Supplementary Material:

1) Examples of general and public competency models

Hard / Soft classification	General models			Public models	
	Bartram (2005)	Ennis (2008)	Tett et al. (2000)	Bowman et al. (2010)	Czabanowska et al. (2013)
+ Hard	Analysing and interpreting Organizing and executing	Staffing Informing Strategic planning/action Preparing and evaluating budgets Monitoring work Monitoring and controlling resources	Traditional functions	Technical competencies	Systems thinking
	Enterprising and performing	Entrepreneurship	Task orientation Occupational acumen and concerns Dependability		
	Creating and conceptualizing		Open mindedness		Political leadership
		Developing an organizational vision			
	Interacting and presenting Supporting and cooperating Leading and deciding	Supporting others Motivating and inspiring Delegating Networking Developing and mentoring Clarifying roles and objectives Managing conflict and teambuilding	Person orientation Communication Developing self and others	Leadership competencies	Collaborative leadership Leadership and communication Leading change Leadership, organizational learning and development
	Adapting and coping		Emotional control		Emotional intelligence and leadership in team-based organizations
+ Soft				Ethical competencies	Ethics and professionalism

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2) Detail of the articles search for the content analysis at the first stage of Study 1

Searches	Source	Keywords	Notes on the search	Years	Articles reviewed	Valid articles		
						Spain	UK	USA
First search	WOS	Public manager competencies	General search narrowed down by: Social sciences, Education Educational Research, Psychology, Business Economics, Sociology, Public Administration	2000-2014	106	2	7	12
Second search to increase the number of articles referring to Spain in specific journals related to Spanish Public Administration	*Revista Española de Investigaciones Sociológicas*	Public Administration†	General search	All-2015	7	1	0	0
	Presupuesto y Gasto Público	Competencies, public administration, managers†	Title search	2004-2014	2	2	0	0
	Gaceta Sanitaria	Competencies†	General search through Scielo	All-2015	13	2	1	1
	Estudios Gerenciales	Competencies†	Content search through Redalyc	2004-2015	208	1	0	0
	Journal of Work and Organizational Psychology	Competencies, public administration†	Title search through Redalyc	All-2015	10	4	0	0
Third search to increase the number of articles referring to the UK	WOS	Public manager competencies + UK	General search	2000-2015	9	0	2	0
				Total	355	12	10	13

Note. †Original terms in Spanish were: *administración pública, competencias,* and *directivos.*

3) Studies included in the content analysis at the first stage of Study 1

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(S) Valid articles for Spain.

(USA) Valid articles for the USA.

(UK) Valid articles for the UK.

Note. One article is valid for two countries when it refers to public manager competencies in both countries.

4) Detail of the competency models reviewed at the third stage of Study 1

  The behavioural descriptors for each competency were developed and adapted from: (i) Villa and Poblete (2008); (ii) INAP (*Instituto Nacional de Administración Pública* - INAP, 2013); (iii) *Oficina Nacional de Innovación de Gestión* (2000); (iv) European Federation of Psychologists' Association (2015); (v) *Confederación de Entidades para la Economía Social de Andalucía* (2011); (vi) *Grupo de Innovación Docente de Gestión y Administración Pública de la Universitat de Barcelona* (2007); and (vii) the information retrieved on the basis of the previous stages (i.e., content analysis and the focus group sessions).

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5) Delphi panel round results at the fourth stage of Study 1

Initial 15-competency model obtained in the third stage	Relevance		Consensus			Final suggestions
	Round 1	Round 2		Round 3		Round 4
	Score† and order	QCD	New order	QCD		Final agreed 8-competency model
Ethics	67, 2nd	0.43	2nd	0.29		
Managing diversity	23, 14th	0.67	13th	0.14		Ethics
Taking risk and difficult decisions	47, 7th	0.60	11th	0.33		
Civil service orientation	55, 5th	0.67	5th	0.17		Civil service orientation
Knowledge, identification and engagement with the Public Administration	38, 12th	0.83	7th	0.50		Engagement with the Public Administration
Leadership	80, 1st	0.14	1st	0.00		Leadership
Teamwork building and management	65, 4th	0.17	4th	0.14		
Planning	67, 3rd	0.14	3rd	0.14		Planning
Organization	52, 6th	0.50	12th	0.14		
Quality management	37, 13th	0.33	14th	0.29		Innovation orientation
Innovation orientation	42, 9th	1.00	10th	*2.50*		
Recognition and regulation of own and other's emotions	40, 11th	1.00	6th	0.33		Recognition and regulation of emotions
Communication	47, 8th	0.75	8th	0.29		Communication
Negotiation	42, 10th	0.40	9th	0.29		
Technical and professional knowledge	18, 15th	0.14	15th	0.14		Not included

Note. N = 7. Competencies with higher values for *QCD* in the third round are in italics. *QCD* means quartile coefficient of dispersion. †Only six experts took part in the first round, so the maximum score is 90.

