**Overview of coded questionnaire**

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| **Category/Main variable** | **Question** | **Coded answers and if needed subviarables as coded in Excel sheet + (original) coded type of scale** | | |
| **Independent variables** | | | | |
| **Personal characteristics** | | | | |
| **Country** | What country are you currently primarily enrolled in? | Germany  UK | | (\*) \*\*[[1]](#footnote-1) 1  2 |
| **Gender** | What gender do you most identify with? | Female  Male  Other | | (\*) \*\* 1  2  3 |
| **Age range** | Please specify your age range. | < 18  18-24  25-34  35-44  45-54  > 54 | | (\*\*\*\*) \*\* 1  2  3  4  5  6 |
| **Level of education** | Please specify the highest level of education you have completed. | No schooling completed  High school graduate, diploma, GED, A-levels, or equivalent  Trade/technical/vocational training, BTEC  Associate degree (e.g. Vordiplom)  Bachelor’s degree  Master’s degree, diploma, or equivalent  Professional degree (e.g. MBA)  Doctorate degree | | \*\* 1  2  3  4  5  6  7  8 |
| **Level of income** | Please specify your current net income per year, including all kinds of cash inflow. | < GBP 10,000 (€ 7,000)  GBP 10,000 – 15,000 (€ 7,100-10,500)  GBP 15,100-20,000 (€ 10,600-14,000)  GBP 20,100 – 25,000 (€ 14,100 – 17,500)  > GBP 25,000 (€ 17,500) | | (\*\*\*\*) \*\* 1  2  3  4  5 |
| **Pro-environmental behavior** | What means of transportation do you use to commute to and from work/ university? (multiple choice, more than 1 answer possible) | Own motorcycle, car, taxi was most-polluting mean of transport clicked.  Shared car/ public transport was most-polluting mean of transport clicked.  Cycle or walk were clicked, only. | | \*\* 1  2  3 |
| Please indicate whether you agree with the following statement: I do recycle. | I never recycle.  I rarely recycle.  I sometimes recycle.  I often recycle.  I always recycle. | | \*\*\* 1  2  3  4  5 |
| **Environmental attitude/ Problem awareness** | How concerned are you about plastic pollution? | Not at all concerned  Slightly concerned  Moderately concerned  Very concerned  Extremely concerned | | \*\*\* 1  2  3  4  5 |
| **External factors** | | | | |
| **Frequency of use** | How frequently do you purchase hot beverages on the go? | < 1 time a month  1-3 times a month  1-3 times a week  4-6 times a week  > 6 times a week | | (\*\*\*\*) \*\* 1  2  3  4  5 |
| **Occasion of use / Integration in daily routine** | At what occasions do you usually purchase hot beverages on the go? (multiple choice, more than 1 answer possible) | Leisure trips/travelling/special occasions, only  At most when running errands  At most on the way to/from work/university or in breaks at work/university  Not applicable (e.g. if never) | | \*\* 1  2  3  -2 |
| **Location of use (preference for specific coffee shop)** | Where do you usually purchase hot beverages on the go? | No preference  I have several coffee shops and/or brands that I like to go to.  I prefer coffee shops of a specific brand/chain.  I usually got to my preferred local coffee shop.  Not applicable (e.g. if never) | | \*\* 1  2  3  4  -2 |
| **Current use of reusable cups** | Do you own a reusable cup? | No  Yes | | (\*) \*\* 0  1 |
| If yes, how frequently do you use your reusable tumbler? | I never use it.  I rarely use it.  I sometimes use it.  I often use it.  I always use it. | | \*\*\* 1  2  3  4  5 |
| If no, how willing are you to purchase and use a reusable cup on a regular basis? | Not willing at all  Slightly willing  Moderately willing  Very willing  Extremely willing | | \*\*\* 1  2  3  4  5 |
| **Lifestyle** | Using disposable cups is part of a lifestyle that I like. | I strongly disagree.  I somewhat disagree.  I neither agree nor disagree.  I somewhat agree.  I strongly agree. | | \*\*\* 1  2  3  4  5 |
| **Product characteristics** | | | | |
| **Substitutability** | Please indicate whether you agree with the following statements:  The coffee shops I usually go to offer an alternative to disposable cups. | I strongly disagree.  I somewhat disagree.  I neither agree nor disagree.  I somewhat agree.  I strongly agree. | | \*\*\* 1  2  3  4  5 |
| For me personally, reusable cups are a viable alternative to disposable cups. | I strongly disagree.  I somewhat disagree.  I neither agree nor disagree.  I somewhat agree.  I strongly agree. | | \*\*\* 1  2  3  4  5 |
