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The TIPPME intervention typology for changing environments to change behaviour

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Supplementary Notes and Figure

Guidance for using TIPPME (Typology of Interventions in Proximal Physical Micro-Environments)

The full version of TIPPME is presented in Supplementary Figure 1 below.

Typology structure

TIPPME comprises a matrix classification structure defining six intervention types and three different spatial foci. The rows of the typology represent different intervention types, i.e. ways in which the proximal physical micro-environment can be altered to elicit changes in behaviour. There are six different intervention types (rows), namely Availability; Position; Functionality; Presentation; Size; Information. The typology also distinguishes between three intervention foci representing differences in the spatial focus of interventions: Product; Related objects; Wider environment. The combination of rows and columns means there are 18 possible intervention categories (Type X Focus) that can be applied to describe an intervention.

Using the typology

It is important to use this full version of TIPPME and refer back to the definitions, notes and examples throughout. The intervention category that best captures the description of an intervention should be applied, as in the following examples:

Example 1: Providing restaurant patrons with smaller (versus larger) spoons to attempt to reduce dessert consumption.

Suggested response = **Size X Product**. This should be regarded as a **Size** intervention in terms of intervention type (row), as the manipulation involves altering the size of an object. It should be regarded as focused on the **Product** in terms of intervention focus (column), as the definition makes clear that this includes "immediate or integral packaging and tableware".

Example 2: Applying calorie labelling to a wine and beer product catalogue in a shop.

Suggested response = **Information X Related objects**. This should be regarded as an **Information** intervention in terms of intervention type (row), as the manipulation involves adding words and numbers that convey information about the product or its use. As is stated in explanatory text in the typology, the use of information is the key component here, not the properties of the information itself that is contained within leaflets, posters, computer screens, or, in this case, catalogues. Therefore, any changes to the properties of that information, such as changes to the presentation or size of text or numbers within a catalogue, remain characterised by the same category. In terms of intervention focus (column), this example should be regarded as focused on **Related objects**, because the catalogue is not the consumable product but is associated with it, due to being used in the process of selecting wine and beer.

When using TIPPME, it is expected that in many cases, single discrete intervention components will each be able to be adequately characterised with a single intervention category. However, this may not always clearly be the case. The intention of the typology is to capture the intervention type that reflects the primary target of the intervention. Therefore, assuming there is only a single discrete intervention component or manipulation, the user of TIPPME should aim to determine a primary intervention type and apply only that, even though others could potentially be applied. For example, concerning Example 1, manipulating the size of a spoon will also likely affect the way the spoon looks and feels (i.e. Presentation).

However, these should be considered as secondary consequences of intervening to manipulate size, and so only Size should be applied in this case. The red text under the intervention types is designed to alert the user to thinking about intervention types that may affect others as secondary consequences. Reports of interventions will often support a judgement of what the primary target of the intervention is via their stated aims and hypotheses (e.g. hypothesising that decreasing the size of the spoon will reduce consumption) as well as the focus of their descriptions of intervention content (e.g. stating that the intervention consisted of providing smaller (15ml) as opposed to larger (30ml) spoons).

Where there are multiple discrete, separable intervention components implemented within the same environment, different intervention types (rows) should be applied to each. For example: changing the size of chocolate bars in a shop (Size), and altering where the chocolate bars are positioned (Position), and displaying a healthier eating poster (Information). Similarly, multiple discrete, separable intervention components may be of the same intervention type but differ in their intervention focus and should each therefore be described using a different category. For example: altering the availability of alcohol products (Availability X Product), and altering the availability of shopping trolleys (Availability X Related objects). Finally, whilst both intervention type (rows) and intervention focus (columns) dimensions are provided in order to better characterise interventions, the user may opt not to use both. In particular, for some purposes or intervention contexts, applying intervention types only may be sufficiently descriptive or discriminating.

Intended focus of the typology
TIPPME includes and encompasses interventions that meet our stated definition of proximal physical micro-environment interventions, namely:
Interventions or ways to alter the properties or the placement of objects or stimuli within proximal (sensorily perceptible) physical micro-environments, to elicit particular behaviours among people within those environments. These interventions are implemented within the same environment as that in which the target behaviour is performed, and are not designed to be interactive or tailored to specific individuals.

Therefore, interventions that meet those criteria can be coded using TIPPME. Conversely, the following are not within the current intended scope of TIPPME (although it may be found to be applicable):
1) Interventions that are designed to be interactive or tailored, meaning those in which the intervention content is not standardised for all recipients and is intended or enabled to vary dependent on their characteristics or responses (for example, a person or computer-based system providing personalised nutritional guidance based on recipients' shopping purchases, demographic characteristics or responses to questions);
2) Interventions that are not implemented within the same environment as the behaviour they are designed to elicit is performed (for example, providing lifestyle advice in an outpatient clinic concerning future smoking and alcohol intake);
3) Online environments (for example, changing the layout of an online supermarket);
4) Behaviours other than selection, purchase and consumption of food, alcohol and tobacco (for example, physical activity or gambling behaviours). TIPPME has been applied specifically to these behaviours in terms of the wording used and examples provided, although it could potentially be applied and/or adapted to other behaviours;
5) Laboratory or analogue studies that are designed to inform understanding of the real-world interventions within complex systems that are the subject of TIPPME (for example, studies where people are shown mock-up health warning labels to inform possible future application to retail product packaging).

