Healthy Living Made Easier
The psychology of nudging

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SelfregulationLab
What is this thing we are talking about?

“Simple changes in ‘choice architecture’ (presentation of alternatives) that do not interfere with an autonomous choice but provide subtle hints to make another choice”

With a number of propositions suggesting slightly different definitions
Marchiori, Adriaanse & De Ridder, 2016
Interventions that qualify as nudges

- √ attractive or default options
- √ respect autonomous choice
- √ alternative choice without costs
Nudges are popular in policy making and amongst (health) professionals in domains such as sustainable behavior, traffic, prosocial behavior, organ donation, retirement savings, and public health. Because they are a promising alternative to existing efforts to trigger desired behavior change that often fail.
Nudges are also contested

Soft paternalism?

Concerns about manipulation (government should not act as a marketeer) and violation of autonomous decision making

Especially voiced by lawyers and philosophers

But also worries about too much emphasis on individual responsibility where legislation would be in place

Bovens, 2008
Hausman & Welch, 2010
Nudging as an alternative for reluctance to use rules and mandates that govern better individual decisions about welfare.

Big issues: health insurance/pensions

(European) public health nudges relatively harmless?
Less controversial for psychologists?

Nature of decisions about health behavior requires nudge type of interventions, making it easier to do what people actually want to do but don’t in the spur of the moment.
Selfregulation dilemmas

immediate temptations that distract from attainment of health goals
Nudges speak to

Ignorance: we want to lead a happy and healthy life but we don’t know how

Inertia: we know how to lead a happy and healthy life but we are busy/lazy/forgetful

Lack of willpower: we know how to lead a happy and healthy life but we are distracted by other opportunities

Uneasiness: we know how to lead a happy and healthy life but thinking about it makes us nervous
Capitalizing on the promise of nudges

Address psychological issues underlying nudge theory for making nudges work in public health

1. Suitability of nudges
2. Acceptability of nudges
3. Long-term effects of nudges

De Ridder. 2014
Marchiori, Adriaanse, & De Ridder, 2016
Issue 1

Suitability of nudges:
Do nudges respect the nature of health behavior decisions?
Theory behind nudging

Nudges are smart applications of insights into *bounded rationality* (Simon, 1955)

Many everyday decisions involve rapid Intuitive decision making with little conscious effort, using mental shortcuts (heuristics)
Kahneman’s dual system account

System 1: fast, automatic, ‘unconscious’
Default system and more adaptive in case of immediate decisions, not necessarily error prone. Operates in concert with:

System 2: slow, effortful, ‘conscious’
Requires access to capacity-limited central working memory resource

Note difference with reflexive/reflective dual systems account popular in health psychology stating that system 1 leads to risky decisions and that system 1 should be tamed by system 2
Thaler: Read a good book recently?

Kahneman: Dick Thaler wrote a book with Cass Sunstein. And it is a good book. It explains behavioral economics and the importance of behavioral economics in policy. And it illustrates the strange ways in which psychology does influence policy. But, basically, you never cite a single psychology thing.

Thaler: Oh, that’s not true. You appear on every third page.

Kahneman: Well, but I appear in my guise as an economist.

Thaler: You have no guise as an economist.
Decisions about health behavior

Are often system 1 or ‘mindless’ (= habit or impulse)

-> Take advantage of ‘mindlessness’ rather than fight it

Different from boosting System 2 (e.g., improving knowledge) or fighting System 1 (e.g., weaken bad automatic associations)
Decreasing accessibility (not availability) to foods makes them less salient and acts as cooling down strategy rendering resistance less required.

Maas, De Ridder, De Vet & De Wit, 2012
Example 2

Low self-control + social proof heuristic = more healthy choices (healthy and less tasty compared to unhealthy and tasty)

Replication in supermarket setting

Salmon, Fennis, De Ridder, Adriaanse, & De Vet, 2014
Next questions

While some nudge interventions have proven successful, it is unknown how they operate in relation to health goals and motivation for health behavior or to what extent people experience effort or doubt in response to nudges.

NUDGIS: Novel Understanding of Designs for Good Intervention Strategies in the Food Environment

Welfare Improvement through Nudging Knowledge

Health Improvement through Nudging TechniqueS
Hypothesized effectiveness as a function of goal strength/motivation

Low: Nudge not effective

Medium: Nudge effective

High: Nudge no surplus effect

Venema et al., under review
Can nudges influence decision doubt?