| **Quality** | Reusable cups are usually of good quality and can be used several times. | I strongly disagree.  I somewhat disagree.  I neither agree nor disagree.  I somewhat agree.  I strongly agree. | | \*\*\* 1  2  3  4  5 |
| **Practicality** | For me personally, it is inconvenient to carry a reusable cup with me, whenever I might need it. | I strongly disagree.  I somewhat disagree.  I neither agree nor disagree.  I somewhat agree.  I strongly agree. | | \*\*\* 1  2  3  4  5 |
| For me, personally, it involves a high level of effort to bring a reusable cup on a regular basis. | I strongly disagree.  I somewhat disagree.  I neither agree nor disagree.  I somewhat agree.  I strongly agree. | | \*\*\* 1  2  3  4  5 |
| **Perceived externalities and knowledge on externalities** | I believe reusable cups are more environmentally friendly than disposable cups. *(perceived consequences to environment)* | I strongly disagree.  I somewhat disagree.  I neither agree nor disagree.  I somewhat agree.  I strongly agree. | | \*\*\* 1  2  3  4  5 |
| What do you think, which percentage of disposable cups is recycled after use? *(level of knowledge)* | > 70%  40-70%  10-39%  <10% | | \*\* 1  2  3  4 |
| Disposable cups have a negative environmental impact*. (perceived consequences to environment)* | I strongly disagree.  I somewhat disagree.  I neither agree nor disagree.  I somewhat agree.  I strongly agree. | | \*\*\* 1  2  3  4  5 |
| Disposable cups negatively impact the cleanliness of my city. *(perceived consequences to others)* | I strongly disagree.  I somewhat disagree.  I neither agree nor disagree.  I somewhat agree.  I strongly agree. | | \*\*\* 1  2  3  4  5 |
| The waste of disposable cups negatively impacts human well-being and health. *(perceived consequences to self and others)* | I strongly disagree.  I somewhat disagree.  I neither agree nor disagree.  I somewhat agree.  I strongly agree. | | \*\*\* 1  2  3  4  5 |
| **Incentive-related factors (including experimental treatments)** | | | | |
| **Segmentation of subjects (sampling) and treatment variables** | For reasons of randomization, please choose a number of 1-12.  ***Experimental group… j*** | Numbers 1,5,9 : t=d 🡺T1=t:0.25 p (0.20 ct); T2=T1+d:0.25 p (0.20 ct)  Numbers 2,6,10 : t>d 🡺 T1=t:0.35 p (0.30 ct); T2=T1+d:0.25 p (0.20 ct)  Numbers 3,7,11 : d=t 🡺 T1=d:0.25 p (0.20 ct); T2=T1+t:0.25 p (0.20 ct)  Numbers 4,8,12 : d<t 🡺 T1=d:0.25 p (0.20 ct); T2=T1+t:0.35 p (0.30 ct) | | j ϵ {1,2,3,4,}  \* 1  2  3  4 |
| ***Time … t*** | Original purchase decision  After treatment 1  After treatment 2 | | t ϵ {0,1,2}  0  1  2 |
| ***Form of incentive tj, t>0*** | T1\_Incentive | No incentive  Discount  Tax | (\*) \*\* 0  1  2 |
| T2\_Incentive |
| ***Level of incentive tj, t>0*** | T1\_Level | GBP 0.25 (€ 0.20)  GBP 0.35 (€ 0.30) | \*\* 1  2 |
| T2\_Level |
| **Perceived fairness tj, t>0** | I believe the proposed tax is fair*. (only for tax treatments)*  /  I believe the proposed discount is fair. *(only for discount treatments)* | T1\_Perceived fairness | I strongly disagree.  I somewhat disagree.  I neither agree nor disagree.  I somewhat agree.  I strongly agree. | \*\*\* 1  2  3  4  5 |
| T2\_Perceived fairness |
| **Perceived effectiveness tj, t>0** | I believe the proposed tax is effective. *(only for tax treatments)*  /  I believe the proposed discount is effective. *(only for discount treatments)* | T1\_Perceived effectiveness | I strongly disagree.  I somewhat disagree.  I neither agree nor disagree.  I somewhat agree.  I strongly agree. | \*\*\* 1  2  3  4  5 |
| T2\_Perceived effectiveness |
| **Perceived necessity tj, t>0** | I believe the proposed tax is necessary. *(only for tax treatments)*  /  I believe the proposed discount is necessary. *(only for discount treatments)* | T1\_Perceived necessity | I strongly disagree.  I somewhat disagree.  I neither agree nor disagree.  I somewhat agree.  I strongly agree. | \*\*\* 1  2  3  4  5 |
| T2\_Perceived necessity |
| **Trust in issuer tj, t>0** | I believe the government primarily aims at reducing plastic pollution with the proposed tax. *(only for tax treatments)* | T1\_Trust1 | I strongly disagree.  I somewhat disagree.  I neither agree nor disagree.  I somewhat agree.  I strongly agree.  Not applicable | \*\*\* 1  2  3  4  5  -2 |
| T2\_Trust1 |
| I believe the tax revenue is used for solving environmental issues. *(only for tax treatments)* | T1\_Trust2 | I strongly disagree.  I somewhat disagree.  I neither agree nor disagree.  I somewhat agree.  I strongly agree.  Not applicable | \*\*\* 1  2  3  4  5  -2 |
