Essays on *Schadenfreude*

Evidence from natural experiments

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Thesis Abstract

The object of this Thesis is Schadenfreude, or "the pleasure for the misfortunes of others". I characterise some of the conditions that may trigger Schadenfreude and leverage three natural experiments, applying causal inference techniques on data from large social surveys. In Chapter 1, I find that, during the European debt crisis, exposure to news concerning Greece - a stigmatised group, described as a financial burden to other nations -, was associated to increased levels of self-reported well-being in a sample of European respondents. In Chapter 2, I observe an instantaneous increase in self-reported happiness in a sample of respondents from ten countries, excluding the United States, after the killing of Osama bin Laden, in May 2011. In Chapter 3, I draw on intuitions by Goffman to study how Italian citizens reacted to a highly publicised criminal court verdict against former Italian Prime Minister Silvio Berlusconi. I find that Italian respondents reported higher happiness after the verdict, and that social cohesion appear to have increased for respondents politically distant from Mr. Berlusconi. These effects are generally fleeting and small in size. Overall, the Thesis posits that Schadenfreude can emerge as a result of perceived threats to group integrity; it thus represents an emotional device that binds outward moral derogation and inward solidarity. I conclude proposing that Schadenfreude should be integrated in the sociology of intergroup relations.

Ai miei genitori

To my parents

Contents

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Homo sum, humani nihil a me alienum puto.

Introduction

Object of this Study

Regarding the Pain of Others

Whilst references to Aristotle, the ancient Greek philosopher, as the theorist of *eudaimonia*, the meaningful well-being, abound in social science studies on the determinants of happiness and life satisfaction (see, e.g., Ryan and Deci 2001), accounts on the categorisation of emotions that Aristotle offered in *The Eudemian Ethics* and sketched in *The Art of Rhetoric* are often overlooked. In these works, Aristotle described an *unnamed* emotion. In his words:

> "Each of the other objects of praise or blame in respect of characters are excesses or defects of means, but of emotions. The envious man and the malicious man provide examples. For […] envy is being pained by the good fortune of people who deserve it, *while thought there is no name for the emotion of the malicious person*, such a character shows itself by rejoicing at the misfortunes of those who deserve better. Midway between these is the person who is righteously indignant, whose attitude was called by the ancients Nemesis: he feels pain at underserved ill and good fortunes and rejoices when they are deserved. This is why people think of Nemesis as a deity." (Aristotle, *The Eudemian Ethics*, [2011]; italics added)

Aristotle's *unnamed* emotion is today commonly translated with "Schadenfreude", a German word that signifies taking enjoyment from the misfortunes of others (van Dijk and Ouwerkerk 2014). In the *Art of Rhetoric*, Aristotle had offered a different view of this *unnamed* emotion, dense with implications. There, he distinguished "Four emotions: pain at the undeserved good or bad fortune (indignation and pity) and pleasure at deserved good or bad fortune ('happy for' and 'pleasure at deserved misfortune')." (Sanders 2008: 268). Again, in Aristotle's own words: "If you are pained by the unmerited distress of others, you will be pleased, or at least not pained, by the merited distress." Analysing Aristotle's descriptions of this "rejoicing at the misfortunes of others" across *Eudemian Ethics* and *Rhetoric*, Ben-Z'eev (2003) concludes that Aristotle did not present a systematic view of this emotion, which he alternatively described as being triggered by the enjoyment of misfortunes either *undeserved*, as in the case of the *Eudemian Ethics*, or, as in the *Rhetoric*, *deserved*. Nevertheless, two features of Schadenfreude are not disputable: "The subjects' pleasure and the other's misfortune. These features describe a significant conflict between our positive evaluation of the situation and the negative evaluation of the other person. This conflict indicates the presence of a comparative, and sometimes even a competitive, concern. […] In calculating the comparative position, the misfortunes of others appear on the credit side." (Ben-Z'eev 2003:117). In the recent history of Western thought, reinterpretations of Aristotle's *Schadenfreude* have been heralded by German philosopher Arthur Schopenhauer who, according to Portmann (2000:15), was among the first thinkers to discuss other people's suffering at length since the Greeks. Schopenhauer appears in line with the *Eudemian Ethics*'s view of Schadenfreude, which he characterised as a "Mischievous delight […] which remains the worst trait in human nature" (quoted in Cikara and Fiske 2014:151). For Schopenhauer, Schadenfreude is a malicious emotion, and the appropriate response to the suffering of another person should first and foremost be that of compassion. However, much like Aristotle's view in *Rhetoric*, Schopenhauer also insisted that "The only pleasure we may take in the bad things that happen to other people is in the triumph of justice." (Portmann 2000: *ibid*). Thus, beyond a simple difference in the condition of two persons, Schadenfreude requires an evaluation of what is *appropriate* to feel, when faced with the suffering of others and whether circumstances allow to extend one's sympathy beyond one-self – a central theme in Adam Smith's *Theory of Moral Sentiments*.

Emerging Findings on Schadenfreude

According to an emerging view in cognitive neuroscience, emotions modulate how "humans assess which behaviours are social and morally acceptable", and thus constitute "an adaptive mechanism supporting the regulation of one's own acts and the assessment of others' behaviours." (Santamaria-Garcia et al. 2017:3358). Renewed interest in this field has focused on "moral emotions", i.e., "those emotions that are linked to the interests or welfare either of society as a whole or at least of persons other than the judge or agent." (Haidt 2003:853). According to Fontenelle, de Oliveira-Souza and Moll (2015:411), moral emotions are "a group of affective experiences thought to promote cooperation, group cohesion, and reorganization" (see Binmore 2004 and Turner 2007 for echoing discussions from the perspective of social scientists). Within the realm of moral emotions, Schadenfreude has been the object of an increasing body of research. Neuroimaging studies connect Schadenfreude with activity in the ventral striatum, where the nucleus accumbens governs the processing of pleasure (Singer et al. 2006; Shamay-Tsoory et al. 2009; Cikara and Fiske 2013; Jankowski and Takahashi 2014). They also indicate that Schadenfreude requires interplay between social reward pathways and processes involving perspective taking and moral judgment (Dvash et al. 2010; Jankowski and Takahashi, 2014; Santamaria-Garcia et al. 2017). Santamaria-Garcia et al. (2017), for example, emphasise the "importance of socio-moral brain areas" in the processing of Schadenfreude.

In social psychology, Cikara et al. (2014), Combs et al. (2009) and Leach et al. (2003) locate Schadenfreude within intergroup relations, using political and sports events to find that ingroup identification is a predictor for whether negative events happening to members of other groups are able to trigger enjoyment in respondents. Experimental evidence, gathered in the laboratory, has unveiled a range of further predictors, indicative that individuals respond more strongly to misfortunes suffered by someone with superior abilities and status, especially when higher status is not characterised as deserved (Smith et al. 1996; van Dijk et al. 2006; Dvash et al. 2010; Jankowski and Takashi 2014). As posited by early thinkers, Schadenfreude is seen as tightly linked to appraisals of deservedness and to the perceived fairness of suffered outcomes (De Quervain et al. 2004; Singer et al. 2006; Shamay-Tsoory et al. 2014; Hoogland et al. 2015).

From this point of view, rather than being a 'blind' emotion, Schadenfreude can be seen as depending on the differential processing of information regarding individual or groups, based on specific situational characteristics or inherent attributions of the target.

Empirical Approach

Measurement of Schadenfreude

This renewed interest in moral emotions in general, and Schadenfreude in particular, stemming from 'hard sciences', has not kept up the pace in social science research. With the studies of this Thesis, I aim at partially narrowing this gap. In particular, I will attempt at identifying Schadenfreude empirically, by employing a style of diachronic "overt behaviour observation" (Cooper 1959), based on studying how external events trigger alterations in the reporting behaviour of individuals. I focus on self-reporting of subjective well-being items in survey questionnaires, namely ordinal happiness and life satisfaction scales, and leverage unexpected events to compare respondents in and around the time in which events of interest have occurred. Thus, I approach measurement from a 'somatic marker' perspective (Damasio 1994; Kimball and Willis 2006). This maintains that happiness and life satisfaction scales capture both structural determinants of individual wellbeing, that are sticky and slow to changes (e.g., income, education level, relationship status, etc.) but that, when changed, can be expected to bear large and long-lasting hedonic implications; as well as more circumstantial mood and affect, that can change instantaneously and fleetingly, as a function of people's experiences of the external world. I depart from the idea that these experiences normally trigger emotional reactions that may be, either consciously or unconsciously, reflected in answers to surveys deployed within appropriate timeframes. With this approach, I am broadly inspired by a long tradition, dating back to Jeremy Bentham (1789 [1879]:63-67), who famously proposed the ‘felicific calculus’, an algorithm to sum up pleasures (*hedons*) and pains (*dolors*) in order to gauge the overall ‘utility’ generated by any given action. A century later, Francis Ysidro Edgeworth (1881[1961]:101) imagined a “psychophysical machine, continually registering the height of pleasure experienced by an individual, exactly according to the verdict of consciousness, or rather diverging therefrom according to a law of errors.” Likewise, my identification too relies on the assumption that, on average, deviations in subjective well-being scales from the ‘true’ change in mood after an event of interest are distributed according to a ‘law of errors.’ To justify this assumption, I build on five decades of subjective well-being research, that have unveiled robust patterns in subjective well-being equations across time and space (Dolan, Peasgood and White 2008; Blanchflower 2009; Clark 2018). Self-reported measures of affect correlate to physiological outcomes, including heart rates and the activation of brain areas connected to anxiety (Davidson et al. 2000); self-reported hypertension (Blanchflower and Oswald 2008); levels of the stress- hormone cortisol, taken from saliva samples (Haushofer and Shapiro 2016); and, broadly, with neuroendocrine, inflammatory, and cardiovascular activity (Steptoe, Wardle and Marmot 2005). Based on this evidence, Stiglitz, Sen and Fitoussi (2009:16) have argued that “research has shown that is possible to collect meaningful and reliable data on subjective as well as objective well-being.” Given these assumptions, I employ a regression approach on individual-level social survey data, that entails comparing average well-being of exposed and non-exposed to events that highlight and make salient the well-being of others. Throughout this Thesis, similarly to the ways in which the recent literature conceptualizes Schadenfreude, but somehow differing from its more commonly intended meaning, I define “Schadenfreude” as any increase in self-reported subjective well-being, conditional to a deterioration of the well-being of others.

Relation to the Subjective Well-Being Literature

As described above, across all of the three studies presented in this Thesis, I investigate how happiness and life satisfaction are impacted by external events that make visible, and salient, the comparative wellbeing, particularly the suffering, of others. In approaching this question, I bring together two strands of empirical literature on subjective well-being. The first boils down to the intuition that well-being is relative, rather than absolute, and driven by comparisons with relevant others. This idea is by no means novel. Already in 1903 in the *American Journal of Sociology*, Wladimir Karapetoff proposed that "Happiness will never be commensurate with the reached result", as it "Depends principally on the surplus of goods which we possess, not on their absolute quantity." (Karapetoff 1903: 686). This led him to state the "apparent paradox" of happiness as follows: "Probably our descendants will fly over the ocean in airships in half an hour; they will possibly and probably make their bread directly from clay; but it is very doubtful whether they will be happier than ourselves." (Karapetoff 1903: *ibid*).[1] 70 years after Karapetoff, the rise of social surveys and seminal work by Cantril (1965) led Richard Easterlin (1973) to formulate the well-known Easterlin Paradox that, on average and in the long run, a nation's economy and its overall levels of happiness and life satisfaction do not grow hand in hand. Empirical well-being research has convincingly shown that subjective well-being scales respond to comparisons, driven by differentials in income and social status across individuals as well as groups (Clark and Oswald 1996; McBride 2001; Ferrer-i Carbonell 2005, Guven and Sorensen 2012; Baird, de Hoop and Ozler 2013; Haushofer, Reisinger and Shapiro 2015, see Clark, Frijters and Shields 2008 for a review). In fact, individuals assess their well-being not in absolute terms, but in terms of both consumption norms (Easterlin 1974) and of their position in the cross-sectional income distribution (Duncan 1975). Because norms change

[1]Karapetoff's attempt at defining mathematical laws that regulate individual life satisfaction led Ethel Shanas, in his review of the first 50 years of the *American Journal of Sociology*, to mention this 1903 article as an ante litteram example of 'sociological operationalism' (Shanas 1945:526).

over time, richer societies should not be expected to also be happier, as long as the proportion of relatively deprived individuals is stable (Clark et al. 2008). Moreover, since individuals experience society at the intersection between “the common values and norms embodied in a culture or subculture; and the network of social relations […] through which social positions of individuals and subgroups become differentiated.” (Blau 1960:178), local comparison clusters – such as families, peer groups, and neighbourhoods – are thought to bear preponderant weight in people’s hedonic evaluations (Clark and Oswald 2002:1142), at least relative to what Mills (1959:7) had defined as “the big ups and downs of the societies in which they live.”

However, in most recent years, the ubiquity of large surveys and “always-on” data (Salganik 2019) has increased possibilities for researchers to resort to causal inference techniques, and link external events to short-run changes in self-reported subjective well-being. This literature assessed the happiness and life satisfaction implications of a broad range of unexpected events, including terrorist attacks (Clark, Doyle and Stancanelli 2017; Bryson and MacKerron 2018; Colombo, Rotondi and Stanca 2019); economic crises (Di Tella, MacCulloch and Oswald 2003; Deaton 2012; De Neve et al. 2018); election results (Lench et al. 2019; Powdthavee et al. 2019); natural phenomena (Rhedanz and Maddison 2005; Kimball et al. 2006; Uchida, Takahashi andKawahara 2015) and several other external triggers (Oswald 2003). In this Thesis, I look at the comparative wellbeing responses to three distinct set of events: an economic crisis, a highly salient act of targeted warfare, and a court verdict. All of these events, I argue, can be seen as triggering comparisons and therefore occasion the main research questions of this Thesis: can we observe variations in well-being at the population level, compatible with Schadenfreude? And what are the main determinants of such effects? These questions are addressed empirically in Chapters 1-3 and discussed in the Conclusions.

References

- Aristotle, 2011. *The Eudemian Ethics*, ed. A. Kenny Oxford University Press.
- Aristotle, 2018. *The Art of Rethoric*, ed. R. Waterfield Oxford University Press
- Baird, S., de Hoop, J., and Ozler, B. (2013), Income shocks and adolescent mental health, *Journal of Human Resources*, *48*(2), 370–403
- Ben-Ze'ev, A., 2003. Aristotle on Emotions towards the Fortune of Others. *Envy, Spite and Jealousy. Edinburgh*, 99-122.
- Bentham, J., 1789. *An introduction to the principles of morals and legislation*. 1879, Oxford: Clarendon Press.
- Binmore, K., 2004. Reciprocity and the social contract. *politics, philosophy & economics*, *3*(1), 5-35.
- Blau, P. M., 1974. Presidential address: Parameters of social structure. *American Sociological Review*, 615-635.
- Bryson, A. and MacKerron, G., 2018. *How Does Terrorism Affect Individuals' Wellbeing?*, IZA Discussion Papers, *11273*
- Cantril, H., 1965. Pattern of human concerns
- Cikara, M., and Fiske, S. T., 2013. Their pain, our pleasure: stereotype conten and schadenfreude. *Annals of the New York Academy of Sciences*, *1299*, 52
- Cikara, M., and Fiske, S. T., 2014. Stereotypes and schadenfreude. *Schadenfreude: Understanding Pleasure at the Misfortune of Others*, 151
- Cikara, M., Bruneau, E., Van Bavel, J. J., and Saxe, R., 2014. Their pain gives us pleasure: How intergroup dynamics shape empathic failures and counter-empathic responses. *Journal of experimental social psychology*, *55*, 110-125

- Cikara, M., Bruneau, E., Van Bavel, J.J., and Saxe, R., 2014. Their pain gives us pleasure: How intergroup dynamics shape empathic failures and counter- empathic responses, Journal of Experimental Social Psychology, 55, 110– 125.
- Clark, A. E., 2018. Four decades of the economics of happiness: Where next?. *Review of Income and Wealth*, *64*(2):245-269
- Clark, A. E., and Oswald, A. J., 1996, Satisfaction and comparison income, *Journal of Public Economics*, *61*(3), 359–381
- Clark, A. E., Frijters, P., and Shields, M. A., 2008. Relative income, happiness, and utility: An explanation for the easterlin paradox and other puzzles, *Journal of Economic Literature*, *46*(1), 95–144
- Clark, A., Doyle, O., and Stancanelli, E., 2017. *The Impact of Terrorism on Well-being: Evidence from the Boston Marathon Bombing*. School of Economics, University College Dublin, *201717*
- Colombo, E., Rotondi, V., and Stanca, L., 2019. The Day after the Bomb: Well-being Effects of Terrorist Attacks in Europe. *University of Milan Bicocca Department of Economics, Management and Statistics Working Paper*, 416
- Combs, D. J. Y., Powell, C. A. J., Schurtz, D. R., and Smith, R. H., 2009. Politics, schadenfreude, and ingroup identification: The sometimes happy thing about a poor economy and death, *Journal of Experimental Social Psychology*, *45*(4), 635–646
- Cooper, J. B., 1959. Emotion in prejudice. Science, 130(3371), 314-318.
- Damasio, A., 1994. *Descartes' error: Emotion, reason, and the human brain.* New York: Putnam
- Davidson, R. J., Marshall, J. R., Tomarken, A. J. and Henriques, J.B., 2000. While a phobic waits: Regional brain electrical and autonomic activity in social phobics

during anticipation of public speaking. *Biological psychiatry*, *47*(2):85-95

- De Neve, J.E., Ward, G., De Keulenaer, F., Van Landeghem, B., Kavetsos, G. and Norton, M.I., 2018. The asymmetric experience of positive and negative economic growth: Global evidence using subjective well-being data. *Review of Economics and Statistics*, *100*(2):362-375
- De Quervain, D. J., Fischbacher, U., Treyer, V., & Schellhammer, M., 2004. The neural basis of altruistic punishment. *Science*, *305*(5688), 1254
- Deaton, A., 2012. The financial crisis and the well-being of Americans. *Oxford Economic Papers-New Series*, *64*(1), 1–26
- Di Tella, R. D., MacCulloch, R. J., & Oswald, A. J. (2003). The macroeconomics of happiness. *Review of Economics and Statistics*, *85*(4), 809-827.
- Dolan, P., Peasgood, T. and White, M., 2008. Do we really know what makes us happy? A review of the economic literature on the factors associated with subjective well-being. *Journal of economic psychology*, *29*(1):94-122
- Dvash, J., Gilam, G., Ben-Ze'ev, A., Hendler, T., and Shamay-Tsoory, S. G., 2010. The envious brain: the neural basis of social comparison. *Human brain mapping*, *31*(11), 1741-1750
- Easterlin, R. A., 1973. Does money buy happiness?. *The public interest*, *30*, 3.
- Easterlin, R. A., 1974. Does economic growth improve the human lot? Some empirical evidence. In *Nations and households in economic growth*, 89-125. Academic Press
- Edgeworth, F., 1881. *Mathematical Psychics: An Essay on the Application of Mathematics to the Moral Sciences*. 1961, New York: Augustus M. Kelly
- Ferrer-i Carbonell, A., 2005. Income and well-being: an empirical analysis of the comparison income effect, *Journal of Public Economics*, *89*(5-6), 997– 1019

- Fontenelle, L. F., de Oliveira-Souza, R., and Moll, J., 2015. The rise of moral emotions in neuropsychiatry. *Dialogues in clinical neuroscience*, *17*(4), 411
- Guven, C., and Sørensen, B. E., 2012. Subjective well-being: Keeping up with the perception of the Joneses. *Social Indicators Research*, *109*(3), 439- 469
- Haidt, J., 2001. The emotional dog and its rational tail: a social intuitionist approach to moral judgment. *Psychological review*, *108*(4):814
- Haidt, J., 2003. The moral emotions. *Handbook of affective sciences*, *11*(2003), 852-870
- Haushofer, J., and Shapiro, J., 2016. The short-term impact of unconditional cash transfers to the poor: experimental evidence from Kenya. *The Quarterly Journal of Economics*, *131*(4):1973-2042
- Haushofer, J., Reisinger, J., and Shapiro, J., 2015. Your gain is my pain: Negative psychological externalities of cash transfers. *Online paper*
- Hochschild, A. R., 1979. Emotion work, feeling rules, and social structure. *American Journal of Sociology*, *85*(3), 551-575
- Hoogland, C. E., Schurtz, D. R., Cooper, C. M., Combs, D. J. Y., Brown, E. G., and Smith, R. H. (2015), The joy of pain and the pain of joy: In-group identification predicts schadenfreude and gluckschmerz following rival groups' fortunes', *Motivation and Emotion*, *39*(2), 260–281
- Jankowski, K. F., and Takahashi, H., 2014. Cognitive neuroscience of social emotions and implications for psychopathology: examining embarrassment, guilt, envy, and schadenfreude. *Psychiatry and Clinical Neurosciences*, *68*(5), 319-336
- Karapetoff, W., 1903. On life-satisfaction. *American Journal of Sociology*, *8*(5), 681-686.

- Kimball, M., Levy, H., Ohtake, F., & Tsutsui, Y., 2006. *Unhappiness after hurricane Katrina*. National Bureau of Economic Research, *w12062*
- Klandermans, B., Van der Toorn, J., and Van Stekelenburg, J., 2008. Embeddedness and identity: How immigrants turn grievances into action. *American Sociological Review*, *73*(6), 992-1012
- Leach, C. W., Spears, R., Branscombe, N. R., and Doosje, B., 2003. Malicious pleasure: Schadenfreude at the suffering of another group, *Journal of Personality and Social Psychology*, *84*(5), 932–943
- Lench, H.C., Levine, L.J., Perez, K.A., Carpenter, Z.K., Carlson, S.J. and Tibbett, T., 2019. Changes in subjective well-being following the US Presidential election of 2016. *Emotion*
- McBride, M., 2001. Relative-income effects on subjective well-being in the cross-section, *Journal of Economic Behavior & Organization*, *45*(3), 251– 278
- Oswald, A. J., 2003. How much do external factors affect wellbeing? A way to use happiness economics to decide. *The Psychologist*, *16*, 140-141
- Portmann, J., 2002. *When bad things happen to other people*. Routledge.
- Powdthavee, N., Plagnol, A. C., Frijters, P., and Clark, A. E., 2019. Who got the Brexit blues? The effect of Brexit on subjective wellbeing in the UK. *Economica*
- Rehdanz, K., and Maddison, D., 2005. Climate and happiness. *Ecological Economics*, *52*(1), 111-125
- Salganik, M. J., 2019. *Bit by bit: Social research in the digital age*. Princeton University Press.
- Sanders, E., 2008. Pathos Phaulon: Aristotle And The Rhetoric Of Phthonos. In *KAKOS, Badness and Anti-Value in Classical Antiquity*, 255-282

- Shamay-Tsoory, S. G., Ahronberg-Kirschenbaum, D., and Bauminger-Zviely, N., 2014. There is no joy like malicious joy: Schadenfreude in young children, *Plos One*, *9*(10)
- Shamay-Tsoory, S. G., Fischer, M., Dvash, J., Harari, H., Perach-Bloom, N., & Levkovitz, Y., 2009. Intranasal administration of oxytocin increases envy and schadenfreude (gloating). *Biological psychiatry*, *66*(9), 864-870
- Shanas, E. 1945. The American Journal of Sociology through fifty years. *American Journal of Sociology*, *50*(6), 522-533.
- Singer, T., Seymour, B., O'Doherty, J.P., Stephan, K.E., Dolan, R.J. and Frith, C.D., 2006. Empathic neural responses are modulated by the perceived fairness of others. *Nature*, *439*(7075):466
- Smith, A., 1759, *The Theory of Moral Sentiments*, 2010. Digireads.com Classics
- Smith, R. H., Turner, T. J., Garonzik, R., Leach, C. W., Urch-Druskat, V., and Weston, C. M., 1996. Envy and Schadenfreude. *Personality and Social Psychology Bulletin*, *22*, 158-168
- Steptoe, A., Wardle, J., and Marmot, M., 2005. Positive affect and health- related neuroendocrine, cardiovascular, and inflammatory processes. *Proceedings of the National Academy of Sciences*, *102*(18), 6508- 6512
- Stiglitz, J.E., Sen, A. and Fitoussi, J.P., 2009. Report by the commission on the measurement of economic performance and social progress
- Takahashi, H., Kato, M., Matsuura, M., Mobbs, D., Suhara, T., and Okubo, Y., 2009. When your gain is my pain and your pain is my gain: neural correlates of envy and schadenfreude. *Science*, *323*(5916), 937-939
- Turner, J. H., 2007. *Human emotions: A sociological theory*. Taylor & Francis.

- Uchida, Y., Takahashi, Y. and Kawahara, K., 2014. Changes in hedonic and eudaimonic well-being after a severe nationwide disaster: The case of the Great East Japan Earthquake. *Journal of Happiness Studies*, *15*(1):207-221
- Ure, M., 2013. Nietzsche's Schadenfreude. *Journal of Nietzsche studies*, *44*(1), 25-48c
- van Dijk, W. W., and Ouwerkerk, J. W., 2014. *Schadenfreude: Understanding pleasure at the misfortune of others* (Eds.). Cambridge University Press.
- Van Dijk, W. W., Ouwerkerk, J. W., Goslinga, S., Nieweg, M., & Gallucci, M., 2006. When people fall from grace: Reconsidering the role of envy in schadenfreude. *Emotion*, *6*(1), 156c

Chapter 1

Relative Well-Being in Times of Crisis:

Evidence from Europe's Recession[2][3]

Abstract

Little is known on whether and how personal well-being is impacted by exposure to the suffering of unfortunate others. We pool 58 Eurobarometer waves (*n*=1.3M) and match them with aggregate online search data to show that, in Europe during the Great Recession, monthly variations in the intensity of web searches concerning the Greek crisis, measured at the country-level, are associated to changes in life satisfaction. Counterintuitively, this correlation is positive. We propose that social comparisons played a role: in times of crisis, Greece, a stigmatised group described as a financial burden to other European nations, emerged as a negative point of reference. We also explore how cross-country redistribution grievances mediated subjective well-being responses to its 'suffering'.

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Introduction

Started in the United States in 2007-2008 and quickly spread to the rest of the World, the Great Recession (GR) has represented a transformative moment for societies and polities globally. In Europe, it morphed into a public debt crisis that jeopardised the economy, especially in the Eurozone, and the overall institutional stability of the Continent (Habermas 2012; Castells 2018). According to Redbird and Grusky (2016:186), “the total amount of sociological research on GR effects is quite small, at least relative to the amount completed by other disciplines.” Aimed at narrowing this gap, our investigation lies at the intersection between macroeconomic patterns of the European nations and their trajectories of subjective well-being (SWB). In recent years, a burgeoning literature has renewed sociological interest towards the study of happiness and life satisfaction (Schnittker 2008; Yang 2008; Lim and Putnam 2010; Offer and Schneider 2011; Glass, Simon and Andersson 2016). While most of these studies have focused on micro-level correlates of subjective well-being, we depart from the idea that individual well-being is relative, rather than absolute, and shaped by social contexts. In fact, as noted by Firebaugh and Schroeder (2009: 807), “individual characteristics alone are unlikely to provide a satisfactory account of the variation in happiness across individuals, since we expect social context to matter”. In the spirit of Diego Gambetta, we start our investigation from “a correlation, which defies the expectations of common sense or the predictions of some theory”.[4] In Figure 1, we plot average levels of self-reported life satisfaction for a combined total of 1.6 million European citizens, leveraging 12 years of data from the Eurobarometer and the European Social Survey (ESS), two large social surveys fielded in Europe. We find that overall levels of life satisfaction were surprising resilient in the Continent: from 2008 to 2011, for example, life satisfaction was in a light uptrend, despite Europeans living in poorer societies.

[4]Gambetta, D. Empirical puzzles Retrieved from: https://www.nuffield.ox.ac.uk/media/1778/gambetta-empirical-puzzles-for-teaching-and-research.pdf

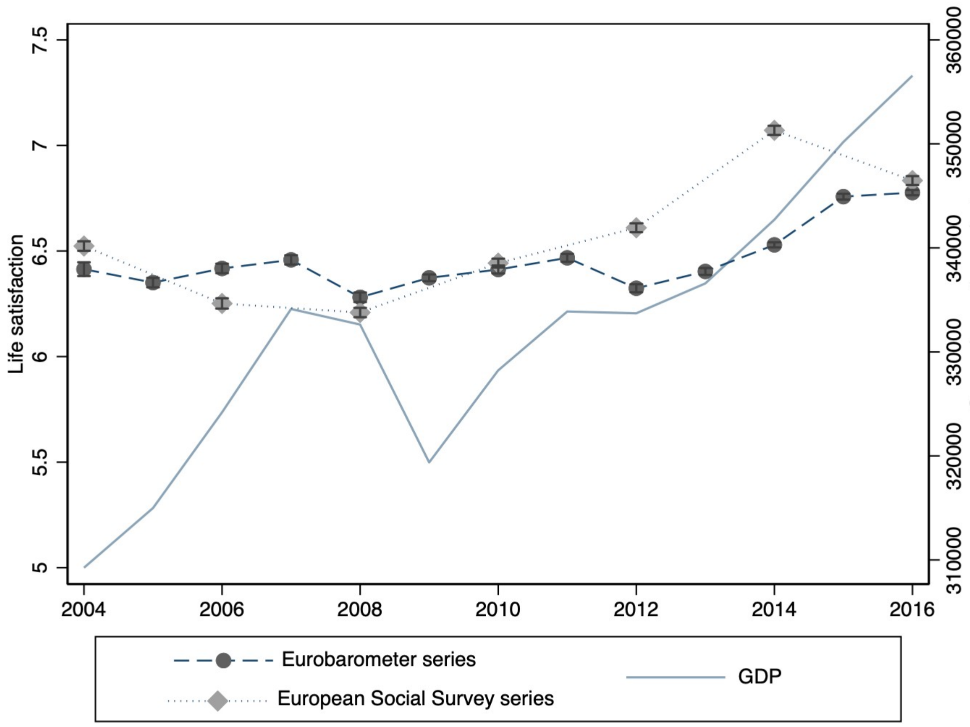

Figure 1 – Life satisfaction in Europe during the Great Recession. Because the EB and ESS life satisfaction questions are expressed on a 1-4 and a 0-10 scale respectively, we have re- expressed the Eurobarometer life satisfaction on a 0-10 scale. GDP index represents an average across European Union countries. Both averages are weighted by the relative size of a country population in any given year (World Population Prospects 2019, United Nations, Department of Economic and Social Affairs, Population Division. Retrieved: https://population.un.org/wpp/).

In *Sociology as a Population Science*, John Goldthorpe (2016: 44-47) argues that most puzzles in sociology relate to "probabilistic population regularities", which thus represent the "proper sociological explananda". To address the puzzle of Figure 1, we aim to identify how specific parameters of the European social space may have mediated the effects of the GR, exerting structural constraints on the patterns of life satisfaction at the individual level. We advance the idea that, by impacting asymmetrically different groups of countries, the crisis has intensified the saliency of intergroup differentiation and ingroup identification. Exploring this mechanism allows us to characterise "downward comparisons" as an element to hedonic reactions during the crisis. To do so, we build on existing knowledge on the role of social comparisons in SWB assessments and apply it to the European case. We analyse cross-country patterns of SWB through the lenses of Schadenfreude – a concept better expressed in the German language, postulating that personal pleasure could be derived from the "enjoyment of the misfortunes of others" (Van Dijk and Ouwerkerk 2014: 1). In particular, we hypothesise that SWB levels of respondents from European countries were sustained through comparison with a "less fortunate other", the citizens of Greece, whose country fared particularly badly during the European crisis. Assessing how the GR SWB puzzle came into play can help understanding the emotional toll of economic crises, and of crises more in general. In examining the factors that contributed at shaping SWB during the European recession, we also aim at shedding some light on the social welfare functions that people in Europe apply (Brunnermeier & Papaioannou 2017). Finally, by considering the heterogeneous trajectories of SWB, and in characterising their (negative) interdependencies, our work may help to better assess the implications of the use of SWB measures as an encompassing objective-function for policymaking.

Background

Greece in the European Crisis

Started in the United States, the Great Recession morphed in Europe into a destabilising balance of payment and debt crisis when, on October 20, 2009, the Greek government disclosed that the country's budget deficit would reach 12.7% of GDP – double the forecasts. Borrowing costs on the Greek debt quickly soared (Giavazzi and Spaventa 2011). Facing growing risks of default, on April 23, 2010 the Greek Prime Minister, George Papandreou, requested international aid. After a two-week negotiation, ridden by disagreements (Frieden and Walter 2017:380), on May 2, 2010, the 'Troika' of European Commission, European Central Bank and International Monetary Fund stipulated to bailout Greece with €110 billion,[5] or half its GDP (BBC 2010). Following a traditional IMF approach (Kentikelenis, Stubbs and King 2016), the rescue was offered conditionally to the implementation of a set of welfare retrenchment and fiscal austerity measures that Papandreou described as requiring 'great sacrifices' to the Greeks (The New York Times 2010). The impact of these conditionalities was exceptionally negative: by 2012, Greece lost 18.11% of GDP, with unemployment up to 23.9% in a situation of social and health crisis (Kentikelenis et al. 2014; Barlow et al. 2015; Perotti 2018).[6] After the first failed Greek rescue, contagion led to bailouts in Ireland (November 2010), Portugal (May 2011) and Cyprus (December 2011). Unable to alleviate its crisis, Greece was forced to recur to the largest public debt restructuring in modern history, for a debt relief of €106 billion (Xafa 2014; Zettelmeyer, Trebesch, and Gulati 2014) and a second bailout of €100 billion in 2012. With risk of contagion creeping to larger economies, the crisis had quickly "become something that had the potential to blow up the Eurozone, and possibly the EU along with it." (Baldwin et al. 2015:11).

According to Hobolt and De Vries (2016:426), the debt crisis also made the European "integration process more contested than ever", deepening conflict over European-wide redistribution of resources (Frieden and Walter 2017:379-380). In 2012, seven countries argued to decrease the EU budget by 2/3, or about €100 billion, in opposition to the contested principle of cross-country redistribution that governs member states contribution

[5]Eurozone countries contributed for €80 billion, the largest share provided by Germany (€22bn) and France (€16.8bn). Rates be paid by Eurozone countries were determined on the basis of their equity interest in the capital of the ECB. This is determined every 5 years based on a country's total population and economic output. Ireland and Portugal and Slovak Republic withdrew their participation from the bailout at a later stage, as they required financial assistance. According to Colasanti (2016:10), "only €52.9 billion was actually disbursed during the lifetime of the first economic adjustment programme."
[6]A 2013 IMF evaluation report assessed the consequences of this first bailout deal: "market confidence was not restored, the banking system lost 30% of its deposits, and the economy encountered a much deeper than expected recession with exceptionally high unemployment." (IMF 2013:2). Blanchard and Leigh (2014:179) also argue that the expected output effects of the bailout programme were overly optimistic: analysing fiscal consolidation in advanced economies during the crisis, they find that "stronger planned fiscal consolidation has been associated with lower growth than expected."

to the EU budget. Kilnes and Sherriff (2012:2) write: “it is perhaps unsurprising that the majority of those arguing for a reduction have been net contributors of the EU budget.” In fact, in normal times, all 28 member countries are called to contribute to the European Union’s budget, under a redistribution mechanism that channels funds from richer to poorer regions. As a consequence, some countries contribute more than they receive back while others receive more than they contribute. Such distribution of the financial burden is a long-standing cleavage for European nations, and it was shown to structure government incentives and conflict within the supranational European institutions (Zimmer, Schneider and Dobbins 2005; Heinemann et al. 2010; Rant and Mrak 2010; Schneider 2017). De la Fuente, Doménech and Rant (2009:222) observe that the behaviour of national governments at the EU level is “driven by concerns over their net financial returns, understood in a very narrow sense as the difference between their respective contributions to the financing of the Union and the return flow of expenditures in their territory that are financed by the European budget.”[7] Thus, economic and institutional fault lines collided at this time, with electoral gains by Eurosceptic parties Continent-wide further fuelling centrifugal tendencies (Algan et al. 2017:310).

In Greece, the election victory of anti-austerity party Syriza led to negotiations for a third bailout, whose conditions were rejected by 61.3% of the Greek voters in a referendum on July 2015 (The Guardian 2015). In a situation of increased uncertainty, with nationwide capital controls introduced to halt money pouring out of the country on the prospect of a Greek exit from the Eurozone, on July 13, 2015, new Greek Prime Minister Alexis Tsipras signed the third bailout deal (€86 billion), which led to resignation of members of his government and to cabinet

[7] In the UK, the EU Referendum centred on the country’s net contribution, with proposals to ‘stop sending £350 million every week to Brussels and instead spend it on our priorities’. On April 21, 2016 Sir Andrew Dilnot, chair of the UK Statistics Authority, defined this figure “potentially misleading”, as it appeared to be “a gross figure which does not take into account the rebate or other flows from the EU to the UK public sector (or flows to non- public sector bodies).” Retrieved from: https://www.statisticsauthority.gov.uk/wp-content/uploads/2016/04/Letter-from-Sir-Andrew-Dilnot-to-Norman-Lamb-MP-210416.pdf).

collapse. In September 2015, however, new elections gave Syriza a fresh majority to implement the bailout terms (Ekathimerini 20151). This was the end of the acute phase of the crisis: in August 2018, Greece exited the bailout programmes (Financial Times 2018). According to Eichengreen et al. (2018), from a stability point of view, "Greece's third economic programme has been relatively successful. Since 2015, the country has been enacting most of the conditions attached to its loans. Its primary fiscal balance is back in surplus, and growth has resumed." In general, the terms of this third bailout were deemed as in "continuity of the second, containing what had been left incomplete." (Pagoulatos 2018:12). By this time, the amount redistributed through the bailouts was 5 times higher than the contested budget of the European Union and pushed redistribution up by about 3% of European GDP.[8] In total, over €500 billion were granted to countries in distress, and Greece was recipient of over 60% of this sum.[9] According to German economist Hans-Werner Sinn (2012), "Greece has received a staggering 115 Marshall plans, 29 from Germany alone."[10]

Public Reactions to the Greek Crisis

In Figure 2, we show how the intersection of conflict over the need of fiscal relief and increased uncertainty during the crisis turned Greece into a topic of unequivocal public relevance. We plot Google Trends search volumes for queries containing the keywords 'Greece' and 'crisis', against volumes of analogous searches for other major crisis- ridden European economies

[8]The condition of higher financial integration was strengthened by the creation of institutions such as the European Stability Mechanism (lending capacity of €700bn and €60bn of paid-in capital), the Single Supervisory Mechanism and the Single Resolution Mechanism (Wyplosz 2017). Writing at the onset of the Great Recession, Hooghe and Marks (2009:16) noted: "currently, the European Union redistributes 0.75 per cent of its total economic product […]. This is a small proportion when compared to European states, though it is larger than that redistributed by any other international organization." Observing growing opposition to redistribution, they asked: "how much higher could this proportion go?".
[9]Authors' calculations based on European Union budget, bailouts and GDP data.
[10]Reported in Bechtel et al. (2014:837).

(Ireland, Italy, Portugal and Spain).[11] We show that, from 2009 to 2018, searches on Greece outnumbered those for other troubled economies. This is confirmed based on newspapers metric by Müller, Porcaro and von Nordheim (2018), who find that Greece/Southern Europe was among the mostly cited topics on four opinion-forming newspapers of the euro area and that, in France and Germany, references to fiscal irresponsibility underscored a narrative blaming Southern Europe in general, and Greece in particular, for having originated the crisis. Fourcade et al. (2013) argue that such narratives were accompanied by a 'moral downgrading' that fused economics and morality, individual and collective behaviours, with the average citizen of these countries "emblematically represented […] as a fool; a tax evader; an imprudent borrower; or a freeloader enabled by a much too lavish state." (Fourcade et al. 2013:624).[12] Turning to élite discourse, Matthijs and McNamara (2015:230) argue that "leaders doubled down on a story of Northern Saints and Southern Sinners", with the former rescuing the latter from their own mistakes.[13] Analysing German Finance Minister, and lead bailout negotiator, Wolfgang Schäuble's public speeches from 2010 to 2015, Hien (2019) finds that Schäuble similarly identified "the causes for the European sovereign debt crisis in countries living 'beyond their means', having 'too high social security', 'too high GDP per capita', or 'spent too much money'." (Hien 2019:191).[14] This view had distinct implications: "as a prerequisite for solidarity this behaviour has to stop. […] Institutional configuration should foster 'help for self-help' […] to avoid 'moral hazard'." (Hien 2019:191-192).

