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Research Article

Leadership career preferences and personality among public service professionals: Results of a discrete choice experiment among junior doctors

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Abstract: In many areas of public sector work, managers are recruited from the ranks of professionals, yet moving into positions with leadership responsibility can still be daunting. We know very little about what makes public service professionals take on a leadership position, or how important leadership responsibility is compared with other job aspects. Drawing on person-job fit theory and a discrete choice experiment among 1,840 Danish junior doctors, we explore to what extent various job facets make a job more attractive and which personality traits are associated with leadership aspirations. Our results indicate that junior doctors prefer certain job characteristics: for example, they prefer a job with no formal leadership responsibility, some degree of patient contact, and normal working hours. The preference for a formal leadership position seems to be weaker among junior doctors with high levels of neuroticism.

Keywords: Career path preferences, leadership, person-job fit, personality, discrete choice experiment, junior doctors

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The need for leaders in the public sector is more important than ever in these times of higher resignation rates and accelerated retirements. This phenomenon is dubbed "The Great Resignation" and squeezes "aging" government and public service workforces (Fuller & Kehr, 2022; Vinik, 2017). The labor shortage is pronounced among public leaders because they are more senior than the average worker, and this shortage is especially strong in highly professionalized public sector organizations. Leaders matter for the provision of effective public services and outcomes such as satisfaction, motivation, and performance (Backhaus & Vogel, 2022), and they play a key role in hiring and retaining workers. Thus, it is vital that public service organizations are able to attract professionals to leadership positions. Still, public service professionals are often wary of taking on leadership positions since many identify more with their professional rather than administrative and organizational obligations (McGivern et al., 2015). Professionals can be particularly reluctant to pursue leadership careers, because public leadership is often associated with limited discretion, political interference, and cross-pressure between groups of stakeholders with conflicting interest. What attracts people with a professional background to take on formal leadership responsibility, and are some more attracted to formal leadership positions than others? This study investigates two questions: (1) How attracted are public service professionals to formal leadership positions, also in relation to other features in public service jobs? And (2) what key characteristics of workers make them aspire to formal leadership positions?

Answers to these questions have direct implications for anyone involved in hiring and designing the future of public service workforces and encompass a multitude of factors. In this article, we narrow it down to one sector: health care, and one profession: doctors. We examine the structural features of job attraction and leadership aspirations, and examine heterogeneity across doctor personalities. While doctors differ from other

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public service workers, they provide a core public service with vital importance for government administrations (The World Bank, 2022). Simultaneously, doctors—especially in the hospital sector—present a critical case for hiring for public service leadership. Doctors are highly specialized, implying that resignations exacerbate the distress on the workforce as leaders can only be promoted and hired from within the profession (Freidson, 1970). Furthermore, doctors in public hospitals like those investigated here, can be particularly reluctant to pursue a career in leadership, which takes them from their professional training and user involvement towards one of political turmoil, bureaucracy, and continuous negotiations and brokering.

On an individual level, different job features such as formal leadership responsibility will most likely attract different people. To understand doctors' leadership aspirations, we therefore also focus on core personality dimensions, because they guide our motives and thinking, our values and interests, and our behavior, and have been linked to leadership emergence in past research (Judge et al., 2002). Finally, jobs have multiple dimensions, and disclosing actual preferences can be difficult. This study applies a discrete choice experiment (DCE) to demonstrate attraction mechanisms towards public sector jobs.

In the following sections, we argue that public service workers evaluate the attractiveness of a job based on the perceived "fit" between their individual characteristics and job characteristics, and we outline what those core characteristics of public service jobs may be. We then discuss how high and low levels of certain personality traits represents factors that may be associated with why some individuals are attracted to leadership positions, while others are not. To identify "attractive" job features and assess the role of personality for leadership aspirations, we employ a DCE with potential jobs in hospitals among 1,840 Danish junior doctors. Finally, we report our main findings before discussing their implications for research and practice and outlining the most notable caveats of our study and design.

Theory

What makes a job attractive to public service professionals? And why would some people be attracted to a position as a formal leader? The broader theory of "Person-Environment Fit" (Kristof-Brown, 1996; Kristof-Brown et al., 2005) proposes that individuals choose a job in an attempt to maximize the "fit" between their personal characteristics and job characteristics. The resulting process is termed achieving a "person-job fit." Consequently, individuals are expected to be attracted to jobs where discernible facets or characteristics of the job match their own preferences. As noted by Schneider, attraction "concerns the fact that people are differentially attracted to careers as a function of their own interests and personality" (Schneider, 1987, p. 441). We divvy up this section into first discussing job characteristics before turning to the role of personality. The core characteristics of public service jobs may encompass a number of elements.

Existing research suggests multiple important dimensions in eliciting job preferences of public service workers, but there is little research on leadership. Previous work points to the importance of aspects such as "user orientation" (Jensen & Andersen, 2015) or beneficiary contact (Steijn & Van der Voet, 2019) in public service jobs by which individuals derive a sense of satisfaction or motivation from increasing the welfare of other people. This is evident in many government jobs focused on "people-changing" (Hasenfeld, 1972) services such as teaching or care provision. A leader position allows authority and power as well as better pay, which can be appealing to some, but it also involves accountability and responsibility for organizational affairs and implementation, which can seem detrimental to professionals, who are more interested in professional work. This can be particularly evident for doctors, who spend years of training to become good doctors rather than managers. In that sense, health care can be seen as a prime example of "people-changing" services, and doctors offer an interesting case as they can trade off patient contact for non-patient related activities such as development, professional planning, and research. As we elaborate later, in addition to whether the position is a formal leadership position we include a number of job facets, such as workload and size of the organizational unit, to identify what characteristics—or configurations of characteristics—junior doctors value. Thus, our general expectation is that people will be more attracted to a job and a formal leadership position when they expect to find a needs-supplies fit, meaning that they expect that their needs, desires, or preferences are met by the job (Kristof-Brown et al., 2005, p. 285).