Social proof nudge ("the majority of people...") decreases doubt when confronted with choice -> more certain to act upon health goal -> important implications for mechanisms of effectiveness and ethics of nudging

(And in case of low health goals: Social proof nudge may increase doubt -> opportunity to reconsider)

Mouse Tracker Task:
Maximum Deviation =
Size of Response Conflict = Doubt

Gillebaart et al., 2015
Venema et al., in prep
Issue 2

Acceptability of nudges:
Do people like some support in making decisions about health
(or do they object to patronizing)?
Do people endorse nudges?

YES!

Depending on the source of nudging (experts rather than ‘the government’ are considered more trustworthy and as having good intentions)

If they understand what the nudge is about (health nudges more appreciated than financial nudges)

If they agree with the purpose of the nudge (health, safety, clean energy)

->If so, they don’t mind so much about level of intrusiveness (even default rules are accepted)

Junghans, Cheung & De Ridder, 2015
Junghans et al., 2016
Liking of health nudges by Europeans in 6 countries

Survey in 6 EU countries (N = 7000) according to level of intrusiveness

Government campaigns (e.g., public education campaigns in movie theaters to reduce smoking and overeating): >77%

Governmentally mandated rules (caloric/salt labels; traffic lights): >78%

Default rules (healthy food replacement): >75%

Manipulation (subliminal advertising): > 43%

Other mandates (e.g., sweet-free cashier zone, meat-free day): > 60%

Reisch & Sunstein, 2016
Appropriate nudges

Default rules are accepted but not when it relates to controversial issues
Default assumption of Christianity for US census data (21% US)
Ask about organ donation when obtaining drivers’ license (49-72% EU)

But people may mind less than they think

Opt-out leads to higher # of people available for organ donation

Sunstein 2015
Reisch & Sunstein, 2016
Nudge warnings don’t ruin effect
Nudge approval in experimental setting

Does this set-up help to make a healthy choice? 55% Yes

Do you think it affected *your* choice? 90% No

What do you think about us trying to influence your product choices?

- Good (N = 76)
- Annoying (N = 4)
- Don't care (N = 9)
Issue 3

(Long-term) effects of nudges: Healthy habit formation & boundary conditions
Assessing effectiveness

Most nudge projects focus on identification & design of good nudges – which is a challenge in its own right.

Very few experimental designs: most of them short term and at group level (big data)

Assessment of long-term effects with inclusion of individual responses (behavioral mediators/moderators) is lacking

Few exceptions suggest effects up to > 4 weeks
I’m still standing... (after default nudge removal)

Venema et al., under review
Important issues to address

Habits: does regularly performing the behavior translate into habits and a healthy person identity?

Autonomy & responsibility: does nudging increase autonomy because of acting in line with one’s goals or does it lead to infantilization?

Does nudging lead to ‘genuine’ preference change or to a fragmented self with someone finding himself doing things he did not want to do?

Issues raised by philosophers in need of psychological investigation
Boundary conditions

Funny nudges:

Will people keep using the famous piano stairs after a while?

And do ‘over-attractive’ options lead to reactance?

Making it easy may be more effective - unless there is inherent fun
Default = preselection and/or salience?

Preselected healthy options are chosen more often (55%) than salient healthy options (46%) in an online shopping environment.

Marchiori, Adriaanse & De Ridder, in press
Salience & Accessibility Nudges

Salience promoting bread rolls over croissants: 10% increase of sales (continued over 7 weeks)
Accessibility promoting fresh fruits: 73% increase (continued over 7 weeks)

Cheung, Kroese, Fennis & De Ridder, 2017
Conclusions

Nudges have great potential as an alternative for existing interventions for health promotion

✔ Align with nature of many health behaviors ("want to but....")
✔ Are accepted by the general public

But
✔ Concerns about manipulation and portrayal of individuals as incompetent
✔ Dismissal of trivial effects
Future directions and challenges

Problematic & promising aspects of nudging require thorough psychological investigation

Nudge design & categorization
Nudge theory (heuristics) vs nudge inflation
Long-term effectiveness – habits & identity
Terminology – manipulation or choice architecture
Transparency – awareness of nudge being present
Alignment with goals and motivation
Impact on competence, autonomy & responsibility