| T2\_Trust2 |
| I believe the coffee shop primarily aims at reducing plastic waste with the proposed discount. *(only for discount treatments)* | T1\_Trust3 | I strongly disagree.  I somewhat disagree.  I neither agree nor disagree.  I somewhat agree.  I strongly agree.  Not applicable | \*\*\* 1  2  3  4  5  -2 |
| T2\_Trust3 |
| **Dependent variables** | | | | |
| **Support for incentive tj, t>0[[2]](#footnote-2)** | I support the implementation of the proposed tax. *(only tax)*  /  I support the implementation of the proposed discount. *(only for discount treatments)* | T1\_Support1 | I strongly disagree.  I somewhat disagree.  I neither agree nor disagree.  I somewhat agree.  I strongly agree. | \*\*\* 1  2  3  4  5 |
| T2\_Support1 |
| In case of a vote, I would vote for the implementation of this tax. *(only for tax treatments)* | T1\_Support2 | I strongly disagree.  I somewhat disagree.  I neither agree nor disagree.  I somewhat agree.  I strongly agree.  Not applicable | \*\*\* 1  2  3  4  5  -2 |
| T2\_Support2 |
| I prefer coffee-shops offering this discount over coffee-shops without those incentives. *(only for discount treatments)* | T1\_Support3 | I strongly disagree.  I somewhat disagree.  I neither agree nor disagree.  I somewhat agree.  I strongly agree.  Not applicable | \*\*\* 1  2  3  4  5  -2 |
| T2\_Support3 |
| I would rather buy at coffee shops who offer this discount than in coffee shops that don’t. *(only for discount treatments)* | T1\_Support4 | I strongly disagree.  I somewhat disagree.  I neither agree nor disagree.  I somewhat agree.  I strongly agree.  Not applicable | \*\*\* 1  2  3  4  5  -2 |
| T2\_Support4 |
| **Necessary level of incentive to switch tj, t>0** | Please indicate the minimum level of the incentive (respective experimental group at which you would consider using a reusable cup on a regular basis (if the previously introduced incentive is in place). *(willingness to pay)* | T1\_Willingnes Tax | Slider: GBP (€) 0 – 1.50  Not applicable | \*\*\*\*  0 - 1.50[[3]](#footnote-3)  -2 |
| T1\_Willingness Discount |
| T2\_Willingnes Tax |
| T2\_Willingness Discount |
| **Purchase decision tj,∀t** | For the given market prices, which product would you purchase most likely on a regular basis?[[4]](#footnote-4)  ***Choice of cup …*** ***i* tj,∀t**  ***Choice of beverage … k* tj,∀t**  ***Choice of product* tj,∀t *= (i,k)*** | Base\_Cup | No cup (equal to no product)  Reusable cup  Disposable cup | i ϵ {0,1,2}  \* 0  1  2 |
| T1\_Cup |
| T2\_Cup |
| Base\_Product | No product  Americano  Latte  Cappuccino  Espresso (double)  Special coffee drink  Hot chocolate  Tea | k ϵ {0,1,…,7}  \* 0  1  2  3  4  5  6  7 |
| T1\_Product |
| T2\_Product |
| ***Environmental harm tj,∀t***  ***= f(i* tj,∀t)** | Base\_Harm | No harm (i=1)  Harm (i=2)  Not applicable (i=0) | \*\*\*\* 0  1  -2 |
| T1\_Harm |
| T2\_Harm |

Actually, the environmental arm would also be zero for no cup. Thus, the cup choice I can be coded just as this variable and the variable environmental harm could be deleted.

1. \* nominal scale; \*\*ordinal scale; \*\*\* ordinal scale (Likert type); \*\*\*\* ratio scale [↑](#footnote-ref-1)
2. Also functions as independent variable for the investigation of the effectiveness of measures [↑](#footnote-ref-2)
3. Note that a level of GBP (€) 0 indicated that the subjects would always use a reusable cup. Contrarily, a level of GBP (€) 1.50 reflected that the subjects would switch at a level of ≥ GBP (€) 1.50 or never. [↑](#footnote-ref-3)
4. A table was provided with market prices for each product. Market prices were chosen based on average prices of local coffee-shops in Dresden (German sample) and London (UK-sample) and therefore differed for participants in Germany and the UK. Prices for disposable and reusable cups were displayed at +/- GBP 0 (€ 0) in the baseline setting. Market prices for the beverages did not change in all treatments. In treatment 1, a financial incentive on the cups was introduced (according to the respective experimental group) and displayed as (+/- GBP 0.00/0.25/GBP 0.35 (€ 0.00/€ 0.20/€ 0.30) for each product and cup. In treatment 2, a second financial intervention was implemented on top of the previous intervention (combined measures, according to respective experimental group). [↑](#footnote-ref-4)