Personality and Leadership Aspirations

If we are attracted to positions that fit us, we must ask what characteristics are involved in this question of fit. Therefore, we now turn to question of whether individual differences exist in whether someone is attracted to certain job characteristics.

Although people share common traits, we differ in our motives and thinking, our values and interests, our behavior and in our feelings—in short, in our personalities (Judge et al., 2002). To understand behavior, including attraction to certain positions, we can conceptualize it as a consequence of the three pillars of situational influences, individual dispositions, and the interplay or interaction between these (Mondak et al., 2010). While the previous section focused on the pillar of environmental factors, this section targets individual dispositions in the form of personality traits.

To capture heterogeneity among junior doctors, we use a broad measure of personality. In personality psychology, this means using the five-factor model (Judge et al., 2004). The five-factor model represents the de facto paradigm in this tradition (John et al., 2008). It understands personality through five dimensions of the moderately heritable and biologically rooted traits of Neuroticism, Extraversion, Agreeableness, Conscientiousness, and Openness (see Vukasović & Bratko, 2015 for a review of meta-analyses).

There is a large body of psychological and management-oriented literature linking personality traits to occupational outcomes. Meta-analytical evidence shows the relevance of personality in predicting outcomes in terms of leadership performance. In general, high performing leaders have low Neuroticism, high Extraversion, and high Conscientiousness (Shaffer & Postlethwaite, 2012). Low Neuroticism indicates resilience against stress and self-confidence while high Neuroticism indicates a tendency to worry and experience negative emotions. High Extraversion concerns social dominance and gregariousness, while low Extraversion indicates introversion and a quiet demeanor. High Conscientiousness describes people who are structured, focused, and detail-oriented, while low Conscientiousness is characteristic for people who are impulsive and more disorganized, but also more flexible. In the person-job fit approach, these findings make sense, as leadership positions often involve high stress, a requirement that the leader be visible and active, and act focused and structured. High Agreeableness, which is central to organizational citizenship behavior and team performance (Peeters et al., 2006) is related to friendliness and interpersonal sensitivity, while low Agreeableness describes being more direct and potentially hostile with others. People with high Openness are usually described as curious and open to new experiences, while low Openness covers an intolerance of ambiguity and social conservatism (John et al., 2008). Mirroring the findings for leadership performance, those who emerge as leaders in the private sector also tend to be those with low Neuroticism, high Extraversion and high Conscientiousness (Judge, Bono, Ilies & Gerhardt, 2002; Ensari, Riggio; Christian & Carslaw, 2011). In the job-person fit framework, we can again see a potential attraction mechanism leading those with characteristics that "fit" the leadership position to emerge as leaders.

We know little about the role of personality traits in public administration, and even less about it in terms of leadership preference. A recent review found only 13 primary studies in the 11 top journals using the five-factor model (Aarøe et al., 2021). These studies focus on job satisfaction, organizational citizenship behavior, public service motivation, leadership ratings, and attractiveness of working in the public sector, but not on leadership itself or the attractiveness of taking up the mantle of leadership.

Due to the strong correlations between leadership emergence and performance and personality traits, we expect personality traits as conceptualized through the five-factor model to help explain differences among our sample of junior doctors in their attraction towards formal leadership positions. However, because of the limited evidence of the role of personality in seeking formal leadership in public sector organizations, we proceed in an exploratory vein by applying personality broadly as a possible source of heterogeneity in the attraction to certain job characteristics and willingness to seek a specific position.

Data and Methods

Population and data collection

We conducted a discrete choice experiment (DCE) within an online survey to examine preferences among junior doctors in regards to future career paths within Danish hospitals. The DCE was part of a larger survey

sent to all members of the Danish Medical Association for Junior Doctors in August 2021 (N=14,975). A total of 3,684 junior doctors responded. Pursuing a career as a formal leader is mainly relevant in a hospital setting (rather than in for example GP clinics, where there are typically no formal leader). Therefore, only junior doctors stating that they wanted a future career within a hospital participated in the DCE. Ultimately, 1,840 junior doctors completed the DCE. Based on measurable outcomes, i.e. gender and age (presented in Table 1) our sample both corresponds to the full population of junior doctors in Denmark, where the mean age is 37, and the proportion of women is 64.5 percent, and to the sample from the broader survey of junior doctors, where the mean age is 36.6, and the proportion of women is 67.9 percent (Hansen et al., 2022). However, we cannot exclude that our sample differs on aspects that we are unable to measure among nonrespondents. Although external validity is certainly important, the main interest here lies on internal validity in terms of correlations between our variables of interest.

Table 1. Descriptive statistics of respondents

	Mean	Median	Std. Dev.	Obs.
Gender (1=Female)	0.66	1	0.48	1839
Age	36.6	35	6.96	1839
Medical specialist (1=Yes)	0.31	0	0.46	1840

The discrete choice experiment

The DCE is a quantitative method used to measure respondents' underlying preferences. By presenting respondents with different alternatives, varying on several characteristics (attributes), and asking respondents to choose between the alternatives, it is possible to estimate and rank the relative importance of these attributes (Johnson et al., 2013; Train, 2003).

We presented the respondents with a hypothetical scenario in which we told them to imagine that they were looking for a new job within a hospital and had to choose between two positions. We then asked them "which position do you prefer?" (Position A or B), thus employing a forced choice model, which heightens the statistical power of our model.

The positions varied on six attributes, as displayed in Table 2, expected to influence junior doctors' decisions to choose one job over another. To select these attributes, we drew on existing research, held brainstorm meetings in the project group, and had discussions with a former hospital director and fellow researchers. For example, we found evidence from a qualitative study by Schultz (2015) that lack of patient contact and a poor work-life balance constitute important barriers among doctors for choosing a position, which led to a discussion on whether to include patient contact and working hours as attributes.

