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MECHANISMS study: using Game Theory to assess the effects of social norms and social networks on adolescent smoking in schools – study protocol

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Supplementary File 1. Questionnaire items

Concept	Items (n)	Example question item and example answering options	Time-points	Reference(s)
<i>Socio-Demographics</i>				
Sex	1	Are you a boy or a girl? <i>Boy</i> (1), <i>Girl</i> (2).	Baseline	Fuller & Hawkins, 2012; ¹ Dunne et al., 2016 ²
Age	1	How old are you now? <i>11 years old</i> (1) to <i>14 years old</i> (4). In Bogota: plus <i>15 or more years old</i> (5).	Baseline	Fuller & Hawkins, 2012; ¹ Dunne et al., 2016 ²
Address/Postcode	2	What is your address and your postcode e.g. BT12 8NF? In Bogotá: What is your address (for example: Cr 1 # 3-20)	Baseline	Dunne et al., 2016 ²
Ethnicity	1	What is your ethnic group? Tick one box only, the one that is most true for you. E.g. <i>White British</i> (1), <i>African</i> (2). In Bogota: According to your culture, town or physical features, you are or you recognize yourself as: E.g. <i>Indigenous</i> (1), <i>Gypsy/Rom</i> (2), <i>None of them</i> (6)	Baseline	Fuller & Hawkins, 2012; ¹ Dunne et al., 2016 ² DANE (2019) ³
Family	1	Who do you live with? (please tick all that apply). E.g. <i>Mother</i> (1) <i>Sisters/brothers</i> (2).	Baseline	Dunne et al., 2016 ²
<i>Smoking Behavior (Past and Present)</i>				
Current smoking behavior	1	Do you smoke cigarettes at all nowadays? <i>Yes</i> (1), <i>No</i> (2).	Baseline, intervention-end	Fuller & Hawkins, 2012; ¹ Dunne et al., 2016 ²
Past/current smoking behavior	1	Now read the following statements carefully and tick the box next to the one which best describes you. <i>I have never smoked</i> (1), <i>I have only ever</i>	Baseline, intervention-end	Fuller & Hawkins, 2012; ¹

		<i>tried smoking once (2). I used to smoke sometimes but I never smoke a cigarette now (3), I sometimes smoke cigarettes now but I don't smoke as many as one a week (4)</i>		Dunne et al., 2016 ²
Past/current smoking behavior	1	Just to check, read the statements below carefully and tick the box next to the one which best describes you. <i>I have never tried smoking a cigarette, not even a puff or two (1), I did once have a puff or two of a cigarette, but I never smoke now (2). I do sometimes smoke cigarettes (3)</i>	Baseline, intervention-end	Fuller & Hawkins, 2012; ¹ Dunne et al., 2016 ²
Current smoking behavior	1	If you DO smoke, please indicate how many cigarettes you smoke. <i>I usually smoke between one and six cigarettes a week (1), I usually smoke more than six cigarettes a week (2), I don't smoke (3), How many cigarettes do you smoke in a week? (4).</i>	Baseline, intervention-end	Fuller & Hawkins, 2012; ¹ Dunne et al., 2016 ²
Age at first smoking	1	If you DO smoke, how old were you when you first tried smoking a cigarette, even if it was only a puff or two? Write your age in the box. <i>I was years old (1), I don't smoke (2).</i>	Baseline, intervention-end	Fuller & Hawkins, 2012; ¹ Dunne et al., 2016 ²
Mediators				
Smoking intentions/Susceptibility	1	This question is about your intentions towards smoking. If you DO currently smoke, do you intend to quit smoking in the next six months? <i>Definitely remain a smoker (1) to I don't smoke (6).</i>	Baseline, intervention-end	Mazanov et al., 2007 ⁴
Smoking intentions/Susceptibility	1	This question is about your intentions towards smoking. Do you think you will try a cigarette soon? <i>Yes (1), No (2), Don't know (3).</i>	Baseline, intervention-end	Pierce et al., 1998; ⁴ Dunne et al., 2016 ²
Smoking intentions/Susceptibility	1	This question is about your intentions towards smoking. If one of your best friends were to offer you a cigarette, would you smoke it? (Please tick your answer). <i>Definitely yes (1) to Not sure (5).</i>	Baseline, intervention-end	Pierce et al., 1998; ⁵ Dunne et al., 2016 ²