Supplementary Figure 1: Typology of Interventions in Proximal Physical Micro-Environments (TIPPME), for changing selection, purchase and consumption of food, alcohol and tobacco

Spectrum of spatial focus

CLASS	INTERVENTION TYPE	INTERVENTION FOCUS		
		PRODUCT *Interventions to influence behaviour by changing the product that is selected, purchased or consumed. The PRODUCT comprises the consumable substance and its immediate or integral packaging and tableware* *Examples:* - *The consumable food, alcohol or tobacco substance* - *Immediate or integral packaging e.g. food wrapping, wine and beer bottles and cans, cigarette packets* - *Immediate or integral tableware and utensils handled in the process of consumption (e.g. plates, serving bowls, wine and beer glasses, cutlery, straws, cigarette holders)*	**RELATED OBJECTS** *Interventions to influence behaviour by changing objects that are associated with the PRODUCT and typically form part of its proximal surroundings* *Examples:* - *Storage areas and equipment (e.g. cupboards, refrigerators)* - *Shop displays (e.g. shelving, display stands)* - *Shopping trolleys and baskets, cafeteria trays, portable shopping scanning equipment* - *Menus and menu boards and displays indicating the products that are available* - *Vending machines (i.e. the machines themselves rather than their product contents)* - *Self-service and payment machines and equipment* - *Tables used for serving or consuming*	**WIDER ENVIRONMENT** *Interventions to influence behaviour by changing objects and stimuli that are external to the PRODUCT and RELATED OBJECTS and are not used to store, display, select, purchase or consume the PRODUCT* *Examples:* - *Entrances, exits, windows, stairs, surrounding walls, flooring and other fixed furniture not used to store, select, purchase or consume the PRODUCT* - *Olfactory and auditory stimuli* - *Temperature* - *Lighting*
Placement	**AVAILABILITY** *Add or remove (some or all) products or objects to increase, decrease, or alter their range, variety or number* **DO NOT USE** *THIS CODE IF:* - *Availability is altered as a secondary consequence of other intervention types, but is not the primary target of the intervention, e.g. when availability is affected by altering the size or shape of products, code SIZE.* - *Adding or removing information about the product or object within or in the form of e.g. leaflets, posters or computer screens, code INFORMATION.*	Add or remove (some or all) products to increase, decrease, or alter their range, variety or number Examples: - Add healthier options to, or remove less healthy options from the range of foods or drinks available in a restaurant, supermarket or vending machine (i.e. the contents of the vending machine). For example, adding non-alcoholic options to a bar's range of drinks, or removing less healthy snack options from a vending machine - Increase or decrease total number of available product units within the range of available products (e.g. increase the number of discrete food or drink product units on display in a supermarket or cafeteria)	Add or remove (some or all) related objects to increase, decrease, or alter their range, variety or number Examples: - Add vending machines or more shelving to enable a wider range of foods or drinks to be displayed - Add baskets, trolleys or trays to a shop or restaurant to increase the number of products that people can select and carry	Add or remove (some or all) objects from the set of objects that comprise the wider environment, to increase, decrease, or alter their range, variety or number Examples: - Removing some of the entrance doors that lead to a bar or cafeteria
	POSITION *Alter the position, proximity or accessibility of products or objects* **DO NOT USE** *THIS CODE IF:* - *Position is altered as a secondary consequence of other intervention types, but is not the primary target of the intervention, e.g. when position, proximity or accessibility is affected by changing the range, variety or number of products, code AVAILABILITY.*	Alter the position, proximity or accessibility of products Examples: - Place less healthy options further away from seating, entrance or main thoroughfare (e.g. moving alcohol products away from main thoroughfare) - Place healthier options closer to seating, entrance or main thoroughfare - Move products to higher or lower shelves to alter their accessibility	Alter the position, proximity or accessibility of related objects Examples: - Place alcoholic drinks menu further away from customers - Move refrigerators containing sugary drinks to a less convenient location in a supermarket	Alter the position, proximity or accessibility of objects that comprise the wider environment Examples: - Move dividing walls or fixed furniture to alter layout of a supermarket, restaurant or bar
	FUNCTIONALITY *Alter functionality or design of products or objects to change how they work, or guide or constrain how people use or physically interact with them* **DO NOT USE** *THIS CODE IF:* - *Functionality is altered as a secondary consequence of other intervention types, but is not*	Alter functionality or design of products to change how they work, or guide or constrain how people use or physically interact with them Examples: - Change functionality to influence ease of consumption, such as changing the design of product packaging (e.g. allowing easier opening or pouring) or tableware (e.g.	Alter functionality or design of related objects to change how they work, or guide or constrain how people use or physically interact with them Examples: Shopping trolley design: - Demarcate shopping trolley space to indicate designated space for fruit and vegetables	Alter functionality or design of objects that comprise the wider environment to change how they work, or guide or constrain how people use or physically interact with them Examples: - Change types or design of seating within restaurants or bars - Alter functionality of entrance and exit doors (e.g.