6) Final items from the PUMACQ (original Spanish and English translated items for informational purposes)

Leadership: items refer to a manager that guides the people they lead, contributing to their development and team cohesion to achieve organizational goals.

1. Organizo y coordino el trabajo aprovechando el talento de las personas. [VILPOB] [GIDEPO] [ADAPTED]

    I organize and coordinate work by harnessing the talents of others.
2. Convierto situaciones de incertidumbre en situaciones de activación para mejorar el trabajo de quienes dirijo. [ESPUMA]

    I turn situations of uncertainty into enabling situations to improve the work of those I lead.
3. Propongo soluciones y actividades conjuntas para alcanzar objetivos comunes. [ESPUMA] [VILPOB]

    I propose solutions and joint activities to achieve common goals.
4. Realizo propuestas informales, además de las formales, para conseguir la unión y la cohesión del equipo. [ESPUMA] [VILPOB]

    I make informal as well as formal proposals to achieve team unity and cohesion.
5. Implemento acciones de desarrollo para quienes dirijo. [ESPUMA]

    I implement development actions for those I manage.
6. Comunico al equipo la evolución de su rendimiento para favorecer su desarrollo. [CEPES] [ADAPTED]

    I inform the team about their performance in order to promote their development.
7. Motivo y entusiasmo al equipo con éxito en torno a objetivos exigentes. [VILPOB] [ADAPTED]

    I succeed in motivating and enthusing the team to achieve challenging objectives.

Ethics: items refer to a manager that behaves according to the principles of public service, and guarantees justice and integrity.

8. Actúo con confidencialidad y discreción en la información que manejo, tratándola con reserva y prudencia. [ESPUMA]

    I treat information in a confidential, discreet, respectful and prudent manner.
9. Declaro cualquier posible conflicto de intereses. [ESPUMA]

    I declare any possible conflicts of interest.
10. Asigno recursos públicos de forma justa y transparente. [ESPUMA] [VILPOB]

I allocate public resources in a fair and transparent manner.

11. Interpreto la norma y los códigos deontológicos partiendo de una moral de carácter universal que garantice los derechos de los ciudadanos, incluso en circunstancias importantes, complejas y conflictivas. [ESPUMA] [VILPOB]

    I interpret regulations and codes of ethics on the basis of universally applicable morality that ensures the rights of all citizens, even in serious, complex and contentious circumstances.

12. Actúo con integridad, de forma coherente con los valores, creencias y principios que afirmo sostener. [ESPUMA]

    I act with integrity, in a manner that is consistent with the values, beliefs and principles I hold.

Planning: items refer to a manager that establishes and manages realistic time-scales and resources to develop projects, achieve goals and manage an agenda.

13. Realizo un seguimiento sistemático del cumplimiento de los objetivos y del ajuste a los presupuestos y los recursos establecidos. [ESPUMA] [VILPOB]

    I systematically monitor the achievement of objectives and compliance with allocated budgets and resources.

14. Oriento mis prioridades a medio y corto plazo en función de mis objetivos a largo plazo. [VILPOB] [ADAPTED]

    I adjust my short and medium-term priorities in accordance with my long-term objectives.

15. Establezco con eficiencia una secuencia de acciones concretas para alcanzar las metas. [ESPUMA] [VILPOB]

    I efficiently establish a sequence of concrete actions to achieve goals.

16. Manejo con éxito proyectos diferentes y complejos. [VILPOB] [ADAPTED]

    I successfully deal with varied and complex projects.

17. Establezco planes de actuación que me permiten gestionar riesgos y amenazas para la Administración. [ESPUMA] [ONIGBA]

    I establish action plans that enable me to manage risks and threats to the Administration.