[11] Google Trends, Google, Inc. Retrieved from: https://trends.google.com/trends/explore

[12] The coinage by the British press of the derogative term PIIGS, widely used by media outlets of to indicate Portugal, Ireland, Italy, Greece and Spain, is exemplary of this widespread derogation.

[13] This was epitomised in 2017 by a declaration of the Eurogroup president, Jeroen Dijsselbloem, who stated that "the countries of the north of the Eurozone showed solidarity with the countries in crisis. […] But whoever benefits also has duties: I can't spend all my money on booze and women and then ask for your support." (Frankfurter Allgemeine Zeitung 2017). See also Dyson (2014).

[14] Hien (2019) argues that this view was rooted in both economic philosophy and entrenched moral categories: according to Schäuble, "benevolence comes close to dissoluteness. There exists a type of catholicity, which very quickly has the opposite effects of what had been intended." (Hien 2019:192).

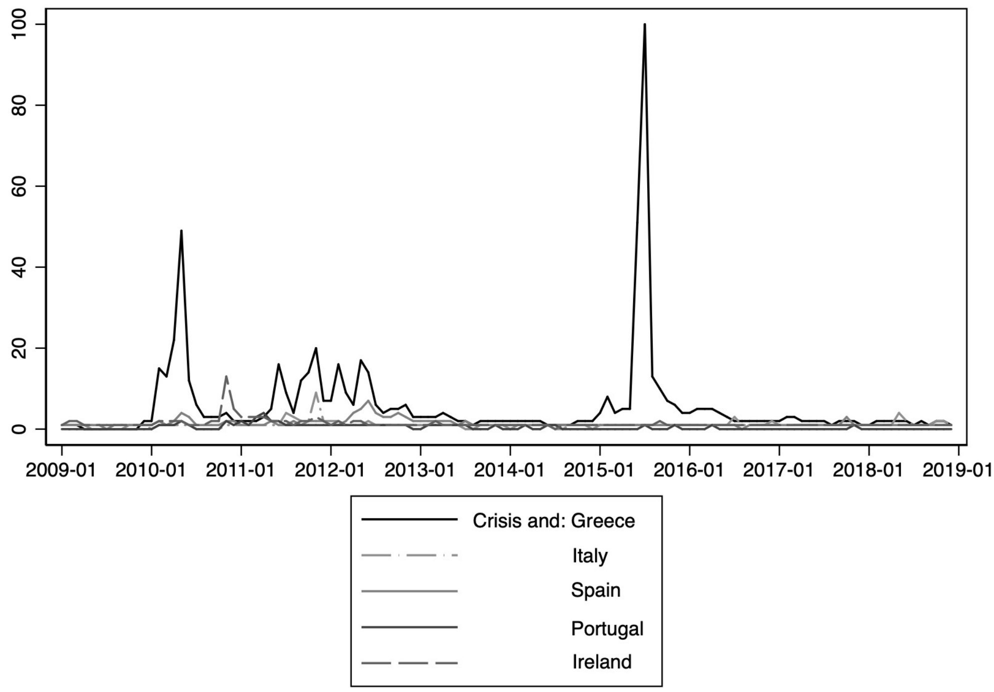

Figure 2. Saliency of the Greek crisis during the European recession. Google Trends volumes are normalised from 0-100, with 100 being the highest search volume recorded. The volume indicates searches that contained both the country identifier and the word ‘crisis’. E.g.: ‘Italy is in crisis’, or ‘Crisis in Greece’ would be captured.

According to Frieden and Walter (2017), “creditor countries […] have been successful in framing the crisis as a sovereign debt crisis of overspending in deficit countries”, which contributed at shaping support for crisis policies that pushed the “adjustment burden onto [debtor] countries through strict conditionality”, while “sheltering [creditors’] own financial institutions from the costs of debt restructuring” (Frieden and Walter 2017:385-386). Frieden and Walter (2017:385) also argue: “given the exposure of creditors’ national banking systems to bad debts in the Eurozone periphery, it is perhaps not surprising that governments were intent on steering the debate away from the issue.” Focusing diachronically on the creditor-debtor relation, Dyson (2010:598-599) analyses élite discourse in France and the United Kingdom in the XIX century to find that domestic debates “reflect and embody shifting constellations of structural power and strategic interests, which privilege some ideas and arguments over others and shape how institutions are designed and used” and reconfigure “to exhibit different attitudes to collective action in European macroeconomic governance." Instead of generating solidarity among countries in need, blame "fueled centrifugal tendencies as people and governments have been striving to distance themselves from those in countries not (really) like them." (Fourcade et al. 2013:625) This 'symbolic distancing'[15] from Greece is apparent in European élite discourse.[16] Based on news articles from Spiegel, The Economist and TIME, Bickes, Otten and Weymann (2014:439) conclude that Greece was indeed "assigned a special position in terms of having triggered the crisis in the first place and being a financial burden on the other European nations." According to Peter Hall (2016:61), "in the wake of the crisis, a wave of popular stereotypes poured forth from the media, rooted on images of 'lazy Greeks' and 'jackbooted Germans'." Focusing on German media, Murray-Leach et al. (2014:13) argue: "the Eurozone crisis was mainly depicted as a Greek crisis and cultural finger-pointing right up to prejudiced Greece-bashing was common in the German tabloid and beyond ('We pay the bills while others party shamelessly', in Bild […])."

There is evidence that citizens in other European countries, especially from those countries that would contribute the most to the bailouts, strongly opposed the idea of rescuing Greece from the very beginning (Bechtel, Hainmueller and Margalit 2014; Guiso, Herrera and Morelli 2016). Bechtel et al. (2014: 836), for example, state that "the idea of providing a financial bailout for Greece met immediate resistance among publics in the region", and present results showing that, in 2012, 61% of Germans were against the idea of offering additional payments to other EU countries. In November 2011, a YouGov poll from the United Kingdom

[15]In developmental psychology, Werner and Kaplan (1963) define "distancing" as a process involving the understanding of the "separateness" of oneself from others, and a key to establish a sense of self.
[16]Mariano Rayoj, Prime Minister of Spain, claimed: "what happens in Greece cannot happen in Spain, because ours is a serious country." (Publico 2015). Matteo Renzi, Italian Prime Minister, stated: "when we started our government the fear was: we will end up like Greece. [...] But we are a great country, we should stop feeling sorry for ourselves." (Il Centro 2016). Nick Glegg, Deputy Prime Minister of the United Kingdom said: "look what can happen, look at Greece. Our deficit and Greece's deficit were pretty similar in 2010 but look at the huge differences since then." (The Telegraph 2015). Already in 2010, a news story on Portugal by The Economist (2010) titled on 'The importance of not being Greece'. Even in the United States, writing on the NYT Krugman (2010) stated: "We're Not Greece."

showed that 55% of respondents agreed with the statement: "we should not contribute any money to help solve the debt crisis". By September 2011, more than 65% of the French claimed to be opposed to any assistance (Rothacher 2015). According to Guiso et al. (2016), "already in February 2010 [...] 67% of the Germans opposed any aid", and a majority was in favour of revoking Greece's EZ-membership. Ferrera (2017: 7) argues that the consequences were significant: "in Germany, the widespread aversion to a Transfer Union (supposedly) funded by German taxpayers paved the way for the emergence of the Eurosceptic [party] *Alternative fur Deutschland*". As the crises deepened, public's opposition to the principle of cross-country solidarity increased rather than attenuating: in Germany during the second bailout, around 80% agreed 'that Greece should be forced to leave the Euro' if it did not accept the conditionalities attached to the rescue (Guiso et al. 2016: S107).[17] In this context, between 2010 and 2012, the share of Germans holding "unfavourable views" of the Greeks increased from 70 to 79%. Unfavourable views increased also in the United Kingdom (55% vs. 20%), France (54% vs. 45%), and Spain (65% vs. 40%). In Italy, 67% of respondents reported 'unfavourable' views of the Greeks (2010 data missing). (Guiso et al. 2016: S109). Discussing experimental findings from a survey of German voters, Bechtel, Hainmueller and Margalit (2017:876) propose that the "overwhelmingly negative coverage of the Greek crisis in the German media" resulted in a specific preference for bailing out Greece, compared to Italy, Spain or Ireland.

According to Herbert Blumer (1958:6), when the public discussion "takes the form of a denunciation of the […] group, signifying that it is unfit and a threat, the discussion becomes particularly potent in shaping the sense of social position." In Blumer's view, in fact, the position of a group, compared to another, and perturbations to this relational standing, "are

[17]These included involvement of private debt holders in the debt restructuring and additional austerity meausres. According to Ardagna and Caselli (2014:306), these conditionalities "increased the costs and the complication of the broader European debt crisis." Cypriot and Spanish banks suffered the debt write-down, which forced further emergency assistance (Baldwin et al. 2015:7).

experienced as emotionally involving." (Bobo 1999:454). This suggests focusing the attention on the "relations between social groups and the social comparisons they make in the context of these relations." (Tajfel 1982:156). In the remainder of this paper, we depart from these insights as we set out to investigate the well-being of the citizens of Europe during the crisis. To do so, we build on a set of theoretical arguments stressing that subjective well-being is relative, rather than absolute, and propose that asymmetric shifts in the status distribution across individuals and groups, generated by the crisis, may generate proneness to compare with less fortunate others. We also propose that, when comparisons involve outgroups, the ways in which group identities are mobilised can bear specific hedonic implications, which we analyse based on 14 years of subjective well-being data for the citizens of Europe.

Theory

Relative Subjective Well-Being

The idea that well-being is relative, rather than absolute, has a long tradition. Already in 1894, Marx wrote: "our wants and pleasures have their origin in society; we therefore measure them in relation to society; we do not measure them in relation to the objects which serve for their gratification. Since they are of a social nature, they are of a relative nature." (Marx 1894 [1976]:33). Inspired by Marx, Dutch economist van der Vijk (1939) was first to formalise a 'psychic income' component for individual utility.[18] Ten years later, James Duesenberry (1949)[19] formulated his 'relative income hypothesis', which in the 1970s became key to

[18]According to van der Vijk (1939:57), "within a very wide range of incomes, every group in society feels equally poor." This quote is reported by van de Stadt et al. (1985), who also reference the connection between Marx and van der Vijk (van de Stadt et al. 1985:179).
[19]In Duesenberry's Income, savings and the theory of consumer behaviour, there is no reference to van der Vijk's work (Duesenberry 1949:119-124). Nevertheless, a review of van der Vijk's contribution directed for the English-speaking readership already appeared on the Economic Journal in 1940. In this review, Dickinson (1940:274-276), wrote: "it is to be hoped that the substance of the author's conclusions may be made available more fully (though perhaps in less than 295 pages) to the English-reading public." To our knowledge, this translation has yet to appear. Thus, one hypothesis for this

explain findings by Easterlin (1973; 1974) on the untrended nature of happiness vis-à-vis economic growth.[20] In the simplest case of the relative income hypothesis, average consumption in a given time and space empirically proxies a social norm by which individuals assess their material well-being: "the farther he is above the average, the happier he is; the father below, the sadder." (Easterlin 1974:112). In sociology, Duncan (1975) compared satisfaction of living among wives from Detroit between 1955 and 1971 and found that, "although current-dollar median family income more than doubled", there was "no change in the distribution of satisfaction with standard of living. Cross-sectional variation in satisfaction is, however, related to income and, in particular, to relative position in the income distribution." (Duncan 1975:267) Thus, building on Rainwater (1974), he proposed shifting the attention to the role of the status distribution (rank structure) of a social reference space, in exerting structural constraints on subjective well-being. Building on Merton and Rossi's (1950) theory of reference groups, Davis (1959) had offered an analytical form to these constraints: given a norm-induced partitioning of the social space, which "divides the population into two classes, the deprived and the non-deprived, the latter state being universally preferred to the former.

missing link is that Duesenberry was simply not aware of van der Vijk's 'The distribution of income and property', as he rather grounded his investigation in a critique of Keynes's theory of consumption (Duesenberry 1949:1). In fact, the Economic Journal – published by the British Royal Economic Society – was not widely read by the American public at the time. This despite the best efforts of the Economic Journal's founders, in particular Herbert Somerton Foxwell, who already in 1887 chose the Quarterly Journal of Economics, housed at Dusenberry's institution (Harvard), to announce "that that an 'economic society be formed' with the hearty co-operation of the leading English economists 'and a quarterly' economic journal 'that would be issued and probably edited from Cambridge under the direction of Professor Marshall'." (Coats 1968:349). Coats (1968) offers an inspired reconstruction of the relation of the Economic Journal's founders, such as Foxwell and Inglis Palgrave, with the American economics organisations, including attempts to promote the new journal to the United States, whose professional societies were regarded as a model.

[20] At the same time, Duesenberry's and van der Vijk ideas were also central to rationalise evidence from emerging consumer surveys in the United States and Europe, with works by Becker (1974), Pollak (1976), and Kapteyn et al. (1978) highlighting the relevance of interactions for individual economic behaviour (Kockesen 2008:153). In more recent times, these include Kapteyn et al. (1997), who find co-movements in Dutch households' consumption, and Kuhn et al. (2011), who use a natural experiment on the Dutch post-code lottery to find that an exogenous positive income shock for some households in a neighbourhood leads to increase in Veblenian 'conspicuous consumption' (purchase of cars, external house re-decoration) even in households that did not benefit from the shock.

[…] When a deprived person compares himself with a non-deprived, the resulting state will be called 'relative deprivation.' When a non-deprived person compares himself with a deprived person, the resulting state will be called 'relative gratification'." (Davis 1959:281-283).[21]

Easterlin (1974:112) maintained that "any given individual in the population does not give equal weight to all others in forming his reference standard: among other things, 'peer group' influences play a part. Thus, the reference standard of a rich man probably gives disproportionate weight to the consumption of his well-to-do associates vis-à- vis persons living in poverty, and conversely for the reference standard of the poor man." Such approach follows directly from his reception of Duesenberry, a reader of Veblen – according to whom "the usual basis of self-respect is the respect accorded by one's neighbors" (Veblen 1899 [1934]:30)[22] – and of early work on belief alignment within groups by Leon Festinger (1942), who would later develop an influential 'social comparison theory'. For Festinger (1954), individuals refrain from comparing to distant others because, "if some person's ability is too far from his own, either above or below, it is not possible to evaluate his own ability *accurately* by comparison with this other person." (Festinger 1954:120; italics in the original text). In contrast, original contributions in sociology accounted for the possibility of comparisons involving people in different categories (Stouffer et al. 1949; Merton and Rossi 1950; Shibutani 1955; Turner 1956; Davis 1959). Building on these, Runciman (1961:35) concluded that "the referent may be anything from a single person to an abstract idea."[23] In his classic study on the

[21]Runciman (1966:10) later offered the following formulation: "We can roughly say that A is relatively deprived of X when (1) he does not have X, (2) he sees some other person or persons, which may include himself at some previous or expected time, as having X (whether or not this is or will be in fact the case), (3) he wants X, and (4) he sees it as feasible that he should have X."

[22]Testifying on the early attention on the wellbeing effects of comparisons in United States's sociology, already in 1902 on the American Journal of Sociology Sarah E. Simons – Lester Ward's niece and editor, together with Sarah Comstock, of his posthumous Glimpses of the Cosmos (see Rafferty 2003) – had reviewed The Theory of Prosperity by Patten (1902) whose work, contemporary to that of Veblen (1899), represented an attempt at rationalising consumption preferences in social psychological terms (see Simons 1902:126-128 for a discussion of Patten's theory of satisfaction).

[23]According to Runciman (1961:315), "there is an important distinction between what have been labelled 'comparative' and 'normative' reference groups; a group may be either a source of standards

English working class, he proposed that people can also react to differentials across groups, rather than across individuals (Runciman 1966). Williams (1975:365) further maintained that comparison groups can emerge exogenously, rather than endogenously: not out of proximity and familiarity, but because of their 'overwhelming salience'.[24] We posit that the debt crisis turned Greece into a collective point of reference for the people of Europe (Figure 1), activating comparisons. Based on Davis (1959), we conclude that, in light of the disproportionately negative impact of the crisis on Greece, other countries in Europe enjoyed a state of 'relative gratification' in comparison (*Proposition 1*).

Downward Comparisons and Schadenfreude

Building on intuitions from the field of psychology (Wills 1981), Falk and Knell (2004) propose that engaging in comparisons with less fortunate others increases well- being via feelings of self-enhancement (Marks 1984; Campbell 1986; Wood and Taylor 1991). Medical evidence suggests that downward comparisons are particularly effective when people experience negative circumstances and that actively seeking to compare to less fortunate others can represent a coping strategy (Taylor, Wood and Lichtman 1983; Affleck and Tennen 1991). Taylor and Lobel (1989:753) theorise that social comparisons under threat "may meet emotional needs by making people feel fortunate in comparison with others and by raising self-esteem." Through fMRI, Dvash et al. (2010:1741) find that, when subjects lost money in a game of chance, "merely adding information about another person's greater loss may increase ventral striatum activations [A region of the brain linked to feelings of pleasure, see Singer et

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or an actual standard in itself, and it may or may not be an enforcer of these standards." It should be however noted that Runciman de-emphasises the empirical relevance of this distinction and proposes that "the important question is simply what is the referent by which the level of a person's aspirations and standards is set."

[24] In Williams' (1975:365) words, "the referent is so highly visible, powerful, intrusive, or otherwise immediately consequential that it cannot be ignored."

al. (2004)] to a point where these activations are similar to those of an actual gain." However, according to Wills (1981:246), "it is essential to recognize that people do not regard comparison with less fortunate others as wholly admirable, and they approach such comparison with mixed feelings."[25] A distinction can in fact be drawn between self-enhancement based on one's own positive performance, or gains, and self-enhancement based on someone else's negative performance, or misfortunes. For the latter to emerge, Wills (1981) proposes that a specific 'threat-derogation' mechanism should be in place, by which motivated reasoning justifies the other person's suffering in light of notions of deservedness or inherent target characteristics, thus increasing the perceived psychological distance between the self and the target (Wills 1981:246). Experimental evidence has established that Schadenfreude, or the pleasure for the suffering of others, is more acceptable and likely to emerge when people think that others suffer misfortunes that they brought upon themselves (Feather and Sherman 2002; van Dijk et al. 2005; van Dijk, Goslinga and Ouwerkerk 2008; Pietraszkiewicz 2013; Feather and McKee 2014; Schindler et al. 2015; Hoogland et al. 2015; Santamaria-Garcia et al. 2017).

'Threat-derogation' occurs easily when the 'other' is an outgroup (Miller and Bugelski 1948; Feschbach and Singer 1957, Cowes, Landes and Schaet 1959). In fact, according to Cikara, Bruneau and Saxe (2011:150), "outgroup members – merely by virtue of who they are and not anything they have done – reliably elicit diminished perceptions of suffering and fail to elicit equivalent physiological and affective empathic responses." In presence of group stereotypes, outgroups become suitable targets of derogation as, in doing so, ingroups can draw from accompanying ideologies, that rationalise group differentials as emerging from social, cultural or biological differences (Blumer 1958; Williams 1975). For Tajfel (1982:22), vis-à-vis "large-scale distressing events (such as inflation, unemployment, a lost war, etc)", whose

[25]"[…] When there is an opportunity for self enhancement through favorable comparison, however, the evidence indicates that people tend to avail themselves of the opportunity." (Wills 1981:246).

origin is “not concrete, clear-cut and easily discernible” (Tajfel 1981:139), attribution of causality referring to inherent characteristics of the outgroup can reduce complexity “to simpler proportions” (Tajfel 1982:22) and is particularly well-suited to “shift the locus of responsibility for change […] from the ingroup to an outgroup.” (Tajfel 1981:139). As we have seen, narratives of the European crisis linked its source to choices by the Greek government, often explained via recourse to group stereotypes. we hypothesise that Greece’s overwhelming saliency, and the connected stigmatizing narratives, led to downward comparisons and Schadenfreude in other European countries (*Hypothesis 1*).

In the previous Section, we have also seen that blame attribution during the European crisis was tied to refusals of unconditional solidarity in élite discourse. Indeed, research indicates that stereotyped stigmatisation is a powerful mean by which the boundary between the ‘deserving’ and the ‘undeserving’ is built (Quadagno 1996; Lamont 2000). Van Oorschot (2000:43) observes that support for resource redistribution is sensitive to criteria of deservingness: in particular, “whether people in need can be blamed or can be held responsible for their neediness seems to be a general and central criterion for deservingness.” Insights from the realistic group conflict theory imply that conflict over valued resources, i.e., the feeling that one group’s gain is another group’s loss, can lead to “perceptions of group threat, which in turn cause prejudice against the outgroup, negative stereotyping of the outgroup, ingroup solidarity.” (Sidanius and Pratto 1999:17, based on Campbell 1965; Sherif 1966). In fact, “there is reason to expect that outgroup derogation would appear as soon as there is the slightest suggestion of threat for the ingroup members.” (Wills 1981:257).[26] This leads us to our second hypothesis, namely that redistribution of valued resources from the ingroup towards an

[26]To ground this claim, Wills refers to experiments by Jacobson, Goethals and Rouse (1976), who find that simply assigning subjects to a minimal 2-person group generates increased derogation of outgroups. The authors argue that: “the critical mechanisms producing this effect seemed to be the subjects' in dyads tendency to establish solidarity with each other and to raise their own esteem by joining in denigration of the stranger.” (Jacobson et al. 1976:5).

outgroup, perceived as 'underserving', in a time of economic crisis might have generated feelings of group threat, leading to intergroup conflict. Experimentally, group conflict has been linked to increased likelihood of Schadenfreude (Cikara and Fiske 2014; Cikara et al. 2014). According to Kuipers (2014:268), in fact, Schadenfreude is "least problematic, when people are separated by clear opposing interests and social boundaries, like national boundaries." Because European integration engages both identity and distributional issues (Hooghe and Marks 2009), we propose that the mobilisation of group identities in the bailout debates had specific hedonic implications and hypothesise that Schadenfreude was stronger in regions with stronger opposition to the Greek bailouts. (*Hypothesis 2*).

Macro- and Micro-Interactions

We expect a set of macro- and micro-level covariates to moderate Schadenfreude. First, at the macro level, by the relative income hypothesis we expect that the wellbeing effect of downward comparisons is larger the larger the difference between one group's status (income) and Greece's (*Hypothesis 1.a*). Second, the 'social comparisons under threat' hypothesis implies that individuals experiencing worse conditions might be more prone to compare themselves with a less fortunate other. Therefore, we expect comparison effects to be larger for individuals interviewed in times of economic recession (*Hypothesis 1.b*). Eggers, Gaddy and Graham (2006:2019) show that, during the 1990s crisis in Russia, "the local unemployment rate is correlated with an increase in the average well-being of people in the region."[27] Thus, we hypothesise that individuals more exposed to the negative consequences of an economic crisis

[27]Eggers et al. (2006: 2019) emphasise the "dependence of subjective well-being scores on expectations and reference groups", arguing that "when individuals observe their peers suffering in a troubled economy, they lower their standards of what is good enough." Habich and Riede (1989) and Borra and Gomez-Garcia (2016) find evidence of increasing job satisfaction in West Germany during the 1980-1981 recession and in Spain from 2006 to 2010, as a function of regional unemployment rates.

(unemployed, younger,[28] lower-educated, and those working in sectors more exposed to the crisis, such as blue-collar workers), will enjoy higher well- being as a function of intergroup comparisons (*Hypothesis 1.c*). Based on *Hypothesis 2*, we further posit that people living in countries which are net- contributors to the European Union budget will experience stronger group resource threat from the bailouts, leading to larger Schadenfreude effects (*Hypothesis 2.a*). In fact, these countries contributed more than others to the Greek bailouts, and held pre-existing redistribution grievances, which were reactivated during the crisis. Accordingly, we hypothesise that the higher the budget contribution, which we leverage as a proxy for pre-existing grievances, the higher feelings of conflict over resources, and the higher the Schadenfreude effect. This hypothesis also works at the micro-level, with individuals offering more fiscal contributions more strongly opposed to international bailouts, thus more likely to experience Schadenfreude (*Hypothesis 2.b*). Conversely, following Becthel et al. (2014), we also hypothesise that individuals more depending on social transfers (low-income, unemployed, retired), might feel most threatened by the bailouts, resulting in higher Schadenfreude (*Hypothesis 2.c*). Bechtel et al. (2014:385) also propose that attitudes towards international redistribution in Europe should be understood as an "issue that pits economic nationalist sentiments versus greater cosmopolitan affinity and other-regarding concerns." Thus, we expect more cosmopolitan and altruistic individuals to feel less threatened by the bailouts and less likely to engage in malicious comparisons to Greece (*Hypothesis 2.d*).

[28]Young people are very susceptible to the business cycle (Clark and Summers 1982; Freeman and Rodgers 1999; Blanchflower and Freeman 2007). Analyses of the effects of the Great Recession have documented an almost universal increase in unemployment and financial hardship for young adults (Bell and Blanchflower 2011), translating into higher rates of co-residence and delays in the transition to adulthood (Aassve, Cottini, and Vitali 2013). In Europe, this effect was large as a consequence of two-tier labour markets, in which younger workers typically hold temporary contracts characterised by fewer protections from firing (Bentolila et al. 2012). The resulting 'scarring factors' had long-term debilitating effects and can entail relevant earning losses (Morsy 2012).

Data and Methods

Survey Selection and Main Predictor

Our main source of data is the Eurobarometer, a high-frequency repeated cross-section of the European Union population, run on behalf of the European Commission.[29] The design of the Eurobarometer involves a multi-stage random probability sampling applied to all 28 European Union member states at least twice a year. We focus on the 2004-2018 period and pool 58 Eurobarometer waves that contain subjective well- being questions (n=1,369,574), mapped by GESIS.[30] A list of the countries, including their sample size and their relative position in the contribution to the EU budget (net recipient or net contributor) is presented in Table 1.[31] Since we are interested in isolating the well-being effects of exposure to the misfortunes of Greece, our main predictor is a measure of web search intensity for news on the Greek crisis. We leverage Google Trends to extract country-level time series on the monthly volumes of Google queries for the topic 'Greek government debt-crisis'.[32] To generate this series, Google Trends draws from a representative subsample of all queries submitted to the *Google.com* search engine from a given geography in a given timeframe, starting from January 1, 2004.[33] The keywords used in these searches are 'broad matched' by Google, i.e. categorised in groups that share the same concept in any language and matched to a specific topic. For example, the

[29] European Commission: Eurobarometer. TNS Opinion & Social, Brussels; GESIS Data Archive. Retrieved from: https://www.gesis.org/eurobarometer-data-service/search-data-access/data-access

[30] GESIS - Eurobarometer data service; Related GESIS information service publication "Life satisfaction": https://www.gesis.org/eurobarometer-data-service/search-data-access/eb-trends-trend-files/list-of-trends/lifesatisf

[31] We have computed Member States' contributions as simple averages for the period between 2004 and 2018. It should be noted that, in rare instances, some net recipient countries contributed more than they received, or vice versa. This is the case of Ireland (2009; 2017; 2018); Cyprus (2007-2009; 2012; 2015); and Luxembourg (2015; 2016-2018). In the table, the label (EZ) indicates members of the Eurozone. EC– EU expenditure and revenue: https://ec.europa.eu/budget/graphs/revenue_expediture.html

[32] Retrieved from: https://trends.google.com/trends/explore?date=all&q=%2Fm%2F0hhw7gl

[33] Since Google Trends are available only from 2004, we excluded EB data from previous years.

keyword ‘Londres’ and ‘capital of the UK’ both belong to the topic ‘London’, while the term ‘used automobiles’ is matched to ‘automobile’ (Choi and Varian 2012:3).[34]

Table 1

Eurobarometer countries and sample size

Country	*n*	Country	*n*
Net Recipient Countries		Net Contributing Countries	
Malta	26,856	Luxembourg	25,811
Poland	49,830	Sweden	45,212
Bulgaria	52,538	Netherlands	52,778
Cyprus	37,816	Austria	52,702
Czech Republic	54,675	Germany	80,322
Portugal	52,990	Great Britain	66,712
Romania	52,678	Italy	51,542
Estonia	51,033	Denmark	45,875
Spain	52,096	Belgium	52,068
Slovenia	51,608	Finland	46,854
Greece	52,532	France	53,146
Croatia	48,988		
Hungary	55,851		
Ireland	51,849		
Slovakia	55,031		
Latvia	51,711		
Lithuania	51,002		
Total Observations: 1,369,574			

Google Trends volumes computed based on these queries are then divided by the total number of queries in a given time and space and scaled from 0 to 100. Thus, Google Trends time series represent measures of relative interest for a specific topic, compared to all other

[34]Because people can search for the Greek crisis in different ways, as a function e.g. of their sophistication or the news-items salient in a given geography and at a given time, focusing on a single broad topic (‘Greek government debt-crisis’) is a superior approach compared to combining several handpicked search terms (as done by Polgren et al. 2008; Ginsbert et al. 2009; McCallum and Bury 2013; Anderegg and Goldsmith 2014; Nghiem et al. 2016, see Lazer et al. 2014:1203 for a discussion).

topics searched in a given country-month. We estimate that our data describe the monthly search behaviour of around 69.75% of the EU population, or 339.7 million individuals (see Bail, Brown and Wimmer 2019 for analogous inferences at the global level).[35] Research has shown that Google Trends data closely track the news cycle, and reflect issue saliency, particularly in the economic domain (Ripberger 2011; Scheitle 2011; Scharkow and Vogelgesang 2011; Dergiades, Milas and Panagiotidis 2015; Mellon 2013; 2014). In Table 2.a, we plot a correlation table for our predictor, compared to a set of macroeconomic variables in Greece and other countries. We show that our predictor is strongly correlated with the Greek macroeconomy, in the expected direction (all correlations at the 0.001 level).

Table 2

Correlation table for Google Trends predictor and macroeconomic variables

	'Greek sovereign debt crisis'
Greece	
Gross Domestic Product	-0.128***
Recession Dummy	0.262***
Recession Duration	0.283***
Depth of Recession	0.260***
Other European countries	
Gross Domestic Product	-0.029
Recession Dummy	-0.018
Recession Duration	-0.038+
Depth of Recession	-0.013

This suggests that Google Trends is a "meaningful signal" for the Greek macroeconomic performance. In Table 2.b, we also show that Google Trends volumes are

[35] 75% of the EU households had internet access in 2004-2018, while in 2016 Google had a 93% share in the online search market (EC 2017:58-62). Based on Eurostat - Households - level of internet access. Retrieved from: https://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=isoc_ci_in_h&lang=en

orthogonal to the macroeconomy of other European countries, as they are uncorrelated to 3 out of 4 macroeconomic variables and only weakly correlated to the duration of the crisis (r=0.04). It seems likely that any identified effect would be driven by reactions to exposure to the 'suffering' of Greece, rather than by concerns or self-enhancement due to own country's performance or by spurious macroeconomic associations. In Figure 3, we provide a further assessment on the validity of our predictor to capture exposure to the Greek crisis. It is possible to observe peaks in correspondence of the three bailouts in 2010, 2011/2012 and 2015.

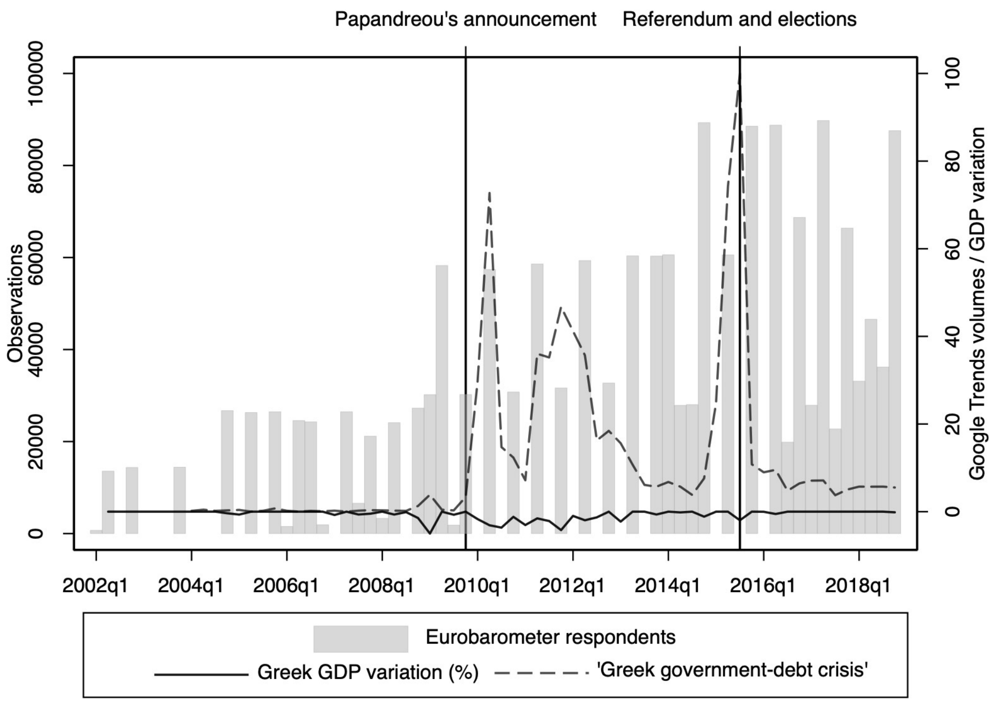


Figure 3. Eurobarometer fieldwork and the Greek crisis. Bars in grey (left axis) represent the number of quarterly observations in the Eurobarometer. These are plotted against the quarter-to-quarter variation in Greek GDP and Google Trends volumes for the topic 'Greek government-debt crisis' (right axis). Google Trends volumes are quarterly averages for the 28 EU countries, weighted by a country's yearly population (United Nations, Department of Economic and Social Affairs, Population Division, World Population Prospects 2019. Retrieved from: https://population.un.org/wpp/).

From Figure 3, it is possible to observe that the Google Trends variable is not normally distributed, but rather looks like a "count" variable, with a preponderance of low or zero values (in correspondence of the pre-crisis period) and intense peaks during specific events, possibly magnified by the search behaviour of a subpopulation of "obsessional news hounds".[36] As a result, the mean of our predictor lower than its standard deviation (μ=5.6; s.d.=13.34), which fails to meet standard assumptions for the derivation of ordinary least square (OLS) estimators. Thus, we log this variable and use logged Google Searches, according to the transformation *Searches=ln(Google Volumes+1),* as our dependent variable in an OLS model. To better account for its distribution, we also present results from Negative Binomial regression models.

Identification Strategy

As a dependent variable, we use a 4-point life satisfaction question, asking respondents: *'On the whole, are you very satisfied, fairly satisfied, not very satisfied, or not at all satisfied with the life you lead?'*. We present results employing a re-scaled Eurobarometer life satisfaction variable, ranging from 0 to 10. We estimate the following model:

$$LS_i = \alpha + \delta G_{jt} + T_t(\gamma_0 + \gamma_1 G_{jt}) + \boldsymbol{\beta}_1 \boldsymbol{M}_{jt} + \boldsymbol{\beta}_2 \boldsymbol{X}_i + \boldsymbol{\beta}_3 \boldsymbol{Z}_j + \boldsymbol{\beta}_4 Y_t + \varepsilon_{ijt}$$

where LS_i is self-reported life satisfaction, our outcome of interest. In Equation (1), G_{jt} represents the Google search volume for the topic 'Greek government-debt crisis' at the country-month level, and T_t a dummy which identifies the timing of the crisis. Because we are interested in how the crisis altered perceptions of the suffering of Greece, we set this dummy equal to 1 between October 2009 and September 2015 – from Papandreou's announcement to the election victory of Syriza after the July referendum, which we take as end point of the sovereign debt crisis. Given that T_t is seen here as an exogenous source of variation in the

[36]We thank Andrew Abbott and John Ermisch for this point.

perception of Greece, in this model γ_1, our main coefficient of interest, is identified through a 'difference-in-difference' strategy. Accordingly, we interpret it as the effect of a one-unit increase in the volume of web searches for the Greek crisis, during the government-debt crisis, while controlling for the overall well-being effects of the crisis. Omitted influences, that could threaten the assumption of exogeneity of T_t are, at best of our abilities, dealt with the inclusion of fixed effects for year- $(\boldsymbol{Y}_t)$ and country-fixed effects $(\boldsymbol{Z}_j)$, and a set of country macroeconomic indicators $(\boldsymbol{M}_{jt})$. These include quarterly real GDP levels (in natural logarithms);[37] unemployment rates;[38] and, for those respondents interviewed during an economic downturn, the magnitude and duration of the recession in a respondent's country.[39] By controlling for the duration of the crisis, we directly take into account potential hedonic adaptation effects, as people can get used to the crisis over time. This point reflects a key assumption in our study, regarding the timeframe at which individuals incorporate external information in their life satisfaction evaluations, which we assume to be compatible with incorporating assessments of the unfolding of the Greek crisis over the long-time frame of analysis. Finally, to increase the precision of our estimates, in the life satisfaction equation we include a set of individual controls, $\boldsymbol{X}_i$: age,[40] age squared, years of completed education,[41] gender, relationship status and occupation, which however we do not expect to impact our identification. We cluster standard errors at the intersection between country and survey-round. Table 3 summarises the variables employed in our analysis. STATA v.16/SE is used for analysis.

[37]Eurostat, Quarterly national accounts: Gross domestic product at market prices; Chain linked volumes (2010), million euro; Seasonally adjusted and adjusted data by working days [nam10gdp]. Retrieved from: http://ec.europa.eu/eurostat/web/national-accounts/data/database
[38]Eurostat, Quarterly national accounts: Unemployment rates by sex and age - quarterly average [une_rt_q]. Retrieved from: http://ec.europa.eu/eurostat/web/national-accounts/data/database on
[39]Canonically, we identify times of recession as two consecutive quarter of negative GDP variation. This recession dummy is interacted with a variable capturing the duration of a recession, in quarters, and one capturing its magnitude, i.e. the quarter-to-quarter variation of GDP in times of recession
[40]Capped at 85 years old (16,836 observations dropped, or 1.23% of the final Eurobarometer sample).
[41]Capped at 30 years (39,252 observations dropped, or 2.87% of the final Eurobarometer sample).