Smoking intentions/ Susceptibility	1	This question is about your intentions towards smoking. If you DON'T currently smoke, do you intend to take up smoking in the next 6 months? (Please tick your answer). <i>Definitely remain a non-smoker</i> (1) to <i>I am a smoker</i> (6).	Baseline, intervention- end	Mazanov et al., 2007 ⁴
Self-efficacy (Emotional)	9	How sure are you that you could resist smoking cigarettes when you are uptight? <i>I am very sure I would smoke</i> (1) to <i>I am very sure I would NOT smoke</i> (6).	Baseline, intervention- end	Condiotte & Lichtenstein, 1981; ⁶ Lawrance, 1989 ⁶
Self-efficacy (Friends)	9	How sure are you that you could resist smoking cigarettes when you are at a friend's house, no adults are home? <i>I am very sure I would smoke</i> (1) to <i>I am very sure I would NOT smoke</i> (6).	Baseline, intervention- end	Condiotte & Lichtenstein, 1981; ⁵ Lawrance, 1989 ⁷
Self-efficacy (Opportunity)	11	How sure are you that you could resist smoking cigarettes when you are playing video games? <i>I am very sure I would smoke</i> (1) to <i>I am very sure I would NOT smoke</i> (6).	Baseline, intervention- end	Condiotte & Lichtenstein, 1981; ⁶ Lawrance, 1989 ⁷
Perceived risks of tobacco-use (Physical)	7	<p>Imagine that you just began smoking. You smoke about 2 or 3 cigarettes each day. Sometimes you smoke alone, and sometimes you smoke with friends.</p> <p>Please estimate the chance you will get the following risks by using any percentage between 0% and 100% (where 0%='No chance', 100%='Certain')? You will get lung cancer? 0% (No chance) to 100% (Certain).</p>	Baseline, intervention- end	Halpern-Felsher et al., 2004; ⁸ Song et al., 2009; ⁹ Aryal et al. 2013 ¹⁰
Perceived risks of tobacco-use (Social)	3	<p>Imagine that you just began smoking. You smoke about 2 or 3 cigarettes each day. Sometimes you smoke alone, and sometimes you smoke with friends.</p> <p>Please estimate the chance you will get the following risks by using any percentage between 0% and 100% (where 0%='No chance', 100%='Certain')? You will get into trouble? 0% (No chance) to 100% (Certain).</p>	Baseline, intervention- end	Halpern-Felsher et al., 2004; ⁸ Song et al., 2009; ⁹ Aryal et al. 2013 ¹⁰

Perceived risks of tobacco-use (Addiction)	3	<p>Imagine that you just began smoking. You smoke about 2 or 3 cigarettes each day. Sometimes you smoke alone, and sometimes you smoke with friends.</p> <p>Please estimate the chance you will get the following risks by using any percentage between 0% and 100% (where 0%='No chance', 100%='Certain')? You will become addicted to cigarettes? 0% (No chance) to 100% (Certain).</p>	Baseline, intervention-end	Halpern-Felsher et al., 2004; ⁸ Song et al., 2009; ⁹ Aryal et al. 2013 ¹⁰
Perceived benefits of tobacco-use (Physical)	3	<p>Imagine that you just began smoking. You smoke about 2 or 3 cigarettes each day. Sometimes you smoke alone, and sometimes you smoke with friends.</p> <p>Please estimate the chance you will get the following benefits by using any percentage between 0% and 100% (where 0%='No chance', 100%='Certain')? You will feel relaxed after smoking? 0% (No chance) to 100% (Certain).</p>	Baseline, intervention-end	Halpern-Felsher et al., 2004; ⁸ Song et al., 2009; ⁹ Aryal et al. 2013 ¹⁰
Perceived benefits of tobacco-use (Social)	2	<p>Imagine that you just began smoking. You smoke about 2 or 3 cigarettes each day. Sometimes you smoke alone, and sometimes you smoke with friends.</p> <p>Please estimate the chance you will get the following benefits by using any percentage between 0% and 100% (where 0%='No chance', 100%='Certain')? You will look cool? 0% (No chance) to 100% (Certain).</p>	Baseline, intervention-end	Halpern-Felsher et al., 2004; ⁸ Song et al., 2009; ⁹ Aryal et al. 2013 ¹⁰
Perceived behavioral control (difficulty to quit)	1	Please indicate the extent to which you agree or disagree with the following statements. If I smoked regularly, I'm sure that it would be easy for me to quit. <i>Strongly disagree</i> (1) to <i>Strongly agree</i> (5).	Baseline, intervention-end	Smith et al., 2006 ¹¹
Perceived behavioral control (avoid smoking)	1	Please indicate the extent to which you agree or disagree with the following statements. If I decided not to smoke, I am sure I could avoid smoking. <i>Strongly disagree</i> (1) to <i>Strongly agree</i> (5).	Baseline, intervention-end	Smith et al., 2006 ¹¹