18. Establezco planes de actuación que me permiten desarrollar el trabajo en situaciones de incertidumbre. [ESPUMA] [ONIGBA]

    I establish action plans that enable me to carry out my work in situations of uncertainty.

Civil service orientation: items refer to a manager that helps and serves citizens by identifying and meeting the requirements of the general public.

19. Atiendo a los ciudadanos/as con rapidez. [CEPES] [ADAPTED]

I attend to the public promptly.

20. Distribuyo información provechosa para los ciudadanos/as. [ONIGBA]

    I distribute useful information to the public.

21. Logro que los ciudadanos/as reconozcan y aprecien mi valía como prestador/a de un servicio público. [CEPES]

    I succeed in gaining public recognition and appreciation of my value as a public service provider.

22. Me anticipo a las necesidades de los ciudadanos/as aportando soluciones a su medida. [ONIGBA] [CEPES] [GIDEPO]

    I anticipate public needs by providing customized solutions.

23. Asumo la responsabilidad de la atención a los ciudadanos/as de forma personalizada. [ONIGBA] [ADAPTED]

    I take responsibility for providing personalized attention to the public.

24. Doy prioridad al servicio a los ciudadanos/as, orientando mis actuaciones a la mejora en la prestación del servicio. [ESPUMA] [VILPOB]

    I give priority to serving citizens, and direct my actions towards improving the service provided.

25. Sé coordinar las interrelaciones entre el ámbito externo a la Administración Pública, el ámbito dentro de la propia Administración, y el ámbito de dentro del propio servicio o unidad en la que desarrollo mi trabajo. [ESPUMA] [VILPOB] [ONIGBA]

    I know how to coordinate the interrelationships between external areas of public administration, internal areas of public administration, and the area within the department or unit in which I carry out my work.

Recognition and regulation of emotions: items refer to a manager that shows emotional self-regulation, as well as the ability to detect their own emotions and the emotions of others, and take them into account.

26. Actúo de forma reflexiva. [CEPES] [ADAPTED]

    I act in a reflective way.

27. Actúo con calma aunque sienta emociones fuertes tales como el enfado y frustración extrema. [CEPES] [ADAPTED]

    I act in calm manner, even when I feel strong emotions extreme anger and frustration.

28. Comprendo emociones ajenas adecuadamente. [ESPUMA]

    I understand the emotions of others in an appropriate manner.

Engagement with the Public Administration: items describe a manager that demonstrates an understanding of the Public Administration and acting with loyalty.

29. Actúo con lealtad a la Administración apoyando actuaciones en favor de su misión y sus objetivos. [ESPUMA] [CEPES]

    I am loyal to the Administration and support actions to achieve its mission and objectives.

30. Hago un esfuerzo extra cuando es beneficioso para la Administración. [ONIGBA] [ESPUMA]

    I make an extra effort when this is beneficial for the Administration.

31. Defiendo la imagen de la Administración cuando me relaciono con personas externas a la misma. [GIDEPO]

    I defend the image of the Administration when I interact with people from outside the Administration.

32. Percibo los objetivos de la Administración como propios. [ONIGBA] [ESPUMA]

    I perceive the Administration's objectives as my own.

Communication: items refer to a manager that gives and obtains information in a clear, concise and timely manner.

33. Demuestro facilidad de expresión y claridad en la comunicación, fomentando una atmósfera de entendimiento. [VILPOB]

    I am articulate and clear when communicating, and encourage an atmosphere of understanding.

34. Escucho e identifico puntos de acuerdo y necesidades compartidas. [ESPUMA] [VILPOB]

    I have the ability to listen to others and identify points of agreement and shared needs.

35. Soy conciso/a e ilustro con ejemplos los puntos que podrían ser malinterpretados. [VILPOB]

    I am concise and illustrate points that might be misunderstood with examples.

36. Resumo, integro y aclaro las informaciones que recibo para asegurarme de que comprendo lo que me están exponiendo y que los demás comprenden lo que yo he expuesto. [GIDEPO] [VILPOB]

    I summarise, assimilate and clarify received information to ensure that I understand what is being explained to me, and that others have understood what I have explained.

Innovation orientation: items describe a manager that develops and proposes actions, solutions and new forms of organization methods and improvements.