Table 3

Summary Statistics

	Mean	Sd	Min	Max
Outcome variable				
Life satisfaction	6.51	2.56	0	10
Predictor				
Google Trends volumes	5.57	13.34	0	100
Individual covariates				
Gender (1=*Male*)	0.45	0.50	0	1
Age (*years*)	51.36	16.56	15	85
Education (*years*)	18.57	4.19	0	30
Relationship (1=*Yes*)	0.67	0.47	0	1
Occupation:				
Paid work				
Self-employed	0.07	0.26	0	1
Manager	0.11	0.32	0	1
Other white collar	0.12	0.33	0	1
Manual worker	0.22	0.41	0	1
Housework	0.07	0.25	0	1
Unemployed	0.08	0.27	0	1
Retired	0.32	0.47	0	1
Education	0.00	0.03	0	1
Macro-level covariates				
Gross domestic product (*ln*)	10.79	1.60	7.30	13.52
Unemployment rate (%)	8.40	3.90	2.1	26.2
Recession depth	0.14	0.72	0	15.08
Recession duration	0.26	1.00	0	10

Results

Main Analysis

In Table 4, we present a set of estimates for the model described in Equation (1). In particular, we experiment with a simple OLS regression (Table 4.a); an OLS reweighted for inclusion probabilities across countries and units, using weights computed by the Eurobarometer (Table 4.b); a negative binomial regression (Table 4.c); and an OLS in which we employ the quarter-to-quarter variation in Greek GDP, in order to minimize ecological fallacy threats, stemming from the use of Google Trends volumes (see Discussion). Across Column (1)-(4), we add country and year fixed effects (Column 1), macroeconomic controls (Column 2), variables that capture the magnitude of a recession in a country, and its duration (Column 3); finally, the individual controls listed in **X**i (Column 4). Looking at Table 4.a (Column 4), the effect size of γ_1, our coefficient of interest, is not large and accounts for 0.003% of the total variability in life satisfaction, about ten times less than the effect of being a male, relative to being a female (not shown). On average and *ceteris paribus*, a 1-point increase in Google search intensity is associated to a 0.008-0.013 increase in self-reported life satisfaction, during the Greek crisis. Compared to the effect of other macroeconomic indicators, the marginal effect size for the search intensity, captured through Google Trends, is found to account for about 40% of own country's GDP, which is positively associated to well-being, or 2.7% of the effect of an increase in a country's unemployment rate. This effect is estimated to be slightly larger when we employ an indicator for the quarter-to-quarter change in Greek GDP as our predictor. In this model, the estimate effect size almost doubles, and is equivalent in size to almost three quarter of the effect of a marginal increase in respondents' own country GDP. Despite these small effects, across 14 out of the 16 models presented in Table 4, coefficients for our main treatment do not cross zero, offering an indication towards the confirmation of *Hypothesis 1*: the Greek crisis appears to correlate to life satisfaction in other European countries.

Table 4

Main Results

	(1)	(2)	(3)	(4)
	a. OLS			
Crisis* ln(GTrends)	0.013	0.012	0.007	0.008
	[.005,.022]	[.004,.002]	[-.000,.001]	[.001,.015]
	b. OLS (reweighted for inclusion probabilities)			
Crisis* ln(GTrends)	0.014	0.012	0.007	0.009
	[.006,.022]	[.004,.002]	[-.000,.001]	[.001,.016]
	c. Negative binomial			
Crisis* GTrends	0.005	0.004	0.002	0.002
	[.002,.008]	[.002,.007]	[.000,.005]	[.000,.005]
	d. Alternative predictor			
Crisis* Depth of Greek Recession	0.013	0.013	0.014	0.014
	[.000,.025]	[.001,.025]	[.004,.025]	[.004,.024]
Macro-level controls				
Recession depth	NO	NO	NO	YES
Recession duration	NO	NO	NO	YES
GDP	NO	NO	YES	YES
Unemployment rate	NO	NO	YES	YES
Micro-level controls				
Age	NO	YES	YES	YES
Partnership	NO	YES	YES	YES
Gender	NO	YES	YES	YES
Years of education	NO	YES	YES	YES
Occupation	NO	YES	YES	YES
Observations	1,369,574	1,369,574	1,369,574	1,369,574

Next, we investigate the role played by specific macro- and micro-level factors in shaping subjective well-being reactions to news on the Greek crisis, during the European crisis. To do so, in Figure 4 we present point estimates and confidence intervals by levels of a set of key moderating variables. At the macro-level, being interviewed in time of recession is associated with a positive effect coefficient, hinting at the possibility that, in times of perceived economic threat, respondents tend to increase intensity of downward comparison (*Hypothesis 1.b*). However, confidence intervals cross zero in these specifications. Consistently with intuitions from the relative income hypothesis, GDP is found to positively moderates the life satisfaction effect of being exposed to the Greek crisis (*Hypothesis 1.a*). We also present point estimates and confidence intervals from a model where our treatment is interacted with a further dummy, indicating whether respondents live net contributor countries. This interaction is positive, with confidence intervals above the zero line, providing a confirmation of *Hypothesis 2.a*.

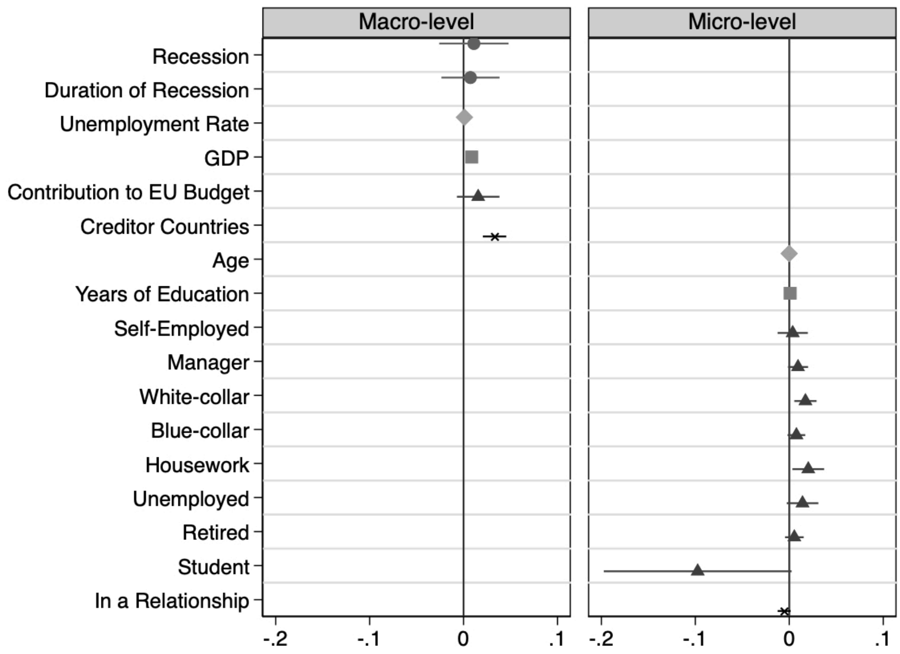


Figure 4. Micro- and macro-level coefficients. Every interaction effect is estimated on a sperate regression (with the exception of occupational statuses and recession depth and duration variables, whose effect has been estimated jointly).

Turning to micro-level variables, we do not find strong indication of any moderation of socio-demographic factors, such as partnership status, age, gender or years of education. Confidence for categories more exposed to the crisis (unemployed, blue-collar) cross the zero line – this finding provides a falsification of *Hypothesis 1.c* and echo recent evidence from the literature on European integration, with several works shifting away from economic utilitarian explanations in favour of a more markedly identity-based approach (Hooghe and Marks 2009; Hobolt and De Vries 2017:421). Indeed, we find that white collar and managers has positive coefficient, that do not cross the zero line (*Hypothesis 2.b*). Interestingly, we a large negative coefficient for students. This might relate to the fact that younger and older Europeans draw different group boundaries, with students being more cosmopolitan and 'European' (*Hypothesis 2.d*) Respondents who are retired show a positive interaction effect, which, compatibly with *Hypothesis 2.c*, may be driven driven by self-interest: as the income of retired individuals depends on the state, they might be more strongly opposed to international redistribution.

Placebo Tests

To assess the validity of our results, we turn to a set of placebo tests. In Table 5, we modify our treatment indicator by substituting the search intensity for the Greek crisis with those of other popular crisis-related searches. We focus on the (logged) monthly online search intensity for the following topics: 'Global financial crisis' (Column 1); '2008-2014 Spanish financial crisis' (Column 2); 'Post-2009 Irish banking crisis' (Column 3); '2012-13 Cypriot financial crisis' (Column 4); '2010-14 Portuguese financial crisis' (Column 5). In light of our theoretical discussion, we do not expect a similar Schadenfreude effect on other European countries, as they were not as central, and differently framed, in the public debate. We test for the correlation between these measures of exposure and life satisfaction in the whole sample, excluding those countries that are object of the search volume measure. Across of all of these models, the placebo γ_1 coefficient is negative. Its confidence interval cross zero in 3 out of 4 models, with the exception of Portugal. We take this as an indication of the peculiarity of the Greek case. In Appendix, Table A2, we run an additional 22 models using search volume for the crisis in each of the other European countries as our alternative predictor, showing the same pattern. Re-estimating Equation (1) using a placebo sample of non-EU countries similarly do not yield any significant results, nor re-estimating the model on Greek respondents (not shown).

Table 5

Placebo Tests: Alternative predictors

	(1)	(2)	(3)	(4)	(4)
Crisis* ln(GTrends)	-0.001	-0.004	-0.004	-0.009	-0.014
	[-0.01,0.008]	[-0.014,0.006]	[-0.014,0.006]	[-0.023,0.004]	[-.021,-0.007]
Alternative exposure measure:					
'Global financial crisis'	✓				
'2008–2014 Spanish financial crisis'		✓			
'Post-2008 Irish banking crisis'			✓		
'2012–13 Cypriot financial crisis'				✓	
'2010–14 Portuguese financial crisis'					✓
Observations	1,369,574	573,022	1,317,725	1,331,758	1,316,584

Discussion

Before drawing inferences from our findings, we start from a discussion concerning the validity of our chosen predictor. A first, relatively minor, concern relates to the fact that we have no control or information on the specific grouping procedures used by Google to aggregate various search terms, queried on the Google.com engine, into the topic 'Greek government debt crisis'. To address this concern, we have relied on external validation and, in Figure 2, we have shown that our explanatory variable descriptively tracks different phases of the Greek crisis. We have also shown that the search volumes meaningfully capture the macroeconomic performance of Greece, as their correlation with Greek GDP and crisis-related variable is negative and positive respectively and, in all cases, large and significant at the 0.001 level. However externally valid, opacity over the aggregation of individual search terms still makes it possible, in principle, that the content of Google searches related to the Greek crisis had a positive rather than a negative valence. This might be the case as a result of framing effects of national news media, or because of increased interest for non-economic topics (e.g., cheap vacations due to internal deflation in Greece). In Appendix (Figure A2), we leverage Google Correlate to observe how the crisis shifted the distribution of keywords most frequently searched together with 'Greece' on Google. We find reassuring indication that the content of these searches shifted towards negatively valanced economic news. Examples of the most frequently correlated searches appearing after the crisis together with the keyword 'Greece' include: '*warum ist griechenland pleite*?' (why is Greece broke?; German); '*pensionsalder Grekland'* (retirement age in Greece; Swedish); "*Deuda griega*" (Greek debt; Spanish); "Drachma"; "Grexit"; "Have my money".

A broader concern, potentially lading to serious threats to our identification strategy, with the use of Google Search volumes as our main predictor stems from the fact that Google Trends data are generated only by a subsample of the European population. In particular, four sources of bias exist in Google Trends data. First, Eurostat shows that the total internet penetration in the European Union increased from 55% in 2004 to 89% in 2018; second, internet penetration varies significantly across countries, ranging from 6% in Romania in 2004 to 98% in the Netherlands in 2018, although countries converged over time, with a standard deviation reduced from 21 to 7.3 from 2004 to 2018; third, within countries, there are considerable geographic and social divides in digital access, although less steep in the EU than in other regions of the world (see, e.g., Garcia et al. 2018; Fatehkia, Kashyap and Weber 2018 for overviews of gender inequalities). Fourth, even within the population with internet access, different socioeconomic groups bear different weight in the data generating process (Ragnedda and Muschert 2013). Because search data are generated by a subsample of the European population and magnified through the search behaviours of the "obsessional news hounds", they might not really track relative changes in general interest. Even more concerning in this respect, is the fact that bursts in interest for the Greek crisis reflect in a non-normally distributed predictor. We have – imperfectly – addressed this threat by logging Google Searches in the estimation of Equation (1). We have also estimated Negative Binomial regression models to take into account the predictor's distribution, finding similar results. Nevertheless, it should be noted that these results are generally put in question by the fact that the model estimated in Equation (1) mixes individual and group level phenomena in a manner that is vulnerable to the ecological fallacy. To address these two sets of issues, we have estimated a set of models using alternative predictors, namely the magnitude of the Greek recession, expressed as the quarter-to-quarter change in Greek GDP, finding not only results in the same direction, but sizeably larger effects. In principle, this alternative predictor is exogenous to individual search behaviour at the country level, reducing ecological threats to identification. However, it may still capture business cycles effects, related in particular to capital inflows driven by flight to quality/safety during the European crisis, in a way that would introduce bias in the estimation. In this respect, it should also be noted that, however measured, news on the Greek crisis may enter individual evaluations of wellbeing together with news on one's own country and that, given divergent macroeconomic patterns during the crisis, indicators on the Greek crisis might actually pick up positive expectations on the future. According to Deaton (2012), positive expectations towards the future might indeed drive current subjective levels up, leading to omitted variable bias in our estimation. In Appendix, we show that our results are robust to adding to Equation (1) model a competing treatment, with Google Trend's measures of a country's own economic performance. The correlation between our predictor and life satisfaction during the crisis is retained, and in some cases strengthened, also when we measure expectations using a lagged GDP variable, which is found to be positively correlated to well-being during the crisis (Table A1). Nevertheless, given the current research design, the possibility that results are driven by unobserved spurious association prevents us from making general claims of causality for our results.

Conclusions

In this paper, we use data from the Eurobarometer to document patterns of life satisfaction of Eurozone citizens, from 2004 to 2018. Our aim is to build on a growing sociological interest towards the determinants of subjective well-being, and to improve our understanding of the emotional impact of large crises. We do so by exploiting the natural experiment represented by the major economic downturn of the Great Recession and the subsequent Eurozone sovereign-debt crisis. We have started our investigation from a puzzle à la Gambetta, showing that levels of life satisfaction were resilient during the Great Recession in Europe, despite the fact that Europeans were living in significantly poorer societies. This stands at odd with theoretical expectations. In fact, recessions bring about shifts in the distribution of economic statuses, resulting in a higher proportion of unemployed and lowering income, thus reducing well-being (Winkelmann and Wilkelmann 1998; Sacks, Stevenson and Wolfers 2012). The toll paid to the Great Recession include rising inequalities, deteriorating social engagement, worsening health, and intensified social exclusion (Grusky et al. 2011), which impact well-being (Graham and Felton 2006; Dolan, Peasgood and White 2008; Oishi, Kesebir and Diener 2011). Seminal work in the 'macroeconomics of happiness' has also established that "recessions create psychic losses that extend beyond the fall in GDP and rise in the number of people unemployed." (Di Tella, MacCulloch and Oswald 2003:809). In sum, at least in the short run, "happiness and income go together, i.e., happiness tends to fall in economic contractions and rise in expansions." (Easterlin et al. 2010:22463).

In the literature, one potential line of rationalisation for the lack of impact of the crisis on subjective well-being has referred to expectations and adaptation processes (Deaton 2012).

Moreover, divergences in well-being have been observed across European countries during the crisis (Veenhoven 2013; Helliwell, Layard and Sachs 2014; Halvorsen 2016),[42] with explanations referring to factors such as asymmetric macroeconomic performances (Welsch and Kühling 2016) and the moderating role of welfare regimes, social capital and trust (Helliwell, Huang and Wang 2014; Reeskens and Vandecasteele 2017). In this paper we have advanced an additional – rather than competitive – explanation, grounded in the idea that social comparisons might have also played a role in life satisfaction. In particular, we hypothesised that the well-being of European citizens during the Great Recession was sustained through comparisons to a less fortunate, overwhelmingly salient other: Greece. Leveraging Google Trends volumes for web searches on the topic 'Greek sovereign debt crisis', we found that, during the European crisis, search intensity for the Greek crisis was positively associated to well-being. We estimate that these Schadenfreude effects, if existent, are small, amounting to less than half the effect of a change in respondents' own country GDP, a notoriously marginal variable in wellbeing equations (Easterlin 1973). Theoretically, we have emphasised how the asymmetric impact of the Great Recession generated cross-country variations in feelings of threat, leading to different intensities of social comparisons, and reconstructed the role of crises narratives in singling out Greece for having triggered the crisis and being a financial burden to the other European nations. We hypothesised that the ways in which group identities were mobilised yielded specific hedonic implications. In fact, we found that respondents in countries that contributed the most to the Greek bailouts were most likely to engage in malicious comparisons to Greece, resulting in a larger association of the search variables with well-being, during the European crisis.

In recent years, an emerging literature has suggested that citizens are not blind to international comparisons and that they benchmark their own country's performance based on

[42]See Appendix (Figure A1) for a replication of these findings

that of neighbouring nations. For example, Kayser and Peress (2012: 680) assess voting for incumbents in times of recession as a function of a country's economic performance deviation from an international average and conclude that, "after consuming media information, voters respond more to national deviations from an international average rate of growth than to the growth rate itself." Our work suggests that similar dynamics might have been at play during the European recession. According to Hall (2016:61), as a result of the crisis, "it is clearer than ever before that social solidarity in Europe currently stops at national borders." In fact, "one does not necessarily need to feel empathy with another country to trade with it; but if one wants to introduce some form of redistribution [...] one cannot do it without a sense of nationhood." Based on these results, we also note that the Great Recession has revitalised calls for alternative measurements of social welfare, especially the present value of self-reported happiness and life satisfaction averaged across the population. In considering the heterogeneous trajectories of well-being across social groups, and in characterising their (negative) interdependencies, our work might help better assessing the implications, and potential pitfalls, of the use of these alternative measures as encompassing objective-functions for policymaking. Our results suggest that, as a guide to policy making, subjective well-being may be more problematic than previously considered.

References

- Aassve, A., Cottini, E., and Vitali, A., 2013. Youth prospects in a time of economic recession. *Demographic Research*, *29*, 949-962
- Affleck, G., and Tennen, H., 1991, Social comparison and coping with major medical problems, in T.A. Wills and J. Suls, eds, *Social Comparison: Contemporary Theory and Research'* New Jersey: Lawrence Erlbaum Associates, Inc., Publishers, 237–260
- Alesina, A., Miano, A. and Stantcheva, S., 2018. Immigration and redistribution, *National Bureau of Economic Research*, 24733
- Alesina, A., Tabellini, G., and Trebbi, F., 2017. Is Europe an optimal political area?, Brookings Papers on Economic Activity, 169–234
- Algan, Y., Guriev, S., Papaioannou, E., and Passari, E. 2017. The european trust crisis and the rise of populism, *Brookings Papers on Economic Activity*, 309–400
- Anderegg, W. R., and Goldsmith, G. R., 2014. Public interest in climate change over the past decade and the effects of the 'climategate' media event. *Environmental Research Letters*, *9*(5), 054005
- Ardagna, S. and Caselli, F., 2014. The political economy of the Greek debt crisis: A tale of two bailouts. *American Economic Journal: Macroeconomics*, *6*(4), 291-323
- Arts, W., and Gelissen, J., 2002. Three worlds of welfare capitalism or more? A state-of-the-art report', *Journal of European Social Policy*, *12*(2), 137-158
- Bail, C. A., Brown, T. W., and Wimmer, A., 2019. Prestige, Proximity, and Prejudice: How Google Search Terms Diffuse across the World. *American Journal of Sociology*, *124*(5), 1496-1548
- Baldwin, R., Beck, T., Bénassy-Quéré, A., Blanchard, O., Corsetti, G., de Grauwe, P., de Haan, W., Giavazzi, F., Gros, D., Kalemli-Ozcan, S., Micossi, S., Papaioannou, E., Pesenti,

P., Pissarides, C., Trabellini, G., di Mauro, B. W., 2015. Rebooting the Eurozone: Step 1—Agreeing a crisis narrative. *CEPR Policy Insight*, 85

- Barlow, P., Reeves, A., McKee, M., and Stuckler, D., 2015. Austerity, precariousness, and the health status of Greek labour market participants: Retrospective cohort analysis of employed and unemployed persons in 2008– 2009 and 2010–2011. *Journal of public health policy*, *36*(4), 452-468.
- BBC, 2010. Eurozone approves massive Greece bail-out, May 2. Retrieved from: http://news.bbc.co.uk/1/hi/business/8656649.stm
- BBC, 2015. Greece crisis: PM Alexis Tsipras quits and calls early polls, August 20. Retrieved from: https://www.bbc.com/news/av/world-europe- 34009124/greek-prime-minister-tsipras-quits-and-calls-election
- Bechtel, M. M., Hainmueller, J. and Margalit, Y., 2014. Preferences for international redistribution: The divide over the Eurozone bailouts. *American Journal of Political Science*, *58*(4), 835-856.
- Bechtel, M. M., Hainmueller, J. and Margalit, Y., 2017. Policy design and domestic support for international bailouts. *European Journal of Political Research*, *56*(4), 864-886.
- Becker, G. S., 1974. Theory of social interactions, *Journal of Political Economy, 82*(6), 1063–1093.
- Bentolila, S., Cahuc, P., Dolado, J. J., and Le Barbanchon, T., 2012. Two-tier labour markets in the great recession: France Versus Spain. *The Economic Journal*, *122*(562), F155-F187.
- Bickes, H., Otten, T., and Weymann, L.C., 2014. The financial crisis in the German and English press: Metaphorical structures in the media coverage on Greece, Spain and Italy. *Discourse & Society*, *25*(4), 424-445.
- Blanchard, O. J. and Leigh, D., 2014. Learning about fiscal multipliers from growth forecast errors. *IMF Economic Review*, *62*(2), 179-212.

- Blanchflower, D. G., and Freeman, R.B. (Eds.), 2007. *Youth employment and joblessness in advanced countries*. University of Chicago Press
- Blau, P. M., 1960. Structural effects. *American sociological review*, 178-193
- Bloomberg, 2011. Cyprus, Russia sign 25 billion-euro loan deal in Moscow, December 23. Retrieved from: https://www.bloomberg.com/news/articles/2011-12-23/cyprus-russia-sign-2-5-billion-euro-loan-deal-in-moscow-1-
- Blumer, H., 1958. Race prejudice as a sense of group position. *Pacific sociological review*, *1*(1), 3-7.
- Bobo, L.D., 1999. Prejudice as group position: Microfoundations of a sociological approach to racism and race relations. *Journal of Social Issues*, *55*(3), 445-472
- Borra, C., and Gomez-Garcia, F., 2016. Wellbeing at work and the great recession: The effect of others' unemployment', *Journal of Happiness Studies*, *17*(5), 1939–1962.
- Brickman, P., and Campbell, D., 1971. Hedonic Relativism and Planning the Good Society. In *Adaptation Level Theory: A Symposium*, Academic Press, New York.
- Brunnermeier, M., and Papaioannou, E., 2017. Comments and discussion, *Brookings Papers on Economic Activity*, 214–234
- Campbell, D. T., 1965. Ethnocentric and other altruistic motives. In *Nebraska symposium on motivation*, *13*, 83-311
- Campbell, J. D., 1986. Similarity and uniqueness – the effects of attribute type, relevance, and individual-differences in self-esteem and depression', *Journal of Personality and Social Psychology*, *50*(2), 281–294.
- Campos, N. F. and Macchiarelli, C., 2016. 'Core and periphery in the European monetary union: Bayoumi and Eichengreen 25 years later', *Economics Letters* 147, 127–130.
- Castells, M., Bouin, O., Caraça, J., Cardoso, G., Thompson, J. and Wieviorka, M. (eds.), 2018. *Europe's crises*. John Wiley & Sons

- Choi, H., and Varian, H., 2012. Predicting the present with Google Trends. *Economic Record*, *88*, 2-9
- Cikara, M., and Fiske, S. T., 2014. Stereotypes and schadenfreude, *Schadenfreude*, 151–169
- Cikara, M., Bruneau, E., Van Bavel, J. J., and Saxe, R., 2014. Their pain gives us pleasure: How intergroup dynamics shape empathic failures and counter-empathic responses, *Journal of Experimental Social Psychology*, *55*, 110–125
- Cikara, M., Bruneau, E. G., and Saxe, R. R., 2011. Us and them: Intergroup failures of empathy. *Current Directions in Psychological Science*, *20*(3), 149- 153.
- Clark, A. E., and Oswald, A. J., 2002. A simple statistical method for measuring how life events affect happiness. *international Journal of Epidemiology*, *31*(6), 1139-1144.
- Clark, K. B., and Summers, L. H., 1982. The dynamics of youth unemployment. In *The youth labor market problem: Its nature, causes, and consequences*, 199-234. University of Chicago Press.
- Coats, A. W., 1968. The origins and early development of the Royal Economic Society. *The Economic Journal*, *78*(310), 349-371.
- Colasanti, F., 2016. Financial assistance to Greece: Three programmes. *European Policy Centre Discussion Paper. King Baudoin Foundation*.
- Costanza, R., Kubiszewski, I., Giovannini, E., Lovins, H., McGlade, J., Pickett, K.E., Ragnarsdóttir, K.V., Roberts, D., De Vogli, R. and Wilkinson, R., 2014. Development: Time to leave GDP behind. *Nature News*, *505*(7483):283
- Cowen, E. L., Landes, J., and Schaet, D. E., 1959. The effects of mild frustration on the expression of prejudiced attitudes. *The Journal of Abnormal and Social Psychology*, *58*(1), 33
- Davis, J. A., 1959. A formal interpretation of the theory of relative deprivation, *Sociometry, 22*(4), 280–296

- De la Fuente, A., Doménech, R. and Rant, V., 2009. Addressing the net balances problem as a prerequisite for EU budget reform: A proposal. *CESifo Economic Studies*, *56*(2), 221-250
- Deaton, A. 2012. The financial crisis and the well-being of Americans 2011 OEP Hicks Lecture. *Oxford economic papers*, *64*(1), 1-26
- Dergiades, T., Milas, C., and Panagiotidis, T., 2014. Tweets, Google trends, and sovereign spreads in the GIIPS. *Oxford Economic Papers*, *67*(2), 406- 432
- Dickinson, H. D., 1940. Reviewed Work: The Distribution of Income and Property. by J. Van Der Wijk *The Economic Journal, 50(*198/199), 274-276.
- DiMaggio, P., 1997. Culture and cognition. *Annual review of sociology*, *23*(1), 263-287
-
- Dolan, P., Peasgood, T., and White, M., 2008. Do we really know what makes us happy? A review of the economic literature on the factors associated with subjective well-being'. *Journal of Economic Psychology*, *29*(1), 94–122
- Duesenberry, J. S., 1949. *Income, saving, and the theory of consumer behavior*, Harvard economic studies, Harvard University Press, Cambridge.
- Duncan, O. D., 1975. Does money buy satisfaction?. *Social indicators research*, *2*(3), 267-274.
- Durkheim, E., 1928. Socialism and Saint-Simon, 1959. *C. Sattler. Yellow Springs, OH: Antioch*
- Dvash, J., Gilam, G., Ben-Ze'ev, A., Hendler, T., and Shamay-Tsoory, S. G., 2010. The envious brain: the neural basis of social comparison. *Human brain mapping*, *31*(11), 1741-1750
- Dyson, K., 2010. *The state tradition in Western Europe*. Ecpr Press.
- Dyson, K., 2014. *States, Debt, and Power: 'saints' and 'sinners' in European History and Integration*. Oxford University Press: Oxford

- Easterlin, R. A., 1974. Does economic growth improve the human lot? Some empirical evidence. In *Nations and households in economic growth*, 89-125. Academic Press
- Easterlin, R. A., 1973. Does money buy happiness?. *The public interest*, *30*, 3.
- Easterlin, R. A., McVey, L.A., Switek, M., Sawangfa, O., and Zweig, J.S., 2010. The happiness–income paradox revisited. *Proceedings of the National Academy of Sciences*, *107*(52), 22463-22468
- ECA, 2017. The commission's intervention in the greek financial crisis, Technical report, European Court of Auditors
- ECB, 2012. Verbatim of the remarks made by Mario Draghi. *Speech at the Global Investment Conference in London*, July 26
- Eggers, A., Clifford, G., and Graham, C., 2006. Well-being and unemployment in Russia in the 1990s: Can society's suffering be individuals' solace?', *The Journal of Socio-Economics*, *35*(2), 209–242
- Eichengreen, B., Avgouleas, E., Poiares Maduro, M., Panizza, U., Portes, R., di Mauro, B.W., Wyplosz, C., and Zettelmeyer, J., 2018. Putting the Greek debt problem to rest, Voxeu.org
- Ekathimerini, 2015. Left-wing SYRIZA wins Greek election, September 20. Retrieved from: http://www.ekathimerini.com/201730/article/ekathimerini/news/left-wing- syriza-wins-greek-election
- European Commission, 2017. Commission decision relating to proceedings under Article 102 of the Treaty on the Functioning of the European Union and Article 54 of the Agreement on the European Economic Area (AT.39740 Google Search (Shopping)), 27.6.2017
- Falk, A., and Knell, M., 2004. Choosing the Joneses: Endogenous goals and reference standards, *Scandinavian Journal of Economics*, *106*(3), 417–435

- Fatehkia, M., Kashyap, R., and Weber, I., 2018. Using Facebook ad data to track the global digital gender gap. *World Development*, *107*, 189-209
- Feather, N. T., and McKee, I.R., 2014. Deservingness, liking relations, schadenfreude, and other discrete emotions in the context of the outcomes of plagiarism', *Australian Journal of Psychology*, *66*(1), 18–27
- Feather, N. T., and Sherman, R., 2002. Envy, resentment, schadenfreude, and sympathy: Reactions to deserved and undeserved achievement and subsequent failure. *Personality and Social Psychology Bulletin*, *28*(7), 953- 961.
- Ferrera, M., 2017. The Stein Rokkan Lecture 2016 Mission impossible? Reconciling economic and social Europe after the euro crisis and Brexit. *European Journal of Political Research*, *56*(1), 3-22.
- Feshbach, S., and Singer, R. D., 1957. The effects of fear arousal and suppression of fear upon social perception. *The Journal of Abnormal and Social Psychology*, *55*(3), 283.
- Festinger, L., 1942. Wish, expectation, and group standards as factors influencing level of aspiration. *The Journal of Abnormal and Social Psychology*, *37*(2), 184
- Festinger, L., 1954. A theory of social comparison processes. *Human relations*, *7*(2), 117-140.
- Financial Times, 2018. Eurozone hails Greece's exit from bailout as end of crisis, August 20. Retrieved from: https://www.ft.com/content/aeb930e0- a475-11e8-926a-7342fe5e173f
- Firebaugh, G., and Schroeder, M. B., 2009. Does your neighbor's income affect your happiness?, *American Journal of Sociology*, *115*(3), 805–831
- Fourcade, M., Steiner, P., Streeck, W., and Woll, C., 2013. Moral categories in the financial crisis. *Socio-economic review*, *11*(3), 601-627

- Frankfurter Allgemeine Zeitung, 2017. Schnaps und Frauen – jetzt erst recht!, March 26. Retrieved from: https://www.faz.net/aktuell/wirtschaft/konjunktur/kritik-fuer-gleichnis-von-dijsselbloem-14942246.html
- Frederick, S., and Loewenstein, G., 1999. Hedonic Adaptation. *Well-being: The foundations of hedonic psychology*, 302-329.
- Freeman, R. B., and Rodgers, III W.M., 1999. Area economic conditions and the labor market outcomes of young men in the 1990s expansion. *National bureau of economic research, 7*073
- Frieden, J., and Walter, S., 2017. Understanding the political economy of the Eurozone crisis. *Annual Review of Political Science*, *20*
- Garcia, D., Kassa, Y. M., Cuevas, A., Cebrian, M., Moro, E., Rahwan, I., and Cuevas, R., 2018. Analyzing gender inequality through large-scale Facebook advertising data. *Proceedings of the National Academy of Sciences*, *115*(27), 6958-6963
- Giavazzi, F., and Spaventa, L., 2011. 11 Why the current account may matter in a monetary union: lessons from the financial crisis in the euro area. *The euro area and the financial crisis*, *199*
- Giddens, A., 2013. *Turbulent and mighty continent: What future for Europe?*. John Wiley & Sons
- Ginsberg, J., Mohebbi, M. H., Patel, R. S., Brammer, L., Smolinski, M. S., and Brilliant, L., 2009. Detecting influenza epidemics using search engine query data. *Nature*, *457*(7232), 1012
- Glass, J., Simon, R. W., and Andersson, M. A., 2016. Parenthood and happiness: Effects of work-family reconciliation policies in 22 OECD countries, *American Journal of Sociology 122*(3), 886–929.

- Graham, C., and Felton, A. 2006. Inequality and happiness: insights from Latin America. *The Journal of Economic Inequality*, *4*(1), 107-122.
- Grusky, D. B., Western, B., and Wimer, C., 2011. *The great recession*, Russell Sage Foundation, New York.
- Guiso, L., Herrera, H. and Morelli, M., 2016. Cultural differences and institutional integration. *Journal of International Economics*, *99*, S97-S113.
- Habermas, J., 2012. *The crisis of the European Union: A response*. Polity
- Habich, R., and Riede, T., 1989., Satisfaction in West Germany 1978-1988, Universitaire Pers, Rotterdam.
- Haidt, J., 2007. The new synthesis in moral psychology. *Science*, *316*(5827), 998-1002
- Hall, P. A., 2016. The euro crisis and the future of European integration. *The Search for Europe. Constructing Approaches*, 46-67.
- Halvorsen, K., 2016. Economic, financial, and political crisis and well-being in the PIGS countries, *SAGE Open* (October-December 2016), 1–13
- Heinemann, F., Mohl, P. and Osterloh, S., 2010. Reforming the EU Budget: Reconciling Needs with Political-Economic Constraints. *European Integration*, *32*(1), 59-76
- Helliwell, J. F., Huang, H. F., and Wang, S., 2014. Social capital and well- being in times of crisis, *Journal of Happiness Studies, 15*(1), 145–162
- Helliwell, J. F., Layard, R., and Sachs, J., 2014. *World happiness report 2013*, Report.
- Hien, J., 2019. The religious foundations of the European crisis. *JCMS: Journal of Common Market Studies*, *57*(2), 185-204.
- Hobolt, S. B. and De Vries, C. E., 2016. Public support for European integration. *Annual Review of Political Science*, *19*, 413-432.

- Hooghe, L. and Marks, G., 2009. A postfunctionalist theory of European integration: From permissive consensus to constraining dissensus. *British Journal of Political Science*, *39*(1), 1-23.
- Hoogland, C. E., Van de Ven, N., Smith, R. H., Van Dijk, W. W., Breugelmans, S. M., and Zeelenberg, M., 2015. The roles of inferiority, deservingness of the misfortune, and malicious envy in schadenfreude. *Motivation and Emotion*, *39*, 260-281.
- Il Centro, 2016. Chieti, Renzi alla Walter Tosto: 'Non siamo la Grecia, basta piangerci addosso', 22 February. Retrieved from: http://www.ilcentro.it/video/chieti-renzialla-walter-tosto-non-siamo-la- grecia-basta-piangerci-addosso-1.129489?utm medium=migrazione
- IMF, 2013. Greece: Ex post evaluation of exceptional access under the 2010 stand-by arrangement, IMF Country Report No. 13/156, June 2013
- Jacobson, B.L., Goethals, G. R., and Rouse, R.O, 1976. Evaluation of an outgroup member by individuals and groups. Paper presented at the meeting of the Eastern Psychological Association, New York, April 1976
- Kapteyn, A., Van de Geer, S., Van de Stadt, H., and Wansbeek, T., 1997.
- Interdependent preferences: An econometric analysis. *Journal of Applied Econometrics, 12*(6), 665-686
- Kapteyn, A., Van Praag, B. M. S., and Vanherwaarden, F. G., 1978.
- Individual welfare functions and social reference spaces, *Economics Letters, 1*(2). 173–177
- Karapetoff, W., 1903. On life-satisfaction. *American Journal of Sociology*, *8*(5), 681-686
- Kayser, M. A., and Peress, M., 2012. Benchmarking across borders: electoral accountability and the necessity of comparison. *American Political Science Review*, *106*(3), 661-684

Kentikelenis, A. E., Stubbs, T. H., and King, L. P., 2016. IMF conditionality and development policy space, 1985–2014. *Review of International Political Economy*, *23*(4), 543-582

- Kentikelenis, A., Karanikolos, M., Reeves, A., McKee, M., and Stuckler, D., 2014. Greece's health crisis: from austerity to denialism. *The Lancet*, *383*(9918), 748-753
- Kilnes, U., and Sherriff, A., 2012. 'Member states' positions on the proposed 2014-2020 EU budget', *European Centre for Development Policy Management Briefing Note (37)*
- Kockesen, L., 2008. *Relative income hypothesis*, Thomson Gale, Detroit.
- Krugman, P. 2010. We're Not Greece, *The New York Times*, 13 May.
- Retrieved from: https://www.nytimes.com/2010/05/14/opinion/14krugman.html.
- Kuhn, P., Kooreman, P., Soetevent, A., and Kapteyn, A., 2011. The effect of lottery prizes on winners and their neighbors: Evidence from the Dutch postcode lottery', *American Economic Review, 101*(5), 2226-2247
- Kuipers, G., 2014. Schadenfreude and social life: a comparative perspective on the expression and regulation of mirth at the expense of others', *Schadenfreude: Understanding Pleasure at the Misfortune of Others*, 259–274
- Lamont, M., 2000. The Dignity of Working Men: Morality and the Boundaries of Race, Class, and Immigration, Cambridge, MA, Harvard University Press.
- Lazer, D., Kennedy, R., King, G., and Vespignani, A., 2014. The parable of Google Flu: traps in big data analysis. *Science*, *343*(6176), 1203-1205
- Lim, C., and Putnam, R.D., 2010. Religion, social networks, and life satisfaction, *American Sociological Review*, *75*(6), 914–933
- Marks, G., 1984. Thinking ones abilities are unique and ones opinions are common. *Personality and Social Psychology Bulletin*, *10*(2), 203–208
- Marx, K., 1894. *Wage-labour and capital Value, price, and profit*, International Publishers, 1976, New York

- Matthijs, M., and McNamara, K., 2015. The euro crisis' theory effect: Northern saints, Southern sinners, and the demise of the Eurobond. *Journal of European Integration*, *37*(2), 229-245
- Mccallum, M. L., and Bury, G. W., 2013. Google search patterns suggest declining interest in the environment. *Biodiversity and conservation*, *22*(6-7), 1355-1367
- Mellon, J., 2013. Where and when can we use Google Trends to measure issue salience?. *PS: Political Science & Politics*, *46*(2), 280-290
- Mellon, J., 2014. Internet search data and issue salience: The properties of Google Trends as a measure of issue salience. *Journal of Elections, Public Opinion & Parties*, *24*(1), 45-72
- Merton, K. R., and Rossi, A., 1950. *Contributions to the Theory of Reference Group Behavior*, The Free Press, New York, 40–105.
- Miller, N. E., and Bugelski, R., 1948. Minor studies of aggression: II. The influence of frustrations imposed by the in-group on attitudes expressed toward out-groups. *The Journal of psychology*, *25*(2), 437-442
- Mills, C. W., 1959. *The sociological imagination*. Oxford University Press.
- Morsy, H., 2012. Scarred generation. In *IMF Finance & Development*
- Moscovici, S., 1984. The phenomenon of social representations. In R. M. Farr and S. Moscovici (Eds.), Social representations (3–69). Cambridge, UK: Cambridge University Press
- Müller, H., Porcaro, G., and von Nordheim, G., 2018. Tales from a crisis: diverging narratives of the euro area. *Polity Contribution, Bruegel*
- Murray-Leach, T., Kouki, H., Mattens, D., Mollenkamp, D., Radice, H., Saltman, E., Secondo, D., and Sommer, M. (2014), 'Crisis discourses in Europe: Media EU-phemisms and alternative narratives', Civil Society and Human Security Research Unity Background Paper, LSE

- Nghiem, L.T., Papworth, S.K., Lim, F.K., and Carrasco, L.R., 2016. Analysis of the capacity of Google Trends to measure interest in conservation topics and the role of online news. *PloS one*, *11*(3), e0152802
- Offer, S., and Schneider, B., 2011. Revisiting the gender gap in time-use patterns: Multitasking and well-being among mothers and fathers in dual- earner families, *American Sociological Review 76*(6), 809–833
- Oishi, S., Kesebir, S., and Diener, E., 2011. Income inequality and happiness', *Psychological Science 22*(9), 1095–1100
- Oorschot, W. V., 2000. Who should get what, and why? On deservingness criteria and the conditionality of solidarity among the public. *Policy & Politics*, *28*(1), 33-48

- Oorschot, W. V., 2000. Who should get what, and why? On deservingness criteria and the conditionality of solidarity among the public. *Policy & Politics*, *28*(1), 33-48

- Pagoulatos, G., 2018. Greece after the bailouts: assessment of a qualified failure. *GreeSE Papers. Hellenic Observatory Discussion Papers on Greece and Southeast Europe, 130*. London School of Economics
- Patten, S.N., 1902. *The theory of prosperity*. New York: Macmillan.
- Perotti, R., 2018. The human side of austerity: health spending and outcomes during the Greek crisis. *National Bureau of Economic Research*, 24909
- Pietraszkiewicz, A., 2013. Schadenfreude and just world belief. *Australian Journal of Psychology*, *65*(3), 188-194
- Polgreen, P. M., Chen, Y., Pennock, D.M., Nelson, F. D., and Weinstein, R.A., 2008. Using internet searches for influenza surveillance. *Clinical infectious diseases*, *47*(11), 1443-1448
- Pollak, R.A., 1976. Interdependent preferences', *American Economic Review 66*(3), 309–320
- Publico, 2015. Rajoy:' Lo de Grecia no va a pasar en España porque este es un país serio'. June 29. Retrieved from: http://www.publico.es/politica/rajoy- grecia-no-pasar-espana.html

- Quadagno, J., 1996. The *Color of Welfare: How Racism Undermined the War on Poverty: How Racism Undermined the War on Poverty*, Oxford and New York, Oxford University Press
- Rafferty, E., 2003. *Apostle of human progress: Lester Frank Ward and American political thought, 1841-1913*. Rowman & Littlefield Publishers
- Ragnedda, M., and Muschert, G. W. (Eds.), 2013. *The digital divide: The Internet and social inequality in international perspective*. Routledge.
- Rant, V., and Mrak, M., 2010. The 2007–13 financial perspective: domination of national interests. *JCMS: Journal of Common Market Studies*, *48*(2), 347-372
- Redbird, B., and Grusky, D.B., 2016. Distributional effects of the great recession: Where has all the sociology gone?. *Annual Review of Sociology,* 42*(42)*, 185-215
- Reeskens, T., and Vandecasteele, L., 2017. Economic hardship and well- being: Examining the relative role of individual resources and welfare state effort in resilience against economic hardship, *Journal of Happiness Studies, 18*(1), 41–62
- Reuters, 2010. Greek anti-austerity march erupts in violence, 3 dead, May 5. Retrieved from:https://www.reuters.com/article/us-greece/greek-anti-austerity-march-erupts-in-violence-3-dead- idUSTRE6441N620100505?sp=true
- Richerson, P. J., and Boyd, R., 2008. *Not by genes alone: How culture transformed human evolution*. University of Chicago press
- Ripberger, J. T., 2011. Capturing curiosity: Using internet search trends to measure public attentiveness. *Policy Studies Journal*, *39*(2), 239-259
- Rothacher, J. U., 2015. How Domestic Politics Shaped the French Government's Position During the Euro Crisis. *European Politics and Society*, *16*(2), 256-279.
- Runciman, W. G., 1961. Problems of research on relative deprivation. *European Journal of Sociology/Archives Européennes de Sociologie*, *2*(2), 315-323.