Attitudes towards smoking	12	This question is about your attitudes towards smoking. Please indicate the extent to which you agree or disagree with the following statements. Smoking looks cool. <i>Strongly disagree</i> (1) to <i>Strongly agree</i> (5).	Baseline, intervention-end	Ganley & Rosario 2013 ¹²
Knowledge of smoking	6	This question is about your knowledge of smoking. Please indicate whether you agree or disagree with the following statements. Smoking causes your skin to age faster. <i>Yes</i> (1), <i>No</i> (2), <i>I don't know</i> (3).	Baseline, intervention-end	Cremers et al., 2012 ¹³
Social norms (injunctive norms)	7	Please indicate whether you think the following people would approve or disapprove if you were to start smoking. Most of the people who are important to me think that I... <i>Definitely should not smoke</i> (1) to <i>Definitely should smoke</i> (5).	Baseline, intervention-end	Cremers et al., 2012 ¹³
Social modelling (descriptive norms)	8	Please indicate whether you are aware that the following people smoke. Does your best friend smoke? <i>Very often</i> (1) to <i>I don't have a best friend</i> (7).	Baseline, intervention-end	Cremers et al., 2012 ¹³
Exposure to advertising (media)	8	Have you seen any advertisements for tobacco in movies? <i>No</i> (1), <i>Yes</i> (2).	Baseline, intervention-end	Stigler et al., 2006 ¹⁴ with an additional response category for "computer games"
Exposure to advertising (shops)	1	In the past year, have you seen cigarette packets on display in any of the shops listed below? Please select all that apply. <i>A supermarket</i> (1), <i>A newsagent, tobacconist or a sweet shop</i> (2).	Baseline, intervention-end	Dunne et al., 2016 ²
<i>Social Networks/Pro-Sociality</i>				
Closest school friends	1	For these questions, please print the full name of any pupil you want to suggest. You will be provided with a school year roster to help you. Each pupil must be in your year group at your school. Don't name more than ten pupils. Can you name up to ten your closest friends in your school year?	Baseline, intervention-end	Dunne et al., 2016 ²

Relationship quality	1	For these questions, please print the full name of any pupil you want to suggest. You will be provided with a school year roster to help you. Each pupil must be in your year group at your school. Don't name more than ten pupils. Among your school peers, with whom would you talk to about something upsetting to you?	Baseline, intervention-end	N/A
Friends who you spend time with outside of school	1	Can you name up to ten friends from your school year who you spend time with outside of school?	Baseline, intervention-end	N/A
Influential peers	2	For this question, please print the full name of any pupil you want to suggest. You will be provided with a school year roster to help you. Each pupil must be in your year group at your school. Who do you respect in your year at your school? Only list one pupil from your school year. Who do you identify as influential in your school? Only list one pupil from your school year.	Baseline, intervention-end	Starkey et al., 2005 ¹⁵
Need to Belong Scale	10	Please indicate the degree to which each of the following statements is true or characteristic of you. If other people don't seem to accept me, I don't let it bother me. <i>Not at all</i> (1) to <i>Extremely</i> (5).	Baseline, intervention-end	Leary et al., 2013; ¹⁶ Bevelander et al., 2018 ¹⁷
Fear of Negative Evaluation Scale	12	Read each of the following statements carefully and indicate how characteristic it is of you according to the following scale. I worry about what other people will think of me even when I know it doesn't make any difference. <i>Not at all characteristic of me</i> (1) to <i>Extremely characteristic of me</i> (5).	Baseline, intervention-end	Leary, 1983; ¹⁸ Collins et al., 2005; ¹⁹ Bevelander et al., 2018 ¹⁷
Pro-social behavior	5	For each item, please mark the box for Not True, Somewhat True or Certainly True. Please give your answers on the basis of how things have been for you over the last six months. I try to be nice to other people. I care about their feelings. <i>Not true</i> (1), <i>Somewhat true</i> (2), <i>Certainly true</i> (3).	Baseline, intervention-end	Goodman et al., 2003; ²⁰ Bevelander et al., 2018 ¹⁷

Wellbeing, Absenteeism, Other

“Big Five” Personality Traits (Five subscales: Openness, Extraversion, Agreeableness, Conscientiousness, Emotional Stability)	50	Please say how much you agree or disagree with the following sentences. I see myself as someone who is original, often has new ideas. <i>Totally disagree</i> (0) to <i>Totally agree</i> (4).	Baseline, intervention- end	Morizot, 2003 ²¹ In Bogota: Ortet et al., 2017 ²²
Wellbeing	5	Please say how much you agree or disagree with the following sentences (Please tick your answer). My life is going well. <i>Strongly agree</i> (1) to <i>Don't know</i> (6).	Baseline, intervention- end	Rees et al., 2010; ²³ Dunne et al., 2016 ²
Rebelliousness and sensation seeking	4	How much do the following statements describe you? (Please tick your answer). I get in trouble in school. <i>Exactly like me</i> (1) to <i>Not at all like me</i> (4).	Baseline, intervention- end	Russo et al., 1993; ²⁴ Dunne et al., 2016 ²
Truancy	1	Have you ever stayed away from school without permission (truanted/bunked off)? <i>Yes</i> (1), <i>No</i> (2), <i>Don't know</i> (3).	Baseline, intervention- end	Dunne et al., 2016 ²
School education on smoking	2	Do you think school has given you enough information on smoking? <i>Yes</i> (1), <i>No</i> (2), <i>Don't know</i> (3).	Baseline, intervention- end	Dunne et al., 2016 ²
Intervention awareness	1	Can you remember having any conversations with your friends about the risks and benefits of smoking over the past six months? If so, how many?	Intervention- end	N/A
		Please name up to 10 people in your school year that you talked to or who talked to you about smoking and/or vaping since the start of our project.	Intervention- end	N/A
Access to and disposal of pocket money	2	Do you get regular pocket money (from parents, relatives?). <i>Yes</i> (1), <i>No</i> (2).	Baseline, intervention- end	Cremers et al., 2012; ¹³ Dunne et al., 2016 ²

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