In choosing the attribute levels, we aimed to reflect variation between Danish hospital departments to ensure realism while simultaneously minimizing the number of levels to ensure higher statistical power. Some attribute levels need further elaboration below since our choices are dependent on the Danish context.

First, when junior doctors finish their postgraduate education within a Danish hospital, they are typically hired as staff physicians. For some respondents this was the status quo, and therefore *staff physician* was not included as an attribute level. If junior doctors subsequently follow a natural career path, they can, eventually, become chief physicians or clinical directors. In our study, the position as a clinical director constitutes the formal leadership position. A clinical director is the head of department, hierarchically superior to chief physicians, and constitutes the personnel manager of all doctors employed at a hospital department. Furthermore, clinical directors are responsible for department budgets and for organizational matters. Chief physicians do have a professional leadership responsibility in relation to one or more specialties, but their position differs markedly from the position as a clinical director in the sense that they have no formal leadership responsibility for personnel, budgets nor the wider aspects of hospital organization. Second, most Danish hospital departments employ 10–50 doctors, with an average of 35 (Pedersen et al., 2019). Very few departments employ fewer than 10 doctors, while some employ more than 50. For the sake of power, we did not include larger numbers than 50. Lastly, in Denmark, full-time employment typically constitutes 37 hours

per week, but neither clinical directors nor chief physicians are employed with a fixed number or an upper limit of working hours, and therefore they often work more.

In the design of the DCE, ecological validity was a main concern. There could be other attributes not accounted for that respondents associate with the included attributes, resulting in endogeneity issues. Therefore, we told the respondents to imagine that the positions were identical in all other aspects than those presented (Louviere et al., 2010). To further heighten the ecological validity, we received feedback from other researchers after which the survey was pilot-tested among board members of the Junior Doctors association and five junior doctors.

Table 2. Attributes and corresponding attribute levels included in the DCE

Attributes	Attribute levels
Job title	Chief physician (Reference level) Clinical director
Time for research	Not possible (Reference level) Possible
Type of hospital	Regional hospital (Reference level) University hospital
Contact with patients	Never (Reference level) Once a week Several days a week Everyday
Size of department	10 doctors (Reference level) 30 doctors 50 doctors
Average no. of working hours	37 hours (Reference level) 42 hours 47 hours

Experimental design

We implemented a full factorial design with 288 ($2^3 \times 3^2 \times 4^1$) possible combinations of job characteristics. This design is statistically efficient because it allows investigation of all six attributes, including all possible interactions between attributes (Ryan et al., 2008). Using Qualtrics software, we programmed our survey to randomly choose one level of each attribute for each alternative position, with an equal probability of choosing each attribute level. Thus, one random alternative was paired with another random alternative (see for example Hainmueller et al., 2017; Hjortskov & Andersen, 2019, for equivalent designs). Appendix A holds an example of a choice task, while Appendix B holds a balance check, displaying how the attribute levels were almost displayed equally, finding only one small significant deviation within the attribute with most attribute levels "contact with patients", suggesting successful randomization.

The respondents were each presented with two choice tasks, resulting in 3,680 choice sets and 7,360 observations in the dataset. Two is a comparatively low number of choice tasks (Clark et al., 2014), but since the DCE was part of a larger survey, we feared that respondents would become fatigued if presented with more choice tasks. We do, also, far exceed the rule of thumb for minimum sample size as proposed by Johnson & Orme (2003) (see Appendix C for power calculation).

Measuring personality

Personality traits were measured using a Danish validated version of the 20-item Mini-IPIP Scale (Donnellan et al., 2006), including four items measuring each of the five personality traits. On a five-point Likert scale, we asked respondents to answer: "For each question below, please indicate to which degree it describes you". Example items were "I like order," or "I seldom feel blue". All original items are included in Appendix D.

Items were recoded to make higher scores indicate a greater presence of the given personality trait. Hereafter, the items were combined in five sum indices (one for each personality trait) ranging 0–1.

While the standard approach to personality in the literature is treating it as a continuous variable, this is not possible in a DCE setup as personality traits do not vary over attribute levels. Thus, the DCE approach inhibits the use of personality traits as independent variables in the mixed logit model (Train, 2003). We therefore follow previous DCE literature within public administration (Jensen & Pedersen, 2017) and investigate heterogeneity across personality traits by splitting the sample into subgroups[1]. More specifically, we split the sample into three groups by the quantiles of each personality trait with one group scoring below or equal to the 25th percentile, a second group scoring above the 25th but lower than the 75th percentile, and a third group scoring above or equal to the 75th percentile. These groups are termed low, medium, and high on the given personality trait (See Table 3 cut-off levels and group sizes).

Table 3. Descriptive statistics and grouping of personality traits

	Mean	25th percentile	75th percentile	#Low	#Medium	#High
Extraversion	0.56	0.438	0.688	581	599	659
Agreeableness	0.82	0.750	0.938	719	593	527
Conscientiousness	0.70	0.563	0.813	477	713	649
Neuroticism	0.35	0.188	0.500	500	869	469
Openness	0.70	0.563	0.813	496	741	601

Note: # denotes the number of respondents in the group.

Methods of analysis

DCE builds on random utility theory (McFadden, 1974). This theory states that decision-makers maximize their utility when making choices based on their underlying preferences. These preferences consist of two components: A component you observe that depends on observable factors (the attributes included in the study), and a random component that researchers cannot observe, such as the influence of omitted attributes and random errors.

To estimate the importance of attributes on junior doctors' choice of position, we used a dummy-coded mixed logit error component model that takes account of the panel structure in the data as respondents answered two choice sets each. In such models, the decision to choose a position makes up the dependent variable, where the selected position receives the value 1, while the six included attributes makes up the independent variables. First, we estimated this model for the full sample, after which we estimated corresponding models for each of the split samples based on personality (cf. Table 3).