- Runciman, W. G., 1966. *Relative deprivation and social justice: A study of attitudes to social inequality in twentieth-century England* (Vol. 13). Berkeley: University of California Press.
- Sacks, D. W., Stevenson, B., and Wolfers, J., 2012. The new stylized facts about income and subjective well-being. *Emotion, 12*(6), 1181–1187.
- Scharkow, M., and Vogelgesang, J., 2011. Measuring the public agenda using search engine queries. *International Journal of Public Opinion Research*, *23*(1), 104-113.
- Scheitle, C.P., 2011. Google's insights for search: A note evaluating the use of search engine data in social research. *Social Science Quarterly*, *92*(1), 285- 295.
- Schindler, R., Körner, A., Bauer, S., Hadji, S., and Rudolph, U., 2015. Causes and consequences of schadenfreude and sympathy: A developmental analysis. *PloS one*, *10*(10)
- Schneider, C. J., 2017. The political economy of regional integration. *Annual Review of Political Science*, *20*, 229-248
- Schnittker, J., 2008. Happiness and success: Genes, families, and the psychological effects of socioeconomic position and social support, *American Journal of* Sociology, *114*(S1), S233-S259
- Shanas, E., 1945. The American Journal of Sociology through fifty years. *American Journal of Sociology*, *50*(6), 522-533
- Sherif, M., 1966. *In common predicament: Social psychology of intergroup conflict and cooperation*. Houghton Mifflin comp
- Shibutani, T., 1955. Reference groups as perspectives. *American Journal of Sociology*, *60*(6), 562-569
- Sidanius, J., and Pratto, F., 2001. *Social dominance: An intergroup theory of social hierarchy and oppression*. Cambridge University Press.
- Simons, S.E., 1902. Reviewed Work: The Theory of Prosperity. by Simon N. Patten *American Journal of Sociology, 8*(1), 122-129

- Singer, T., Seymour, B., O'doherty, J., Kaube, H., Dolan, R. J., and Frith, C.D., 2004. Empathy for pain involves the affective but not sensory components of pain. *Science*, *303*(5661), 1157-1162
- Sinn, H., 2012. Why Berlin Is Balking on a Bailout, *The New York Times*, December 6
- Stiglitz, J. E., Sen, A., and Fitoussi, J. P., 2009. Report by the commission on the measurement of economic performance and social progress
- Stouffer, S. A., Suchman, E.A., De Vinney, L. C., Star, S. A., and Williams, Jr R. M., 1949. The American soldier. (studies in social psychology in World War II)
- Tajfel, H. 1982. Social psychology of intergroup relations. *Annual review of psychology*, *33*(1), 1-39
- Tajfel, H., 1981. *Human Groups and Social Categories—Studies in Social Psychology*. Cambridge Cambridge University Press
- Taylor, S. E., and Lobel, M., 1989. Social comparison activity under threat: Downward evaluation and upward contacts. *Psychological review*, *96*(4), 569
- Taylor, S. E., Wood, J. V., and Lichtman, R. R., 1983. It could be worse - selective evaluation as a response to victimization', *Journal of Social Issues*, *39*(2), 19–40
- The Economist, 2010. The importance of not being Greece, April 22. Retrieved from: https://www.economist.com/node/15959527
- The Guardian, 2012. Spain to get bank bailout that may run up to €100bn, June 9. Retrieved from: https://www.theguardian.com/world/2012/jun/09/spain-bank-bailout- eurozone-crisis
- The Guardian, 2014. Greek bond sale hailed a success after raising €3bn, April 10. Retrieved from: https://www.theguardian.com/business/2014/apr/10/greece-raises-3bn-euro-successful-bond-sale

- The Guardian, 2015. Greek referendum: full results, July 6. Retrieved from: https://www.theguardian.com/world/ng-interactive/2015/jul/05/live-results- greek-referendum
- The New York Times, 2010. Greece, out of ideas, requests global aid, April
- 23. Retrieved from: https://www.nytimes.com/2010/04/24/business/global/24drachma.html
- The Telegraph, 2015. Nick Clegg: I saved Britain from Greece style debt crisis, January 29. Retrieved from: https://www.telegraph.co.uk/news/general-election-2015/11376085/Nick-Clegg-I-saved-Britain-from-Greece-style-debt-crisis.html
- Turner, R. H., 1956. Role-taking, role standpoint, and reference-group behavior. *American Journal of Sociology*, *61*(4), 316-328
- Van de Stadt, H., Kapteyn, A., and van de Geer, S, 1985. The relativity of utility: evidence from panel data, *The Review of Economics and Statistics 67*, 179–187.
- Van der Vijk, K., 1939. *Inkomens en Vermogesensverdeling*, De Erven F. Bohn N.V., Harlem
- Van Dijk, W. W., Goslinga, S., and Ouwerkerk, J. W., 2008. Impact of responsibility for a misfortune on schadenfreude and sympathy: Further evidence. *The Journal of Social Psychology*, *148*(5), 631-636.
- Van Dijk, W. W., Ouwerkerk, J. W., Goslinga, S., and Nieweg, M., 2005. Deservingness and schadenfreude.
- van Dijk, W. W., & Ouwerkerk, J. W. (Eds.). 2014. *Schadenfreude: Understanding pleasure at the misfortune of others*. Cambridge University Press.
- Veblen, T., 1899. The theory of the leisure class: an economic study of institutions. 1934. *New York: The Modern Library*.
- Veenhoven, R., 2013. Happiness in nations. Url: http://worlddatabaseofhappiness.eur.nl

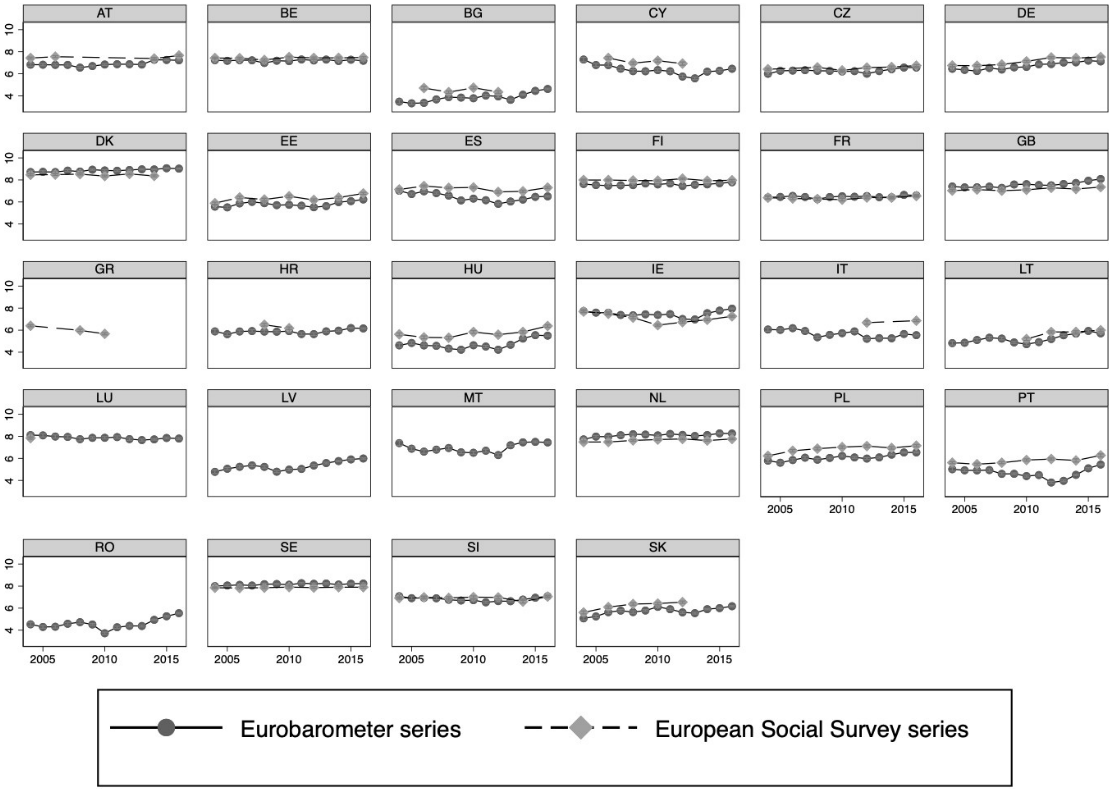
- Welsch, H., and Kühling, J., 2016). How has the crisis of 2008-2009 affected subjective wellbeing? Evidence from 25 OECD countries', *Bulletin of Economic Research 68*(1), 34–54.
- Werner, H., and Kaplan, B., 1963. Symbol formation. Oxford, England: Wiley. Abstract
- Williams, Jr R. M., 1975. Relative deprivation. In L.A. Coser (ed.), *The idea of social structure: Papers in honor of Robert K. Merton*. New York: Harcourt Brace Jovanovic
- Wills, T. A., 1981. Downward comparison principles in social-psychology, *Psychological Bulletin*, *90*(2), 245–271
- Winkelmann, L., and Winkelmann, R., 1998. Why are the unemployed so unhappy? Evidence from panel data. *Economica, 65*(257), 1–15
- Wood, J. V., and Taylor, K. L., 1991. Serving self-relevant goals through social comparison
- Wyplosz, C., 2017. The Eurozone crisis: A near-perfect case of mismanagement. In *Political Economy Perspectives on the Greek Crisis* (pp. 41-59). Palgrave Macmillan, Cham
- Xafa, M., 2014. Sovereign debt crisis management: Lessons from the 2012 Greek debt restructuring. *CIGI Papers 33*
- Yang, Y., 2008. Social inequalities in happiness in the united states, 1972 to 2004: An age-period-cohort analysis, *American Sociological Review*, *73*(2), 204–226
- YouGov, 2012. Will Britain vote to leave the EU?, May 21. Retrieved from: https://yougov.co.uk/topics/politics/articles-reports/2012/05/21/will-britain- vote-leave-eu
- Zeit, 2013. Griechenland: Ein Land spart sich arm, July 9. Retrieved from: https://www.zeit.de/wirtschaft/2013-07/griechenland-sparen-krise
- Zettelmeyer, J., Trebesch, C. and Gulati, M., 2013. The Greek debt restructuring: an autopsy. *Economic Policy, 28*(75), 513-563
- Zimmer, C., Schneider, G. and Dobbins, M., 2005. The contested Council: Conflict dimensions

Appendix

Country-level Trajectories in Life Satisfaction

As we have seen, in Figure 1 of the paper, both ESS and EB series show subjective well-being drops in 2008, at the onset of the Great Recession in the United States, but not in 2009, in correspondence with a drastic GDP fall. According to Deaton (2012), "well-being measures are not measuring *current* well-being, in the sense of today's level of real income, but also picking up the fear of the future associated with evolving economic news." (Deaton 2012:13, italics in the original text). Furthermore, subjective well-being tends to reverse to its mean quickly after a shock because of a phenomenon called "hedonic adaptation" (Brickman and Campbell 1971; Frederick and Loewenstein 1999). Thus, it might be possible that people anticipated losses, leading to an instantaneous decline in life satisfaction via deteriorating expectations in 2008, with adaptation and positive reversal in expectations (in light of a moderate GDP recovery from 2010 to 2012) sustaining well-being gains in the following years. Observing subjective well-being increasing "in ten out of fifteen European countries" on ESS data, Lopes, Calapez and Porto (2014:3), similarly refer to "expectations and adaptation processes as well as by an increased awareness prompted by the crisis, that not only income but also social relationships count in life." It is not clear, however, what factors may determine different rates of adaptation or normative change across European countries during the crisis. Helliwell, Layard and Sachs (2014) also confirm that "the diversity of the Western European experiences is apparent. Six of the 17 countries had significant increases, while seven countries had significant decreases, the largest of which were in four countries badly hit by the Eurozone financial crisis – Portugal, Italy, Spain and Greece." Using EU-SILC data, Halvorsen (2016) finds evidence of declining satisfaction with life in Ireland, Portugal, Spain and Greece. Data collected by Veenhoven (2013) also show that Mediterranean countries recorded stronger losses from 2008 to 2012. In Figure A1, we plot country-level trends in life satisfaction leveraging both Eurobarometer and European Social Survey data. As we can see, some countries (such as Austria, Belgium, Germany, France, Denmark, United Kingdom), did not appear to have suffered large life satisfaction losses from the Great Recession, while countries such as Spain, Hungary, Ireland, Italy, Portugal, Romania and Slovakia did.

Figure A1. Life satisfaction in the European countries during the Great Recession



Welsch and Kühling (2016:45) analyse the patterns of life-satisfaction for 25 OECD countries in 2008-2009 and argue that country-level macroeconomic performance modulated subjective well-being responses to the crisis. In fact, in countries more adversely affected, its subjective well-being effects on an average citizen are of "a similar magnitude as the effects of the most serious personal life events", while "they are only about one fifth to one third as large in the top performing countries." Helliwell, Huang and Wang (2014) show that subjective well-being decreased in Greece, Italy, Ireland, Portugal and Spain from 2006 to 2011, while it was stable in Belgium, France, Denmark, Sweden, Germany and the United Kingdom. They suggest that social capital and trust modulate the heterogeneity of subjective well-being responses to economic shocks across societies. Reeskens and Vandecasteele (2017) propose that welfare regimes are significant moderators of the well-being impact of financial hardship in a recession.

Additional robustness checks

In Table A1, we present a set of models with augmented controls, while keeping constant the presence in the model of a competing treatment variable, obtained by interacting our crisis identifier dummy with Google Trends volumes capturing web searches related to respondents' own country crisis. Because Google Trends only provides 'topics' for the most popular searches, we could not rely on comparable crisis-topics across all 28 European countries. Therefore, we relied on a Boolean operator of the following form: 'Country' AND 'crisis', where 'Country' is substituted by the name of respondents' own country (e.g., 'United Kingdom' for British respondents, 'Italy' for Italians, etc.). Clearly, this crisis identifier is coarser than the 'topic' based identifier that we rely on our main analysis but should as a first approximation capture variations in the relative interest for crisis topics. We show that results from the Eurobarometer samples are not altered by the inclusion of this control. In this models, own country Google Trends are negatively correlated to life satisfaction (β=0.001, p<0.10). In order to further account for the role of expectations, we also run a set of models using lagged GDP (in natural logarithms) and its interaction with the crisis identifier, Tt. Even in this case, the positive correlation between search intensity for the Greek crisis and life satisfaction is retained and, generally strengthened, in both samples. Therefore, accounting our results are robust to accounting for the role of expectations. It must be considered, however, that using lagged GDP as a measure of expectation implies, at the bare minimum, that our respondents are fully rational and fully informed, which is, of course, far from being a realistic assumption.

Table A1

Controlling for expectations

	(1)	(2)	(3)	(4)
a.	Own country's searches			
Crisis* ln (GTrends)	0.011	0.001	0.007	0.008
	(2.66)	(2.51)	(1.80)	(2.05)
b.	Lagged GDP			
Crisis* ln (GTrends)	0.014	0.012	0.007	0.008
	(3.32)	(3.08)	(1.83)	(2.18)
Macro-level controls				
Recession depth	NO	YES	YES	YES
Recession duration	NO	YES	YES	YES
GDP	NO	NO	YES	YES
Unemployment rate	NO	NO	YES	YES
Micro-level controls				
Age	NO	NO	NO	YES
Partnership	NO	NO	NO	YES
Gender	NO	NO	NO	YES
Years of education	NO	NO	NO	YES
Occupation	NO	NO	NO	YES
Fixed effects				
Country	YES	YES	YES	YES
Year	YES	YES	YES	YES
Observations	1,369,574	1,369,574	1,369,574	1,369,574

In Table A2, we run a set of additional placebo tests on the full model of Equation 1, using the Google Trends for ‘Country’ AND ‘crisis’, described above, as predictors of life satisfaction during the crisis in other European Union countries. Out of these 22 additional models (we exclude those countries for which we have run analyses in Table 5), we find that only 1 yields a positive and statistically significant correlation.

Table A2 Additional placebo treatments			
	(1)		(2)
Austria	-0.002**	Germany	-0.003
	(-2.67)		(-3.91)
Bulgaria	-0.002	Hungary	0.005
	(-3.09)		(1.24)
Belgium	-0.002	Poland	-0.005***
	(-3.57)		(-4.13)
Czech Republic	0.001	Lithuania	-0.004
	(1.44)		(-1.37)
Denmark	0.001	Luxembourg	-0.000
	(1.00)		(-0.48)
Finland	0.011**	Malta	0.001
	(3.03)		(0.42)
Romania	-0.001	Netherlands	-0.014**
	(-0.64)		(-3.15)
Slovakia	-0.002	Sweden	-0.025***
	(-1.52)		(-4.47)
Slovenia	-0.004*	UK	-0.005
	(-2.26)		(-1.59)
Croatia	-0.011***	Estonia	-0.006
	(2.37)		(-5.25)
France	-0.006***	Latvia	-0.003*
	(-4.07)		(-2.08)

Social representations during the crisis

Drawing from Durkheim, Moscovici (1984) proposed that "collectivities confronted with disjunctive social change construct new social representations […] in order to interpret new stimuli." (DiMaggio 1997:272). In Figure A3, we leverage the Google Correlate tool[43] to show how the contents of Google searches for the keyword 'Greece' changed after the breakout of the

[43]Google Correlate, Google, Inc. Retrieved from: https://www.google.com/trends/correlate

Greek crisis in mid-2010. We select this timeframe, instead of October 2009 (as per our identification dummy, see Data and Methods) for calibration purposes. Google Correlate draws on data collected from web searches on Google.com to return a list of the 50 terms most frequently searched with the main keyword, in this case 'Greece', providing correlation coefficients for each couple. We focus on the 9 countries returning at least 50 terms in both periods.[44] We manually coded each term in five categories: Economy, Information (news and general queries), Sport/Leisure, Tourism, and Other. Before the crisis, queries related to Greece are concerned with Tourism and leisure activities.

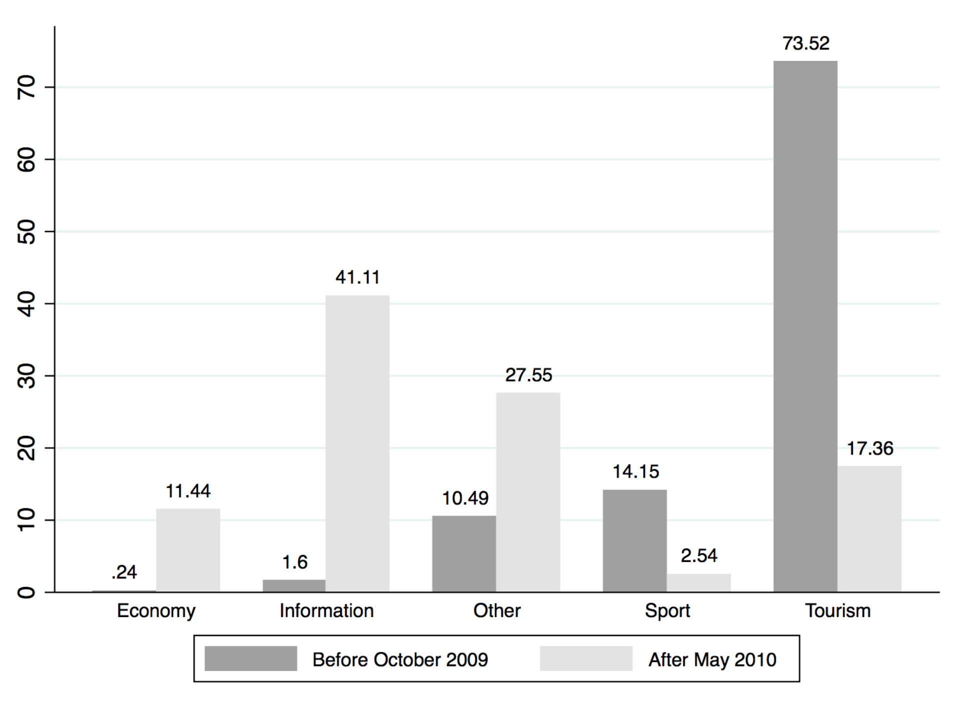


Figure A3- Shift in content of 'Greece'-related searches. Averages by broad category, weighted by the strength of the correlation, for the 50 terms most frequently searched together with the keyword 'Greece' on the Google search engine from 2004 to 2017, for 9 EU countries (Austria, Belgium, France, Germany, Ireland, the Netherlands, Spain, Sweden and the United Kingdom). We discarded countries for which Google Correlate returned less than 50 terms in both periods. We manually coded each of these terms in five broad categories: Economy, Information (news and general queries), Sport/Leisure, Tourism, and Other.

[44] Austria, Belgium, France, Germany, Ireland, the Netherlands, Spain, Sweden and the United Kingdom.

The relevance of these categories drops significantly after May 2010. Following the breakout of the crisis, in fact, searches related to 'Greece' are concerned with news, general queries about the country, and especially about the economy, whose frequencies were close to zero before the crisis. The full list of the top 50 term by country, their correlation strength and coding process into the five macro-categories is available upon request. In December 2019, *Google Correlate* was discontinued by Google, therefore, data are not directly retrievable.

Chapter 2

Happiness after the Killing of Osama bin Laden[1]

Abstract

How do people in contemporary societies respond to the killing of a common enemy? I pool data from two large international social surveys and 10 countries to investigate subjective well-being reactions to the killing of al-Qaeda leader, Osama Bin Laden, on May 2, 2011. Using a regression discontinuity design, I find a statistically significant, short run, increase in happiness after the event. This increase is larger for respondents living in countries that paid a higher death toll to the September 11, 2001 attacks, and lower for respondents living in countries that suffered a higher number of al-Qaida attacks. Overall, a handful of countries drives this effect, which warrants further investigations on unobserved omitted factors, including structural linkages to the United States.

[1]I wish to thank John Southall from the Bodleian Social Science Library for help with exploring the access to social surveys through the University of Oxford data service; Jerry Hansen from Gallup for sharing valuable information on the fieldwork of the Gallup World Poll; Tanya Abraham from YouGov for providing clarification on the rollout of the YouGov Panel; Vicky Semaski and Stefan Cornibert from Pew Research Center for providing detailed fieldwork timing information for the Spring 2011 Global Trends Survey; Rubí Arana from the Latin American Public Opinion Project (Department of Political Science, Vanderbilt University) for assistance with the 2011 LAPOP dataset for Colombia; Ridhi Kashyap for help with understanding the social survey landscape in India; Muzhi Zhou for sharing information on the availability of interview timing variables in the 2011 Chinese Social Survey; Patty Rhule from the Newseum.com project for clarifying Newseum's data availability; and the support team at the Association of Religion Data Archives (ARDA) for help with the ARDA Data Archive. Finally, I thank David Kirk, Effrosyini Charitoupolou and Rage Tai for useful comments.

Introduction

On May 1, 2011 at 11:35pm EDT the President of the United States, Barack Obama, announced to the world: "the United States has conducted an operation that killed Osama bin Laden, the leader of al-Qaeda, and a terrorist who's responsible for the murder of thousands of innocent men, women, and children." And concluded: "on nights like this one, we can say to those families who have lost loved ones to al Qaeda's terror: justice has been done." This event represented the end of a 10-year manhunt and is considered as one of the most significant acts in the fight against al-Qaeda, the organisation responsible for the September 11, 2001 attacks (9/11), where 2,977 people of 77 different nationalities lost their life (CNN 2013)[2] and for at least 749 deadly attacks that caused 10,553 victims in over 20 countries from 2001 to 2011.[3] In this paper, I investigate emotional reactions to the killing of Osama bin Laden – which I leverage as a circumscribed and highly salient exogenous shock. Building on Randall Collins (2004a; 2012), I place the killing of bin Laden in the context of emotional ritual chains, shaped since 9/11. I propose that the representation of the military operation that conducted to bin Laden's death reactivated feelings of ingroup solidarity, polarising emotional responses to the killing. I hypothesise that being exposed to news concerning the demise of a common enemy outgroup led to Schadenfreude (pleasure for the pain of others) and increased happiness. I analyse 10 countries, excluding the United States, for which access to survey micro-data in the four months around May 2, 2011 is openly available, and employ a regression discontinuity design to compare the average happiness of respondents before and after the death of bin Laden. I find that self-reported happiness significantly increases after the event. I also find that a one-unit increase in the victims' toll paid by a country to 9/11 is associated with a significant increase in happiness after the treatment, by around 4% of a standard deviation. When testing

[2] This estimate excludes the 19 hijackers who died while perpetrating the attack.
[3] Author's calculation based on data from the National Consortium for the Study of Terrorism and Responses to Terrorism's Global Terrorism Database (START 2018).

for alternative channels – namely that increased well-being was due to perceptions of increased safety from terrorism – I find that these work in non-competitive directions, as the number of al-Qaeda's attacks in a country prior to 2011 negatively moderates self-reported happiness responses to the treatment. Overall, these findings offer empirical evidence on the hedonic implications of targeted military operations, increasingly common in modern warfare. By doing so, they shed light on the psychological and social mechanisms that shape the approach of individuals in contemporary societies to violence, as well as, indirectly, on policy-makers' incentives concerning the public portrayal of salient warfare events.

Background

The Death of Osama bin Laden

On May 1, 2011 at 11:35pm EDT the President of the United States, Barack Obama, addressed the Nation from the East Room of the White House. He said:

> "Tonight, I can report to the American people and to the world that the United States has conducted an operation that killed Osama bin Laden, the leader of al-Qaeda, and a terrorist who's responsible for the murder of thousands of innocent men, women, and children. It was nearly 10 years ago that a bright September day was darkened by the worst attack on the American people in our history. The images of 9/11 are seared into our national memory – hijacked planes cutting through a cloudless September sky; the Twin Towers collapsing to the ground; black smoke billowing up from the Pentagon; the wreckage of Flight 93 in Shanksville, Pennsylvania, where the actions of heroic citizens saved even more heartbreak and destruction. And yet we know that the worst images are those that were unseen to the world. The empty seat at the dinner table. Children who were forced to grow up without their mother or their father. Parents who would never know the feeling of their child's embrace. Nearly 3,000 citizens taken from us, leaving a gaping hole in our hearts. […] For over two decades, bin Laden has been al Qaeda's leader and symbol, and has continued to plot attacks against our country and our friends and allies. […] Americans understand the costs of war. Yet as a country, we will never tolerate our security being threatened, nor stand idly by when our people have been killed. We will be relentless in defense of our citizens and our friends and allies. We will be true to the values that make us who we are. And on nights like this one, we can say to those families who have lost loved ones to al Qaeda's terror: justice has been done." (The White House 2011).

Obama's speech lasted from 11:35 to 11:44pm and was watched by 56.5 million people (The Wall Street Journal 2011), or 57% of the United States households who owned a television in 2011.[4] By 11:45pm, Twitter users around the world were posting 5,008 tweets per second on the topic, for a total of 27,900,000 tweets posted between 10:45pm and 2:20am: this was the "highest sustained rate of Tweets ever" based on Twitter, Inc.'s own estimates at the time (Mashable 2011). The death of Osama bin Laden was also the "biggest single-week news topic discussed in the blogosphere", as it accounted for 80% of the news links published in the pool of blogs tracked since January 2009 by the Pew Research Center's Project for Excellence in Journalism (PEW 2011a). 83% of the United States citizens interviewed by Gallup between May 5 and May 8, 2011 declared that they were "closely following" the news concerning bin Laden's death, which was the 15th most followed breaking news story out of the 206 for which Gallup ran analogous surveys between 1991 and 2011 (Gallup 2011a). Further emphasising the global saliency of this events, Figure 1 plots worldwide Google search volumes for the keyword 'Osama bin Laden' in the ten days before and after May 2nd, 2011, obtained from Google Trends.5[5] These are plotted together with the volumes for the three keywords which notoriously have the highest overall number of Google search queries on an average day: 'Facebook', 'YouTube' and 'Google'.[6] Worldwide, queries for the keyword 'Osama bin Laden' recorded a significant spike on May 2nd, 2011, and their volume is found on that day to be higher than that recorded for both 'YouTube' and 'Google'.[7]

[4] Author's calculations based on data from the Nielsen's 2012 Advance/Preliminary TV Household Universe Estimate (Nielsen Company 2012).
[5] Google Trends, Google, Inc. Retrieved: https://trends.google.com/trends/explore?date=2011-04-27%202011-05-07&geo=US&q=google,facebook,%2Fm%2F05mg9,youtube
[6] Estimate retrieved from: https://www.mondovo.com/keywords/
[7] When the same analysis is run for search volumes from the United States only, on May 2nd queries for 'Osama bin Laden' are found higher than those for all other most frequently queried.

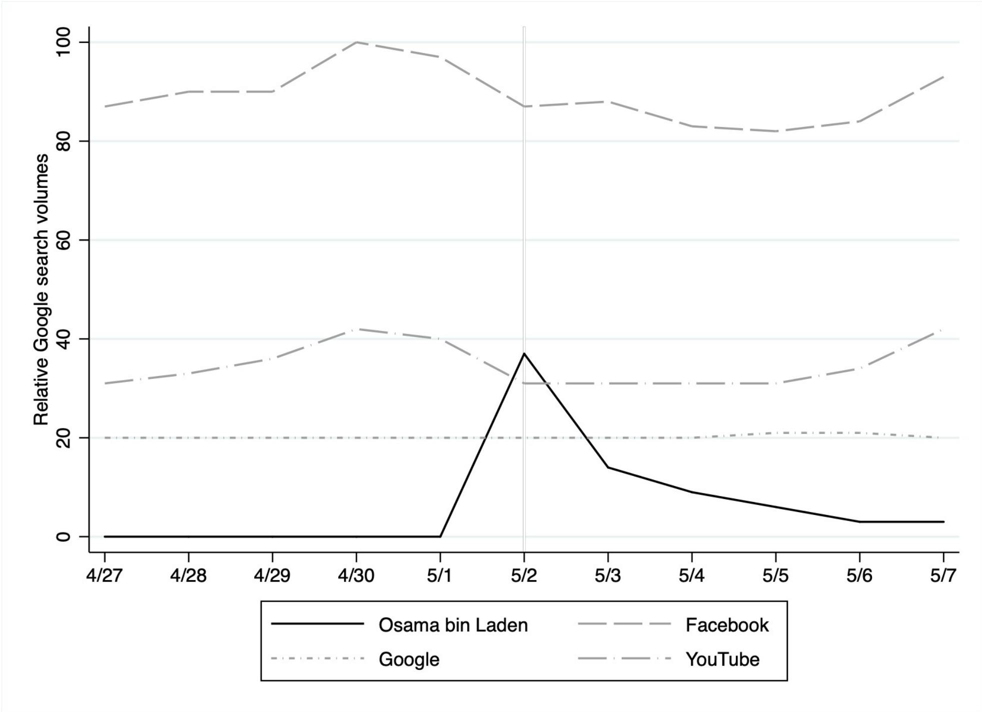


Figure 1. 'Osama bin Laden' queries among top web searches worldwide on May 2nd. Worldwide Google Trends volumes for queries for 'Osama bin Laden'; 'Facebook'; 'Google'; and 'YouTube' for the 10 days around May 2, 2011. Volumes are scaled from 0 to 100 by Google to reflect variations in relative interest in a given geography and time.

Reactions to the Announcement: Anecdotal Evidence

Reactions to Obama's announcement were immediate. In the United States, fans attending the baseball match between Philadelphia Phillies and New York Mets erupted in 'U-S-A!' chants during the 9th inning, when the news began spreading (ESPN 2011). Spontaneous gatherings of people celebrating and waving American flags were reported outside the White House; at Ground Zero and in Times Square (The New York Times 2011). The National 9/11 Pentagon Memorial in Arlington, Virginia saw a spike in visitors on the day following Obama's announcement (Baltimore Sun 2011). Writing on The New York Times, social psychologist Jonathan Haidt commented on the spontaneous celebrations defining these public displays "Good and healthy. […] People who love their country sought one another to share collective effervescence. They stepped out of their petty partisan selves and became, briefly, just Americans rejoicing together." (Haidt 2011). Bowman, Lewis and Tamborini (2014) analyse headlines and subheadings from 401 newspapers published in the United States on May 2, 2011 and qualitatively assess that ingroup loyalty notions of patriotism and Americanness were featured in around 73% of the headlines (*n*=295 out of 401), alongside references to the victims who lost their life during 9/11 (*n*=125).[8] In fact, Cox and Wood (2017) argue that the idea of justice being served was key to characterise reactions to the killing of bin Laden in the United States in both media and political discourses.[9] In the aftermath of the event, statements from leaders across the world, including the Secretary General of the United Nations (United Nations 2011a) and that of NATO (Reuters 2011), reinforced President Obama's message: 'justice has been done' (Al Jazeera 2011; BBC 2011a).

In the public debate, this notion was challenged by questions over the legitimacy of the military action leading to the death of Osama bin Laden. Human rights NGO Amnesty International (2011) warned that: "US forces should have attempted to capture Osama bin

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[8] Browman et al. (2014) also identify heterogeneities in the ways in which the event was covered by newspaper in the United States. Using 2008 Presidential election results to identify 'conservatives' and 'liberal' regions, they find that "newspapers in conservative-leaning regions presented the story as a patriotic 'killing' (an emphasis on authority and loyalty), whereas newspapers from liberal-leaning regions were more likely to present it in terms of justice restoration (an emphasis on fairness and reciprocity)." (Browman et al. 2014:639).

[9] Jarvis and Holland (2014) analyse two years of Obama's speeches to study how the US administration narrated the death of Osama bin Laden between May 2nd, 2011 and January 25th, 2012, when President Obama delivered the 2012 State of the Union address. They find that, in the weeks following May 2nd, the language used to depict the event, previously emphasising the 'death' and 'elimination of the enemy, "Was gradually, but perceptibly, substituted with less descriptive accounts." (Jarvis and Holland 2014:430). Over time, narratives increasingly focused on the legitimacy and the success of the military action, as well as its future consequences for the American people, rather than towards Osama bin Laden himself: "His death, in other words, became increasingly alluded to, and therefore acknowledged only implicitly." (Jarvis and Holland 2014:443). Schrift (2016) analyses the symbolic trajectories of Osama bin Laden's body along the two dimensions of "official narratives about his death and the management of his body and vivid reproduction of his body in popular culture." (Schrift 2016:279). In the post-mortem representations of Osama bin Laden, Schrift (2016) identifies an emerging tension between the cultural notions of national integrity, signalled by the "civility" of the administration's acts towards the handling of bin Laden's body, and the patriotic sentiment encapsulated in popular representation online, in a longer process of "social death" (see also Schlag 2017 for an analysis of Osama bin Laden's "afterlife" through the lenses of three popular images: "the Situation Room photo by Pete Souza, a photo-shopped image purporting to show the terrorist's dead body and the iconic X-ing out of bin Laden on the cover of Time magazine."). In the UK context, the 'appearance' and 'disappearance' of Osama bin Laden in public narratives is further stressed by Ahmad (2018) based on two weeks of BBC's *News at Ten* coverage, from May 2nd to May 15th, 2011.

Laden alive in order to bring him to trial if he was unarmed and posing no immediate threat." Spiritual leader Rowan Williams, Archbishop of Canterbury, stated: "The killing of an unarmed man is always going to leave a very uncomfortable feeling because it doesn't look as if justice is seen to be done." (BBC 2011b). On May 6th, the United Nations Special Rapporteur on extrajudicial, summary or arbitrary executions, Christof Heyns, and the Special Rapporteur on the promotion and protection of human rights and fundamental freedoms while countering terrorism, Martin Scheinin, jointly stated: "The norm should be that terrorists be dealt with as criminals, through legal processes of arrest, trial and judicially decided punishment." (United Nations 2011b, see Watcher 2005; Rogers and McGoldrick 2011; Thorp 2011; Schaller 2015).

Reactions to the Announcement: Evidence from Opinion Polls

Opinion polls, deployed by survey firms and news organizations in the immediate aftermath of the event, appear instead to offer a univocal picture. An overnight survey of 654 Americans conducted on May 2nd, 2011 by the Pew Research Center for the People & the Press and The Washington Post found that 58% (C.I. ± 4.5%) of respondents were 'happy' about Osama bin Laden's death (PEW 2011b); while 79% (C.I. ± 3.5%) of 700 adult Americans, surveyed by Opinion Research Corporation for the CNN, defined their 'personal reaction to the death of Osama bin Laden" as either 'thrilled' (37%) or 'happy' (42%) (CNN 2011). According to a telephone poll of 1,018 adult Americans, run by Gallup between May 5 and 8, 26% (C.I. ±4%) of respondents said they were 'satisfied with the way things are going in the United States', a percentage higher than the 22% of April 2011. A survey of 17,119 people, fielded by IPSOS in 22 different countries between May 9 and 20, showed that 76% (C.I. ±3.1%) of respondents believed that the United States was 'justified in seeking out and killing bin Laden.' (IPSOS

2011).[10] Instant opinion polls released by Gallup in the aftermath of the event revealed that, out a random sample of 645 American adults (aged 18 or older) interviewed on May 2, 2011, 93% (C.I. ± 5%) approved the action, with only 33% expressing a preference for a capturing, rather than killing, bin Laden (Gallup 2011b).

