Location wise

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Chapter 8

# Societal Impact

8.1 Impact on Social Policy

The recent period of pandemic-related crisis has seen the introduction of many novel policies. These policies aim to facilitate the needs of society, which often means finding a compromise between the often-conflicting public and personal preferences. Although the policy strategies to cater to these needs are carefully constructed, how these policies are received, interpreted, and executed by each individual is often unclear a priori. Two chapters from this dissertation evaluate abrupt policy implementations and help understand how people react to them.

Chapter 2 explains that the recommendation to avoid crowded areas is admirable, but leaves people to make their own prediction on what a crowded area is. The proxy people might use to estimate the crowdedness sometimes leads to a worse situation that is not in line with the needs of society or the individual. This is especially problematic because this dissertation shows that people generally have the intention to adhere to the recommendation. A future recommendation should be complemented with up-to-date information on the crowdedness level. Incidentally, a month after the publication of this chapter, Google released a new feature on Google Maps providing exactly this information: people are now able to see, live, how busy it is in popular areas (Moore, 2021).[88]

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[88] After repeated contact with the Google Maps product manager, we were unable to publish a mutual press release on the societal impact of this feature due to privacy concerns voiced by users. Fortunately, I expect at least as many people to read this impact chapter.

Figure 8.1 Google Maps view of Lisbon indicating five 'Busy Areas'
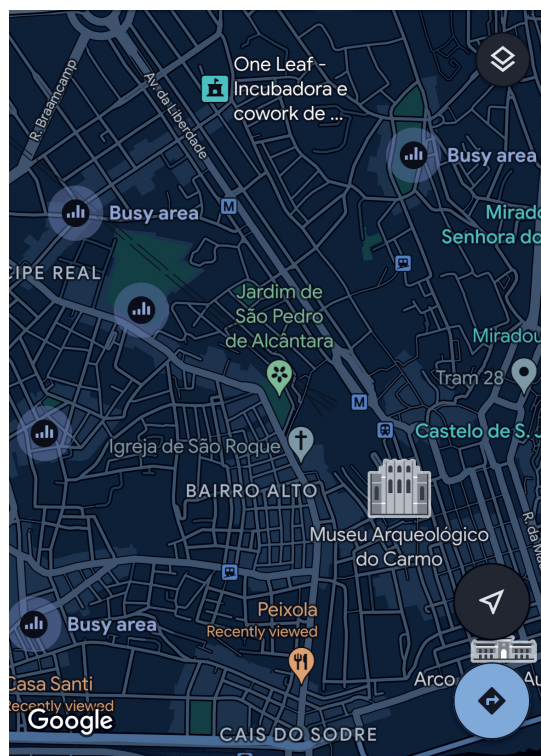
However, providing up-to-date information does not automatically lead to accurate decision-making. For instance, the risk of infection was primarily communicated via an up-to-date reproduction metric (R; World Health Organization, 2020). From the results in chapter 6, I imply that only providing this metric without further training or guidance on how to use that information can result in an inaccurate estimation of network dispersion. Policymakers previously trusted blindly in the ability of individuals to apply this probability metric accurately. I unveil that individuals actually rely on other factors when they try to make sense of an abstract probability. Additionally, identifying and understanding the underpinning of experienced social network strength and closeness in any (research) field opens the door to more tailored, effective, and generalizable policy, and economically relevant research design.

Both chapters show that policies that largely leave the responsibility to the citizens to decide when to go out and whom to connect to, lack the understanding of the individual's decision process that follows. In other words, the intention of the Dutch government is justified, but the tools for optimal decision-making need to be improved. When future situations require

similar recommendations to be put in place, up-to-date relevant information, as well as guidance, should be instated. This will enable individuals to act according to their preferences which, as this dissertation shows, is often also in accordance with societal interest.