As the utility coefficients in our models are not directly comparable due to the scale parameter that reflects the variance of the unobserved component (Train, 2003), we have taken different measures in the analysis to ease interpretation of the results. In order to be able to compare the importance of the attributes, we calculated the relative importance of each attribute by taking the difference between the largest and the smallest coefficient of an attribute and dividing it by the sum of differences for all attributes (Malhotra & Birks, 2000). We also calculated probabilities of choosing jobs holding specific attribute-levels (Train, 2003). In the analysis of the full sample, we calculated the probability of choosing a position with the specific attribute levels, compared to choosing a position with the reference-level of the same attribute, when all else is equal. In the analyses uncovering the influence of personality, we calculated the probability of choosing a position as clinical director as opposed to a position as a chief physician for each split sample, when all else is equal.

Findings

Main effects of attributes

In total, 1,840 junior doctors participated in the DCE. Table 4 shows the main effects of the included attributes on the choice of job, the relative importances of the included attributes, and the probability of choosing a job holding a specific attribute-level.

The results reveal that all included attributes significantly influence junior doctors' choices. The results indicate that patient contact (RI=0.285) and working hours (RI=0.251) are the most influential attributes for junior doctors' choice of job position. Specifically, junior doctors prefer frequent patient contact several days a week and a 37-hour working week. If a junior doctor was faced with a choice between a position with no patient contact, and patient contact several days a week and all else was equal, 94% would choose the position with patient contact. Correspondingly, if a junior doctor had to choose between 37 or 47 working hours per week, just under of 29 percent would choose 47. In addition to preferring patient contact and a low number of working hours, junior doctors also prefer a position with research activity (RI=0.160)—preferably at a university hospital rather than a regional hospital (RI=0.074)—within departments employing 30 doctors rather than 10 or 50 (RI=0.108).

Turning to our most important attribute – the job title, junior doctors prefer a position as chief physician (ledende overlæge) over a position as clinical director (overlæge) (RI=0.112). From Table 4 we furthermore see that the probability of choosing a position as a clinical director is 43.3% compared to choosing a position as a chief physician. These results indicate a relative reluctance to become a clinical director. However, the results also reveal that many junior doctors would in fact choose a position as a clinical director.

Table 4. Mixed logit model: Marginal utilities, relative importance of attributes and probabilities of choosing a job holding specific attribute levels

Variable	Marginal utility (p-value)	RI (Rank)	Probability
Chief physician	Reference	0.112 (4)	Reference
Clinical director	-0.271 (0.000)		43.28%
Time for research not possible	Reference	0.160 (3)	Reference
Time for research possible	0.355 (0.000)		58.79%
Regional hospital	Reference	0.074 (6)	Reference
University hospital	0.164 (0.021)		54.10%
Patient contact: Never	Reference	0.285 (1)	Reference
Patient contact: One day a week	0.429 (0.000)		76.75%
Patient contact: Several days a week	0.632 (0.000)		94.06%
Patient contact: Everyday	0.624 (0.000)		93.38%
Department size: 10 doctors	Reference	0.108 (5)	Reference
Department size: 30 doctors	0.240 (0.006)		63.56%
Department size: 50 doctors	0.063 (0.467)		53.26%
Working hours: 37	Reference	0.251 (2)	Reference
Working hours: 42	-0.146 (0.097)		43.20%
Working hours: 47	-0.556 (0.000)		28.66%
ASC	21.474 (0.983)		
SD ASC	0.099 (1.000)		
Number of obs.	7360		
Log likelihood	-1144.52		
LR chi2	0.00		
Prob > chi2	0.9976		

Note: Mixlogit model performed in STATA with 1000 Halton draws (Hole, 2007). A positive (negative) sign of the utility coefficient indicates that the attribute makes the junior doctor more (less) inclined to choose the position. Abbreviations: RI, Relative Importance. ASC: Alternative specific constant. The ASC should be interpreted as the inclination to choose *alternative A* when all else is equal. The probabilities reflect the probability out of 100 percent to choose a position holding the given attribute-level, compared to the position holding the reference attribute-level, if all else is equal (see Train 2003).

We performed robustness checks to investigate whether these results were driven by reluctance among the youngest junior doctors, who cannot realistically become clinical directors until later in their careers. This was not the case, since the junior doctors already eligible for being clinical directors (i.e. junior doctors with a medical specialist education) were even more reluctant to choose such a position[2].

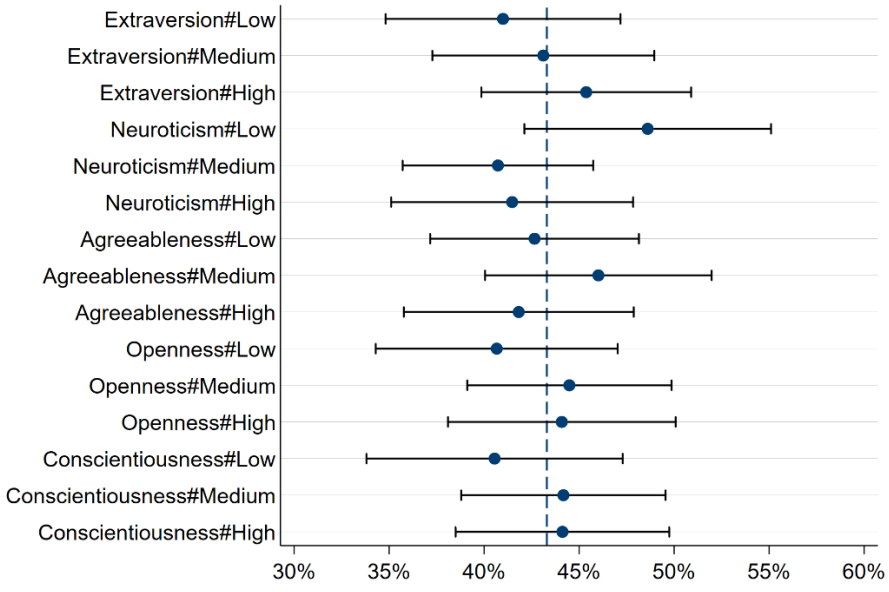
Subgroup analysis: Split on personality traits

We also explored whether the above results varied across personality traits. Tables E1–E5 in Appendix E show the mixed logit models for each of the 15 split samples.