This poll also found that, despite 58% of Americans declared to feel 'safer' after bin Laden's death, 62% of respondents thought that an act of terrorism was either 'very likely' or 'somewhat likely' to occur in the United States (Gallup 2011c). On that day, 94% of the 700 adult Americans surveyed by Opinion Research Corporation for the CNN agreed with the statement 'that the al Qaeda terrorist network will still remain a threat to the U.S.', with 26% deeming 'further acts of terrorism in the United States over the next several weeks' to be 'very likely' – compared to 14% in October 5-7 and May 21-23, 2010. Reactions from al-Qaida to the death of their leader might have further bolstered these fears. On May 3, 2011 a public statement announced that the death of Osama bin Laden: 'will remain […] a curse that chases the Americans and their agents, and goes after them inside and outside their countries.' (BCC 2011c). An analysis of Jihadi forums in the aftermath of the death of bin Laden found several "threats to carry out retaliatory terrorist." (International Institute for Counter-Terrorism 2011:3). On May 13, 2011, a suicide bombing that killed 80 people in Pakistan was claimed as revenge for bin Laden by Taliban spokesperson Ehsanullah Ehsan, who added: "there will be more". The IPSOS (2011) global poll showed that fears of retaliation were also perceived outside the United States: 41% of those polled in countries other than the United States said that

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[10] These countries were: India, United States, France, Great Britain, Australia, Belgium, Canada, Poland, Italy, Hungary, Brazil, Germany, South Africa, Russia, Sweden, Turkey, Spain, Mexico, Japan, South Korea, Indonesia and Argentina. Together with those from the United States, respondents from India (95%), France and Great Britain (87%) were among the most supporting nations of the military action against bin Laden. Respondents from Argentina were the least supportive, with only 45% declaring that the killing was justified. The military action against Bin Laden was disapproved also by a vast majority of the public in Pakistan, according to polls conducted in the country by Gallup (Retrieved from: https://news.gallup.com/poll/147611/pakistanis-criticize-action-killed-osama-bin-laden.aspx) and Pew (Retrieved from: https://www.pewresearch.org/global/2011/06/21/u-s-image-in-pakistan-falls-no-further-following-bin-laden-killing/).

Osama bin Laden's death would result in more al-Qaeda attacks, with 26% feeling 'less safe', while only 15% thought that it would lead to reduced threat, with 11% declaring to feel 'safer'.

2.4 Plan for the Chapter

Summing up, anecdotally, reactions to the death of Osama bin Laden, both in the United States and abroad, were polarised across four cornerstones: 1) relief for the elimination of a common enemy; 2) remembrance of the victims of 9/11, narratively tied to notions of justice being served; 3) concerns over the legitimacy of the military action, and the setting of a legal precedent deemed as potentially dangerous; 4) fears over the possibility that the death of al-Qaida's leader might generate retaliation attacks, leading to further violence. Based on this anecdotal evidence, it is however difficult to establish which effect, if any, would dominate reactions in the general population. In fact, any inference based on commercial opinion polls is threatened by severe data quality issues: first, as most of the polls assessing reactions to the death of Osama bin Laden were deployed only after the event took place, appropriate comparison (control) groups are lacking. Second, even when available, the reliability of these comparisons is threatened by the fact that opinion poll questionnaires are often adjusted to gauge reactions to specific news events, potentially introducing ordering- and other unintended design-effects. Furthermore, the introduction of *ad hoc* questions implies that cueing and framing effects might lead respondents to lean towards specific answers.[11] Third, in several cases questions capturing subjective well-being deviated significantly from accepted literature standards: for example, the Opinion Research Corporation for CNN (2011) poll measured

[11] An example of cueing can be found in the IPSOS global survey, where interviewers read the question "*To what extent do you think the US was justified in seeking out and killing Mr. Bin Laden, who was residing in Pakistan*" after the statement: "*As you may know, Osama bin Laden took personal responsibility for the attacks of 9/11 which destroyed the World Trade Center towers in New York City, USA*". In the Opinion Research Corporation for CNN, the framing of the question "*Based on what you have read or heard about the events surrounding Osama bin Laden's death, would you say you are proud of the way the U.S. military forces involved in that operation handled themselves, or don't you feel that way?*" can be seen as favouring positive over negative responses.

affective reactions to the news concerning the killing of Osama bin Laden on a 3-item scale, where options were 'thrilled', 'happy' and 'unhappy', with 'happy' as the middle (neutral) category. Fourth, the timing of the rollout of these polls might have introduced sampling bias in so far as the probability of taking the survey in a short timeframe after the event might be correlated to unobserved individual-level characteristics, affecting the outcomes. Finally, the fact that some of these surveys were run several days after the event also implies that external priming is likely to shape responses, as individuals were exposed to evolving narratives rather than, directly, to the event. Thus, in the remainder of this paper, I first set out theoretical arguments linking anecdotal reactions 1)-4) to subjective well-being scales. Then, I address issues concerning the unreliability of anecdotal and opinion poll-based evidence by setting out rigorous criteria for survey selection. These bring me to select two surveys (the European Social Survey and the International Social Survey Programme) that were continuously run in a discrete time interval before and after May 2, 2011, and that contain standard measures of subjective well-being. Using weighting techniques to account for sampling biases, I compare average happiness before and after the killing of Osama bin Laden, clearly defining control and treatment groups by leveraging administrative survey information on the day of interview. Finally, I discuss these findings and draw implications for future research.

Theory

Conflict in the Sociological Literature

According to Georg Simmel, "that conflict has sociological significance, inasmuch as it either produces or modifies communities of interest, unifications, organizations, is in principle never contested." (Simmel 1904a:490). Aho (1975) reconstructs the late XIX century United States' reception of European sociologists writing in German, early theorists of conflict, through the mediation of Albion Small, a reader of Gustav Ratzenhofer (Small 1905; 1908)[12] and instrumental in the diffusion of Lester Ward's work to the audience of American sociology (Small 1897; 1903; 1904a; 1904b).[13] Influenced by Polish sociologist Gumplowicz (1883), in his *Pure Sociology* Ward (1903 [1916]:169) described the social world as "a theatre of intense activity", where "competing and antagonistic agencies are fiercely contending for mastery."[14] On the other hand, Simmel "viewed conflict as a reflection of more than just conflicts of interests, but also, of conflicts arising from hostile instincts." (Turner 1975:619). In in Simmel's own words, "the actually dissociating elements are the causes of the conflict – hatred and envy, want and desire." (Simmel 1903:490).

In Simmel's view, emotional involvement plays a distinct role in conflict. Later on, one of his students, Robert Park, described these "passions and sentiments" of conflict as due "not

[12]In Gustav Ratzenhofer's obituary, published in 1905, Small wrote: "his contemporaries have hardly begun to discover the significance of his contributions to sociology. His importance will doubtless be appraised much higher at the end of a half-century than it is at present. The next stage in the development of social science will surely testify to his influence in ways that will render increasing honor to his memory." (Small 1905:544). To testify on Albion Small's role in the reception of this literature, it might be of interest to notice that Small was the translator of the two articles on conflict published by Simmel on AJS in 1904.

[13]In occasion of the second edition of Ward's *Dynamic Sociology,* Small (1897:111) noted: "for ten years I have been instructing students of sociology that they must master this work in order to have the standing ground from which to consider present aspects of sociological problems." Later on, in his review of *Pure Sociology*, a book developed by Ward after discovering Gumplowicz's work (Aho 1975:120), Small did not spare critiques but concluded: "he has been in a class by himself for twenty years, and in spite of all qualifications, this latest volume justifies the belief that his final rank will be among the first-rate thinkers of our period." (Small 1904b:707).

[14]A passage by Gumplowicz (1905) testifies on the reciprocal relation of influence and admiration that connected him to Ward. Reminiscing on a conversation held in Graz on 1903 (see also Ward 1909), Gumplowicz (1905:646) wrote: "I have not met in Europe such a giant of a scholar, who counts the history of mankind by hundreds of thousands of million-year periods. Almost demolished, I ventured only the question 'Then you reject my whole race-struggle theory? […] If I cannot explain race-conflict as a phenomenon that is natural, regular, and rooted deep in the laws of the universe, must my sociological system collapse?' 'By no means,' answered Ward eagerly; 'the social process of human evolution, as you present it - that is, as beginning with innumerable heterogeneous hordes and progressing by means of struggle between them, and consequent assimilation, into a constantly diminishing number, or constantly growing agglomerations perfectly corresponds with reality. That is the social process of our present geologic period. Stick to it! This description is entirely correct for our geologic time; only do not draw any conclusions, from the character of the social process of our geologic period, with reference to the character of the process in earlier ages […].' I drew a long sigh of relief. I had been tried - and saved. I had the feeling of a drowning man to whom a life-line had been thrown. After all, for 'our geologic period' my presentation of the process of social development was correct."

merely to the fact that man is here competing with other men but that he is conscious of those with whom he is in competition, not only of their acts, but of their purposes and intentions." (Park 1941:563) Turner (1975:621) sums up Simmel's view on conflict as follows: first, violent conflict requires a symbolic dimension ("the more conflict is a means to an end, the less likely is the conflict to be violent"); second, violent conflict engages communal identities ("the more conflict is perceived by members of conflict groups to transcend individual aims and interests, the more likely is the conflict to be violent"); third, the level of emotional engagement determines the level of violence, where "the greater the solidarity among members of conflict parties, the greater is the degree of their emotional involvement."

Building on Simmel's general frame, Collins (1975:59) states that group solidarity "is one of the main weapons used in conflict." In fact, "groups with solidarity are more capable of mobilizing and fighting, and groups with very intense solidarity are especially sensitive to threats to their boundaries." (Collins 2012:2). Importantly, for Simmel, "if […] from these impulses conflict has once broken out, it is in reality the way to remove the dualism and to arrive at some form of unity, even if through annihilation of one of the parties." (Simmel 1903:490; see also Simmel 1908 [1955], Chapter 4). The idea that conflict can be 'integrative' and actually generate group cohesion was further developed by Coser (1956) and Collins (1975), who proposes that "the creation of emotional solidarity does not supplant conflict. […] Emotional rituals can be used for domination within a group or organization; they are a vehicle by which alliances are formed in the struggle against other groups." (Collins 1975:59).

Emotional Chains from 9/11 to 5/2

According to Collins, 'atrocities' – defined as "opponents' actions that we perceive as especially hurtful and evil" (Collins 2012:2) – play a key role in the integrative process of conflict, as they can generate 'atrocity loops' which involve focused collective mobilisation and emotional alignment, leading to hardened group boundaries and conflict escalation:

> Atrocities on one side tend to cause atrocities in response. Due to ideological polarization, neither side sees their own actions as atrocities. And this apparent moral blindness, as viewed by the opponent, is taken as proof that the enemy is morally subhuman. Polarization is an intensification of the Durkheimian process of identifying the group with good and evil as what is outside the group's boundary. Intense conflict unifies a group in a tribalistic ritual, giving the palpable feeling that Durkheim argued is the source of the sacred and the basis for social constructions of good and evil. As conflict escalates, polarization increases: the enemy is evil, unprincipled, stupid, ugly, ridiculous, cowardly, and weak—negative in every respect. Our side becomes increasingly perceived as good, principled, intelligent, brave, and all the other virtues" (Collins 2012:5).

Reporting on public reactions to 9/11 in several areas of the United States, Collins (2004) finds that, after an initial shock, standardised expressions of group solidarity, i.e., displaying American flags on cars, windows, items of clothing, emerged and reached a plateau lasting 2-3 months, before a gradual decline to normalcy in around 6 to 9 months, depending on local clusters. Based on a three-wave survey of psychology students from a United States university, administered before and after 9/11, Carnagey and Anderson (2007:124) find "self-reported increases in aggression, anger and hostility" in the second wave (September 20, 2001) compared to the first (November 2000). They also find higher levels of positive attitudes towards war and towards violence against criminals. Attitudes towards war remained more positive up to the third wave of the survey. This was fielded in November 2001, about a month after the start of the Afghan war – waged in direct response to 9/11 (Seip et al. 2014:227). These findings are broadly consistent with Collin's that "atrocities generate righteous anger, an especially Durkheimian emotion, bringing about the imperative feeling that we must punish the perpetrators, not just for ourselves but as a matter of principle." (Collins 2012:2).

From a repeated survey of United States' psychology students (*n*=546), run between February 3, 2002 and April 13, 2004 (mean participation date April 23, 2002), Cheung-

Blunden and Blunden (2008) find that exposing subjects to two 9/11-related photographs[15] generated a range of negative emotions and increased self-reported support for killing a set of al-Qaeda targets, including Osama bin Laden, for the war in Iraq, and for the killing of Iraqi targets. In fact, "intermittent reminders" act as devices of emotional reactivation: according to Collins (2004a:70), they "generate and regenerate solidarity on each occasion they are performed, which in between these times declines as people's focus of attention returners to their ordinary concerns." Immediately following 9/11, particularly effective in reactivation were emotional rituals, in the forms of commemorative gatherings and ceremonies, which operated through a process of symbolic simplification and concentration: "emotions were evoked both by focusing on the dead (both innocent and heroic) and on the human reactions of the crowd, which then were magnified by mutual contagion." (Collins 2004a:67).

While these emotional rituals were focused on the outcomes of 'atrocities' committed by the enemy, 5/2 involved actions directed against the enemy. Nevertheless, the framing of bin Laden's death drew from *repertoires* of representation in continuity with those that had previously characterised the process of intermittent reactivation. Political and media discourse remained centred on ingroup victims and stressed the boundary of the group, described both as in danger and as a holder of distinct values. In this representation, bin Laden was a 'villain', constantly working to set out new threats to the United States and its allies.[16] Thus, responses to the renewed saliency of the conflict loop brought about by the news of bin Laden's death are better understood in the context of emotional chains shaped ever since 9/11. In particular,

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[15]In particular, "Photograph A showed a close-up view of the damaged North Tower and South Tower. Photograph B was a zoomed-out view of the damaged North Tower while the South Tower was engulfed in smoke." (Cheung-Blunden and Blunden 2008:130).

[16]In Obama's words: "for over two decades, bin Laden has been al Qaeda's leader and symbol, and has continued to plot attacks against our country and our friends and allies". Other countries had different ways of portraying the event. Comparing United States' and Russian media coverage, Storie, Madden and Liu (2014) find that some of the Russian media portrayed the event emphasising "the human side of the terrorists and the cruel killing of bin Laden, who in different newspapers was mentioned as 'a sleeping sick old man', or 'a neighbour', or as a father and a husband." (Storie et al. 2016:433).

I propose that emotional reactions to 5/2 depend on the outcome of the process of emotional activation linked to its representation. Two possible outcomes can be distinguished.

The 'Successful Activation' Hypothesis

In so far as the process of emotional reactivation was successful, we can expect it to be having generated ingroup solidarity and intergroup polarization. Consistently with 'parochial altruism', galvanised group boundaries are empirically connected with increased empathy for ingroup members, and diminished empathy towards outgroups (Xu et al. 2009; Dovidio et al. 2010; Maasten, Gillen-O'Neel and Brown, 2010; Cikara, Bruneau and Saxe 2011). In an 8-year follow-up study, Gollwitzer et al. (2014) draw from an online panel asked, in 2003, questions concerning desires for vengeance after 9/11. Out of 221 subjects who were in the sample in 2011, 211 took an additional survey in the two months following bin Laden's death: previously expressed desire for revenge predicted self-reported sense of justice in the follow-up. Gollwitzer et al. (2014:609) also report that "the more people felt that bin Laden's death contributed to a sense of justice, the more they still expressed a desire to avenge the victims of the 9/11 terrorist attacks." In an fMRI experiment, Cikara et al. (2014) find that those subjects who, while performing competitive tasks in a group, showed reduced activation of the medial prefrontal cortex, associated to self-reference, were also more likely to report willingness to harm competitors relative to teammates. They argue that "intergroup competition (above and beyond inter-personal competition) can reduce self-referential processing of moral information, enabling harmful behaviors towards members of a competitive group." (Cikara et al. 2014:36). Experimenting on groups based on sport-teams affiliation, Cikara, Botvinick and Fiske (2011) find a positive link between self-reported likelihood of harming out-groups and in-brain activation of the ventral striatum, a region of the brain whose activation is linked with feelings of pleasure, when subjects in the lab watched the rival team fail. With groups defined by soccer affiliation, Hein et al. (2010) show that participants, whose activation of the ventral striatum was stronger when watching a rival team's fan receive a painful electric stimulation, were also less likely to relieve their pain, when offered to halve the shock. Thus, the pain of enemies placed in a conflictual group situation can generate *Schadenfreude* (Smith et al. 2009). In fact, "because at high polarization the enemy is completely evil, they deserve what is done to them." (Collins 2012:5). In so far as successful emotional activation led the public to experience higher ingroup solidarity and to perceive Osama bin Laden as a 'common enemy' out-group, his killing might have been seen as a righteous punishment, in response to the death of innocent in-groups. By this mechanism, I expect that exposure to the death of bin Laden increased subjective well-being (*Hypothesis 1*).

The 'Backfire' Hypothesis

However, it is also possible that emotional activation failed, draining emotional energy (Collins 2004b). When this happens, "the entire set of feedback loops among solidarity, polarization, and conflict can de-escalate through emotional burnout." (Collins 2012:13). According to Collins (2012:15), during de-escalation, "the opponent is seen as less demonic, our images of ourselves become less omni-righteous, less puffed up with our own virtues and collective omnipotence." By de-emphasising the group boundary, failed activation of conflictual instincts can reduce polarization and increase the moral processing of events with unfortunate consequences for others. In sum, revenge is not always 'sweet' (Carlsmith, Wilson and Gilbert 2008). Humans, in fact, "have strongly aversive emotional responses to suffering in others", which according to Nichols (2005:363) helps in explaining the ubiquity of societal norms directed against interpersonal harm. Building on Elias (1939), Nichols (2002:251) reconstructs historical norm retention using XVI century etiquette rules in Europe as a case study and concludes that "norms gain greater cultural fitness when they prohibit actions that are likely to elicit negative affect." In the context of this long-run 'civilizing process', Pinker (2012:160) stresses the importance of the philosophical work of humanitarian thinkers, including Beccaria (1764 [1785]), in putting forward logical and "explicit arguments that institutionalized violence ought to be minimized or abolished", which led to the foundation of "a new ideology […] that used reason and evidence to motivate the design of institutions." By this emerging rational-legal mentality (Weber 1922 [1968]), individuals and institutions are compelled to abide by procedural norms and formal laws when disposing of the freedom and well-being of others, including threatening out-groups.

As I have shown, concerns were indeed voiced over the legitimacy of the military operation that led to the killing of bin Laden. By this mechanism, the increased saliency of an extra-judicial killing, if seen as a derogation from rational-legal, harm-preventing norms may generate a 'backfire' effect. Neurological evidence has established a direct link between moral judgment and emotional engagement. (Greene et al. 2001): in so far as the 'punishment' was seen as not appropriate, such backfire effect might be connected to decreased sense of justice, which could be expected to lead to a deterioration of subjective well-being. Moreover, concerns over the appropriateness of a salient punishment might have reignited sentiments of grief and trauma for the 9/11 victims. Robust findings have in fact established long-lasting negative psychological effect of 9/11 (Schuster 2001; Ahern et al. 2002; Schlenger et al. 2002; Silver et al. 2002; Holmes, Creswell and O'Connor 2007; Silver et al. 2013). I thus hypothesise that failed emotional activation following the killing of Osama bin Laden led to decreased subjective well-being for exposed populations (*Hypothesis 2*).

Alternative Channels

An alternative channel that might drive subjective well-being reactions to the death of bin Laden refers to whether this event increased or decreased imagined or future danger of retaliation attacks. Using micro-data from the Israeli Expenditure Surveys from 1999 to 2002 – a period of increased violence in Israel (Kaplan, Mintz and Mishal 2005) –, Becker and Rubinstein (2004) observe that consumption behaviours significantly changed in the aftermath of suicide attacks carried out on public buses, with a decrease in the use of public transport by approximately 30 percentage points. They theorise that "shocks to the underlying probabilities of being harmed generate emotions of worry and fear that exaggerate peoples' subjective beliefs as to the marginal impact of consuming of the risk-related goods on the probability of survival" and conclude that "terror generates large-scale effects by damaging the quality of life rather than the 'quantity' of life." (Becker and Rubinstein 2004:28-29). Several studies have shown that exposure to terrorist attacks bear adverse consequences on subjective well-being, both in countries where attacks take place and abroad (Frey, Luechinger and Stutzer 2007; Krueger 2007; Metcalfe, Powdthavee and Dolan 2011; Clark et al. 2017; Bryson and MacKerron 2018; Colombo et al. 2019). Scant but expanding evidence on the negative impact of violent conflicts on happiness[17] similarly emphasises the significance of both vicarious and self-interested psychological mechanisms,[18] the former involving grief for in-group victims and the latter increased levels of anxiety and experienced trauma (Landau, Beit-Hallahmi and Levy 1998; Welsch 2008; Van Praag, Romanov and Ferrer-i-Carbonell 2010; Shemyakina and Plagnol 2013; Coupe and Obrizan 2016; Gokmen and Yakovlev 2018; Kijewski 2019; see Frey 2011; 2012 for early assessments). On the one hand, it is possible people considered the death

[17] Frey (2011:228-229) identifies four main reasons for "why happiness researchers are reluctant to deal with the effect of war on happiness". First, data generating processes are typically disrupted in times of war. Second, people can be affected by recall biases when they are asked to recollect past experiences, especially if traumatic. Third, the definition of "war" is uncertain and different conflicts may have very different implications on the lives of individuals. Fourth, reverse causality might blur identification.
[18] Running cross-national regression models with happiness as the dependent variable and the number of victims from conflict in 44 countries as the main independent variable, Welsch (2008:336) finds that "the direct effects (related to suffering, fear, and altruism) seem to be larger than the indirect, pecuniary effect", related to income losses. Kijewski (2019) uses survey data from 34 countries in 2010 to study the satisfaction with life of people exposed to World War II and finds that "war experiences continue to be related to lower levels of life satisfaction even six decades after the end of the war, both among members of the war generation and subsequent generations."

of bin Laden as a signal of al-Qaeda's weakening, thus expecting lower levels of future violence.[19] Intuitions by Becker and Rubinstein (2004) imply that a shock which decreases the perceived probability of being harmed leads to positive emotions and increased 'quality of life', mapping into an increase in subjective well-being (*Hypothesis 1.a*). Conversely, potential increases in the perceived probability of retaliation attacks, following bin Laden's death, can be expected to lead to an instantaneous deterioration of subjective well-being (*Hypothesis 2.a*).

Data and Methods

Survey Selection

Throughout its history, the reach of al-Qaeda's warfare activities has spanned beyond a single country or region. Data retrieved from the Global Terrorism Database, curated by the National Consortium for the Study of Terrorism and Responses to Terrorism (START), that I matched with information on terrorist groups from Hou, Gaibulloev and Sandler (2019), indicate that al-Qaeda carried out at least 3,403 attacks in 32 countries from the 1990s to 2017, causing the death of 19,034 people. Because of the international scope of al-Qaeda, and because of the global significance of the September 11, 2001 attacks, the death of Osama bin Laden represented a salient event worldwide. Therefore, when testing for Hypotheses 1-2, I do not restrict my investigation geographically. Instead, I combine data from the European Social Survey Round 5 (ESS 5)[20] and the International Social Survey Programme Round 2011 (ISSP

[19]The question of whether terrorist attacks increase, or not, following a targeted killing is disputed in the empirical literature. Kaplas et al. (2005) analyse data from Israel and conclude that "the targeted killing of terror suspects sparks estimated recruitment to the terror stock that increases rather than decreases the rate of suicide bombings". Hafez and Hatfield (2006) find that "targeted assassinations have no significant impact on rates of Palestinian attacks". Hepworth (2014) examines the attacks of al Qaeda and al Qaeda-related groups in the two months after the killing of four of its top-tier leaders (Abu Musab al-Zarqawi, Abu Ayub al-Masri, Osama bin Laden, and Anwar al-Awlaki), and finds no evidence of an increase in the frequency of attacks. Johnston (2012) finds instead that "insurgent attacks are more likely to decrease after successful leadership decapitations than after failed attempts.".
[20]European Social Survey Round 5 Data (2010). Data file edition 3.4. NSD - Norwegian Centre for Research Data, Norway – Data Archive and distributor of ESS data for ESS ERIC. doi:10.21338/NSD-ESS5-2010.

2011),[21] which were fielded in the following 10 countries: Belgium; Cyprus; France; Israel; the Netherlands; Russia; Slovenia; Spain; Sweden; and Switzerland. Before selecting these surveys, I leverage several data repositories and expert knowledge to scan for all the social surveys fielded during 2011, based on four criteria: first, to allow for sufficient degrees of freedom, i.e. a large enough sample, the survey fieldwork must have run 60 days before and after May 2, 2011; second, the survey must contain comparable, literature-validated subjective well-being measures; third, all surveys must have the same final sampling unit (individual); fourth, for replicability purposes, data must be openly accessible. As detailed in Appendix (Table A1), I list 36 social surveys fielded in 2011, with only ESS 5 and ISSP 2011 matching all criteria. No survey meeting these criteria was active in the United States.

Dependent Variable

To measure emotional responses to Bin Laden's death, I focus on self-reported happiness as my dependent variable. While ESS 5 presents both self-reported life satisfaction and happiness variables, measured on an 11-point scale, ISSP 2011 only offers a self-reported happiness variable, measured on a 7-point scale. I combine these two measures building on Easterlin and Angelescu (2009:3). To re-express a 1-4-point scale into a 1-10-point scale, they write: "We assume a response of 4 corresponds to a response of 10, a response of 1 on the 1-4 scale to a response of 1 on the 1-10 scale, and make a linear transformation using the formula: y=3x-2". I assume that a response of 0 in the ESS scale is equivalent to a response of 1 in the ISSP, and that a response of 10 in the ESS is equivalent to a 7 in the ISSP. This allows me to write a system of two equations in two unknowns,[22] which I solve to define the following suitable

[21] International Social Survey Programme: Health and Health Care - ISSP 2011. GESIS Data Archive, Cologne. ZA5800 Data file Version 3.0.0, doi:10.4232/1.12252.

[22] I write this system of two equations as x=y+1 and 7x=11+y, where *x* is the ISSP measure and *y* the ESS measure of happiness. It can be shown that the solution to this system is y=-2/5 and x=3/5.

linear transformation: $\text{Happiness}_i = 3/5\ \text{Happiness}_{ESS} + 2/5$. Importantly, wellbeing questions are often referred to specific timeframes. Thus, combining ESS 5 and ISSP 2011 happiness questions would be an issue if these referred to different time anchoring. The actual wording of ESS 5 happiness question is as follows: "Taking all things together, how happy would you say you are?". Similarly, the ISSP 2011 survey asks respondents: "If you were to consider your life in general these days, how happy or unhappy would you say you are, on the whole?". These two questions are both related to general feelings of happiness in the present. However, the fact that ISPP 2011 explicitly anchors the question to the immediate present might create dyscrasia among the two measurements. In Appendix (Table A7), I re-estimate Equation (1) for each of the two surveys separately.

Identification Strategy

To identify the subjective well-being effect of bin Laden's death on respondents, I employ a regression discontinuity design that compares the average happiness score for the control group, defined as respondents interviewed before May 2, 2011, with the average happiness sore for the treatment group, composed by respondents interviewed after May 2, 2011. Formally, I estimate the following ordinary-least square model:

$$\text{Happiness}_i = \alpha + \theta\ \text{Treatment}_t + \beta_1 \text{Time}_t + \beta_2 \text{Time}_t \text{ x } \text{Treatment}_t + \boldsymbol{\beta}_3 \mathbf{X}_i + \boldsymbol{\beta}_4 \mathbf{Z}_j + \varepsilon_i \qquad (1)$$

where $Happiness_i$ is the outcome variable, ranging from 1 to 7, and $\mathbf{X}_i$ a set of covariates which includes age, a dummy for whether a respondent is a male or a female, and years of completed education; while at the macro-level they include country fixed effects, fitted through country dummies ($\mathbf{Z}_j$). The inclusion of these fixed effects allows me to control for any time-invariant characteristic at the country-level. In Equation (1), $Treatment_t$ is a dummy for assignment to the treatment. As detailed in the Background section of this paper, Barack Obama announced bin Laden's death at 11:35pm EDT on May 1, 2011. In my sample, this corresponded to 5:35am of May 2, 2011 for Belgium, France, the Netherlands, Slovenia, Spain, Sweden, and Switzerland; and to 6:35am of May 2, 2011 for Cyprus, Israel and Russia. Thus, I can define treatment- and control-groups according to a sharp treatment-assignment function, under the assumption that all respondents interviewed on May 2, 2011 are treated:

$$Treatment_t = \begin{cases} 0 \; for \; respondents \; interviewed \; before \; May \; 2, 2011 \\ 1 \; for \; respondents \; interviewed \; since \; May \; 2, 2011 \end{cases}$$

In Equation (1), θ represents the impact of the treatment, as the difference between the expected values of *Happiness*$_i$ before and after Osama bin Laden's death:

$$\begin{aligned} \theta &= E[Y(1) - Y(0) \mid T = t_0] \\ &= E[Y(1) \mid T = t_0] - E[Y(0) \mid T = t_0] \\ &= \lim_{t \downarrow t_0} E[Y(1) \mid T = t_0] - \lim_{t \uparrow t_o} E[Y(0) \mid T = t_0] \end{aligned}$$

This identification strategy relies on the assumption that, after controlling for these covariates, the assignment of respondents to the treatment group is 'as good as random' (Lee and Lemieux 2010). Lee (2008) shows that, for identification to be sustained in a regression discontinuity design, it is sufficient that subjects are not able to manipulate assignment to the treatment. In the context of this investigation, this condition would fail if respondents could choose their interview date as a function of the announcement of the death of Osama bin Laden. This is not a realistic identification threat, both because the announcement of Osama bin Laden's death was unexpected, thus representing an exogenous information shock for the general population, and because survey respondents have only limited control on the timing of their interviews in large social surveys. It is however possible that the probability of being interviewed before or after Osama bin Laden's death is different from that of a coin-flip because respondents with certain characteristics had different underlying probabilities of being interviewed as a function of the fieldwork's progression (Legewie 2013).

To address ignorability, I rely on entropy balancing, a reweighting technique that allows to obtain balanced samples conditional to a set of covariates (Hainmueller 2012).[23] Through entropy balancing, I obtain comparable pre- and post-treatment groups by adjusting for inequalities in the representation of specific categories of respondents in the treatment and control group, with respect to the first, second and third moments of the distribution of $\mathbf{X}_i$ and $\mathbf{Z}_j$. In general terms, entropy balancing is a generalization of reweighting based on propensity scores. In propensity score weighting, the researcher first fits a logistic regression and then computes balance checks iteratively, until the estimate weights equalize the distribution of the covariates (Hirano, Imbens and Ridder 2003). Entropy balancing, on the other hand, adjusts the weights to the known sample moments, allowing them to vary smoothly across units. After having specified the list of covariates and the distribution moments that need to be matched, entropy balancing searches for the sets of weights that satisfy balance while remain as close as possible to uniform weights. This way, entropy balancing adjusts for both random and systematic inequalities across groups and orthogonalizes the treatment indicator with respect to the covariates listed in the computation of the weights, guaranteeing ignorability (Hainmueller 2012:26). An additional 'excludability' assumption however also needs to be met. This requires that there is no trend in potential outcomes, correlated with the treatment, nor other sources of variation in outcomes apart from the treatment (Hahn, Todd and Van der Klaauw 2001). In Appendix (Figure A3), I present a set of discontinuity plots for the covariates

[23] I leverage the user-written command 'ebalance' (Hainmueller and Xiu 2013).

listed in **X**i: jumps in the covariates at the threshold are typically seen as a threat to the plausibility of the excludability assumption, as they would introduce a source of variation in potential outcomes at the threshold. These checks confirm that there are no significant discontinuities in covariates at the threshold. To minimise threats to excludability, I also experiment with a set of regressions, where the timeframe of analysis is progressively narrowed from 60 to 10 days. The narrower the timeframe, the lower the likelihood that other intervening factors, apart from the event under study, impacted happiness outcomes in the treatment group (Table A3).

Disentangling Theoretical Channels

Equation (1) allows me to estimate the subjective well-being effect of the treatment (positive, negative, or null). In order to disentangle the two possible channels described above, I stratify Equation (1) regression by the levels, in quartiles, of two theoretically relevant variables. For *Hypothesis 1* and *Hypothesis 2*, this is number of 9/11 victims by country, retrieved from the 9/11 Memorial Mapping project, hosted at Stanford University,[24] cross-validated using information held at the National September 11 Memorial & Museum.[25] The distribution of this variable is shown in Figure 2. If I observe different treatment effects by level of the moderating variable, then I infer that chains connected to 9/11 might moderate emotional responses to the killing of Osama bin Laden, providing verification to the channel of *Hypotheses 1* and *2*.

[24]Memorial Mapping: Transnational 9/11 Memorials, University of Notre Dame Stanford University. Available at: http://www.memorialmapping.com/casualties-by-country

[25]The National September 11 Memorial & Museum offers an online Guide, that allows to identify 9/11 victims by birthplace. This is available at: https://names.911memorial.org/#lang=en_US. To cross-validate the 9/11 Memorial Mapping Project data, I have run a set of ad hoc searches on the Memorial Guide online search tool, for the countries making up my sample. These searches returned the following number of victims, whose birthplace matched countries in my sample: Belgium (1); Cyprus (1); France (3); Israel (3); the Netherlands (2); Russia (5); Slovenia (0); Spain (1); Sweden (2); Switzerland (2). Results thus differed from those of the 9/11 Memorial Mapping Project in the following instances: Cyprus (1 vs 0); Israel (3 vs 5); the Netherlands (2 vs 1); Russia (5 vs 1); and Sweden (2 vs 1).

Instead, For *Hypotheses 1.a and 2.a*, I estimate Equation (1) by levels of a variable capturing the number of al-Qaeda attacks in a country, based on data from the Global Terrorism Database (2018). The distribution of this variable is shown in Figure 2.b. Since the underlying channel of *Hypothesis 1.a* and *2.a* is that increase (or decrease) in perceived safety have direct impact on quality of life, thus on well-being, a gradient of the treatment effect based on levels of al-Qaida victims in a country might indicate a role for these concerns in shaping hedonic reactions to the death of Osama bin Laden. Table 1 reports summary statistics for the variables used in the analysis. All analyses are run in STATA v.16/SE.

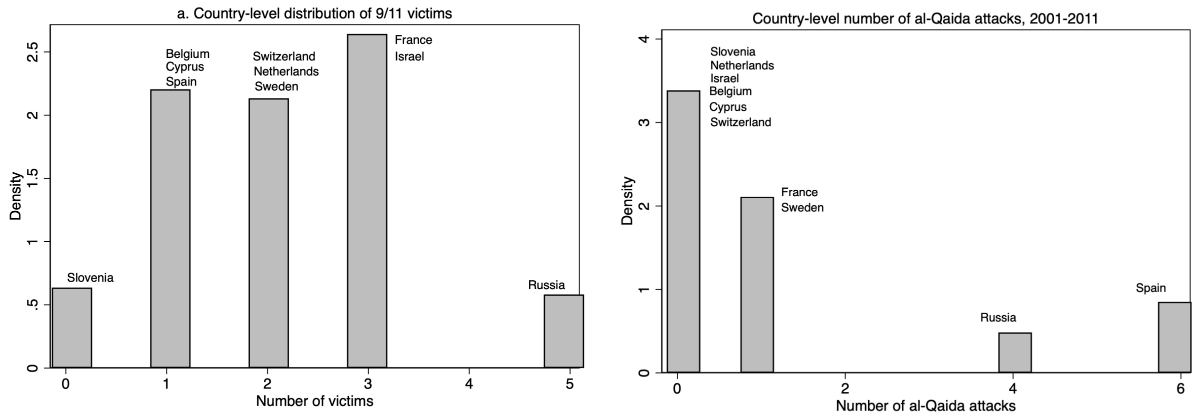


Figure 2. Distribution of the moderating variables.

Table 1

Summary statistics

	Mean	Sd	Min	Max
Outcome variable				
Happiness	5.28	1.01	1	7
Treatment indicator				
Death of bin Laden	0.41	0.49	0	1
Mediators				
9-11 victims (*n*)	2.11	1.24	0	5
al-Qaeda attacks (*n*)	1.35	2.04	0	6
Individual covariates				
Sex (1=*Male*)	0.45	0.50	0	1
Age (*years*)	48.47	17.43	15	85
Education (*years*)	12.61	3.58	0	20
Observations	*N*			
ESS	4,979			
ISSP	7,744			
Total	12,723			

Results

Main Results

In Figure 3, I present a discontinuity plot for my dependent variable ($Happiness_i$), where two mean-smoothed polynomial regression lines are fitted on the 60 days before and after May 2, 2011 and plotted separately on the two sides of the cut-off point. Grey dots represent individual observations (n_{control}=7,476; n_{treatead}=5,247). To correct for mismatches between a country's population and its sample size, I employ population weights, which I generate by combining United Nations' population estimates for 2011[26]. From Figure 3, it is possible to observe that

[26]United Nations, Department of Economic and Social Affairs, Population Division (2019). World Population Prospects 2019, Online Edition. Retrieved from: https://population.un.org/wpp/. I generated the population weights using the formula: $\text{pweight}_j = \text{population\_proportion}_j / \text{sample\_size\_proportion}_j$

the intercept at the cut-off point for the regression estimated in the 60 days after the treatment is found at a higher level compared to the intercept at the cut-off point for the regression estimated in the 60 days before the treatment. 95% confidence intervals do not appear to overlap. Thus, this visual inspection suggests that assignment to the treatment (being interviewed after Osama bin Laden's death) had a net positive effect on subjective well-being, sharply increasing happiness of respondents. The pre-post difference in weighted means is equal to 0.42 (pre-treatment weighted mean 4.89; post-treatment weighted mean 5.31).[27] As shown visually in Appendix (Figure A2) this effect is not driven by the weighting procedure employed: the pre-post difference in absolute happiness mean for happiness is still positive, albeit smaller, and equal to 0.15 points (as the difference of a pre-treatment absolute mean equal 5.21; and a post-treatment mean of 5.36).

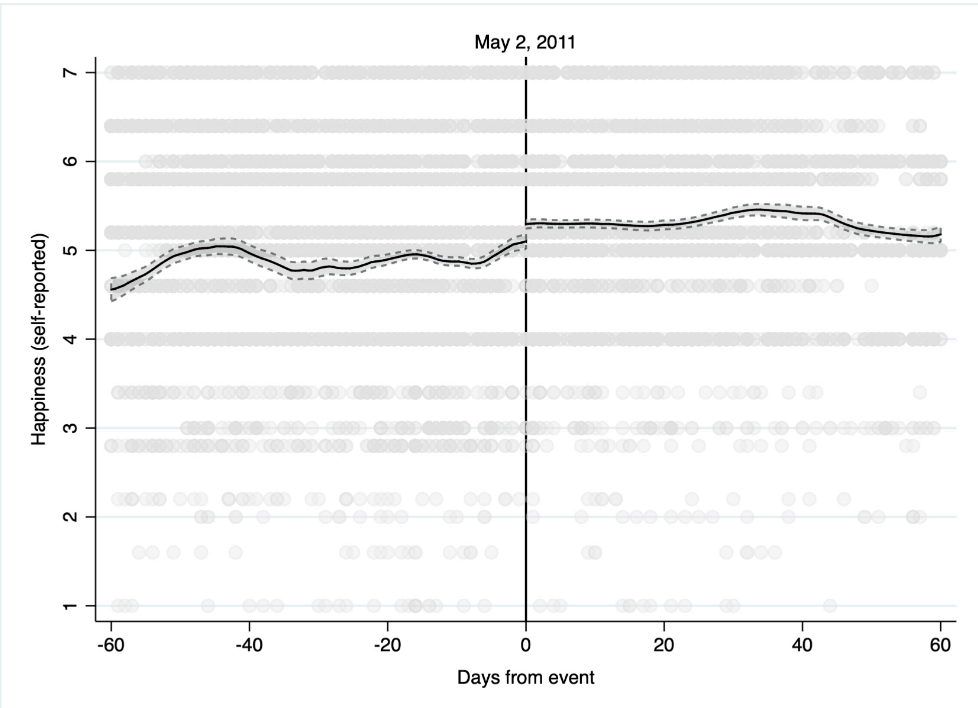


Figure 3. Discontinuity in self-reported happiness after Osama bin Laden's death. Discontinuity plot based on a kernel-weighted local polynomial regression (local-mean smoothing) with intercept at t=0. Bands are 95% confidence intervals. Grey dots represent observations.