Properties	*the primary target of the intervention e.g. when functionality is affected by changing sensory properties of products, code PRESENTATION; when functionality is affected by altering the size or shape of products, code SIZE.*	demarcate plate to guide amount of vegetables vs. meat selected)	- Shopping trolleys that are hard to push	changing their opening mechanism)
	PRESENTATION *Alter visual, tactile, auditory or olfactory properties of products, objects or stimuli* ***DO NOT USE** THIS CODE IF:* *- Presentation is altered as a secondary consequence of other intervention types, but is not the primary target of the intervention, e.g. when presentation is affected by changing the way objects work or are used, code FUNCTIONALITY; when presentation is affected by altering the size or shape of products, code SIZE; when presentation is affected by adding or removing information about the product or object, code INFORMATION; when presentation is affected by changing the range, variety or number of products, code AVAILABILITY.*	Alter visual, tactile, auditory or olfactory properties of products Examples: - Colours, textures and visual design of product packaging or tableware (e.g. food, alcohol or tobacco packaging) - Plain packaging for cigarettes or alcohol products - Presenting pieces of fruit in a visually appealing arrangement for children - Change material used for tableware (e.g. plastic vs. silver cutlery; plastic vs. glass wine or beer glasses)	Alter visual, tactile, auditory or olfactory properties of related objects Examples: - Colours, textures and visual design of shelf displays, menus and other related objects	Alter visual, tactile, auditory, olfactory or other atmospheric properties of objects that comprise the wider environment, or stimuli therein Examples: - Auditory stimuli, sounds and music (excluding explicit communications conveying information about the product or its use) - Visual stimuli and decoration (e.g. colours, textures, images and visual design of wider environment (excluding explicit communications conveying information about the product or its use)) - Environmental climate: temperature, humidity, air pressure - Olfactory stimuli - Lighting
	SIZE *Alter size or shape of products or objects* ***DO NOT USE** THIS CODE IF:* *- Size is altered as a secondary consequence of other intervention types, but is not the primary target of the intervention; e.g. when size or shape is affected by changing the way objects work or are used, code FUNCTIONALITY.* *- If the number of discrete units of a product is changed, without changing the size of those units, code AVAILABILITY.*	Alter size or shape of products Examples: - Change portion size of a product - Change package size or shape (e.g. of a carton, bottle, bag or packet in which a product is packaged) - Change tableware size or shape (e.g. of plates, bowls, glasses or cutlery)	Alter size or shape of related objects Examples: - Change size of shopping trolleys or baskets, cafeteria trays or food and drink storage equipment	Alter size or shape of objects that comprise the wider environment Examples: - Size and shape of windows, or fixed furniture
	INFORMATION *Add, remove or change words, symbols, numbers or pictures that convey information about the product or object or its use* ***PLEASE NOTE:*** *- The use of information is the key component for this code, with the properties of the information itself that is contained within e.g. leaflets, posters or computer screens, being of secondary importance.* *THEREFORE, **USE** THIS CODE IF:* *- The intervention comprises changes to e.g. the availability, position, presentation, size or shape of words, symbols, numbers or pictures (such as changing the layout of text on a product, menu, or poster).*	On products, add, remove or change words, symbols, numbers or pictures that convey information about the product or its use Examples: Information on products and their packaging, such as: - Health warnings on cigarette packets or alcoholic drinks packaging - On-pack nutritional e.g. calorie labelling - Use of pictures or symbols on food packaging to communicate nutritional information (e.g. traffic light labelling) or influence consumption (e.g. amounts of a product pictured to indicate consumption anchors) - Marking alcohol consumption units on glasses - Product endorsements on packaging - Other information on packaging including: Positive health claims; Social norm information; Typical reference portion indicators	On related objects, add, remove or change words, symbols, numbers or pictures that convey information about the product or its use Examples: Information on related objects, such as: - Product endorsements on promotional displays - Nutritional information on menus or menu boards - Labelling on storage equipment (e.g. shelving; display stands; shopping trolleys and baskets, cafeteria trays) - Nutritional or health information provided at checkout or self-service areas	Within the wider environment, add, remove or change words, symbols, numbers or pictures that convey information about the product or its use Examples: - Information on posters, leaflets, or computer screens, in the wider environment - Standardised in-store announcements