The overall tendencies for attributes outside of job title are to a great extent similar to the analysis of the full sample. Patient contact and working hours continues to be the most influential attributes across almost all split samples, and almost all are more inclined to choose a position with research activity. However, the results do vary in terms of whether the junior doctors show an inclination to prefer a university hospital to a regional hospital, and whether a department with 30 doctors is preferred over a department with to 10 or 50 doctors.

In the last part of the analysis, we focus specifically on attraction towards formal leadership responsibility, as reflected by the job title attribute. We find that formal leadership responsibility makes junior doctors significantly less inclined to choose a position across many split samples, and it never makes the junior doctors more inclined to choose a position. The split samples in which the junior doctors are not negatively affected at a significant level by the position having formal leadership responsibility are the samples in which the junior doctors possess a high level of extraversion (p-value=0.103), a medium level of agreeableness (p-value=0.192), a low level of neuroticism (p-value=0.675) and a high level of openness (p-value=0.055). Furthermore, we find that the relative negative importance of formal leadership responsibility is largest among junior doctors with low openness. We also estimated the probability of selecting a position as a clinical director compared to a position as chief physician, within each split sample, when all else is equal. These results are presented in Figure 1. Thus, the figure displays how these probabilities vary across personality splits. The accurate probabilities and the corresponding confidence intervals are included in Appendix F.

Figure 1. All else being equal, how probable is the selection of a position as a clinical director as compared to a chief physician across the three splits on each personality trait?



Note: Probability of choosing a position as a clinical director at a low, medium, and high level of each personality trait. For all participants, the probability is 43.3, as shown by the dotted line. None of the groups differ significantly from the group level or each other at 5% α-level.

Figure 1 shows that the largest diversion from the full population is among those with low neuroticism as they are more willing to choose a position as clinical director. For extraversion, there is a linear tendency that extraversion heightens the inclination to become clinical director. For agreeableness, the relationship seems slightly u-shaped as the probability is highest among those with medium agreeableness. For conscientiousness and openness, the tendencies are similar as those scoring low are less inclined to choose a position as clinical director compared to subgroups scoring medium or high. T-tests[3] revealed that no subgroups vary significantly from the full sample (43.3%) and that no subgroups differ significantly from each other at the conventional 5% α-level. However, if we accept a 10% α-level, doctors with low levels of neuroticism are significantly more likely to choose a position as clinical director than those with medium neuroticism (p-value=0.061), low extraversion (p-value=0.097), low openness (p-value=0.087), and low conscientiousness (p-value=0.092).

Discussion and Conclusion

In this article, we set out to investigate how job characteristics, especially leadership responsibility, explain preferences for public service jobs in a core group of workers. The results corroborate that a DCE is useful for uncovering variation in junior doctors' preferences for different work packages. We find that junior doctors are less likely to select a job when the position is a formal leadership position as a clinical director compared with the position as a chief physician, only having professional leadership responsibility. This finding is evidence that doctors on average are somewhat reluctant to take on formal leadership responsibility. We also find that this preference varies across personality traits. The preference for a formal leadership position is highest among junior doctors with low neuroticism, which indicates that resilience against stress and self-confidence are central characteristics of people with an orientation towards leadership. Furthermore, extraversion, conscientiousness, and openness are positively associated with preferences for formal leadership positions. However, none of the differences are statistically significant at conventional levels. We also find that other aspects matter to the preference for a given job. Especially, junior doctors find a job less attractive when it is characterized by long working hours and little patient contact. We note that these aspects can often be part of actual leadership positions, and this can have important implications. The strength of the method applied here is that we can better understand whether it is the title or the job content that matters to the preference for given aspects of a job. Actual positions as formal leaders can be less attractive because they may contain characteristics that are less attractive to workers considering a career in leadership.

We employed a full factorial design which is a statistically efficient. However, our design is not without limitations. Some scholars avoid forced choice models because of the risk of overestimating probabilities and biased utility coefficients (Determann et al., 2019). In this study, we prioritized power over including a status quo or opt-out option, because we could not accept increasing the number of choice sets. In employing a forced choice model, we therefore risk overestimating junior doctors' willingness to choose a specific position (Ryan et al., 2008) since not choosing either of the positions is a realistic real-world alternative. However, this concern is less problematic in this study since we were primarily interested in relative differences across groups. Furthermore, in our design, it was possible to be presented with two identical positions in the same choice set, which could induce bias. However, subsequent analysis revealed that identical positions in the same choice set occurred only six times, and that in these cases position A and B were chosen equally.

This study provides several important contributions. First, it offers insights into a potential dilemma often ignored in the existing literature on job choice decisions in public sector organizations. Attraction to public service jobs may rest in part on one's desire to help others, as suggested by studies on 'public service motivation' (e.g., Wright et al. 2017). Yet, beneficiary contact – in our case, direct patient contact – is often sacrificed in a trade-off for administrative duties of formal leadership positions. As such, research on job choice decisions faces an inconvenient paradox: Formal leaders for highly professionalized, specialized roles can only be promoted from within the ranks of fellow professionals, yet individuals self-select into their profession and job as a function of attributes not (or less so) characteristic of leadership roles. Whereas existing work has predominantly focused on entry into a position or initial job choice, we invite scholars to help better understand the puzzle of career mobility within public service jobs; especially as it relates to leadership aspirations and emergence.

Our second contribution is to offer a first piece to this puzzle by showcasing how the "big five" personality traits can help understand why some people are more attracted to formal leadership positions than others. We urge scholars to investigate this important question more broadly, including other types of leadership responsibilities and sectors (e.g., private vs. public). We believe that doctors provide a hard case because doctors are relatively reluctant to replace their professional responsibilities for formal leadership responsibilities. Thus, we hope that scholars will investigate other areas where leadership may play a different role.