[27]Computed with the user-written command 'asgen' (Shah 2017) in STATA v.16/SE.

Next, I present ordinary least-square estimates for the model of Equation (1). In Table 2 Column (1), happiness is regressed on the treatment variable, while allowing for a linear time trend and controlling for a time-treatment interaction. This estimate represents the net effect of the treatment at the cut-off and is found to be significant (0.001 level) for both raw data and for the rebalanced sample, when individual covariates and country of residence dummies are used as reweighting variables. In this model, being assigned to the treatment brings a 0.20/0.27-point increase in happiness. Adding individual controls to the model (Table 2 Column 2) does not yield changes in the significance of this correlation, although the θ coefficient marginally shrinks for both raw and balanced data. This indicates that heterogeneity in treatment effect by observable covariates might be in place: when the treatment variable is interacted with each of the three covariates in **X**i simultaneously (not shown), happiness is tentatively found to increase more for males than for female respondents after the treatment (θ_{male}=0.067, p-value=0.061). Interaction coefficients for education and age are negative but not correlated with happiness at conventional levels of significance. In Table 2 Column (3), I add country dummies to the regression model. The inclusion of this variable sizeably reduces the estimated magnitude of the treatment effect, which does not significantly differ from zero in the raw data. In the balanced data, the correlation between happiness and the treatment assignment is still positive and retains its significant (at the 0.01 level). In this model, being interviewed right after the death of Osama bin Laden is associated to an average 0.08-point increase in happiness scores (or 7.9% of a standard deviation).

Table 2

Effect of the death of Osama bin Laden on self-reported happiness

Balancing:	No (Raw data)		
	(1)	(2)	(3)
Main Treatment effect	0.276***	0.268***	0.036
	[0.213,0.338]	[0.206,0.330]	[-0.027,0.100]
Balancing:	Individual covariates and country		
	(1)	(2)	(3)
Main Treatment effect	0.201***	0.188***	0.082**
	[0.146,0.256]	[0.134,0.242]	[0.027,0.137]
Controls			
Age	NO	YES	YES
Education	NO	YES	YES
Gender	NO	YES	YES
Country dummies	NO	NO	YES
Observations	12,723	12,723	12,723

Results reported in this Table 2 hold across several robustness checks, presented in Appendix. These include restricting the timeframe of analysis (Table A3); accounting for heteroskedasticity in the standard errors (Table A4), re-estimating Equation (1) via ordered logistic regressions to baccount for the fact that categorical nature of happiness scores (Table A5) and by employing different reweighting (Table A6). Over a full set of 24 robustness checks, 4 fail to reject the null hypothesis of no correlation between the treatment assignment and happiness scores in this sample. Based on these results, I conclude that I find some confirmation of *Hypothesis 2*, or 'Schadenfreude' hypothesis: exposure to the killing of Osama bin Laden led to a statistically significant increase in subjective well-being of respondents. In Figure 4, I plot θ_j coefficients, obtained by interacting country and treatment dummies. The largest effects are found for respondents in Israel, Cyprus, Sweden (not significant), Slovenia and Switzerland.

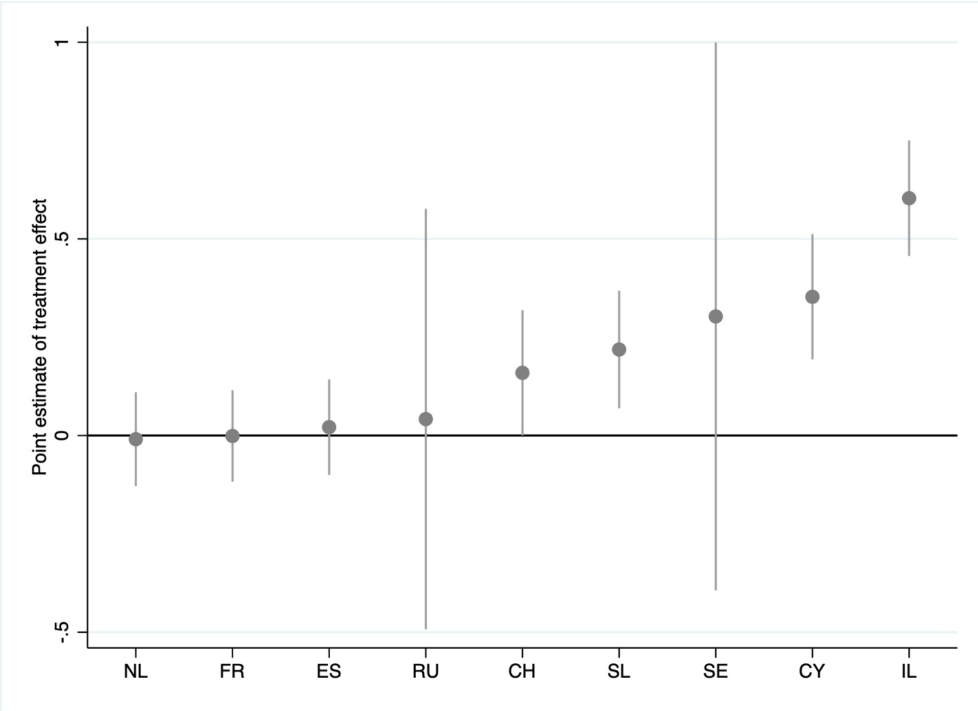


Figure 4. Main treatment effect by country. Coefficients are obtained estimating Equation (1) on each country's sample, reweighted to make groups comparable.

Exploring the Channels

In Figure 5, I explore heterogeneous treatment effects by stratifying Equation (1) conditionally on the values of the theoretical moderators, i.e., a country's number of victims to 9/11 and the number of al-Qaida attacks from 2001 to 2011. In Figure 5.a, I show coefficients from Equation (1) estimated after clustering countries based on the quartiles of the distribution of al-Qaida attacks in a country. Specifically, I split the sample in three groups: lowest quartile (0 attacks: Belgium, Cyprus, Israel, Netherlands, Slovenia, Switzerland); highest quartile (4 attacks or more: Spain, Russia); and interquartile range (1 attack: France, Sweden).

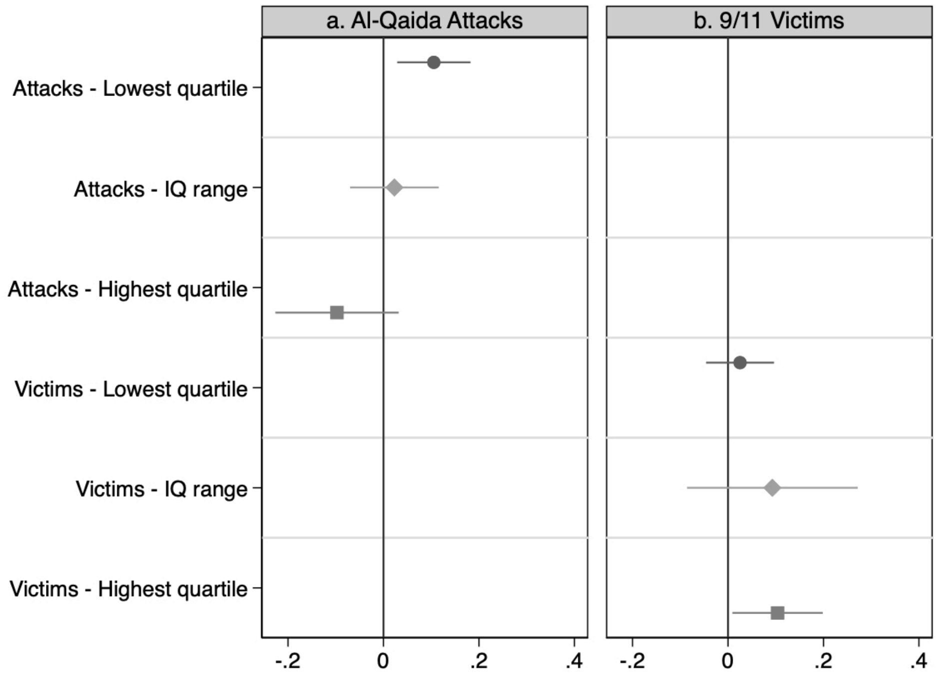


Figure 5. Main treatment effect stratified based on the quartile distribution of the moderators. Point estimates from pre-post regressions and confidence intervals

In Figure 5.a, I find that countries that had 0 attacks yield a positive and statistically significant treatment coefficient, whereas this effect disappears in the other groups. At the highest quartile, the treatment effect flips sign and appears negative, although not statistically significant. Thus, it appears that positive reactions to the death of bin-Laden were not driven by "perceived quality of life", rather, if anything, fear of retaliation dominated responses in high-attack countries (*Hypothesis 2.a*). Turning to the number of 9/11 victims, I observe a different gradient: splitting the sample according to lowest quartile (1 victim or less: Belgium, Cyprus, Slovenia, Spain); highest quartile (3 victims or more: France, Israel, Russia); and interquartile range (2 victims: Sweden, Netherlands, Switzerland), I find that countries in the highest quartile appear to have a positive and statistically significant coefficient, offering that hedonic reactions to the death of bin Laden are larger in those countries that suffered a higher toll to 9/11. However, the presence of Israel – a country that, as seen in Figure 4, yields a large treatment effect – on both high-victims and low-attacks groups might imply that these respondents are actualy driving the observed gradient across both sets of stratified regressions. To check that this is the case, in Figure 6, I repeat the analysis, excluding Israeli respondents.

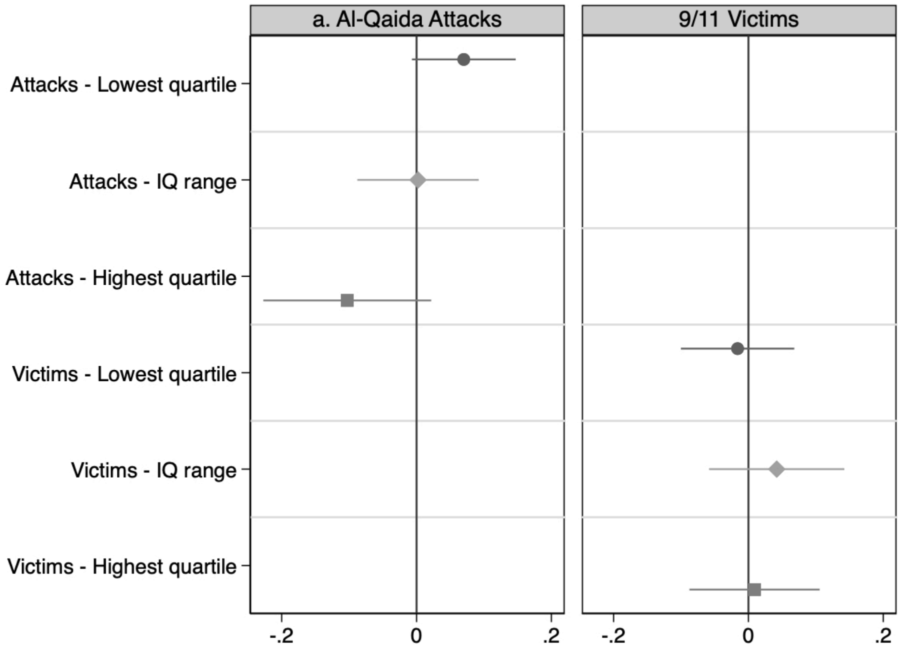


Figure 6. Main treatment effect stratified on the quartile distribution of the moderators, excluding respondents from Israel from the sample.

Looking at Figure 6, I find that respondents from Israel appear to drive the positive and statistically significant coefficient in the high-victim group, which becomes very close to zero and for which we can no longer reject the null hypothesis of no treatment effect after these respondents are excluded from the sample (Figure 6.b). Additionally, when looking at the point estimate for the lowest quartile of the distribution of al-Qaida attacks, I find that, although the size of the coefficient does not change when excluding Israeli respondents, the confidence intervals overlap the zero line, thus the estimated effect appears to become marginally not significant. Thus, I fail to find direct confirmation to either of the theoretical channels described in the Theory section – an issue that I take up in the Conclusions.

Discussion

A few qualifications of these findings are in order. These relate, first of all, to the validity of my research approach, and the assumptions that it requires; secondly, to the validity of the findings, and the inferences that can be drawn from them. Turning first to the general validity of my approach, I note that I employ a coarse treatment assignment function, which relies on the assumption that all individuals interviewed after May 2, 2011 have learned about Osama bin Laden's death. However, people have limited amounts of attention, which they need to continuously allocate across different options: as acquiring information is costly to individuals, inattention can represent a rational cost-avoidance strategy (Sims 2003; Wiederholt 2010). Despite anecdotal evidence concerning the relevance of the event of interest, it is possible that not all respondents after May 2, 2011 took up the treatment. Furthermore, if non-compliance did affect the treated, lack of suitable survey questions, capturing actual media consumption, makes it impossible to reliably assess the extent to which this happened. This concern is magnified by the fact that I focus only on countries other than the United States, where the event of Osama bin Laden's death might have not been as salient.

On the one hand, the presence of non-compliers among the treated introduces a downward bias to my estimates: as the potential outcomes of non-compliers cannot be expected to change as a function of the treatment, the average for both compliers and non-compliers should be lower than that for compliers alone in light of the effects of Table 2. On the other hand, communication research has overwhelmingly shown that political news consumption is shaped by a wide array of socio-economic factors (Lippman 1922 [2017]; Dewey 1927 [2012]; Gallup 1930; Nafziger 1930; Neuman, Just and Crigler 1992; Price and Zaller 1993; Tewksbury 2006; Althaus, Czimar and Gimpel 2009; Shehata and Strömbäck 2011; Webster and Ksiazek 2012; Lee 2013). This implies that, if the underlying characteristics of newsavoiders were correlated with both happiness scores and the probability of being interviewed after the treatment, the presence of non-compliers would represent a threat to the internal validity of my findings. Controlling and re-balancing based on education, age and gender addresses this issue, but I cannot exclude that unobservable characteristics, beyond these controls, might generate imbalance across the two groups.[28] To alleviate this threat, I include country-fixed effects among both controls and rebalancing variables, as different sampling procedures by country might yield different make-up of respondent. Furthermore, to take into account the fact that different surveys might have different underlying probabilities of interviewing different groups of people, I estimate a set of models that included survey identification dummies among the rebalancing variables (Table A5). These models confirm the main conclusion of the paper, that increased happiness followed Osama bin Laden's death.

This conclusion is however only valid in so far as the estimates of the θ coefficient are meaningful estimates of the treatment effect. There are however four main threats to this claim. First of all, it is possible that happiness scores change not as a result of increased happiness, but simply because exposure to a salient event increases short-run excitement: individual happiness may behave in the same way stress does, with a large strand of literature showing that stress increases with both negative and positive life events.[29] Thus, it is possible that the death of bin Laden increased excitement rather than happiness, and that θ coefficients in Table 2 are simply measuring this change. Although I have no direct way to test that this is the case, in Appendix present a set of discontinuity plots leveraging additional items contained in the questionnaires (Figure A4). In particular, in the ESS, respondents are asked

[28]Unfortunately, there is only limited availability of comparable questions across the two surveys, beyond the three individual-level covariates included in the parsimonious model of Equation (1). However, it must be noted that age, gender and education are powerful determinants of a wide set of socio-economic outcomes and that, together with place of residence, they represent the main variables often used to model reachability in complex surveys (see, e.g., European Social Survey 2014: 10-11).
[29]I thank my examiners for this point.

whether, over the past 2 weeks, they: "Have felt calm and relaxed"; "Have felt cheerful and in good spirits"; "Have felt active and vigorous". I use these questions to check for discontinuities at the thresholds. I find lower intercepts, corresponding to higher enjoyment, on all three items. This appears to confirm that the change in hedonic state was not limited to the happiness measurement: thus, excitement played a role. ISSP 2011 offers instead a more direct assessment of the stress literature critique. In particular, it asks how often, over the past 4 weeks, respondents felt unhappy or depressed. If excitement drove responses to a point of rendering change in affect not meaningful, I might expect values in item to also increase. However, I find that the confidence intervals overlap at the threshold. At the same time, the value of the intercept is found at lower point at the threshold – an indirect, albeit tentative, evidence that the change in affect does not carry in both directions, positive and negative.

Second, it is also possible that the changes in happiness across exposed and non-exposed groups are driven by other factors, such as unobserved events and time trends that might affect. In fact, several other events happen in the estimation window: Cuban President Fidel Castro stepped down on April 19th, Prince William and Kate Middleton married on April 29th; Fatma and Hamas signed a peace agreement on May 4th; the President of the International Monetary Fund, Strauss-Kahn, was arrested on May 11th; war criminal Ratko Mladic was captured on May 26th; while a mosque in Yemen was bombed on 3 June.[30] Although, as I have proposed in the background section, the Osama bin Laden story was among the most salient news stories of the decade, it might be that other events impacted happiness, driving results presented in Table 2. To minimize this possibility, in the Appendix, I present set of models that restrict the bandwidth around the threshold from 60 to up to 10 days before and after the event: the closest around the cut-off the estimation window, the less likely it is that other intervening factors, beyond the treatment, are impacting the estimates. Results for the bin Laden treatment

[30]I thank my examiners for this point.

coefficient are significant across all of these models (Table A3). Third, looking at the pattern of answers in Figure 2, it appears that the increase in wellbeing after the event is driven by disappearance of the bottom, with exposed respondents less likely to respond with low values to the happiness question. To address this threat, I run a set of higher-order polynomial regressions, that confirm my findings (Table A7). A fourth factor that might vitiate the findings has to do with interviewer effects, and with the possibility that interviewers influenced the mood of respondents after the event. In this respect, Leach and Spears (2009) suggest that expression of Schadenfreude may signal group belonging, so that individuals interviewed right after the death of bin Laden might have filled questionnaires performatively – a form of social desirability bias. In Table A9 in Appendix, I exploit differences in mode administration across the two surveys to show that treatment effects are statistically significant in the ISSP 2011, mostly administer by mail, compared to ESS, administered through face-to-face interview (see Table A1 for details). This indirectly reassures over the absence of strong interviewer effects.

Finally, and more broadly, combining data from several countries should generally be approached with caution (Ostroot and Snyder 1985). Thompson (2008: 137) emphasises that "for such an analysis to be appropriate, the model structure (the regression equation and its variables) should be correct for all countries, and the assumption of common parameters should be supported by theory and observation." Equation (1) assumes common parameters for the treatment effect (θ), the individual covariates (β_3), the intercept (α), as well as a common distribution of errors across countries and surveys (ε_i). Throughout this paper, I present several models that relax these assumptions. As for the coefficients in $\beta_3 X_i$, it must be recalled that age, gender and years of education typically bear univocal happiness effects, regardless of the country in which the estimation is performed (Blancfhlower 2009). Nevertheless, when I allow for country-specific coefficients for these covariates jointly, by means of country-covariates interactions, I do not find any alteration in the significance, the size, or the direction of the treatment effect (θ=0.084, p=0.002). In terms of common α, a traditional way of relaxing this assumption is to utilise hierarchical designs, such as multilevel mixed-effects models (Searle, Casella and McCulloch 2009). Running a two-level regression with individual observations nested in countries, thus allowing intercepts to vary across countries, does not yield significantly different results for the treatment effect (θ=0.082, p =0.075). In Appendix (Table A4), I specify models that cluster errors at the level of country and at the country-survey intersection, which broadly confirm results of Table 2. Finally, bust most importantly, based on the results reported on Figure 4, the assumption of common θ across countries is not met in the data. In particular, Israel, Cyprus, Slovenia and Switzerland have significantly different treatment effects, compared to the rest of the sample. Although estimates of the main treatment effect remain positive and statistically significant even after excluding either of all of these countries, the peculiar histories of each of this group put any generalizations of the findings of this paper in question.

Conclusions

In this paper, I investigated happiness responses to the killing of Osama bin Laden, happened on May 2, 2011. I proposed that these emotional reactions are better understood in the context of emotional chains, centred on 9/11. Building on Collins (2004a; 2012), I reconstructed the emphasis on ingroup victims in these emotional chains. This allowed me to formulate two alternative hypotheses, namely that successful emotional reactivation following 5/2 reignited group solidarity and intergroup polarisation, so that the death of a 'common enemy', leader of a terrorist organisation responsible for the death of ingroups, generated positive affect in exposed populations (*Hypothesis 1*, or 'successful activation' hypothesis). Alternatively, I hypothesised that a failed activation of ingroup solidarity led to a de-escalation of conflict and to negative affect (*Hypothesis 2*, or 'backfire' hypothesis). Empirically, I pooled data from two large international surveys and 10 countries and find evidence that being interviewed in the aftermath of Osama bin Laden's death yielded a positive subjective well-being effect. This effect is stronger immediately following bin Laden's death (Table A3). However, when turning to theoretically relevant moderators, I could not find direct confirmation that the number of victims moderated responses to the treatment. In fact, when I stratified Equation (1) by the level of 9/11 victims in respondents' own country, I found that this effect was driven by respondents from Israel, whose specific history make any generalization of these findings difficult. This requires alternative explanations. A first set of omitted variables has to do with media behavior, and with the amount and content of media coverage across countries in the sample – an unexamined factor in this paper. Second, economic linkages of a country to the United States can be expected to predict both how many people were present at the World Trade Center on 9/11 and media coverage after bin Laden's death. Thus, more work should be done to understand the patterns of responses to the treatment, focusing on how interrelations between economic integration with the United States, media coverage and long-standing emotional chains might have channeled responses to the treatment. These factors do not need to work in competitive directions: for example, as anecdotally reported by Collins (2004a:69), "ceremonial observances in the days after 9/11, such as at English soccer matches, played the American national anthem, not the British one." This suggests that emotional chains linking 5/2 to 9/11 might have remained centered on US-based narratives, with economic factors determining the amount of coverage and the overall levels of interest in a country. Investigating these interrelations can allow to understand how patterns of group solidarity extend beyond borders and how narratives are received and can be mobilized across countries.

Overall, in so far as the coefficients reported in Table 2 can be interpreted as happiness brought about the loss suffered by an openly declared enemy, results of this paper offer some novel evidence on the hedonic implications of highly salient targeted military operations, increasingly common in modern warfare. By doing so, raise questions on the psychological and social mechanisms that shape the approach of individuals in contemporary societies to violence, as well as, indirectly, on policy-makers' incentives concerning the public portrayal of salient warfare events. These findings also extend our current understanding of the extents to which the 'pleasure for the suffering of others' can occur: while the literature on Schadenfreude has typically focused on the positive affective implications of mild or hypothesized suffering of 'others' (Ben-Ze'ev 1992), I show that adversarial emotional processes are not necessarily shut down by extreme outcomes imposed on 'deserving' targets. To conclude, I refer to Hannah Arendt (1964:254), who mentions words by Yosal Rogat to recall that: "we refuse, and consider as barbaric, the proposition 'That a great crime offends nature, so that […] a wronged collectivity owes a duty to the moral order to punish the criminal'." And yet, Arendt argues in reconstructing the rationale for the death sentence of Adolf Eichmann, it is "precisely on the ground of these long- forgotten propositions that Eichmann was brought to justice": denied of the quality of 'being human', an hostis generis humanii ('enemy of mankind'), "must not only be defeated but also utterly destroyed." (Schmitt 1932 [2008]:36). These intuitions resonate words by Cicero, who wrote: "those fierce and savage monsters in human form should be cut off from what may be called the common body of humanity." In De Officiis, Cicero (1938:299) follows with the cautionary statement: "of this sort are all those problems in which we have to determine what moral duty is, as it varies with varying circumstances." The results of this paper suggest further avenues of investigation with regards to the idiosyncrasies of human morality.

References

- Ahern, J., Galea, S., Resnick, H., Kilpatrick, D., Bucuvalas, M., Gold, J. and Vlahov, D., 2002. Television images and psychological symptoms after the September 11 terrorist attacks. *Psychiatry: Interpersonal and Biological Processes*, *65*(4), 289-300
- Ahmad, J., 2018. The May 2nd, 2011 Killing of Osama bin Laden. In *The BBC, The 'War on Terror' and the Discursive Construction of Terrorism*, 141-165. Palgrave Macmillan, Cham
- Aho, J. A., 1975. *German realpolitik and American sociology: an inquiry into the sources and political significance of the sociology of conflict*. Bucknell University Press
- Al Jazeera, 2011. Reactions: Bin Laden's death, May 2. Retrieved from: https://www.aljazeera.com/news/asia/2011/05/20115241936984209.html
- Althaus, S. L., Cizmar, A. M. and Gimpel, J. G., 2009. Media supply, audience demand, and the geography of news consumption in the United States. *Political Communication*, *26*(3), 249-277
- Amnesty International, 2011. Questions around operation against Osama bin Laden, May 4. https://www.amnesty.org/en/latest/news/2011/05/questions- around-operation-against-osama-bin-laden/
- Amnesty International, 2018. Abolitionists and retentionist countries as of July 2018
- Arendt, H., 1964. Eichmann in Jerusalem: A Report on the Banality of Evil. Revised edition. New York: Penguin
- Bail, C. A., Brown, T. W., and Wimmer, A. 2019. Prestige, Proximity, and Prejudice: How Google Search Terms Diffuse across the World. *American Journal of Sociology*, *124*(5), 1496-1548.

- BBC, 2011a. Osama Bin Laden's death: Political reaction in quotes, May 3. Retrieved from: https://www.bbc.co.uk/news/world-us-canada-13256956
- BBC, 2011b. Archbishop 'uncomfortable' over Bin Laden unarmed death, May 5. Retrieved from: https://www.bbc.co.uk/news/uk-13291480
- BBC, 2011c. "Excerpts from 'al-Qaeda' statement on Bin Laden's death", May 6. Retrieved from: https://www.bbc.co.uk/news/world-south-asia- 13317717
- Beccaria, C., 1764. *An essay on crimes and punishments, translated from the Italian; with a commentary, attributed to Mons. de Voltaire translated from the French.* 1785, London: printed for E. Newbery. The fourth edition
- Becker, G. S. and Rubinstein, Y., 2004. Fear and the response to terrorism: an economic analysis. *University of Chicago mimeo*, *93*
- Bentham, J., 1789. *An introduction to the principles of morals and legislation*. 1879, Oxford: Clarendon Press
- Bernhard, H., Fischbacher, U. and Fehr, E., 2006. Parochial altruism in humans. *Nature*, *442*(7105), 912
- Blanchflower, D. G. and Oswald, A. J., 2008. Hypertension and happiness across nations. *Journal of health economics*, *27*(2), 218-233
- Blanchflower, D. G., 2009. International evidence on well-being. In *Measuring the subjective well-being of nations: National accounts of time use and well-being*. University of Chicago Press,155-226
- Bowman, N., Lewis, R. J. and Tamborini, R., 2014. The morality of May 2, 2011: A content analysis of US headlines regarding the death of Osama bin Laden. *Mass Communication and Society*, *17*(5), 639-664
- Bryson, A. and MacKerron, G., 2018. *How Does Terrorism Affect Individuals' Wellbeing?*. IZA Discussion Papers, 11273

- Cameron, A. C. and Miller, D.L., 2015. A practitioner's guide to cluster- robust inference. *Journal of Human Resources*, *50*(2), 317-372.
- Cantril, H., 1965. Pattern of human concerns
- Carlsmith, K. M., Wilson, T. D. and Gilbert, D. T., 2008. The paradoxical consequences of revenge. *Journal of personality and social psychology*, *95*(6), 1316
- Carnagey, N. L. and Anderson, C. A., 2007. Changes in attitudes towards war and violence after September 11, 2001. *Aggressive Behavior: Official Journal of the International Society for Research on Aggression*, *33*(2), 118- 129
- Chen, L. Y., Oparina, E., Powdthavee, N. and Srisuma, S., 2019. Have Econometric Analyses of Happiness Data Been Futile? A Simple Truth About Happiness Scales, *Working manuscript*
- Cheung-Blunden, V. and Blunden, B., 2008. The emotional construal of war: Anger, fear, and other negative emotions. *Peace and conflict*, *14*(2), 123-150
- Cicero, M. T., 1938. *De officiis*. Loeb classical library
- Cikara, M., Botvinick, M. M. and Fiske, S.T., 2011. Us versus them: Social identity shapes neural responses to intergroup competition and harm. *Psychological science*, *22*(3), 306-313
- Clark, A. E., 2018. Four decades of the economics of happiness: Where next?. *Review of Income and Wealth*, *64*(2), 245-269
- Clark, A. E., Doyle, O. and Stancanelli, E., 2017. *The Impact of Terrorism on Well-being: Evidence from the Boston Marathon Bombing*. School of Economics, University College Dublin, *201717*
- Clark, A. E., Frijters, P, and Shields, M. A., 2008. Relative income, happiness, and utility: An explanation for the Easterlin paradox and other puzzles. *Journal of Economic literature*, *46*(1), 95-144

- CNN, 2011. Opinion research poll, May 3. Retrieved from: http://i2.cdn.turner.com/cnn/2011/images/05/03/rel8a.pdf
- CNN, 2013. September 11 Terror Attacks Fast Facts, July 19. Retrieved from: https://edition.cnn.com/2013/07/27/us/september-11-anniversary-fast-facts/index.html
- Collins, R., 1975. *Conflict sociology: Toward an explanatory science*, Academic Press
- Collins, R., 2004a. *Interaction ritual chains*, Princeton University Press
- Collins, R., 2004b. Rituals of solidarity and security in the wake of terrorist attack. *Sociological Theory*, *22*(1), 53-87
- Collins, R., 2012. C-escalation and D-escalation: A theory of the time- dynamics of conflict. *American Sociological Review*, *77*(1), 1-20
- Costanza, R., Kubiszewski, I., Giovannini, E., Lovins, H., McGlade, J., Pickett, K. E., Ragnarsdóttir, K. V., Roberts, D., De Vogli, R. and Wilkinson, R., 2014. Development: Time to leave GDP behind. *Nature News*, *505*(7483), 283
- Coupe, T. and Obrizan, M., 2016. The impact of war on happiness: The case of Ukraine. *Journal of Economic Behavior & Organization*, *132*, 228-242
- Cox, L. and Wood, S., 2017. 'Got him': Revenge, emotions, and the killing of Osama bin Laden. *Review of International Studies*, *43*(1), 112-129
- Crook, J. R., 2011. Contemporary practice of the United States relating to international law. *The American Journal of International Law, 105*(3), 568- 611
- Damasio, A., 1994. *Descartes' error: Emotion, reason, and the human brain.* New York: Putnam

- De Dreu, C. K., Balliet, D. and Halevy, N., 2014. Parochial cooperation in humans: forms and functions of self-sacrifice in intergroup conflict. In *Advances in motivation science*, *1*, 1-47. Elsevier
- Davidson, R. J., Marshall, J. R., Tomarken, A. J. and Henriques, J. B., 2000. While a phobic waits: Regional brain electrical and autonomic activity in social phobics during anticipation of public speaking. *Biological psychiatry*, *47*(2), 85-95
- De Neve, J. E., Ward, G., De Keulenaer, F., Van Landeghem, B., Kavetsos, G. and Norton, M.I., 2018. The asymmetric experience of positive and negative economic growth: Global evidence using subjective well-being data. *Review of Economics and Statistics*, *100*(2), 362-375.
- De Quervain, D. J., Fischbacher, U., Treyer, V. and Schellhammer, M., 2004. The neural basis of altruistic punishment. *Science*, *305*(5688), 1254
- Dewey, J., 1927. *The public and its problems: An essay in political inquiry*. (ed. M. L. Rogers) 2012, Penn State Press
- Dolan, P., Peasgood, T. and White, M., 2008. Do we really know what makes us happy? A review of the economic literature on the factors associated with subjective well-being. *Journal of economic psychology*, *29*(1), 94-122
- Durkheim, E., 1912. *The elementary forms of religious life*. London: Allen and Unwin, 1915
- Easterlin, R. A. and Angelescu, L., 2009. Happiness and growth the world over: Time series evidence on the happiness-income paradox, *IZA Discussion Papers*, 4060
- Easterlin, R. A., 1974. Does economic growth improve the human lot? Some empirical evidence. In *Nations and households in economic growth*. Academic Press, 89-125

- Edgeworth, F., 1881. *Mathematical Psychics: An Essay on the Application of Mathematics to the Moral Sciences*. 1961, New York: Augustus M. Kelly.
- Elias, N., 1939. *The civilizing process: Sociogenetic and psychogenetic investigations*. 2000, Cambridge, Massachusetts
- ESPN, 2011. Phillies crowd erupts in 'U-S-A' cheers, May 3. Retrieved from: https://www.espn.com/new-york/mlb/news/story?id=6463361
- European Social Survey, 2014. ESS Round 6 (2012/2013). Technical Report. London: Centre for Comparative Social Surveys, City University London.
- Fehr, E. and Gächter, S., 2002. Altruistic punishment in humans. *Nature*, *415*(6868), 137
- Ferrer-i-Carbonell, A. and Frijters, P., 2004. How important is methodology for the estimates of the determinants of happiness?. *The Economic Journal*, *114*(497), 641-659
- Frey, B. S., 2011. Peace, war, and happiness: Bruder Klaus as wellbeing facilitator. *International Journal of Wellbeing*, *1* (2), 226-234.
- Frey, B. S., 2012. Well-being and war. *International Review of Economics*, *59*(4), 363-375
- Frey, B. S., Luechinger, S. and Stutzer, A., 2007. Calculating tragedy: Assessing the costs of terrorism. *Journal of Economic Surveys*, *21*(1), 1-24
- Gallup, 2011a. Americans More Positive on Afghanistan After Bin Laden Death, May 11. Retrieved: https://news.gallup.com/poll/147488/americans- positive-afghanistan-bin-laden-death.aspx
- Gallup, 2011b. Americans Back Bin Laden Mission; Credit Military, CIA Most, May 3. Retrieved from: https://news.gallup.com/poll/147395/americans-back-bin-laden-mission- credit-military-cia.aspx

- Gallup, 2011c. Majority in U.S. Say Bin Laden's Death Makes America Safer, May 4. Retrieve from: https://news.gallup.com/poll/147413/majority- say-bin-laden-death-makes-america-safer.aspx
- Gallup, G., 1930. A scientific method for determining reader- interest. *Journalism Bulletin*, *7*(1), 1-13
- Gokmen, G. and Yakovlev, E., 2018. War and well-being in transition: Evidence from two natural experiments. *Journal of Comparative Economics*, *46*(3), 788-799
- Gollwitzer, M., Skitka, L. J., Wisneski, D., Sjöström, A., Liberman, P., Nazir, S. J. and Bushman, B. J., 2014. Vicarious revenge and the death of Osama bin Laden. *Personality and social psychology bulletin*, *40*(5), 604-616
- Gómez, J. M., Verdú, M., González-Megías, A. and Méndez, M., 2016. The phylogenetic roots of human lethal violence. *Nature*, *538*(7624), 233
- Gonzalez-Gadea, M. L., Ibanez, A. and Sigman, M., 2018. Schadenfreude is higher in real-life situations compared to hypothetical scenarios. *PloS one*, *13*(10), e0205595
- Greene, J. D., Sommerville, R. B., Nystrom, L. E., Darley, J. M. and Cohen, J. D., 2001. An fMRI investigation of emotional engagement in moral judgment. *Science*, *293*(5537), 2105-2108
- Gumplowicz, L., 1883. *Der Rassenkampf*. Wagner'sche univ.-buchhandlung.
- Gumplowicz, L., 1905. An Austrian Appreciation of Lester F. Ward. *American Journal of Sociology*, *10*(5), 643-653
- Hafez, M. M. and Hatfield, J. M., 2006. Do targeted assassinations work? A multivariate analysis of Israel's controversial tactic during al-Aqsa uprising. *Studies in Conflict & Terrorism*, *29*(4), 359-382

- Hahn, J., Todd, P., and Van der Klaauw, W., 2001. Identification and estimation of treatment effects with a regression-discontinuity design. *Econometrica, 69*(1), 201-209
- Haidt, J., 2001. The emotional dog and its rational tail: a social intuitionist approach to moral judgment. *Psychological review*, *108*(4), 814
- Haidt, J., 2007. The new synthesis in moral psychology. *Science*, *316*(5827), 998-1002
- Haidt, J., 2011. Why we celebrate a killing. *The New York Times*, 10
- Hainmueller, J., 2012. Entropy Balancing for Causal Effects: A Multivariate Reweighting Method to Produce Balanced Samples in Observational Studies. *Political Analysis, 20*(1), 25-46
- Hainmueller, J., and Xu, Y., 2013. Ebalance: A Stata package for entropy balancing. *Journal of Statistical Software, 54*(7)
- Hepworth, D. P., 2014. Terrorist retaliation? An analysis of terrorist attacks following the targeted killing of top-tier al Qaeda leadership. *Journal of Policing, Intelligence and Counter Terrorism*, *9*(1), 1-18
- Holmes, E. A., Creswell, C. and O’Connor, T.G., 2007. Posttraumatic stress symptoms in London school children following September 11, 2001: An exploratory investigation of peri-traumatic reactions and intrusive imagery. *Journal of Behavior Therapy and Experimental Psychiatry*, *38*(4), 474-490
- Hou, D., Gaibulloev, K. and Sandler, T., 2019. Introducing Extended Data on Terrorist Groups (EDTG), 1970 to 2016. *Journal of Conflict Resolution*, 0022002719857145
- Imbens, G. W. and Lemieux, T., 2008. Regression discontinuity designs: A guide to practice. *Journal of econometrics*, *142*(2), 615-635

- International Institute for Counter-Terrorism, 2011. *The Death of Osama bin Laden*.
- IPSOS, 2011. Ipsos Global @dvisory: Majority (76%) of Global Citizens Say US Justified in Killing Osama bin Laden, June 7. Retrieved from: https://www.ipsos.com/en-us/ipsos-global-dvisory-majority-76-global- citizens-say-us-justified-killing-osama-bin-laden
- Jacob, B. A. and Lefgren, L., 2004. Remedial education and student achievement: A regression-discontinuity analysis. *Review of economics and statistics*, *86*(1), 226-244
- Johnston, P. B., 2012. Does decapitation work? Assessing the effectiveness of leadership targeting in counterinsurgency campaigns. *International Security, 36*(4), 47-79
- Kaplan, E. H., Mintz, A., Mishal, S. and Samban, C., 2005. What happened to suicide bombings in Israel? Insights from a terror stock model. *Studies in Conflict & Terrorism*, *28*(3), 225-235
- Kijewski, S., 2019. Life Satisfaction Sixty Years after World War II: The Lasting Impact of War Across Generations. *Applied Research in Quality of Life*, 1-32
- Krueger, A. B., 2007. *What Makes a Terrorist*. Princeton University Press, 2017
- Landau, S. F., Beit-Hallahmi, B. and Levy, S., 1998. The personal and the political: Israelis' perception of well-being in times of war and peace. *Social Indicators Research*, *44*(3), 329-365
- Lee, A. M., 2013. News audiences revisited: Theorizing the link between audience motivations and news consumption. *Journal of Broadcasting & Electronic Media*, *57*(3), 300-317
- Lee, D. S. and Lemieux, T., 2010. Regression discontinuity designs in economics. *Journal of economic literature*, *48*(2), 281-355

