**Appendix. Supplementary data**

**Table I**

Code identification, characterization and description

|  |  |  |  |
| --- | --- | --- | --- |
| **Code** | **Related category** | **Type of code** | **Description** |
| Attractive profession | Intrinsic motivation | Inductive | This code captures doctors’ statements which refers to the attractive character of practicing in medicine. We consider all those statements as evidence of intrinsic motivation According to the *Self Determination Theory* (SDT) (references 20 and 21) and we capture all of them into attractive profession code. |
| Autonomy | Crowding in | Deductive | References 4 and 5 consider the need for autonomy, joint with the need for competence, the basis for intrinsic motivation. Research on intrinsic motivation (reference 6) have shown the benefits of supporting autonomy for motivated persistence, performance, and wellbeing. Autonomy code captures all the doctors’ answers alluding to the potential of the autonomy to crowd in intrinsic motivation. |
| Bureaucratization | Crowding out | Inductive | Emerged from participants. ‘Bureaucratization’ reflect the idea that there is a proportion of accommodated doctors with high degree of conformism. Suffering from bureaucratization doctors give up in the pursuit of their professional goals. The consequence of achieving a  safe position iron-plated by a bulletproof contract. The result of being polluted by the absence of professional incentives. |
| Control | Crowding out | Deductive | The opposite of autonomy. Control capture examples of several forms of control referred by doctors as being demotivating. Rewards and external regulation in general act as extrinsic motivators which externally control people’s behaviour. People behave to attain a desired consequence such as tangible rewards or to avoid a threatened punishment. This type of extrinsic motivation has been extensively examined and found to be undermining of intrinsic motivation (reference 5). |
| Dedication | Intrinsic motivation | Inductive | Dedication captures statements pointing out situations in which good medical practice involves personal costs. Doctors refer to some of this situations. Explicitly and also implicitly. |
| Effort | Intrinsic motivation | Inductive | Doctors frequently underline situations in which they have to put extra effort, out of hours and without any reward linked. They commit to do that following some sense of duty or ethical values. They describe these situations as inherent to the medicine and something that one know before becoming doctor. We capture all these statements with the code labelled effort. |
| Financial incentives | Crowding out | Deductive | *Behavioural Economics* (BE) (reference 2 and 3) and SDT (reference 4 and 5) have shown that the use of monetary or material rewards to incentive workers undermine intrinsic motivation by the crowding out effect. We use this code to capture of the examples reported by doctors |
| Further education | Intrinsic motivation/Crowding out | Inductive | Respondents when openly talk about the features and dimensions of the medical practice that they enjoy the most, they point out some specific aspects. Further education and the possibility to acquire and learn new knowledge was quoted by almost all of them and automatically captured within this code. |
| Help/empathy | Intrinsic motivation | Inductive | This code emerges from respondents’ statements. They view themselves as people who help others and empathize with them. Tus they feel they are contributing to the others welfare and to the social welfare. This feeling is considered an internal reward inherent to the medical practice. Every time doctors report such a felling in the study, a statement is captured by this code. |
| Humanity | Intrinsic motivation | Inductive | Respondents, often, expressed that face-to-face service, dealing directly with patients problems and the human touch involved by physician-patient relation is one of the most valuable reward they are able to earn as doctors. We capture these statements under humanity code. |
| Lack of autonomy | Crowding out | Deductive | SDT (references 5 and 6) establish that autonomy at workplace is a major determinant of the intrinsic motivation. Whenever management practices and implemented incentives and command and control policies are autonomy constraining, they may cause crowding out. Doctors’ statements pointing out the perceived absence of autonomy are captured in this code. |
| Lack of recognition | Crowding out | Deductive | SDT (reference 5) establish that recognition or being recognized by ones effort or achievement is a more effective incentive than the monetary for activities that individuals perform by the mere fact of enjoyment. Analogously the lack of any recognition undermines individuals’ intrinsic motivation to perform in any activity. This code capture the statements that mention some form of absence of recognition. |
| Like/enjoy | Intrinsic motivation | Deductive | Classical definitions of intrinsic motivation (references 20 and 21) show that individuals are intrinsically motivated when they get satisfaction (utility) from the very act of doing a given activity or performing in a task. Intrinsically motivated activities are defined as those that individuals find interesting and carry out in the absence of operationally separable consequences. |
| Market transaction | Crowding out | Deductive | Coming from BE (reference 3) and SDT (references 4-6) tries to capture all the statements in which doctors report that after being rewarded with money professionals start to see their work and their effort as a commodity tradable in exchange of a price. Once they swift this view of the activity intrinsic motivation is undermined. |
| Non-financial incentives | Crowding in | Inductive | Under Non-financial incentives we capture all the statements that claim or propose non-financial (non-monetary) incentives that may improve or crowd in doctors intrinsic motivation. |