37. Autoevalúo continuamente mis necesidades de conocimiento y de desarrollo personal y/o profesional para mejorarlo. [ONIGBA] [ESPUMA]

I continuously self-assess my knowledge and/or personal and professional development needs in order to improve them.

38. Actúo proactivamente dentro de mi área de posibilidades y de mis límites cuando surgen pequeñas desviaciones y dificultades para evitar el agravamiento de problemas menores. [ESPUMA]

I act proactively to the best of my ability and within my limits when small setbacks and difficulties arise, in order to prevent minor problems from escalating.

39. Mantengo una red de contactos técnicos y profesionales como una oportunidad para el intercambio de ideas que motiva el aprendizaje y el desarrollo. [ONIGBA] [VILPOB] [ADAPTED]

I maintain a network of technical and professional contacts to facilitate the exchange of ideas that motivate learning and development.

40. Promuevo la adaptación a los cambios en la Administración. [ESPUMA]

I promote adaptation to changes in the administration.

- Items were taken and adapted (when items were adapted the term [ADAPTED] is included) from:

(i)   [VILPOB]: Villa and Poblete (2008).

(ii)   [GIDEPO]: INAP (*Instituto Nacional de Administración Pública* - INAP, National Institute for Public Administration, 2013).

(iii)   [ONIGBA]: *Oficina Nacional de Innovación de Gestión* - National Office of Management Innovation (2000).

(iv)   [CEPES]: *Confederación de Entidades para la Economía Social de Andalucía* - Confederation of Entities for the Social Economy of Andalusia (2011).

(v)   [ESPUMA] The information retrieved on the basis of the research stages involving content analysis and focus group sessions.

7) Job performance items

Contextual performance: following Borman and Motowidlo (1993, p. 73), it refers to "support the organizational, social, and psychological environment in which the technical core must function". It was measured by means of the nine translated* items from the scale by Morgeson et al. (2005) that include cooperating with team members, going out of his or her way to help other team members, and reflect interpersonal facilitation, interpersonal helping, job dedication, and individual initiative.

1. Coopero con los demás miembros del equipo.
    Original item: Cooperates with others in the team.
2. Ofrezco ayuda a mis compañeros/as para que cumplan con su trabajo.
    Original item: Offers to help other team members accomplish their work.
3. Realizo voluntariamente esfuerzos más allá de los exigidos para ayudar a mis compañeros/as.
    Original item: Voluntarily does more than the job requires to help others or contribute to team effectiveness.
4. Hablo con otros miembros del equipo antes de tomar una decisión que nos afecte a todos.
    Original item: Talks to other team members before taking actions that might affect them.
5. Hago todo lo posible para ayudar a los miembros del equipo a resolver sus problemas.
    Original item: Goes out of the way to help team members with work-related problems.
6. Hago todo lo posible para que los nuevos compañeros/as se sientan bien.
    Original item: Goes out of the way to make newer members feel welcome in the team.
7. Me preocupo por el equipo aunque los demás vayan a lo suyo.
    Original item: Shows genuine concern and courtesy toward team members, even under the most trying business or personal situations.
8. Animo a mis compañeros/as a probar nuevas formas de conseguir resultados.
    Original item: Encourages team members to try new and more effective ways of doing their jobs.
9. Animo a mis compañeros/as más tímidos/as a dar su opinión.
    Original item: Encourages hesitant or quiet team members to voice their opinions when they otherwise might not speak up.

Task performance: following Borman and Motowidlo (1993, p. 73), it contributes "to the organization's technical core either directly by implementing a part of its technological process, or indirectly by providing it with needed materials or services". It was measured by means of the six item scale based on Abramis (1994) by Latorre (2011) that describes

it as the effective performance by the worker of the tasks or the job, and a useful contribution to the socio-occupational environment.

En qué medida ha realizado satisfactoriamente las siguientes tareas...

To what extent have you successfully performed the following tasks…

1. Tomar decisiones.
   Taking decisions.
2. Trabajar sin cometer errores.
   Working without making mistakes.
3. Dedicarse a su trabajo.
   Dedicating yourself to your work.
4. Conseguir sus objetivos.
   Achieving your objectives.
5. Tomar la iniciativa.
   Taking initiative.
6. Asumir responsabilidades.

   Taking responsibility.