Finally, our study provides an innovative method for studying attraction mechanisms towards public sector jobs. Previous studies have relied on self-indications of different job characteristics (e.g., Rainey, 1983; Vandenabeele, 2008), but social desirability bias can be a challenge for the robustness of such methods. By imposing real choice situations, the DCE provides a method for revealing preferences because respondents need to make real choices between characteristics. This method has recently been introduced in public administration research (Jilke & Tummers, 2018), but we believe there is much potential for studying the importance of various job characteristics—also beyond those studied here.

Notes

1. The robustness tests can be provided upon request.
2. We also estimated a logit model as a robustness check where the dependent variable indicated whether the chosen position was a position as clinical director or a position as chief physician, and the independent variables where the five personality traits included simultaneously as continuous variables. The results of this analysis did not vary from the results we present in the article. The robustness tests can be provided upon request.
3. The results of the t-tests can be provided upon request.

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Appendix

Appendix A. Example of choice task

	Position A	Position B
Job title	Chief physisian	Clinical director
Time for research	Possible	Possible
Type of hospital	University hospital	Regional hospital
Contact with patients	Never	Daily
Size of department	10 doctors	30 doctors
Average no. of working hours	47 hours	47 hours

Appendix B. Balance table: Were attribute levels evenly presented?

Attribute level	Frequency	Percent
Job title		
Chief physician	3696	49.97
Clinical director	3700	50.03
Time for research		
Not possible	3676	49.70
Possible	3720	50.30
Type of hospital		
Regional hospital	3713	50.20
University hospital	3683	49.80
Contact with patients		
Never	1895	25.62
Once a week	1856	25.09
Several days a week	1781	24.08*
Everyday	1864	25.20
Size of department		
10 doctors	2398	32.42
30 doctors	2452	33.15
50 doctors	2546	34.42
Average no. of working hours		
37 hours	2402	32.48
42 hours	2474	33.45
47 hours	2520	34.07

Note: Two-sided t-tests[2] were performed to investigate whether each attribute level was displayed to respondents more often than other levels. Having contact with patients "several days a week" was only displayed significantly more than "never" having contact with patients. *** $p<0.001$, ** $p<0.01$, * $p<0.05$.

Appendix C. Power calculation

Johnson & Orme (2003) propose that as a rule of thumb, the minimum required sample size can be calculated as:

$$N > \frac{500c}{t \times a}$$

where t is the number of choice tasks, a is the number of alternatives, and c is, when studying only main effects, equal to the largest number of levels for any of the attributes. In our case, 500 respondents for each analysis would be enough.

$$N > \frac{500 \times 4}{2 \times 2} \Leftrightarrow N > 500$$

Appendix D. 20-item Mini IPIP Scale

We would like to ask you how you see yourself. For each question below, please indicate to which degree it describes you as a person. "I…"

Extraversion 1	Am the life of the party.
Extraversion 2	Talk to a lot of different people at parties.
Extraversion 3 R	Don't talk a lot.
Extraversion 4 R	Keep in the background.
Agreeableness 1	Sympathize with others' feelings.
Agreeableness 2	Feel others' emotions.
Agreeableness 3 R	Am not really interested in others.
Agreeableness 4 R	Am not interested in other people's problems.
Conscientiousness 1	Get chores done right away.
Conscientiousness 2	Like order.
Conscientiousness 3 R	Often forget to put things back in their proper place.
Conscientiousness 4 R	Make a mess of things.
Neuroticism 1	Have frequent mood swings.
Neuroticism 2	Get upset easily.
Neuroticism 3 R	Am relaxed most of the time.
Neuroticism 4 R	Seldom feel blue.
Openness 1	Have a vivid imagination.
Openness 2 R	Have difficulty understanding abstract ideas.
Openness 3 R	Am not interested in abstract ideas.
Openness 4 R	Do not have a good imagination.

Note: R = Reversed.

Appendix E. Mixed logit models for each of the split samples based on personality

Table E1

Mixed logit model: Marginal utilities of attribute levels and the corresponding relative importance of attributes—split on low, medium, and high degree of extraversion.

	Low extraversion		Medium extraversion		High extraversion	
Variable	**Utility (p-value)**	**RI (Rank)**	**Utility (p-value)**	**RI (Rank)**	**Utility (p-value)**	**RI (Rank)**
Clinical director	-0.364 (0.005)	0.135 (5)	-0.277 (0.023)	0.140 (5)	-0.186 (0.103)	0.091 (5)
Time for research possible	0.395 (0.001)	0.146 (3)	0.350 (0.005)	0.177 (3)	0.324 (0.009)	0.153 (3)
University hospital	0.372 (0.004)	0.138 (4)	0.032 (0.805)	0.016 (6)	0.091 (0.438)	0.044 (6)
Patient contact: One day a week	0.438 (0.016)	0.280 (1)	0.344 (0.060)	0.267 (1)	0.487 (0.005)	0.300 (2)
Patient contact: Several days a week	0.680 (0.187)		0.512 (0.004)		0.589 (0.000)	
Patient contact: Everyday	0.755 (0.000)		0.527 (0.002)		0.614 (0.000)	
Department size: 30 doctors	0.230 (0.165)	0.085 (6)	0.282 (0.065)	0.169 (4)	0.207 (0.137)	0.101 (4)
Department size: 50 doctors	0.004 (0.981)		-0.051 (0.737)		0.202 (0.152)	
Working hours: 42	-0.112 (0.501)	0.214 (2)	-0.116 (0.442)	0.231 (2)	-0.238 (0.105)	0.310 (1)
Working hours: 47	-0.577 (0.000)		-0.456 (0.003)		-0.633 (0.000)	
ASC	20.20 (0.983)		20.80 (0.987)		20.67 (0.986)	
SD ASC	0.100 (1.000)		0.100 (1.000)		0.100 (1.000)	
No. of obs.	2324		2386		2636	
Log likelihood	-346.48		-367.84		-424.12	
LR chi2	0.00		0.00		0.00	
Prob > chi2	0.998		0.998		0.998	

Note: Mixlogit model performed in STATA with 1000 Halton draws (Hole, 2007). A positive (negative) sign of the utility coefficient indicates that the attribute makes the junior doctor more (less) inclined to choose the position. The alternative specific constant should be interpreted as the inclination to choose *alternative A* when all else is equal. Abbreviations: RI, Relative Importance. ASC: Alternative specific constant. Reference levels are outlined in table 1.