| Opportunistic behaviour | Crowding out | Deductive | Coming from Game Theory opportunistic behaviour is an expression conventionally used to refer such player’s actions driven by the goal of seeking his own maximum material benefit by gaming the system or the rules (references 2 and 3). This kind of behaviours in health is considered as a consequence of crowding out of doctors intrinsic motivation plus the huge amount of the private information they have performing in their positions. |
| Other non-financial | Crowding out | Inductive | Many non-financial managerial actions, decisions and rules are also reported by interviewees as causes of crowding out. All these statements are captured in this code. |
| ‘Peonada’-FFS | Crowding out | Inductive | Emerged from respondents and data collection. The code Peonada’ refers to a certain Fee-For-Service (FFS) incentive for out-of-hours work implemented in the Sistema Navarro de Salud-Osasunbidea. This code captures all the statements pointing out that incentive as a cause of crowding out. |
| Pressure | Crowding out | Inductive | Pressure code captures doctors’ statements that reflect managerial pressure as a form of control from managers. |
| Professional career-1 | Crowding out | Deductive | Professional career is an existing incentive scheme in the SNS. It is considered by doctors to be a financial incentive and report that it causes crowding out. They view professional career as a disguised wage increase very easy to achieve for every doctor. An element that no recognizes neither merit nor effort. |
| Professional career-2 | Crowding in | Inductive | Professional Career-2 captures statements claiming for a renewed professional career incentive which rewards doctors according to criteria related to professional merits and excellence of work. An incentive that recognize the professional achievements that in words of doctors would crowd in their intrinsic motivation. |
| Professional development | Crowding in | Deductive | Asked about what they expected from medicine, they often pointed out the chances that profession offer to develop a professional career. Career concerns, prestige and professional recognition constitute important non-financial rewards in words of doctors and also in BE (references 17, 18 and 19) |
| Pro-social/Altruism | Intrinsic motivation | Deductive | Pro-social behaviour and altruism have been object of research within BE (references 1, 2, 8, 9, 10, 12-14). Pro-social behaviour captures all the statements where doctors report their feelings to perform in medicine because they want to contribute to improve the society. Altruism captures the statements reflecting doctors’ intrinsic preferences to help others |
| Recognition | Crowding in | Deductive | SDT (references 4-6) and BE (reference 9) pointed out that giving people unexpected positive feedback on a task increases people’s intrinsic motivation to do it. This was because the positive feedback was fulfilling people’s need for competence. Recognition (social, patient, or employer) was claimed by respondents in the study as a non-material reward that enforce professionals’ sense of competence and encourage physicians to high effort and high quality standars. |
| Research | Intrinsic motivation/crowding In | Inductive | Statements pointing out the importance of the research component of the medicine are captured under this code. Research is considered an important driver of physicians’ motivation for work because new edical knowledge and its applications impacts positively in the quality of service, patients’ health and in the overall social welfare. Additionaly, research constitutes a challenge for doctors who aim to improve the knowledge about diseases, health technologies and health outcomes and therefore, in the interviews they propose research as a non-financial incentive that may crowd in their intrinsic motivation |
| Science | Intrinsic motivation | Inductive | Respondents frequently mentioned that scientific knowledge, scientific advance, and science related issues are in the basin of their interest and likings toward medical profession. Science captures all these motives reported by doctors. Science related incentives emerge also in the proposals that doctors made to crowd in intrinsic motivation |
| Self-management | Crowding in | Inductive | One of the determinants of individuals’ intrinsic motivation is the perceived sense of autonomy (references 3-6). The code self-management tries to capture the idea that actions that offer more chances to self-manage own work might improve intrinsic motivation |
| Service | Intrinsic motivation | Inductive | Doctors mostly affirm that service and patient care were one of the main motives under their decision of becoming doctors.  The code of service also captures the willingness of doctors to provide a social service or good |
| Task meaning change | Crowding out | Deductive | SDT (references 4-6) and BE (references 1-3) have shown that one of the main drivers of the Crowding Out effect of financial rewards is the switch that people experience in their perception from the pure joy of performing in an activity to see such activity as a mean of earning money. Once people started to see the activity as a mean of earning money, they only are willing to effort in exchange of a monetary reward. |
| Teaching | Crowding in | Inductive | Interviewees frequently use teaching at university level as a motivational and non-financial example of incentive |
| Technical knowledge | Intrinsic motivation | Inductive | Respondents mention reasons under this code ―such as technical character of medicine— as determinant in the profession selection process |
| Vocation | Intrinsic motivation | Inductive | Emerged from interviews and data collection. It was frequently highlighted by respondents as key factor in the profession selection process |