8.2   Impact on Productivity, Health, and Well-being at home

Working from home is here to stay. Over 97% would like to continue to work from home, at least partially (Griffis, 2021). Employees are, on average, willing to take a 5% pay cut for 2-3 days of work from home (Aksoy et al., 2022) and in the future, 20% of all office work is predicted to be carried out from home (Etheridge et al., 2020). To ensure that this transition benefits workers, this dissertation set out to understand the effect of the physical home office on productivity, health, and well-being. A happy employee is a productive employee, and vice versa (e.g. Mamiseishvili & Rosser, 2011; McNeese-Smith, 1996; Miller & Monge, 1986). Chapter 4 concludes that, largely unbeknownst to homeworkers, the ventilation of the office improves satisfaction with the room, productivity, and willingness to continue working from home, as well as decreases the burnout propensity. Beyond the fact that ventilation is important, chapter 4 also underlines that it is likely that factors that are not directly in the focus of workers could also have a significant effect on satisfaction, health, and well-being. In contrast, chapter 5 shows that adverse conditions that are perceived to have a large influence on performance (in this case, heat) are overestimated.

Taken together, a tailored approach is needed to improve individual comfort, the quality of the home office, and its climate. Although this might not seem to be the most surprising conclusion, this thesis underlines that those improvements should not be solely focused on self-reports. Workers tend to consistently over- and underestimated to what extent factors actually influence their satisfaction and productivity. This statement contradicts a recent movement towards tailoring the indoor climate to (self-reported) comfort (Bluyssen, 2012, 2013). This dissertation questions the validity of convenient self-reported comfort as input for indoor climate interventions and emphasizes the need to contrast the self-report with objective measurements. In the end, a truly optimal physical climate is a key to the success and widely proposed bright future of working (from home).

8.3 Impact on Methodology

Multiple chapters of this dissertation examine the accuracy of self-reported data. Chapter 3 contributes to the research of productivity by attempting to validate (and as a result, reconstruct) an often-used questionnaire. This is, although arguably not sexy, an important endeavor. That the academic community is not eager to undergo this process is illustrated by the fact that the original development paper is, until now, cited 143 times, of which the majority of the papers passively administer the tool. Yet, the conclusion of that paper ends with a warning to not use the scale as a primary measure before additional validation has been conducted ("*Additional validation research on the HWQ is recommended before use as a primary measure in studies of worker productivity.*"; Shikiar et al., 2004, p. 226). Some of the citations compared the paper's factors to alternative tools, but none validate the survey. This dissertation produces a validated, new tool to measure productivity, stress, and other work-related factors.

Although unorthodox, the second methodological impact of this dissertation is to highlight the limitations of self-reports. The choice for self-reported measures is often dictated by a lack of objective alternatives, difficulties in collecting data, or general time constraints (Bloom & Van Reenen, 2007; Del Gatto et al., 2011; Färe et al., 1998; Gidwani & Dangayach, 2017; Singh et al., 2000; Skirbekk, 2004; Syverson, 2011).[89] For example, many of the working-from-home evaluations are based on self-reports (e.g. Aksoy et al., 2022; Barrero et al., 2021; Griffis, 2022). The future predictions based on these reports have a significant impact on companies' strategies to maintain their office real-estate (Gupta et al., 2022). But it appears that, especially in the economic domain, after selecting self-reported measures due to whatever constraints, the limitations are simply accepted and often passively mentioned as a footnote. To what extent these limitations drive the conclusions drawn from that data, instead of the actual effect, is hardly ever estimated.

Multiple chapters in this dissertation highlight how ignoring the limitations when effortlessly administrating a self-report tool translates into inaccurate conclusions. First, retrospectively reporting on relatively objective metrics such as productivity is subject to recall bias (Chapter 3).[90] Second, indoor environment factors influence satisfaction on unrelated

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[89] The use of self-reported tools in this dissertation was often equally dictated by the lack of alternatives.

[90] "Relatively objective" refers to the extent that it should technically be objectively experienced or observable. This is in contrast to self-reporting an emotional state, which on its own could influence perception or judgment.

factors that appears to escape from conscious awareness. Consequent interventions aimed at improving these factors might show unsuccessful (Chapter 4). Third, how adverse indoor environment factors such as heat influence performance is overestimated (Chapter 5). These examples all point towards the value of combining self-report with objective data collection or measuring. This reasoning appears circular: self-reports are used when objective data is obscured, but objective data is needed to validate self-report accuracy. This dissertation suggests that future use of self-reports will benefit from a compromise. Acknowledging the limitations before collecting self-reported data should enable us to plan and collect additional, relevant, related data to check how robust and accurate the self-reports are. By checking how objective-related (or seemingly unrelated) measures correlated or predict self-reports, we will continue to develop our understanding of when self-reports are accurate, and when they are not.