Table E2

Mixed logit model: Marginal utilities of attribute levels and the corresponding relative importance of attributes—split on low, medium, and high degree of agreeableness.

	Low agreeableness		Medium agreeableness		High agreeableness	
Variable	**Utility (p-value)**	**RI (Rank)**	**Utility (p-value)**	**RI (Rank)**	**Utility (p-value)**	**RI (Rank)**
Clinical director	-0.296 (0.010)	0.122 (5)	-0.160 (0.192)	0.071 (6)	-0.330 (0.009)	0.157 (3)
Time for research possible	0.433 (0.000)	0.178 (3)	0.475 (0.000)	0.211 (3)	0.081 (0.547)	0.039 (5)
University hospital	0.170 (0.138)	0.070 (6)	0.241 (0.058)	0.107 (4)	0.089 (0.515)	0.042 (4)
Patient contact: One day a week	0.398 (0.015)	0.239 (1)	0.303 (0.094)	0.250 (2)	0.650 (0.001)	0.480 (1)
Patient contact: Several days a week	0.580 (0.000)		0.563 (0.001)		0.799 (0.000)	
Patient contact: Everyday	0.554 (0.000)		0.437 (0.011)		1.007 (0.000)	
Department size: 30 doctors	0.392 (0.007)	0.162 (4)	0.232 (0.117)	0.103 (5)	0.004 (0.979)	0.006 (6)
Department size: 50 doctors	0.116 (0.405)		0.031 (0.840)		-0.007 (0.964)	
Working hours: 42	-0.125 (0.385)	0.229 (2)	-0.063 (0.686)	0.257 (1)	-0.304 (0.064)	0.277 (2)
Working hours: 47	-0.555 (0.000)		-0.579 (0.000)		-0.581 (0.000)	
ASC	21.49 (0.989)		20.45 (0.985)		21.45 (0.991)	
SD ASC	0.100 (1.000)		0.100 (1.000)		0.100 (1.000)	
No. of obs.	2876		2372		2108	
Log likelihood	-444.77		-367.30		-323.32	
LR chi2	0.00		0.00		0.00	
Prob > chi2	0.999		0.998		0.999	

Note: Mixlogit model performed in STATA with 1000 Halton draws (Hole, 2007). A positive (negative) sign of the utility coefficient indicates that the attribute makes the junior doctor more (less) inclined to choose the position. The alternative specific constant should be interpreted as the inclination to choose *alternative A* when all else is equal. Abbreviations: RI, Relative Importance. ASC: Alternative specific constant. Reference levels are outlined in table 1.

Table E3

Mixed logit model: Marginal utilities of attribute levels and the corresponding relative importance of attributes—split on low, medium, and high degree of conscientiousness.

	Low conscientiousness		Medium conscientiousness		High conscientiousness	
Variable	**Utility (p-value)**	**RI (Rank)**	**Utility (p-value)**	**RI (Rank)**	**Utility (p-value)**	**RI (Rank)**
Clinical director	-0.383 (0.007)	0.127 (5)	-0.234 (0.035)	0.112 (5)	-0.236 (0.042)	0.117 (4)
Time for research possible	0.637 (0.000)	0.212 (2)	0.238 (0.033)	0.114 (4)	0.297 (0.012)	0.146 (3)
University hospital	0.347 (0.021)	0.115 (4)	0.209 (0.070)	0.100 (6)	-0.0005 (0.997)	0.0002 (6)
Patient contact: One day a week	0.614 (0.002)	0.276 (1)	0.537 (0.001)	0.322 (1)	0.163 (0.345)	0.264 (2)
Patient contact: Several days a week	0.760 (0.000)		0.670 (0.000)		0.514 (0.002)	
Patient contact: Everyday	0.828 (0.000)		0.650 (0.000)		0.465 (0.006)	
Department size: 30 doctors	0.139 (0.413)	0.073 (6)	0.258 (0.075)	0.124 (3)	0.283 (0.051)	0.103 (5)
Department size: 50 doctors	-0.080 (0.660)		0.131 (0.352)		0.083 (0.557)	
Working hours: 42	-0.214 (0.223)	0.197 (3)	0.040 (0.779)	0.256 (2)	-0.363 (0.017)	0.358 (1)
Working hours: 47	-0.592 (0.001)		-0.433 (0.002)		-0.696 (0.000)	
ASC	20.62		20.74 (0.986)		20.27 (0.983)	
SD ASC	0.100 (1.000)		0.100 (1.000)		0.100 (1.000)	
No. of obs.	1908		2852		2596	
Log likelihood	-269.54		-451.20		-413.95	
LR chi2	0.00		0.00		0.00	
Prob > chi2	0.998		0.998		0.998	

Note: Mixlogit model performed in STATA with 1000 Halton draws (Hole, 2007). A positive (negative) sign of the utility coefficient indicates that the attribute makes the junior doctor more (less) inclined to choose the position. The alternative specific constant should be interpreted as the inclination to choose *alternative A* when all else is equal. Abbreviations: RI, Relative Importance. ASC: Alternative specific constant. Reference levels are outlined in table 1.

Table E4

Mixed logit model: Marginal utilities of attribute levels and the corresponding relative importance of attributes—split on low, medium, and high degree of neuroticism.