**References**

1. Benabou R, Tirole J. Intrinsic and extrinsic motivation. Rev of Ec Studies. 2003;70:489-520.
2. Bowles S, Polanía-Reyes S. Economic incentives and social preferences: substitutes or complements. J Ec Lit. 2012;50:368-425.
3. Frey BS, Jegen R. Motivation crowding theory. J Ec Surveys. 2001;15:589-611.
4. Deci EL. Effects of externally mediated rewards on intrinsic motivation. J Pers Soc Psychol. 1971;18:105-15.
5. Deci EL, Ryan RM. Intrinsic motivation and self-determination in human behavior. New York: Kluwer Academic/Plenum Publishers; 1985. 371 p.
6. Deci EL, Koestner R, Ryan RM. A meta-analytic review of experiments examining the effects of extrinsic rewards on intrinsic motivation. Psych Bulletin. 1999; 125: 627-68.
7. Ghatak M, Mueller H. Thanks for nothing?: not-for-profits and motivated agents. J Public Ec; 95: 94-105.
8. Francoise P, Vlassopoulos M. Pro-social motivation and the delivery of social services. CESifo Ec Studies. 2008;54:22-54.
9. Delfgaauw J, Dur R. Incentives and workers’ motivation in the public sector. Ec Journal. 2008;118:171-91.
10. Prendergast C. The motivation and bias of bureaucrats. Am Ec Review. 2007;97:180-96.
11. Besley T, Ghatak M. Competition and incentives with motivated agents. Am Ec Review; 95:616-36.
12. Francoise P. Non-for-profit provision of public services. Ec Journal. 2003;113:C53-C56.
13. Francoise P. Public service motivation as an argument for government provision. J Public Ec. 2000;78:275-99.
14. Makris M, Siciliani L. Optimal incentive schemes for altruistic providers. J Pub Ec Theory. 2013;15:675-99.
15. Siciliani L. Paying for performance and motivation crowding out. Ec Letters. 2009;103:68-71.
16. Delfgaauw J. Dedicated doctors: public and private provision of health care with altruistic physicians. Tinbergen Ins DP 07-010/1. 2007.
17. Dewatripont M, Jewitt I, Tirole J. The economics of career concerns. Part I: comparing information structures. Rev Ec Studies 1999;66:183-98.
18. Dewatripont M, Jewitt I, Tirole J. The economics of career concerns. Part II: application to missions and accountability of government agencies. Rev Ec Studies 1999;66:199-217.
19. Benabou R, Tirole J. Incentives and prosocial behaviour. Am Ec Review. 2006;96:1652-78.
20. Deci EL, Ryan RM. Intrinsic and extrinsic motivations: classic definitions and new directions. Com Ed Psychology. 2000;25:54-67.
21. Deci EL, Ryan RM. The ‘what’ and ‘why’ of goal pursuits: human needs and self-determination of behavior. Psych Inquiry. 2000;11:227-68.