Unethical pro-organizational behaviour: translated and adapted* items from the scale by Umphress et al. (2010), based on the consideration of UPOB as unethical behaviours by commission or omission that are illegal or morally unacceptable to the wider community and that are carried out to benefit or help the organization and not specified in formal job descriptions or mandated by superiors.

1. Si ello ayudase a mi organización, alteraría la realidad para hacer quedar bien a mi organización.
   Original item: If it would help my organization, I would misrepresent the truth to make my organization look good.
2. Si ello ayudase a mi organización, exageraría la realidad sobre los servicios y/o productos prestados.
   Original item: If it would help my organization, I would exaggerate the truth about my company's products or services to customers and clients.
3. Si ello beneficiase a mi organización, ocultaría la información negativa sobre mi organización y sus servicios.
   Original item: If it would benefit my organization, I would withhold negative information about my company or its products from customers and clients.
4. Si mi organización lo necesitase, haría una buena recomendación de un empleado/a incompetente con la esperanza de que se vaya a otra parte y que así se convierta en el problema de otro.
   Original item: If my organization needed me to, I would give a good recommendation on the behalf of an incompetent employee in the hope that the person will become another organization's problem instead of my own.

5. Si mi organización lo necesitase, evitaría la emisión de un reembolso a alguien que ha sido cobrado de más por error.
Original item: If my organization needed me to, I would withhold issuing a refund to a customer or client accidentally overcharged.
6. Si fuese necesario, ocultaría información al público que pudiese dañar a la organización.
Original item: If needed, I would conceal information from the public that could be damaging to my organization.

* The original items have been translated into Spanish (contextual performance scale), and translated and adapted to the context of the Spanish Public Administration (UPOB scale), for research purposes according with International Test Commission (2019) recommendations. To do so, we followed three steps: (i) first, we performed an iterative procedure with several independent forward translations; (ii) second, the translation was reviewed by a group of researchers specialized in the public domain; and (iii) third, we conducted a pilot test with a small group of public managers to determine the clarity and relevance of the translated items (e.g., Muñiz et al., 2013).

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8) Summary of EFA analyses for the PUMACQ items

We used several theoretical and statistical objective criteria regarding the number of factors to retain (e.g., Lorenzo-Seva et al., 2011), such as: (i) the RMSEA (lower than 0.05), (ii) the item loadings (greater than 0.40), (iii) the eigenvalue (greater than one), (iv) the theoretical predictions about the number of factors, and (v) the interpretability of the solution.

On the one hand, on the basis of the theory underlying the development of the PUMACQ, up to 8 factors were expected according to the 8 managerial competencies. On the other hand, as shown in tables, the 8-factor structure provided better comparative and adjustment indexes to test for goodness of fit than the 1-7 factor structures. Moreover, item loadings for the 8-factor structure were adequate.

We finally considered 8 to be the appropriate number of factors to retain, as it provided the most conceptually and theoretically meaningful factors in the EFA stage.

Comparative and adjustment indexes and eigenvalues in the EFA

Comparative and adjustment indexes and eigenvalues	Number of factors							
	1	2	3	4	5	6	7	8
RMSEA	0.071	0.063	0.053	0.047	0.043	0.036	0.034	0.032
90% CI	[0.066, 0.076]	[0.058, 0.068]	[0.047, 0.059]	[0.041, 0.054]	[0.036, 0.050]	[0.028, 0.044]	[0.025, 0.042]	[0.022, 0.041]
χ^2	1527.704	1285.683	1052.632	921.821	819.163	709.563	648.991	594.598
df	740	701	663	626	590	555	521	488
χ^2/df	2.064	1.834	1.588	1.473	1.388	1.278	1.246	1.218
TLI	0.874	0.901	0.930	0.944	0.954	0.967	0.971	0.974
CFI	0.880	0.911	0.941	0.955	0.965	0.976	0.981	0.984
Eigenvalue	13.933	2.490	2.113	1.682	1.509	1.357	1.186	1.064

$n_1 = 210$.