	Low neuroticism		Medium neuroticism		High neuroticism	
Variable	**Utility (p-value)**	**RI (Rank)**	**Utility (p-value)**	**RI (Rank)**	**Utility (p-value)**	**RI (Rank)**
Clinical director	-0.056 (0.675)	0.025 (5)	-0.375 (0.000)	0.158 (3)	-0.344 (0.010)	0.150 (3)
Time for research possible	0.569 (0.000)	0.254 (2)	0.315 (0.003)	0.133 (4)	0.205 (0.134)	0.089 (5)
University hospital	0.051 (0.718)	0.023 (6)	0.203 (0.057)	0.085 (6)	0.240 (0.081)	0.105 (4)
Patient contact: One day a week	0.506 (0.013)	0.283 (1)	0.468 (0.002)	0.340 (1)	0.338 (0.099)	0.220 (2)
Patient contact: Several days a week	0.634 (0.001)		0.808 (0.000)		0.326 (0.110)	
Patient contact: Everyday	0.563 (0.003)		0.747 (0.000)		0.504 (0.009)	
Department size: 30 doctors	0.467 (0.005)	0.209 (3)	0.209 (0.107)	0.089 (5)	0.094 (0.581)	0.086 (6)
Department size: 50 doctors	0.194 (0.246)		0.092 (0.446)		-0.102 (0.567)	
Working hours: 42	-0.094 (0.580)	0.207 (4)	-0.002 (0.990)	0.196 (2)	-0.443 (0.013)	0.350 (1)
Working hours: 47	-0.465 (0.005)		-0.465 (0.000)		-0.803 (0.000)	
ASC	34.92 (1.000)		20.74 (0.983)		20.20 (0.985)	
SD ASC	0.100 (1.000)		0.100 (1.000)		0.100 (1.000)	
No. of obs.	2000		3476		1876	
Log likelihood	-310.51		-520.29		-300.66	
LR chi2	0.00		0.00		0.00	
Prob > chi2	0.999		0.997		0.998	

Note: Mixlogit model performed in STATA with 1000 Halton draws (Hole, 2007). A positive (negative) sign of the utility coefficient indicates that the attribute makes the junior doctor more (less) inclined to choose the position. The alternative specific constant should be interpreted as the inclination to choose *alternative A* when all else is equal. Abbreviations: RI, Relative Importance. ASC: Alternative specific constant. Reference levels are outlined in table 1.

Table E5

Mixed logit model: Marginal utilities of attribute levels and the corresponding relative importance of attributes—split on low, medium, and high degree of openness.

	Low openness		Medium openness		High openness	
Variable	**Utility (p-value)**	**RI (Rank)**	**Utility (p-value)**	**RI (Rank)**	**Utility (p-value)**	**RI (Rank)**
Clinical director	-0.378 (0.005)	0.171 (3)	-0.221 (0.046)	0.085 (6)	-0.238 (0.055)	0.113 (4)
Time for research possible	0.285 (0.041)	0.129 (5)	0.425 (0.000)	0.164 (3)	0.352 (0.006)	0.168 (3)
University hospital	0.047 (0.737)	0.021 (6)	0.288 (0.010)	0.111 (4)	0.086 (0.512)	0.041 (5)
Patient contact: One day a week	0.229 (0.256)	0.187 (2)	0.170 (0.283)	0.294 (1)	0.951 (0.000)	0.452 (1)
Patient contact: Several days a week	0.412 (0.037)		0.615 (0.000)		0.841 (0.000)	
Patient contact: Everyday	0.261 (0.194)		0.763 (0.000)		0.687 (0.000)	
Department size: 30 doctors	0.370 (0.036)	0.168 (4)	0.284 (0.035)	0.110 (5)	0.033 (0.829)	0.029 (6)
Department size: 50 doctors	0.197 (0.241)		0.018 (0.896)		-0.028 (0.860)	
Working hours: 42	-0.304 (0.096)	0.324 (1)	-0.175 (0.191)	0.235 (2)	-0.035 (0.827)	0.197 (2)
Working hours: 47	-0.717 (0.000)		-0.609 (0.000)		-0.414 (0.007)	
ASC	19.98 (0.982)		21.24 (0.988)		21.60 (0.991)	
SD ASC	0.100 (1.000)		0.100 (1.000)		0.100 (1.000)	
No. of obs.	1984		2964		2404	
Log likelihood	-294.55		-468.37		-364.62	
¤ LR chi2	0.00		0.00		0.00	
Prob > chi2	0.998		0.999		0.999	

Note: Mixlogit model performed in STATA with 1000 Halton draws (Hole, 2007). A positive (negative) sign of the utility coefficient indicates that the attribute makes the junior doctor more (less) inclined to choose the position. The alternative specific constant should be interpreted as the inclination to choose *alternative A* when all else is equal. Abbreviations: RI, Relative Importance. ASC: Alternative specific constant. Reference levels are outlined in table 1.

Appendix F. All else equal, how probable is the selection of a position as a clinical director as compared to a chief physician across the three splits on personality traits?

Variable	Low	Middle	High
Extraversion	**41.0**	**43.1**	**45.4**
	[34.8;47.2]	[37.3;49.0]	[39.9;50.9]
Agreeableness	**42.7**	**46.0**	**41.8**
	[37.2;48.2]	[40.1;52.0]	[35.8;47.9]
Conscientiousness	**40.6**	**44.2**	**44.1**
	[33.8;47.3]	[38.8;49.5]	[38.5;49.7]
Neuroticism	**48.6**	**40.7**	**41.4**
	[42.1;55.1]	[35.7;45.7]	[35.1;47.8]
Openness	**40.7**	**44.5**	**44.0**
	[34.3;47.0]	[39.1;49.9]	[38.1;50.1]

Note: For all participants, the probability is 43.3, as displayed in table 4 and figure 1. The brackets display 95% confidence intervals.