- Lee, D. S., 2008. Randomized experiments from non-random selection in US House elections. *Journal of Econometrics*, *142*(2), 675-697
- Legewie, J., 2013. Terrorist events and attitudes toward immigrants: A natural experiment. *American Journal of Sociology, 118*(5), 1199-1245
- Lench, H. C., Levine, L. J., Perez, K. A., Carpenter, Z. K., Carlson, S. J. and Tibbett, T., 2019. Changes in subjective well-being following the US Presidential election of 2016. *Emotion*
- Lippmann, W., 1922. *Public opinion*. 2017, Routledge
- Mashable, 2011. Bin Laden's Death Sparks Record 12.4 Million Tweets Per Hour, May 2. Retrieved: https://mashable.com/2011/05/02/bin-laden-death- twitter/
- Metcalfe, R., Powdthavee, N. and Dolan, P. 2011. Destruction and distress: using a quasi-experiment to show the effects of the September 11 attacks on mental well-being in the United Kingdom. *The Economic Journal*, *121*(550), F81-F103
- Nafziger, R. O., 1930. A reader-interest survey of Madison, Wisconsin. *Journalism Bulletin*, *7*(2), 128-141
- Neuman, W.R., Just, M.R. and Crigler, A.N., 1992. *Common knowledge: News and the construction of political meaning*. University of Chicago Press.
- Nichols, S., 2002. On the genealogy of norms: A case for the role of emotion in cultural evolution. *Philosophy of Science*, *69*(2), 234-255
- Nichols, S., 2005. Innateness and Moral Psychology, In *The innate mind: Structure and contents*, (eds. Peter Carruthers, Stephen Laurence, and Stephen P. Stich), Oxford University Press, 353-370
- Nielsen Company, 2012. Advance/Preliminary TV Household Universe Estimate (UE). Retrieved: https://www.nielsen.com/us/en/insights/article/2011/nielsen-estimates- number-of-u-s-television-homes-to-be-114-7-million/

- OECD, 2013. Publishing and Organisation for Economic Co-operation and Development. OECD guidelines on measuring subjective well-being. OECD Publishing
- Ostroot, N. M. and Snyder, W. W., 1985. Measuring cultural bias in a cross- national study. *Social Indicators Research*, *17*(3), 243-251
- Park, R. E., 1941. The social function of war observations and notes. *American Journal of Sociology*, *46*(4), 551-570
- PEW, 2011a. Social Media React to Bin Laden's Death, May 12. Retrieved: https://www.journalism.org/2011/05/12/social-media-react-bin-ladens-death/
- PEW, 2011b. Public relieved by bin Laden's death, Obama's job approval rises, May 3. Retrieved from: https://www.people- press.org/2011/05/03/public-relieved-by-bin-ladens-death-obamas-job- approval-rises/
- Pinker, S., 2011. Decline of violence: Taming the devil within us. *Nature*, *478*(7369), 309
- Pinker, S., 2012. *The better angels of our nature: Why violence has declined*. Penguin Group USA
- Price, V. and Zaller, J., 1993. Who gets the news? Alternative measures of news reception and their implications for research. *Public opinion quarterly*, *57*(2), 133-164
- Reuters, 2011. NATO chief says Afghan mission on track after bin Laden, May 4. Retrieved from: https://uk.reuters.com/article/uk-binladen-nato/nato-chief-says-afghan-mission-on-track-after-bin-laden- idUKTRE7434ZK20110504
- Rogers, A. P. and McGoldrick, D., 2011. Assassination and targeted killing – The killing of Osama bin Laden. *International & Comparative Law Quarterly*, *60*(3), 778-788

- Rusch, H., 2014. The evolutionary interplay of intergroup conflict and altruism in humans: a review of parochial altruism theory and prospects for its extension. *Proceedings of the Royal Society B: Biological Sciences*, *281*(1794), 20141539
- Schaller, C., 2015. Using force against terrorists ‘outside areas of active hostilities’—the Obama approach and the Bin Laden raid revisited. *Journal of Conflict and Security Law*, *20*(2), 195-227
- Schlag, G., 2019. The afterlife of Osama bin Laden: performative pictures in the “war on terror”. *Critical Studies on Terrorism*, *12*(1), 1-18
- Schmitt, C., 1932. The concept of the political: Expanded edition, 2008: University of Chicago Press
- Schuster, M. A., Stein, B. D., Jaycox, L. H., Collins, R. L., Marshall, G. N., Elliott, M. N., Zhou, A. J., Kanouse, D. E., Morrison, J. L. and Berry, S. H., 2001. A national survey of stress reactions after the September 11, 2001, terrorist attacks. *New England Journal of Medicine*, *345*(20), 1507-1512.
- Searle, S. R., Casella, G. and McCulloch, C. E., 2009. *Variance components* (Vol. 391). John Wiley & Sons
- Shah, A., 2017. ASGEN: Stata module to generates weighted average mean using an existing variable as weight
- Shehata, A. and Strömbäck, J., 2011. A matter of context: A comparative study of media environments and news consumption gaps in Europe. *Political Communication*, *28*(1), 110-134
- Shemyakina, O. N. and Plagnol, A. C., 2013. Subjective well-being and armed conflict: Evidence from Bosnia-Herzegovina. *Social Indicators Research*, *113*(3), 1129-1152

- Shweder, R., Much, N., Mahapatra, M. and Park, L., 1997. Divinity and the "big three" explanations of suffering. *Morality and health*, *119*, 119-169
- Silver, R. C., Holman, E. A., Andersen, J. P., Poulin, M., McIntosh, D. N. and Gil-Rivas, V., 2013. Mental-and physical-health effects of acute exposure to media images of the September 11, 2001, attacks and the Iraq War. *Psychological Science*, *24*(9), 1623-1634
- Silver, R. C., Holman, E. A., McIntosh, D. N., Poulin, M. and Gil-Rivas, V., 2002. Nationwide longitudinal study of psychological responses to September 11. *Jama*, *288*(10), 1235-1244
- Simmel, G., 1904a. The sociology of conflict. I. *American Journal of Sociology*, *9*(4), 490-525
- Simmel, G., 1904b. The Sociology of Conflict. II. *American Journal of Sociology*, *9*(5), 672-689.
- Simmel, G., 1908. *Conflict and the web of group affiliations*, 1955. Free Press Glencoe, IL
- Sims, C. A., 2003. Implications of rational inattention. *Journal of monetary Economics*, *50*(3), 665-690
- Singer, T., Seymour, B., O'Doherty, J. P., Stephan, K. E., Dolan, R. J. and Frith, C. D., 2006. Empathic neural responses are modulated by the perceived fairness of others. *Nature*, *439*(7075), 466
- Small, A. W., 1897. "Dynamic Sociology". Lester F. Ward. *American Journal of Sociology,* 3(1), 110-111
- Small, A. W., 1903. Note on Ward's "Pure Sociology". *American Journal of Sociology*, 9(3), 404-407

- Small, A. W., 1904a. Note on Ward's "Pure Sociology". II. *American Journal of Sociology,* 9(4), 567-575
- Small, A. W., 1904b. Note on Ward's "Pure Sociology". III. *American Journal of Sociology,* 9(5), 703-707
- Small, A. W., 1905. Gustav Ratzenbofer. *American Journal of Sociology,* 10(4), 544
- Small, A. W., 1908. Ratzenhofer's Sociology. *American Journal of Sociology*, 13(4), 433-438
- START, 2018. Global Terrorism Database
- Storie, L. K., Madden, S. L. and Liu, B. F., 2014. The death of bin Laden: How Russian and US media frame counterterrorism. *Public relations review*, *40*(3), 429-439
- Tewksbury, D., 2006. Exposure to the newer media in a presidential primary campaign. *Political Communication*, *23*(3), 313-332
- The Baltimore Sun, 2011. Pentagon Memorial draws visitors, May 2. Retrieved: https://www.baltimoresun.com/maryland/bs-xpm-2011-05-02-bs- md-pentagon-memorial-20110502-story.html
- The Law Library of Congress, 2018. Birth right Citizenship Around the World, November, Library of Congress
- The New York Times, 2011. Bin Laden is dead, Obama says, May 1. Retrieved: https://www.nytimes.com/2011/05/02/world/asia/osama-bin- laden-is-killed.html
- The Wall Street Journal, 2011. Obama drew big TV crowd, May 4. Retrieved: https://www.wsj.com/articles/SB10001424052748703834804576301821550865988
- The White House, 2011. Remarks by the President on Osama Bin Laden, May 1. Retrieved from: https://obamawhitehouse.archives.gov/photos-and-video/video/2011/05/01/president-obama-death-osama-bin-laden#transcript

- Thompson, M. E., 2008. International surveys: Motives and methodologies. Survey Methodology, 34(2), 131-141
- Thorp, A., 2011. *Killing Osama bin Laden: has justice been done?.* Commons Briefing papers*,* House of Commons Library. SN/IA/5967
- Turner, J. H., 1975. Marx and Simmel revisited: Reassessing the foundations of conflict theory. *Social Forces*, *53*(4), 618-627
- Uchida, Y., Takahashi, Y. and Kawahara, K., 2014. Changes in hedonic and eudaimonic well-being after a severe nationwide disaster: The case of the Great East Japan Earthquake. *Journal of Happiness Studies*, *15*(1), 207-221
- United Nations, 2001. Report on the World Social Situation, Economic and Social Council. Retrieved from: https://www.un.org/development/desa/dspd/report-on-the-world-social- situation-rwss-social-policy-and-development-division/2001-report-on-the- world-social-situation/media-kit-2001-report-on-the-world-social- situation.html
- United Nations, 2011a. Secretary-General, Calling Osama bin Laden's Death 'Watershed Moment', Pledges Continuing United Nations Leadership in Global Anti-Terrorism Campaign, May 2. Retrieved from: https://www.un.org/press/en/2011/sgsm13535.doc.htm
- United Nations, 2011b. Osama bin Laden: statement by the UN Special Rapporteurs on summary executions and on human rights and counter- terrorism, *United Nations Human Right Office*, May 6. Retrieved from: https://newsarchive.ohchr.org/EN/NewsEvents/Pages/DisplayNews.aspx?NewsID=10987&LangID=E
- Van Praag, B. M., Romanov, D. and Ferrer-i-Carbonell, A., 2010. Happiness and financial satisfaction in Israel: Effects of religiosity, ethnicity, and war. *Journal of Economic Psychology*, *31*(6), 1008-1020

- Wachtel, H. A., 2005. Targeting Osama bin Laden: Examining the legality of assassination as a tool of US foreign policy. *Duke LJ*, *55*, 677
- Ward, L. F., 1903. *Pure sociology: A treatise on the origin and spontaneous development of society.* 1903, Macmillan Company
- Webster, J. G. and Ksiazek, T. B., 2012. The dynamics of audience fragmentation: Public attention in an age of digital media. *Journal of communication*, *62*(1), 39-56
- Welsch, H., 2008. The social costs of civil conflict: evidence from surveys of happiness. *Kyklos*, *61*(2), 320-340
- Wiederholt, M., 2010. Rational inattention. *The New Palgrave Dictionary of Economics*

Appendix

Survey Selection

Table A1 presents a list of all the social surveys that, to my knowledge, where run in 2011. To compile this list, I leveraged a variety of sources, including expert knowledge. Among the data repository, I especially drawn from (in alphabetic order):

- ARDA Data Archive (http://www.thearda.com)
- GESIS Data Catalogue (https://dbk.gesis.org/dbksearch/sdesc.asp)
- INDEPTH Data Repository (http://www.indepth-ishare.org/index.php/catalog/central)
- ICPSR (https://www.icpsr.umich.edu)
- Oxford Libguides at the Bodleian Library (https://libguides.bodleian.ox.ac.uk/az.php)
- UK Data Service (https://ukdataservice.ac.uk)
- World Bank Open Data (https://data.worldbank.org)

Table A1 presents 6 Columns and 11 Sub-Columns. In Column 1.a, the name of the survey is stated in alphabetic order, while Column 1.b lists, for each survey, all the countries that were fielded, coded according to the 2-digit ISO 3166 international standard.[32] Column 2 to 5 presents the four selection criteria stated in the Data and methods section of the paper: for each of these columns, Sub-Column .a describes the content of the survey; while Sub-Column .b

[32]Country Codes - ISO 3166. International Organization for Standardization. Retrieved from: https://en.wikipedia.org/wiki/List_of_ISO_3166_country_codes#cite_note-ISO_3166-1

states whether the survey responds to the stated criterion (y) or not (n). Column 2.a indicates the starting (S) and ending (E) date of the survey at the year-month level, extracted from survey metadata. As different countries might have been fielded at different times within each survey, in Table A1 Column 2.a, I highlight in bold those countries where fieldwork took place before and after May 2, 2011 (not necessarily in a continuous fashion). For every survey, I access questionnaires and codebooks and, in Table A1 Column 3.a, I report subjective well- being measures according to the codification of the *World Database of Happiness*, curated by Ruut Veenhoven at the Erasmus University of Rotterdam.[33] The *World Database of Happiness* is a collection of happiness studies and contains an extensive list of measures that fit the standard definition of happiness in the sense of 'the subjective enjoyment of one's life as-a-whole.' This is based on 3 criteria and 6 sub-criteria:

Substantive Meaning	Focus	The kind of happiness addressed.
	Timeframe	The period considered
Method of assessment	Mode	The technique by which happiness is assessed
	Scale-type	How the observation is scored
	Scale-range	Number of degrees of happiness distinguished
Sub-variant	Wording	Variation in phrasing of otherwise equivalent questions

For example, in the European Social Survey, happiness questions are worded as follows: "Taking all things together, how happy would you say you are?", to which respondents can answer on a scale from 0 to 10. In this case, Veenhoven's classification proceeds as follows: *Focus:* Overall: Happy life (O-HL); *Timeframe:* currently (c); *Mode:* self-report on single

[33] Veenhoven, R., World Database of Happiness, Erasmus University Rotterdam, The Netherlands. Retrieved from: http://worlddatabaseofhappiness.eur.nl. Listing of the measures of happiness Retrieved from: https://worlddatabaseofhappiness.eur.nl/hap_quer/hqi_fp.htm

question (sq); *Scale type:* numerical rating scale (n); *Scale range:* 11 step rating scale (11); *Sub-variant:* Wording (a). Thus, the variable is classified as: O-HL--c-sq-n-11-a. In Column 4.a, I report on the final sampling unit of the survey – Individual (I) or Household (HH). In Column 5.a, I state whether data are openly accessible.

Table A1 – Social surveys fielded in 2011

1. Survey		**2. Fieldwork timing**		**3. SWB measure**		**4. Final sampling unit**		**5. Open access**		**6. Selected**
a Name	b Countries surveyed	a Dates	b	a Type	b	a Unit	b	a Open	b	a
Afrobarometer Round 5	DZ, BJ, BW, BF, BI, CM, CV, EG, GH, GN, KE, LS, LR, MG, MW, ML, MR, MA, MZ, NA, NE, NG, SN, SL, ZA, SD, SZ, TZ, TG, TN, UG, ZM, ZW	S: 2011-10 E: 2013-09	n	n.a.	n	I	y	Yes	y	**No**

Americas Barometer	CO	S: 2011-05 E: 2011-07	n	O-SL--g-sq-n-4-a	y	I	y	Yes	y	**No**
Annual population survey - Wellbeing	UK	S: 2011-04 E: 2012-04	y	O-SL-c-sq-n-11-a O-HP-md-sq-n-11-a		HH	n	Yes	y	**No**
Arab barometer Wave II	DZ, EG, IQ, JO, LB, PS, SA, SD, TN, YE	S: 2010-11 E: 2011-10	y	n.a.	n	I	y	Yes	y	**No**
Asian Barometer Wave 3	PH, TW, TH, MN, SG, KR, ID, MY, JP, VN, HK, CN, KH	S: 2010-01 E: 2012-11	n	n.a.	n	I	y	Yes	y	**No**

Australian Survey of Social Attitudes	AU	S: 2012-05 E: 2012-08	n	O-HL-c-sq-n-7-a	y	I	y	Yes	y	**No**
British Social Attitudes Survey	UK	S: 2011-06 E: 2011-11	n	O-HL-c-sq-n-7-a	y	I	y	Yes	y	**No**
Cambodia Rural Urban Migration Project 2011	KH	S: 2011-09 E: 2011-09	n	n.a.	n	HH	n	Yes	y	**No**
Chinese Social Survey	CN	S: 2011-09 E: 2011-09	n.a.	n.a.	n	HH	n	Yes	y	**No**

Demographic and Health Survey-VI	AO, BD, CM, CG, GQ, ET, GH, HN, LA, LR, MG, MQ, NP, PE, RW, UG	S: 2010-12 E: 2012-02	y	n.a.	n	HH	n	Yes	y	**No**
Encuesta Nacional de Hogares 2011	CR	S: 2011-07 E: 2011-07	n	n.a.	n	HH	n	Yes	y	**No**
Encuesta Nacional de Hogares sobre Condiciones de Vida y Pobreza 2012	PE	S: 2011-06 E: 2012-06	n	n.a.	n	HH	n	Yes	y	**No**
Enquête Nationale sur les Conditions de Vie des Ménages et l'Agriculture, 1er 2me passage	NE	S: 2011-06 E: 2011-12	n	n.a.	n	I	y	Yes	y	**No**

Enquête sur la Transition vers la Vie Active	BJ	S: 2011-11 E: 2012-12	n	n.a.	n	I	y	Yes	y	**No**
Eurobarometer 75.3	FR, BE, NL, DE, IT, LU, IE, UK, GR,	S: 2011-05 E: 2011-06	n	O-SL--g-sq-n-4-a	n	I	y	Yes	y	**No**
	ES, PT, FI, SE, AT, CZ, EE, HU, LV, LT, MT, PL, SK, SL, BG, RO, IS, TR, HR, CY, MK, ME									
European Social Survey Round 5	AT, BE, BG, HR, CY, CZ, DK, EE, FI, FR, DE, GR, HU, IE, IL, LT, NL, NO, PL, PT, RU, SK, SL, ES, SE, CH, UA, UK	S: 2010-08 E: 2013-10	y	O-SL-c-sq-n-11-a O-HL--c-sq-n-11-a	y	I	y	Yes	y	**Yes**

Faith Matters Survey	US	S: 2011-03 E: 2011-06	n.a.	O-SL--g-sq-n-4-a	n	I	y	Yes	y	**No**
Gallup Poll	AF, AL, DZ, AO, AG, AM, AU, AT, AZ, BH, BD, BE, BY, BJ, BO, BA, BW, BR, BG, BF, BI, KH, CM, CA, CF, TD, CL, CN, CO, KM, CG, CD, CR, HR, CY, CZ, DK, DJ, DO, EC, EG, SV,	S: 2011-01 E: 2011-12	y	O-SLP--c-sq-n-10-a	y	I	y	No	n	**No**
	EE, FI, FR, GA, GE, DE, GH, GR, GT, GN, HT, HN, HU, IN, ID, IR, IQ, IE, IL, IT, JM, JP, JO, KZ, KE, KW, KG, LA, LV, LB, LS, LR, LT, LU, MK, MG, MW, MY, MT, MR, MU, MX, MD, MN, ME, MA, MZ, NP, NL, NZ, NI, NE, NG, OM, PK, PS, PA, PY, PE, PH, PL, PT, QA, RO, RU, RW, SA, SN, RS, SL, SK, SL, SB, ZA, KR, ES, LK, SD, SZ, SE, SY, TW, TJ, TZ, TH, TG, TT, TN, TM, UG, UA, AE, UK, US, UG, UZ, VE,									

	VN, YE, ZM, ZW									
General Social Survey Canada-Family	CA	S: 2011-02 E: 2011-11	y	n.a.	n	HH	n	Yes	y	**No**
GESIS Online Panel Pilot (Survey 1)	DE	S: 2011-02 E: 2011-11	n	n.a.	n	I	y	Yes	y	**No**
Household Socio-Economic Survey	MN	S: 2011-01 E: 2011-12		n.a.		HH	n	Yes	y	**No**

Income dynamics	ZA	S: 2010 E: 2011	y	O-SL-c-sq-n-11-*	y	HH	n	Yes	y	**No**
International Social Survey Programme-IV	AU, BG, CH, CL, CZ, FI, FR, UK, HR, IL, JP, KR, NO, PH, RU, SL, TW, BE, DE, LT, PL, PT, SE, SK, TR, US, ZA, NL, CH, IT, ES	S: 2011-02 E: 2013-04	y	O-HL-*-sq-n-5-a	y	I	y	Yes	y	**Yes**
Latinobarómetro	AG, BO, BR, CO, CR, CL, EC, SV, GT, HN, MX, NI, PA, PY, PE, DO, UY, VE	S: 2011-07 E: 2011-09	n	O-SL--g-sq-n-4-a	y	I	y	Yes	y	**No**
Multiple indicators	AF, AR, BZ, BA, CR, CU, GH, ID, IQ,	S: 2010 E: 2011	y	n.a.	n	HH	n	Yes	y	**No**

cluster survey Round 4	JM, KE, LA, LB, MR, MK, NG, PK, SO, TT, TN, VN									
Muslim American Survey	US	S: 2011-04 E: 2011-06	n.a.	O-SL--g-sq-n-2-a	n	I	y	Yes	y	**No**
New Zealand General Social Survey 2010	NZ	S: 2010-04 E: 2011-03	n	O-SL-c-sq-n-5-a	y	I	y	Yes	y	**No**
Pew Global Attitudes Spring Survey 2011	US, UK, FR, DE, ES, LT, PL, RU, UA, TR, EG, JO, LB, PS, IL, IN, ID, JP, PK, BR, MX, KE, CN	S: 2011-03 E: 2011-05	n	O-SLP--c-sq-vt-10-t	y	I	y	Yes	y	**No**

Questionn a ire de Base des Indicateurs de Base du Bien-être	TO	S: 2011-11 E: 2011-12	n	n.a.	n	I	y	Yes	y	**No**
Russian Longitudin al Monitorin g Survey Round 20	RU	S: 2011-01 E: 2011-03 S: 2011-10 E: 2011-12	n	O-SL-c-sq-n-5-a		I HH	y	Yes	y	**No**
Socio-economic conditions of Palestinian households	PS	S: 2011-10 E: 2011-11	n	n.a.	n	HH	n	Yes	y	**No**
SOEP - German Socioecon omic Panel	DE	S: 2011-03 E: 2011-10	y	O-SL-c-sq-n-11-a	y	HH	n	No	n	**No**

South African Social Attitudes Survey	ZA	S: 2011-11 E: 2011-12	n	O-SL-c-sq-n-5-a	y	I	y	Yes	y	**No**
Understanding Society Wave 2, Wave 3	UK	S: 2010-01 E: 2013-06	y	O-SL-c-sq-n-7-a O-HP-h-sq-vt-4-*	y	HH	n	Yes	y	**No**
World Value Survey Wave 6 (2011)	AM, AZ, BY, CY, EE, KZ, KG, MA, NZ, RU, SL, ES, UA, UY, UZ	S: 2011-03 E: 2012-02	y	O-SL-c-sq-n-10-a O-HP--g-sq-n-4-a	y	Individual	y	Yes	y	**Yes**

Table A1 Column 6 reports on the intersection of the four criteria indicated above. Based on this, I can select two surveys: the European Social Survey Round 5 and the International Social Survey Programme 2011. An additional survey responding to all these criteria is the World Value Survey Wave 6 (WVS 6). I choose to exclude this survey because the happiness question in the WV6 6 differs from those of the ESS 5 and the ISSP 2011, as it misses the neutral category. Easing concerns on information loss, the only country fielded by the WVS Round 6 before and after May 2, 2011 is Slovenia, which was also fielded by the ISSP 2011 over the same time span. In Figure A1, I plot daily interview frequencies the countries fielded in the ESS 5 and ISSP 2011. Out of 31 countries, only 10 have fieldwork in the 120-day interval around May 2, 2011.

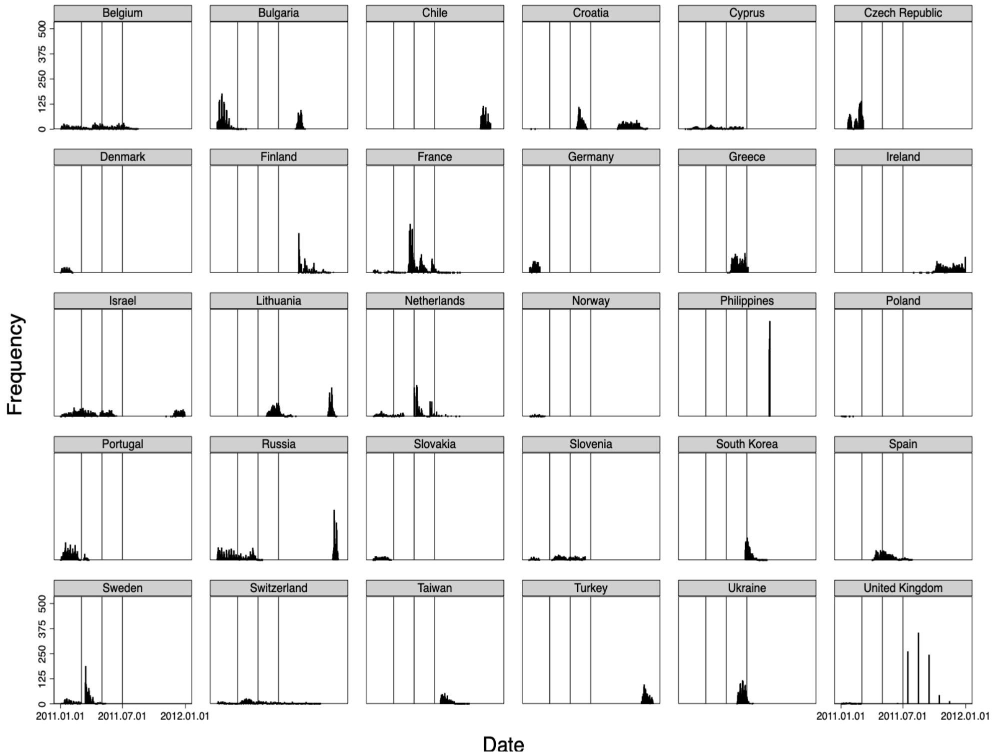


Figure A1. Fieldwork by country, ESS 5 and ISSP 2011 Histogram of daily fieldwork frequencies by country. Vertical lines represent May 2, 2011 and the 2-month interval before and after May 2nd (March 2; July 2, 2011). I excluded Japan (1292 interviews on December 4, 2011) for graphic purposes.

In Table A2, I report detailed fieldwork information for all selected countries. It is possible to see that 3/10 countries (France, the Netherlands, and Switzerland) are fielded in both surveys. In the robustness checks below, this will be dealt with through appropriate error clustering.

Table A2. Survey details

Country	Belgium
Survey	ISSP 2011
By	SVR; Ann Carton
Target population	Persons 18 years or more, Belgian and non-Belgian nationality, resident within private households, in Flanders and Brussels (selection on Dutch addresses in Brussels)
Sample design	Stratified two-stage random sampling (region)
PSU	Clusters of addresses localized in postcodes
Mode	Survey social-cultural changes in Flanders including the standard background variables: CAPI face-to-face interviews with trained interviewers (1-day training). ISSP-module: drop-off questionnaire arrives with interviewer, self-completion by respondent and mailed back by respondent to Research Centre of the Flemish Government. Follow-up of drop-off questionnaire by Research Centre of the Flemish Government
Fieldwork start	2011.04.02
Fieldwork end	2011.08.16
Total sample size	1,873
Effective sample size	1,190
Country	Cyprus
Sample design	Random equal probability
PSU	Country
Mode	Mail
Fieldwork start	2011.03.01
Fieldwork end	2011.09.30
Total sample size	3,504
Effective sample size	2,970
Country	Israel
Survey	ESS 5
By	The B.I and Lucille Cohen Institute; Irit Adler
Target population	Population aged 15 years and older

Sample design	Stratified three stage sampling, last birthday method to select respondents within addresses within geographic units
PSU	2831 strata will be based on nationality (Jewish and Arab areas), geographic region, type of community and socioeconomic level
Mode	Paper and pencil interview
Fieldwork start	2011.01.09
Fieldwork end	2011.06.13
Total Sample size	2,294
Effective sample size	1,288
Country Survey By Target population Sampling design PSU Mode Fieldwork start	the Netherlands ISSP 2011 GfK Panel Services Benelux; Kees Aarts Population aged 15 years and older Unstratified two-stage probability sampling; Kish table to select 5 household-person within each postal delivery point Postal delivery points selected with equal probability Computer-assisted personal interviewing 2010.09.10
Sample design	Random equal probability
PSU	Country
Mode	Mail
Fieldwork start	2011.03.01
Fieldwork end	2011.09.30
Total sample size	3,504
Effective sample size	2,970
Fieldwork end	2011.04.02
Total Sample size	1,806
Effective sample size	180
Country	the Netherlands
Survey	ISSP 2011
By	VU University Amsterdam; Ganzeboom, Harry B.G. & Heike Schroeder
Target population	Adult population 18 years and older
Sampling design	Simple random sample, random date selection of household member
PSU	Country
Mode	Mail

Fieldwork start	2011.03.01
Fieldwork end	2011.12.31
Total Sample size	1,472
Effective sample size	1,183
Country	Russian Federation
Survey	ESS 5
By	CESSI; Anna Andreenkova
Target population	Population aged 15 years and older
Sample design	Stratified three-stage probability sampling; Kish grid for ranked household members within housing unit within electoral district
PSU	272 electoral districts (out of 96193)
Mode	Paper and pencil interview
Fieldwork start	2010.12.24
Fieldwork end	2011.05.14
Total Sample size	2,595
Effective sample size	982
Country	Slovenia
Survey	ISSP 2011
By	CJMMK University of Ljubljana; Mitja Hafner-Fink, Brina Malnar
Target population	Adult residents, older than 18 years, living on permanent address
Sample design	Two-stage stratified random sample from population register
PSU	CEA (Clusters of Enumeration Areas), n=150
Mode	Paper and pencil interview
Fieldwork start	2011.03.09
Fieldwork end	2011.06.15
Total Sample size	1,082
Effective sample size	1,019
Country	Spain
Survey	ESS 5
By	Metroscopia, Estudios Sociales y de Opinión; Marian Torcal Llorente

Target population	Population aged 15 years and older
Sample design	Two-stage stratified probability sampling
PSU	64 strata based on region of residence and size of municipality, random selection of 6 or 7 individuals in each PSU
Mode	Computer assisted personal interview
Fieldwork start	2011.04.11
Fieldwork end	2011.07.24
Total Sample size	1,885
Effective sample size	1,687
Country	Sweden
Survey	ISSP 2011
By	SIFO, Jonas Edlund (Umea University)
Target population	Swedish population 18-80 years
Sample design	Two-stage stratified random sample from population register
PSU	Provinces
Mode	Mail
Fieldwork start	2011.02.28
Fieldwork end	2011.05.16
Total Sample size	1,158
Effective sample size	1,064
Country	Switzerland
Survey	ESS 5
By	M.I.S. Trend SA; Michèle Ernst Stähli
Target population	Population aged 15 years and older
Sample design	Single stage equal probability systematic sample (no clustering). Regional stratification (7 NUTS regions)
PSU	Country-region
Mode	Computer assisted personal interview
Fieldwork start	2010.10.10
Fieldwork end	2011.03.23
Total Sample size	1,931
Effective sample size	10
Country	Switzerland

Survey	ISSP 2011
By	FORS, c/o University of Lausanne
Target population	Adult population 18 years and older
Sampling design	Simple random sampling from national register of residents
PSU	Country
Mode	Computer-assisted personal interviewing
Fieldwork start	2011.03.07
Fieldwork end	2011.11.17
Total Sample size	1,212
Effective sample size	920

Additional Graphical Analyses

Figure A2. Discontinuity plot, unweighted data, happiness

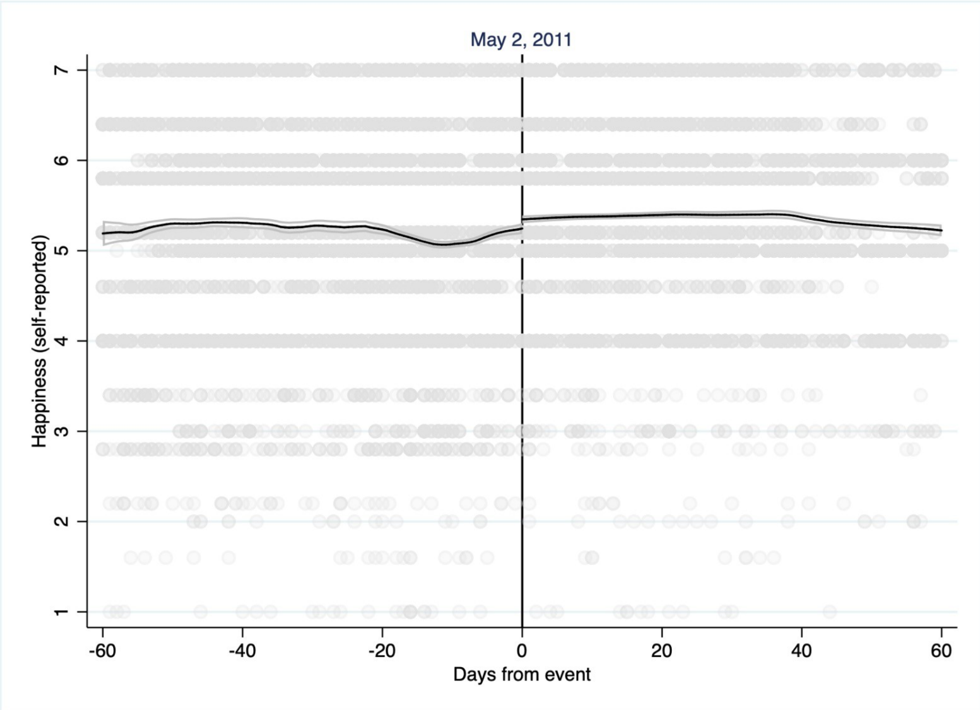


Figure A3. Discontinuity plot for covariates (weighted)

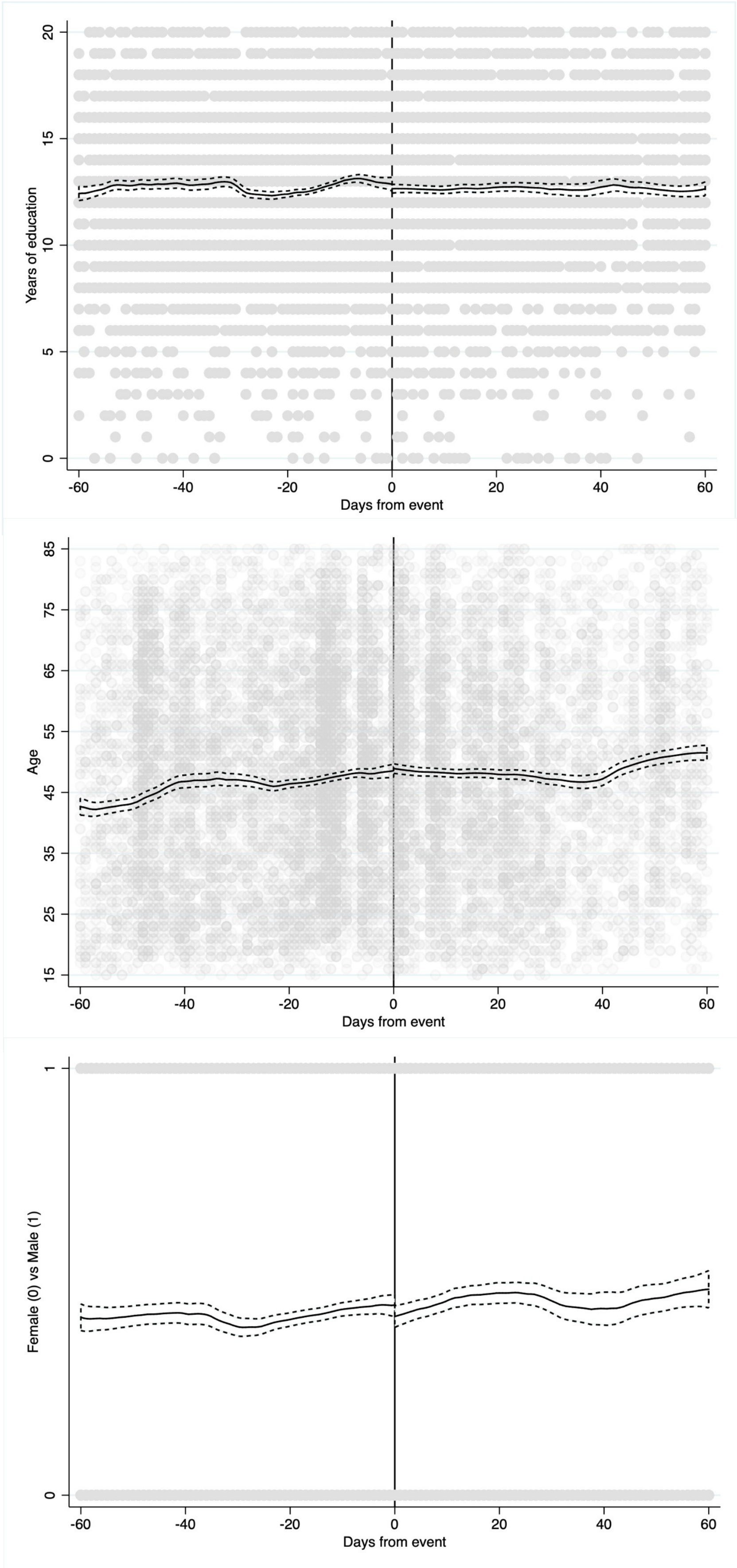
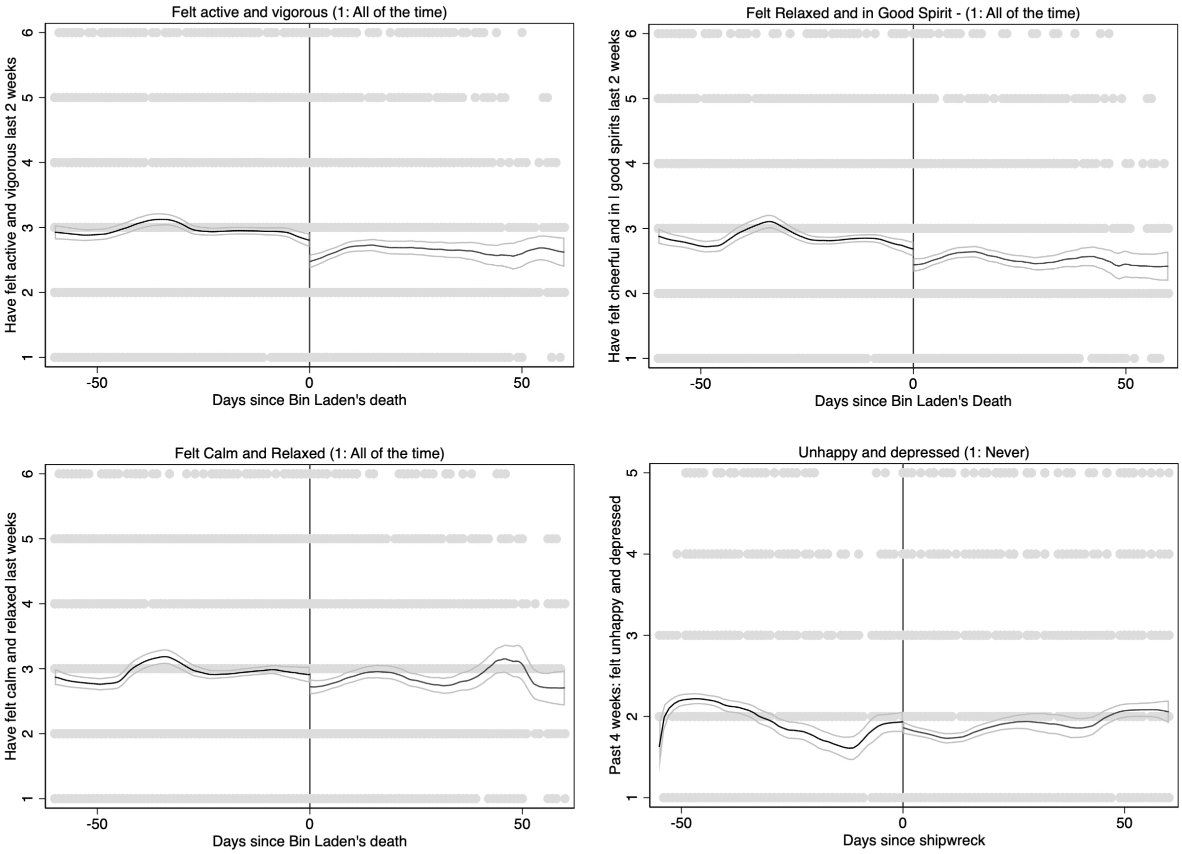


Figure A4. Discontinuity plots for alternative outcomes



Additional Robustness Checks

To check for the robustness of the results presented in the paper, in Table B1 I restrict the timeframe of analysis iteratively, from 60 to the 10 days before and after May 2, 2011. The four regressions are estimated for the full model of Equation (1), i.e., with country-fixed effects and controlling for individual covariates. The sample is rebalanced based on individual covariates and country of residence. All four models yield a positive and statistically significant coefficient for the treatment dummy. When the model is estimated in the 90 days before and after the death of Osama bin Laden, the q coefficient is slightly larger than that equivalent effect estimated in Table 2 of the paper (0.095 versus 0.082). The size of the coefficient is larger and still significant when the model is estimated in narrower intervals, of 15- and 10-days intervals, where it is found equal to 0.106 and 0.123 respectively (both significant at the 0.05 level). These results suggest that the effect of the treatment, is larger the closer to the date of the event and shrinks progressively as the estimation bandwidths become wider. This is a relevant indication on the validity of my results. In fact, happiness is often found to quickly reverse to its mean after exogenous shocks – a phenomenon called hedonic adaptation (Frederick and Loewenstein 1999). Furthermore, the more individuals are interviewed farther away from the event, the more it is likely that other intervening events impact happiness, thus weakening the treatment effect.