Item loadings of the 8-factor model in the EFA

Item	Number of factors							
	1	2	3	4	5	6	7	8
LEAD1	0.482*	0.202*	0.099	0.046	-0.171*	0.080	0.166	0.003
LEAD2	0.661*	0.009	0.036	0.117*	0.015	0.033	0.043	0.068
LEAD3	0.495*	0.060	0.101	0.018	-0.137*	0.271*	0.038	0.085
LEAD4	0.587*	-0.063	0.082	0.097	-0.154*	0.008	0.081	0.096
LEAD5	0.649*	0.120*	0.139*	0.080	0.117*	-0.091*	-0.069	0.065
LEAD6	0.584*	0.053	0.058	0.016	0.091	0.186*	0.018	-0.051
LEAD7	0.557*	0.023	0.052	0.064	0.109	0.092	0.056	0.045
ETH1	0.168*	0.662*	0.053	-0.166*	-0.009	-0.058	0.141*	0.033
ETH2	-0.300*	0.469*	0.137	0.159*	-0.139	0.130	0.043	0.087
ETH3	-0.071	0.435*	0.097	0.008	0.006	0.207*	0.083	0.013
ETH4	0.073	0.468*	-0.005	0.242*	0.111	-0.050	-0.087	0.099
ETH5	0.100	0.638*	0.011	0.122	0.123	0.104	-0.008	-0.017
PLAN1	0.031	0.193*	0.601*	0.127*	0.086	0.022	-0.028	-0.089
PLAN2	0.162*	-0.009	0.482*	-0.058	0.031	0.156*	-0.016	0.197*
PLAN3	-0.049	-0.005	0.806*	0.034	0.015	0.093*	0.113*	0.008
PLAN4	0.009	-0.049	0.532*	0.098	0.007	0.055	0.130*	0.186*
PLAN5	0.239*	0.051	0.608*	-0.028	0.079	-0.071	-0.130*	0.016
PLAN6	0.130*	0.012	0.610*	0.082	-0.024	0.034	-0.117*	0.050
SER1	-0.086	0.168*	0.188*	0.510*	0.121*	-0.004	0.066	0.046
SER2	0.131*	-0.053	0.247*	0.410*	0.158*	0.108	-0.055	-0.015
SER3	0.036	0.026	0.099	0.709*	-0.004	-0.144*	0.103*	0.086
SER4	0.059	-0.060	0.198*	0.730*	-0.082	-0.044	-0.002	0.026
SER5	0.170*	0.049	-0.177*	0.660*	0.003	0.164*	0.075	0.007
SER6	0.030	0.086	-0.094	0.573*	0.223*	0.223*	-0.108	0.037
SER7	0.069	-0.049	0.237*	0.408*	-0.059	0.034	0.187*	0.204*
EMO1	-0.018	0.287*	-0.039	-0.061	0.000	0.120	0.430*	0.198*
EMO2	-0.029	0.115	-0.007	0.067	0.142*	0.014	0.643*	-0.047
EMO3	0.229*	-0.237*	0.031	0.127*	0.089	0.211*	0.466*	-0.055
ENG1	-0.085	0.235*	0.023	0.083	0.487*	0.049	0.022	0.230*
ENG2	0.096	-0.018	0.013	0.066	0.264*	-0.017	0.185	0.275*
ENG3	0.099	0.067	0.089	-0.164*	0.622*	0.078	0.134	-0.116
ENG4	-0.059	-0.071	0.027	0.105	0.692*	-0.020	0.049	0.129
COM1	0.158*	0.161*	0.114*	-0.063	0.217*	0.496*	0.112	0.016
COM2	0.093	0.017	0.121	0.102	0.032	0.408*	0.001	0.178*
COM3	-0.051	0.081	0.098	0.046	0.029	0.555*	0.106	0.202*
COM4	0.135*	0.009	0.150*	0.023	0.006	0.621*	0.110	0.091
INNO1	0.294*	0.080	0.007	0.118*	0.083	-0.224*	0.184*	0.398*
INNO2	0.010	0.076	0.005	0.086	-0.017	0.225*	-0.064	0.690*
INNO3	0.210*	-0.127*	0.097	-0.100	0.127	0.068	-0.011	0.500*
INNO4	-0.027	0.041	0.113	0.046	0.183*	-0.111	0.097	0.524*

Note. $n_1 = 210$. Loadings higher than .400 or with theoretical relevance for the factor are highlighted.
ETH: ethics, EMO: recognition and regulation of emotions, ENG: engagement with Public Administration, COM: communication, LEAD: leadership, PLAN: planning, SER: civil service orientation, INNO: innovation orientation.

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