for work. Notably, 21% indicated that going to a campus based placement office was among their top three most useful activities. This percent was significantly higher than all others in the sample (12%) who found this to be a valuable activity. As such, this difference shows that campus visits are a good recruitment tool for this occupational group.

As mentioned above, CSs were highly satisfied with certain aspects of working in the FPS, such as flexibility, commitment to diversity and having a wide variety of jobs in the organization. At the same time, however, they did not see the FPS's salaries as competitive compared to the private sector and that hiring decisions are made in a reasonable period of time. In regard to their particular jobs, respondents were less satisfied with their opportunities to get a promotion and the full utilization of their educational qualifications in their present jobs. Both of these concerns were related to higher likelihoods of leaving the FPS. The three most important reasons for intending to leave are: to earn more money; to increase opportunities for advancement; and to take advantage of a strong job market for their field of work.

These reasons are partly contextual and partly organizational. Both perceptions and direct knowledge of compensation levels in the private sector influence how satisfied CSs in the FPS are with their own salaries and as such, their issues are closely linked to changes in the external labour market. A growing number of job vacancies in this area will contribute to further competition for these skilled employees and escalation of compensation. In contrast, increasing awareness of promotional opportunities in the FPS is within the control of this organization thus, more efforts could be made in this regard and also to more fully utilize this groups' skills and educational qualifications.