Table A3. Different bandwidths

Balancing:	Individual covariates and country			
	(1)	(2)	(3)	(4)
Treatment effect	0.095**	0.0639+	0.106*	0.123*
	[0.033,0.157]	[-0.005,0.133]	[0.019,0.193]	[0.014,0.233]
Controls				
Country FE	YES	YES	YES	YES
Individual	YES	YES	YES	YES
Bandwidth				
±45 days	YES	NO	NO	NO
±30 days	NO	YES	NO	NO
±15 days	NO	NO	YES	NO
±10 days	NO	NO	NO	YES
Observations	10,362	8,032	4,821	3,100

Confidence intervals in parenthesis; $^{+}p<0.10$, $^{*}p<0.05$, $^{**}p<0.01$, $^{***}p<0.001$

The regression models presented in the main text 4 do not take into account the possibility that heteroskedasticity affects the sample. In Table A4 Column (1), I estimate the full model of Equation (1) using heteroskedasticity-robust standard errors. Accounting for failures of the i.i.d. assumption still yields significant results. As expected, the significance of the correlation between is reduced (at the 0.05 level), compared to the 0.01 level when heteroskedasticity is not accounted for. In Table A4 Column (2), I cluster standard errors at the country-level, in order to account for the possibility that observations are correlated within countries. In this case, the observed correlation is no longer significant (p-value=0.109). A crucial qualification of this finding is that the properties of cluster-robust estimates are derived under the assumption that the number of clusters goes to infinity. Although there is no clear rule concerning the minimal number of clusters to employ, using only 10 clusters with unbalanced observations across countries is likely to lead to overly large standard errors (Cameron and Miller 2015). Given this expectation, the fact that the p-value is found to be close to standard level of significance is promising evidence on the robustness of my results. This is further confirmed by evidence presented in Table A4 Column (3). Here, I account for the fact that some countries are fielded in both ISSP 2011 and ESS, thus clustering error at the intersection of country and survey. In this case, the significance of the correlation is only significant at the 0.1 level.

Table A4
Modelling standard errors

Balancing:	Individual covariates and country		
	(1)	(2)	(3)
Treatment effect	0.082*	0.082	0.082^{+}
	[0.014,0.15]	[-0.022,0.186]	[-0.008,0.172]
Controls			
Country FE	YES	YES	YES
Individual	YES	YES	YES
Errors			
Heteroskedasticity robust	YES	NO	NO
Clustered by country	NO	YES	NO
Country-survey clusters	NO	NO	NO
Observations	12,723	12,723	12,723

Confidence intervals in parenthesis; $^{+}p<0.10$, $^{*}p<0.05$, $^{**}p<0.01$, $^{***}p<0.001$

Specific survey characteristics related e.g., to refusal conversation procedures, might generate different probabilities of being interviewed for different individuals as a function of the progression of the fieldwork. To address this identification threat, in Table A5 I estimate the model of Equation (1) after pre-processing data through the introduction of survey identification dummies among the rebalancing variables. Thus, I obtain pre- and post-treatment samples where observations are balanced across the two survey. I present 4 sets of 3 models where treated- and non-treated are rebalanced based on survey dummies only; on survey dummies and individual covariates; on survey and country dummies; and on individual covariates, survey and country dummies. 10 out of the 12 models yield a significant and positive coefficient.

Table A5
Alternative rebalancing

Balancing:	Survey		
	(1)	(2)	(3)
Treatment effect	0.289***	0.279***	0.029
	[0.228,0.349]	[0.220,0.339]	[-0.033,0.091]
	Individual covariates and survey		
	(1)	(2)	(3)
Treatment effect	0.288***	0.280***	0.029
	[0.228,0.348]	[0.220,0.339]	[-0.032,0.091]
	Country and survey		
	(1)	(2)	(3)
Treatment effect	0.188***	0.166***	0.053*
	[0.135,0.240]	[0.114,0.218]	[0.002,0.108]
	Covariates, country and survey		
	(1)	(2)	(3)
Treatment effect	0.180***	0.167***	0.054*
	[0.127,0.232]	[0.115,0.218]	[0.228,0.349]
Observations	12,723	12,723	12,723

Confidence intervals in parenthesis; $^{+}p<0.10$, $^{*}p<0.05$, $^{**}p<0.01$, $^{***}p<0.001$

Although the use of linear models is ubiquitous in happiness research (Ferrer-i- Carbonell and Frijters 2004; Chen et al. 2019), In Table A6 I re-estimate Table 2 using an ordered logistic regression model. This way, I can account for the fact that happiness scores are measured on a categorical scale, while ordinary least-square models assume that the dependent variable is continuous. Table A6 closely replicates results presented in the paper.

Table A6
Ordered logistic regression models

Balancing:	No (Raw data)		
	(1)	(2)	(3)
Treatment effect	0.533***	0.572***	0.091
	[0.424,0.642]	[0.418,0.636]	[-0.025,0.207]
Balancing:	Individual covariates and country		
	(1)	(2)	(3)
Treatment effect	0.443***	0.430***	0.204***
	[0.341,0.546]	[0.327,0.532]	[0.098,0.309]
Controls			
Age	NO	YES	YES
Education	NO	YES	YES
Gender	NO	YES	YES
Country fixed effects	NO	NO	YES
Observations	12,723	12,723	12,723

*Confidence intervals in parenthesis; +p<0.10, *p<0.05, **p<0.01, ***p<0.001*

Table A7
Higher order weighted polynomial regressions

:	Second order		
	(1)	(2)	(3)
Main effect (raw data)	0.245***	0.249***	0.019
	[0.185,0.305]	[0.188,0.309]	[-0.0421,0.081]
Main effect (weighted)	0.177***	0.167***	0.0521+
	[0.123,0.231]	[0.113,0.220]	[-0.00173,0.106]
	Third order		
Main effect (raw data)	0.213***	0.243***	0.028
	[0.185,0.305]	[0.188,0.309]	[-0.0522,0.109]
Main effect (weighted)	0.158***	0.161***	0.0741*
	[0.090,0.226]	[0.0946,0.228]	[0.00756,0.141]
	Fourth order		
Main effect (raw data)	0.243***	0.246***	0.0203
	[0.183,0.303]	[0.186,0.307]	[-0.0417,0.0822]
Main effect (weighted)	0.175***	0.164***	0.0571*
	[0.122,0.229]	[0.111,0.217]	[0.00350,0.111]
Controls			
Age	NO	YES	YES
Education	NO	YES	YES
Gender	NO	YES	YES
Country fixed effects	NO	NO	YES
Observations	12,723	12,723	12,723

*Confidence intervals in parenthesis; + p<0.10, * p<0.05, ** p<0.01, *** p<0.001*

Replication of results by survey

Figure A5 replicates Figure 2 by survey. In the case of the ESS 5 (Figure A5.a), there is a clear significant jump at the threshold, with average happiness significantly higher at the intercept for the post-treatment subsample. Data from ISSP 2011 do not show a similarly significant jump: in fact, although the intercept for the post-treatment subsample is slightly higher than that for the pre- treatment group at t_0, confidence intervals overlap.

Figure A5.a (ESS 5)

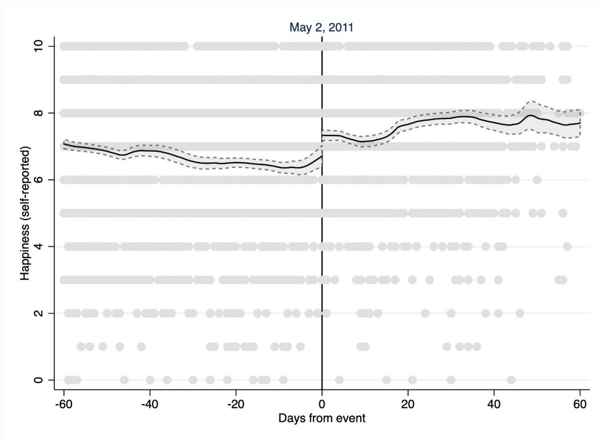
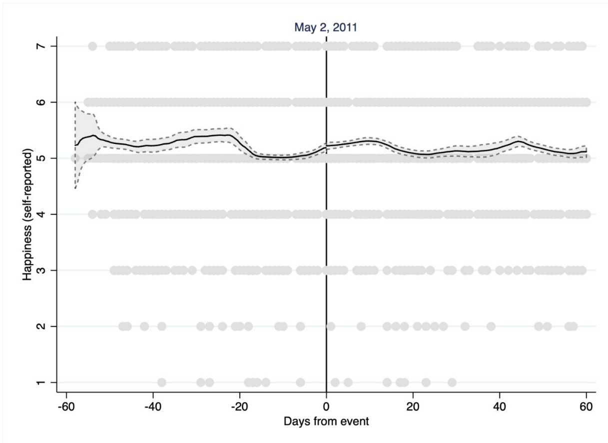


Figure A5.b (ISSP 2011)



In the regression analysis (Table A7), I find a statistically significant effect (at the 0.001 level) of the treatment in both the ESS 5 and ISSP 2011 samples in the unconditional, unweighted model (Column 1) and when individual covariates are added as controls (Column 2). As in the model of Table 2, this correlation ceases to be significant when country fixed effects are added as controls (Column 3). When the treated and control groups are rebalanced, the treatment is significantly correlated with happiness (at the 0.001 level) in the ISSP 2011 sample across all models (Columns 4-6). This correlation is however not significant for the ESS 5 sample.

	Happiness					
Sample:	ESS 5					
	(1)	(2)	(3)	(4)	(5)	(6)
Treatment	0.540***	0.531***	0.064	-0.013	-0.010	-0.058
	[0.329,0.752]	[0.322,0.740]	[-0.142,0.269]	[-0.185,0.158]	[-0.179,0.159]	[-0.234,0.117]
Observations	4,979	4,979	4,979	4,979	4,979	4,979
Sample:	ISSP 2011					
	(1)	(2)	(3)	(4)	(5)	(6)
Treatment	0.194***	0.194***	0.026	0.136***	0.131***	0.088***
	[0.126,0.262]	[0.127,0.262]	[-0.046,0.099]	[0.0758,0.196]	[0.072,0.191]	[0.127,0.262]
Observations	7,744	7,744	7,744	7,744	7,744	7,744
Controls:						
Individual	NO	YES	YES	NO	YES	YES
Country FE	NO	NO	YES	NO	NO	YES
Rebalancing:						
Individual	NO	NO	NO	YES	YES	YES
Country	NO	NO	NO	YES	YES	YES

Confidence intervals in parenthesis $^{+}p<0.10$, $^{*}p<0.05$, $^{**}p<0.01$, $^{***}p<0.001$

Chapter 3

Goffman's Schadenfreude and the Fall of Mr. Berlusconi [1]

Abstract

In this paper, I leverage an unexpected deviation in the timing of the fieldwork of Round 6 of the European Social Survey (ESS) in Italy, which coincided with a criminal case verdict that found former four-time Italian Prime Minister, Silvio Berlusconi, guilty of abuse of office and child prostitution. Building on Erving Goffman's *On cooling the mark out*, I hypothesise that the 'falling from grace' of a polarising figure might trigger emotional reactions and Schadenfreude. I exploit administrative information on the days of ESS interviews and, through a regression discontinuity design, I find that being interviewed after the guilty verdict is associated to increased levels of self-reported happiness and life satisfaction in a sample of the Italian population. Reactions appear polarised across political affiliation lines, with supporters of opposition parties enjoying greater well-being and interpersonal trust (social cohesion) in the aftermath.

[1] I wish to thank David Kirk and Francesco C. Billari for providing useful comments. I am grateful to the organisers and participants to the 2017 DPhil Conference held at the Department of Sociology, Oxford, in particular Colin Mills and Mitjo Vaulasvirta, who provided excellent insights as discussants of my paper. I am also indebted to Daniele Vignoli, who offered key information on the fieldwork of Round 6 of the ESS, which he supervised; Joan Madia, for assistance in identification issues and for sharing several papers and econometric insights, including those related to the identification approach used in this investigation. Finally, I wish to thank Philip Smith for the occasional conversations that we had at Nuffield College during his visiting period, which allowed me to better redefine many theoretical issues connected to this work.

Introduction

In Italy, the 6th wave of the European Social Survey was run 6 months after the originally scheduled time. Because of this unforeseen deviation, the fieldwork coincided with a period of institutional turbulence in the Italian political system, with two criminal court cases against former Prime Minister Silvio Berlusconi brought to an end on June 24th and August 1st, 2013. In both cases, Mr. Berlusconi, a highly controversial figure in the political history of Italy, was found guilty on one count of child prostitution and abuse of office (June 24th), and one of tax fraud (August 1st). As a result, he was convicted to 7 years of jail (never served). On November 26th, in compliance with Italian anti-corruption law, that temporary barred Mr. Berlusconi from holding public office, the Italian Senate held a majority vote to expel him from the Parliament, where he had sat uninterruptedly since 1994. I exploit the lag in the European Social Survey's fieldwork to test how this "ceremony of recoding" (Foucault 1975 [1999]: 110) impacted emotions and attitudes of Italians. To formulate hypotheses, I draw from Goffman, who in his 1952 On cooling the mark out suggested that Schadenfreude, or pleasure for the misfortunes of other, may specifically emerge from "ceremonies […] such as criminal trials and the drumming- out ritual employed in court-martial procedures." (Goffman 1952:462). I also test for the hypothesis, inspired by Durkheim, that, by activating shared emotions, the loop of action and reaction that characterises crime and punishment reasserts the conscience collective and leads to higher social cohesion. To minimise threats to my identification, I define a natural experimental treatment and control group solely based on the date of the first guilty verdict

(June 24th, so-called ‘Ruby trial’) and employ a regression discontinuity design to compare average outcomes in wellbeing and social cohesion on a pseudo-panel of respondents interviewed in the two weeks before and after the treatment. I show that Italian respondents to the European Social Survey enjoyed significantly higher levels of wellbeing in the aftermath of the public announcement of the verdict. This effect is larger for respondents whose political affiliation is farther away from Mr. Berlusconi’s party. These respondents also report marginally significant higher levels of social cohesion, which I operationalise based on measures of generalised people’s trust. Results are generally robust when the same effect is tested using the other events (tax fraud trial and expulsion from Senate), happened during Round 6, for treatment assignment purposes.

Background

Mr. Berlusconi and Italian politics

On the evening of January 26th, 1994, Silvio Berlusconi, a real-estate entrepreneur and media mogul, simultaneously broadcasted a video message on all the Italian television networks under his property. In this message, he said: “Italy is the country I love. […] I have chosen to take the field and to take an interest in public affairs because I do not want to live in an illiberal country, governed by people who have links to a past which has failed.” (quoted in Foot 2014:218). Berlusconi’s decision to ‘take the field’[2] followed a period of deep turmoil in Italian politics, right after the 1992-1993 judicial scandal Mani Pulite (Italian for ‘Clean hands’) exposed the systematic corruption of the parties that had governed the Italian democracy since

[2] According to Dine (2013:xxi), “when Berlusconi did decide to enter politics, his carefully prepared entrance was heavily underlined with populist, football language. […] The key phrase was ‘take to the field’. His new party was to be called ‘Forza Italia’, or ‘Up Italy’, a cry which until then had applied only to an Italian national team, and his party deputies were to be referred to as Azzurri, a term previously used for national team players.” Porro and Russo (2000:352) argue that the political rhetoric of Mr. Berlusconi frequently engaged in football metaphors, often centred around the exploits of A.C. Milan, the popular football club that he owned between 1986 and 2017.

1948 (Pasquino 2014). At the subsequent general elections, held on March 27th, 1994, the newly formed coalition Polo delle libertà ('Pole of freedoms'), led by Mr. Berlusconi, beat the post- communist leftist parties, obtaining over 42% of the vote (McDonnell 2013). On May 11th, 1994, Mr. Berlusconi was sworn as the first Prime Minister of the 'Second' Italian Republic, less than four months after his January television message (Smith 1997).

By the year of his election, Mr. Berlusconi had already stood accused of perjury about his enlistment in an illegal Masonic lodge called Propaganda 2 (Montanelli and Cervi 1995); of accounting fraud and embezzlement, in relation to his holding company Fininvest (McCarthy 1997:82); while a 1996 investigation accused him of being involved in illicit financing of the Italian Socialist Party (Sørensen 2009). In Spain, where he had expanded his media operation, he was accused of tax fraud and of having breached anti-trust laws (McNally 2016). Soon after he took office, on November 22nd, 1994 Mr. Berlusconi received an investigation notice, in relation to alleged bribery of finance police officers, to relax tax audits on his companies. According to McNally (2016: 980), "Berlusconi and his media accused the magistrates of an 'institutional *coup d'état*'." His government collapsed shortly thereafter.[3] Despite an electoral defeat in 1996, Mr. Berlusconi's political career was far from over, though.

Adopting a programme that "linked elements of Tatcherism and free market ideology with forms of populism" (Foot 2014:217), from 2001 to 2011 Mr. Berlusconi won two other general elections, serving as head of three different cabinets (from 2001 to 2005; 2005 to 2006; 2008 to 2011). From 1994 to 2011, Berlusconi held power for a total of 3,340 days, which

[3]In a 2013 speech, that I will cover in more detail in the following paragraphs, Mr. Berlusconi went back to that 1994 episode: "after eliminating in 1992-1993 the five democratic parties that had governed us for 50 years, the magistrates thought of having paved the way for the left to take power. You know what happened: a stranger to politics, a certain Silvio Berlusconi, took on the field, beat the 'joyous war machine' of the left and in two months brought the moderates to government. I did it. Immediately, prosecutors and judges linked to the left […] raged against me and sent me an investigation notice for a crime from which I would be fully acquitted seven years later. So, my government collapsed." (author's translation based on transcript from la Stampa 2013).

makes him the longest serving prime minister in the history of the Italian Republic (Ceccarini and Newell 2019). Throughout this time, he was the target of several trials and investigations, involving corruption and witness tampering;[4,5,6] embezzlement;[7] false accounting;[8,9] mafia;[10]

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[4]In 1988, Silvio Berlusconi's Fininvest acquired the publishing house Mondadori. Disagreements over corporate governance led to a court ruling in favour of Berlusconi. In 1995, it was found that \$2.7 million were transferred from one of Berlusconi's offshores companies, All Iberian, to a bank account owned by Cesare Previti, a well-known associate of Berlusconi, and from this account transferred to an unknown person. In the following months Vittorio Metta, one of the judges of the Mondadori court ruling, made several luxury purchases, and was accused of being the recipient of the funds moved from All Iberian. In 2001, Berlusconi was acquitted since the crime was statute barred by time limitation. In 2007, Previti and Metta were found guilty of corruption (D'Avanzo 2007).

[5]In 2013, the public prosecution in Naples accused Berlusconi of having paid 3 million euros to Senator Sergio De Gregorio to facilitate his choice of breaking rank from the centre-left coalition, which ruled Italy on a thin parliamentary majority, between 2007 and 2008. This crime, which had been confessed by Senator De Gregorio in 2013, was statue barred by limitation in 2015 (Ubiali 2018).

[6]In 2001, Berlusconi was acquitted from the alleged corruption of financial police officials. It was reported that key to his acquittal was the deposition of lawyer David Mills, later accused of having received \$600,000 from Berlusconi to commit perjury (ANSA 2011). Mr. Mills was acquitted on all counts as the crimes were statute barred by time limitation. The ruling established "the existence of the crime of corruption in judicial acts." (author's translation based on Corte di Cassazione 2010).

[7]In 2001, Berlusconi was accused of having used 65 offshore companies between 1989-1996, to make illegal transactions on behalf of a variety of business interests. In 2003, the first scheduled court hearing was cancelled as the alleged crime had been statute barred by time limitation (Corriere della Sera 2004).

[8]In 1996, Berlusconi's A.C. Milan acquired the services of Torino's player Gianluigi Lentini. Allegedly, the transfer fee included 10 billion Italian liras off the book. Further investigation found an alleged false accounting in A.C. Milan balance sheets between 1991 and 1997. In 1998, Berlusconi was called to court. In 2002, he was acquitted since the crime was statute barred by time limitation. (Jones 2008)

[9]Between 2005-2008, two trials involving allegations of false accounting were closed with Berlusconi's acquittal because the alleged crimes had ceased to be crimes by changes in Italian law. The change in law was decided in 2002 by the newly elected government, led by Berlusconi. This law was, among others, at the centre of protests for being considered '*ad personam'* laws, approved by Parliament in order to solve Berlusconi's judicial troubles or procure advantages to his business interests. (Dallara 2015). One of these two trials involved allegations of corruption of administrative judges: Berlusconi was acquitted in 2007 (Corriere della Sera 2007).

[10]In 1973, Berlusconi's associate Marcello Dell'Utri convinced him to hire Vittorio Mangano, a man with several legal precedents, to work in the stables of Berlusconi's residence in Arcore. Mangano worked for Berlusconi up until 1976. According to an interview given by Berlusconi in 1994, Mangano was fired when it was found out that he was setting up the kidnapping of one of Berlusconi's guests (Corriere della Sera 1994). It was later found out that Vittorio Mangano was a relevant member of the Sicilian mafia. In 2013, Marcello Dell'Utri was convicted for mafia, with the allegation of being the mediator between Berlusconi and the Sicilian mafia (la Repubblica 2013b). investigation on Berlusconi's link with the mafia is open at the time of writing (Corriere della Sera 2019).

defamation;[11] and abuse of office.[12] According to Mr. Berlusconi's own estimates, "over the past 25 years, I spent my Saturday and Sunday afternoons with some of my 105 lawyers and legal counsellors, with whom I had to work on the 88 court cases that were brought against me." (reported by Agi 2019).

Accounts for the continued popularity of Silvio Berlusconi among the Italian electorate, despite these court cases and allegations, have included references to Weberian concepts of charismatic leadership (Pasquino 2014); to his populist message in a Western democracy among those precociously impacted by import competition (Barone and Kreuter 2019); to entrenched economic interest (Leonardi et al. 2019); to the role of his media companies in sustaining political consensus (Sabatini 2012; Durante, Pinotti and Tesei 2019); and to the "pervasiveness of social norms that justify corruption […] which were found to increase the likelihood of supporting Berlusconi at all points on the ideological spectrum." (McNally 2016).[13] Nevertheless, in 2011, Mr. Berlusconi's political parabola started looking downwards, when the intertwined effect of a set of new political scandals and the deteriorating economic situation of Italy led to his ousting from government and to the formation of a technocratic cabinet, headed by economist Mario Monti.

[11]Official documents (Camera dei Deputati 2010) indicate that Berlusconi stated in multiple instances that judge Antonio Di Pietro, one of the leading prosecutors of the Mani Pulite investigation, held a fake degree, forged by the secret services to allow him to become a judge, and bring down the ruling parties. In 2015, Mr. Berlusconi settled to pay €90,000 to Mr. Di Pietro (Corriere della Sera 2015).

[12]In 2009, Berlusconi was investigated for having abused of his office by employing aircrafts owned by the Italian state and operated by the Italian military in order to ship a group of attendees to a party held at his Sardinia villa. In 2010, he was also accused of pressuring Giancarlo Innocenzi, head of the Italian Communication Authority, to shut down a TV show aired by the State-owned television network Rai 2. Both investigations were closed without the start of a trial (la Repubblica 2009; la Repubblica 2013a).

[13]An additional reason for the enduring support for Mr. Berlusconi, suggested to me in conversation by Philip Smith, might relate to a backfire effect, rooted in the long-standing Italian folk tradition the 'brigante', the brigand, a popular hero and outlaw portrayed as persecuted by an unjust Italian State.

Twilight of Mr. Berlusconi

This new development took shape on May 27th, 2010, when a 17-year-old named Karima El Mahroug, known as 'Ruby', was arrested in Milan for suspected thievery (BBC 2013a). Shortly thereafter, the then Prime Minister of Italy, Silvio Berlusconi, phoned Mr. Piero Ostuni, Milan's chief of police, asking him to release Ms. El Mahroug (Tribunale di Milano 2013).[14] Because she was underage, a temporary legal custodian was identified in Ms. Nicole Minetti, an elected official at the Regional Council of Lombardy and a member of Berlusconi's party *Il Popolo della Libertà* (the People of Freedom), unrelated to Ms. El Mahroug. On December 21st, 2010, the Public prosecutor office in Milan started investigating Mr. Berlusconi for having abused of his office of Prime Minister by pressuring the Milanese head of police to realease Ms. El Mahroug, despite the fact that a magistrate had ordered to place her under appropriate custody instead. To justify this behaviour, Mr. Berlusconi's defence counterargued that he had acted under the notion that Ms. El Mahroug was the nephew of Hosni Moubarak – the then President of Egypt – and that the Italian Prime Minster intended to avoid an international incident.

It was soon established that Ms. El Mahroug was not Mubarak's nephew and that, between February and May 2010, she had taken part to several parties at Mr. Berlusconi's private residence. In fact, "it became clear that Ruby was part of a 'vast pimping network' of young women who were paid to attend 'bunga bunga'[15] sex parties with the prime minister at

[14]Reconstruction of the circumstances detailed in this paragraph is based on legal documents attached to the verdict, issued on June 24, 2013, on the corruption and child prostitution case against Silvio Berlusconi (Tribunale di Milano 2013).
[15]The expression 'bunga bunga' has unclear origin, often reconducted to former Libyan Head of State, Mu'ammar Gheddafi. According to court depositions by Karima El Mahroug, "Berlusconi told me that the 'bunga bunga' was a harem that he copied from his friend Qaddafi, in which girls strip off and have to give him 'physical pleasures'." Flamini (2011:76) reports that "Berlusconi countered with his own description […] 'Bunga bunga', he said, 'means let's enjoy ourselves, let's dance, let's drink… it's my vision of living'." Benini (2012:87) draws a parallel between the "imagery and imagination" of these 'bunga bunga parties' and that of Berlusconi's television networks, where "the female body is thoroughly policed, and everything must be reduced to a spectacle of commodified young flesh." According to Giuliani (2016: 550), the coverage of the Ruby case underscored the "persistence of a

his home." (Chiaramonte and D'Alimonte 2012:268). Allegations against Mr. Berlusconi were extended to child prostitution. This scandal, that obtained widespread international attention, was among the reasons for a marked drop in Silvio Berlusconi's popularity, which tumbled from 40 to 22% between January and May 2011: according to political scientists Chiaramonte and D'Alimonte (2012:268) "by the spring of 2011, when local elections were scheduled, the popularity ratings of the government and the prime minister had reached new lows." In the following elections (February 2013), Berlusconi was successful in being re-elected as a Senator, but his party lost 16-percentage point, and his coalition lost the majority in the Italian Parliament while a new party, the Five Star Movement, radically critical of the old consensus, gained one quarter of the total votes (D'Alimonte 2013).

The first stage of the so-called 'Ruby trial' ended four months after the 2013 elections, on June 24th, 2013. Mr. Berlusconi was found guilty of both child prostitution and corruption crimes and sentenced to seven years of jail.[16] In Figure 1, I leverage Google Trends data[17] for the keyword 'Berlusconi' from June to December 2013 and plot them against searches for the keyword 'Calcio' (football, soccer) – an ever-popular topic of interest in Italy (Foot 2006).

(post)colonial archive" in the public narratives of contemporary Italy. Ms. El Mahroug was portrayed as a "sexual object within a 'colonial and multiracial burlesque' (as Berlusconi himself called it), which corresponds to […] images captured in Berlusconi's television channels." (Giuliani 2016: 559). The predominance of a sexist narrative was emphasised by the defence that Berlusconi chose against the "defamatory charges against him of sex with an underage prostitute", based on insisting "that he has never paid for sex." (Flamini 2011: 71).

[16] Note that this was not a final verdict. In fact, the final verdict on the Ruby trial was issued in March 2015. Berlusconi was acquitted on all counts for not having committed the crime. In fact, it was established that there was no proof that Berlusconi knew that Ruby was under aged, nor that his call to the chief of Police actually contained an illicit 'order' to release Ruby (Corte di Cassazione 2015).

[17] Google Trends, Google, Inc. Retrieved from: https://trends.google.com/trends/explore?date=2013-06-01%202013-12-31&geo=IT&q=Berlusconi,Calcio

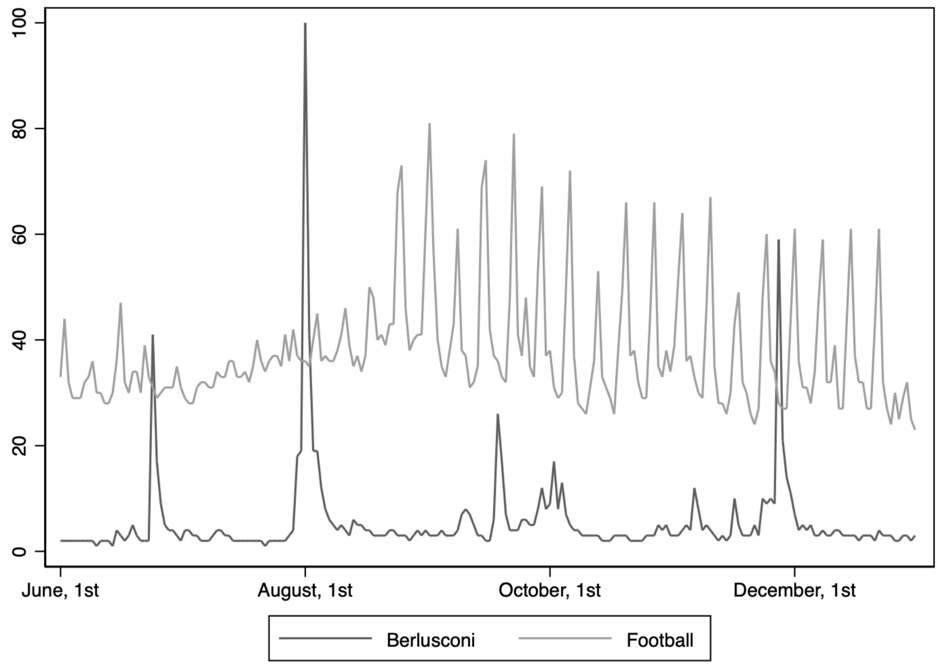

Fig. 1 – Relative interest for the keyword 'Berlusconi' on Google Trends, over the ESS fieldwork. Google Trends volumes represent a measure of the relative interest for a given topic on a given geography and time, scaled from 0 to 100. Reference geography is 'Italy', with reference period June-December 2013. These dates correspond to the fieldwork of the European Social Survey (details in the Data and Methods section below). Although the baseline level for interest for 'Calcio' is the same throughout this reference period, since August 25th a set of weekly fluctuations start, in correspondence of Sunday games.

A jump in the relative interest for 'Berlusconi' is recorded on the day of the verdict on the Ruby trial, at a level that overlaps with that of football searches in the sample of Google.com users. In 2013, the Internet penetration rate for Italian households was 69,4%,[18] with the Google market share estimated at 94.14% in October.[19] Based on this, I estimate that web search data plotted in Figure 1 track the online search behaviour of about 38.93 million Italians:[20] they thus

[18]Eurostat – Households, internet access Retrieved from: http://appsso.eurostat.ec.europa.eu
[19]Statcounter. Retrieved from: http://gs.statcounter.com/search-enginemarketshare/all/italy/#monthly-201301-201312. See Bail, Brown and Wimmer (2019) for analogous estimates.
[20]As the result of 0.694 (internet penetration rate share), multiplied by 0.9414 (Google market share), multiplied by 59.69 million residents (see World Population Prospects 2019, United Nations, Department of Economic and Social Affairs, Population Division. Retrieved from: https://population.un.org/wpp/.

represent an appropriate measure of the relative interest for a given topic and stand to indicate that the outcome of this trial became in fact the centre of the attention of the Italian public.

In Figure 1, June 24th is only the first of three peaks of interest related to the keyword 'Berlusconi'. The highest of the three is recorded a few months later, and precisely on August 1st, 2013. In fact, while the verdict on the Ruby case was only the first stage of the trial, as it was swiftly appealed by Mr. Berlusconi, on August 1st, 2013 another trial was brought to an end and "Silvio Berlusconi, Italy's longest serving post-war prime minister, [was] handed his first definitive criminal conviction in more than 20 years of legal battles." (The Guardian 2013). On that day, Mr. Berlusconi was in fact found guilty of tax fraud and convicted to 7 years of prison (never served). The public significance of this verdict is emphasised by the fact that, three days later, thousands of Mr. Berlusconi's supporters rallied in Rome to protest against it (BBC 2013b). The critical political juncture brought about by this verdict was also magnified by a public statement issued by Mr. Berlusconi on September 18th, 2013. He said:

> The judges […] have become a 'counterpower'. […] They have despicably and morbidly rummaged into my private life, they put at risk my business without regards for the thousands of honest people who work for me […] with pretences, they have attacked me, my family, my collaborators, my friends, even my guests. […] Twenty years ago, I decided to take on the field. I said that I did it because I loved this country. I still love it, despite the disappointment of these last years, a big disappointment, and despite the indignation for this paradoxical verdict because, I want to repeat it once again, forcefully: I did not commit any crime, I am not guilty, I am innocent, I am completely innocent."[21]

By virtue of a new law (*Legge Severino*, or Severino Law), approved by the Monti government in 2011, this verdict granted the decadence of Mr. Berlusconi from public office. The third peak of interest recorded in Figure 1 corresponds in fact to November 26th, 2013, when the

[21] Author's translation based on full transcript of the speech given by Mr. Berlusconi on September 16th, 2013 (la Stampa 2013). Retrieved from: https://www.lastampa.it/politica/2013/09/18/news/berlusconi-il-discorso-integrale-1.35980601?refresh_ce

Parliament, where Mr. Berlusconi had ceased to hold a majority of the votes, voted in order to expel him from his seat, in compliance with the Severino Law. After having served as a member of the Italian Parliament uninterruptedly from April 1994 to November 2013, Mr. Berlusconi went back to be a private citizen. This period represents the end of a long parabola of the Italian political system. In fact, even if he was later re-admitted to public office[22] and elected to the European Parliament in 2019, where he currently serves as a member, Mr. Berlusconi's consensus never reached back to his historical level: at the last European elections, held in 2019, his party, *Forza Italia*, only obtained 8% of the vote (BBC 2018).

Theory

Emotions in the Theory of Punishment

To rationalise the existence and persistence of punishment, i.e., collective or institutionalised rituals that impose welfare losses on those who break norms, existing theories emphasise to varying degrees the role of justice, efficient crime deterrence, power domination, structural economic interests and culture (see Lacey, Soskice and Hope 2018 for a review). Reflection on punishment is key to modern social theory, and apparent across several authors in sociology, ever since seminal contributions by Durkheim. Durkheim's research on punishment includes three main pieces of work: *The division of labour in society* (Durkheim 1893 [1933]), *The two laws of penal evolution* (Durkheim 1902 [1983]), and *Moral education* (Durkheim 1925 [1961]). According to the influential reception of Durkheim offered by David Garland (1990: 122), "Durkheim's analysis insists that we must draw back from the immediacies of dealing with offenders and view punishment on a broader social plain if we are to appreciate the true characteristics of the institution and the forces that make it work."

[22]The 'ban' imposed by the Severino law was in fact limited to 5 years (la Repubblica 2012).

In Durkheim's view, in fact, moral and affective dynamics play a key role in punishment, whose practice functionally expresses and reasserts the collective consciousness of a community. Emotions link together crime and punishment because, by violating the 'sacred' norms that bind the *conscience collective*, crime causes moral outrage on the part of 'healthy consciences' and gives rise to demand for punishment: for Durkheim, "passion" is "the soul of penalty." (Durkehim 1893 [1933]: 90). Thus, a Durkheimian approach requires thinking about punishment not as a dyadic relation, connecting the punisher to the offender – and as such requiring careful philosophical consideration of the 'exact' or 'correct' amount of punishment – but rather as a triangular process, which includes "a crucial third element – the onlookers, whose outraged sentiments provide a motivating dynamic for the punitive response." (Garland 1990: 32). In this frame, punishment expresses the sentiments of an offended collective, whose condition of moral outrage and emotional arousal will find closure when the *conscience collective* is reaffirmed.

In the past decades, the analysis of punishment tilted towards more markedly penological approaches, largely influenced by Foucault's (1975 [1995]) diachronic account on the evolution of penal practices (Smith 2008). With *Discipline and punish*, Foucault offered a vivid historical reconstruction of punishment in *Ancien Régime*, when it was characterised by brutal ceremonies in the form, e.g., of public hangings and executions, that communicated the omnipotence of the sovereign, and expressed it on the body of the criminal. According to Foucault, "public punishment is the ceremony of immediate recoding" (Foucault 1975 [1995]: 101): because "the criminal […] falls outside the pact […] punishment will follow at once, enacting the discourse of the law and showing that the code, which links ideas, also links realities." (Foucault 1975 [1995]: 101). In his reconstruction, Foucault made extensive refences to the emotional reaction of the crowds that attended such ceremonies.[23]

However, Foucault also showed that, between the mid-XVIII and mid-XIX century, a new set of 'gentle' penal practices emerged, which substituted violent punishment and brought the body of the punished away from public view. Analytically, this led to the idea that "punishment was no longer communicative, as it had become sequestered behind the walls of the prison. Brutality was gone, to be replaced by routinized activities directed towards reforming […] the deviant." (Smith 2008:9). Drawing from Norbert Elias's (1939 [2000]) *The civilising process*, Garland (1990) proposes that evolving social norms, increasingly refuting harm as an acceptable mean to governing interpersonal relations, were of "key importance for radical changes in the forms of punishment away from corporal and capital penalties towards carceral penalties imposed behind the walls of the modern prison." (Lacey et al. 2018:201). By this account, historical changes in the administration of punishment, as described by Foucault, directly responded to changes in 'sensibilities', reinforced by explicit logical and philosophical arguments (Pinker 2012). According to Smith (2008:18), this new sensibility, emerging from the civilising process, "is organised not only around sentiments of tolerance but also around a new grounding of the sacred in what [Durkheim] terms the 'cult of the individual'." As the

[23]According to Foucault (1975 [1995]: 60) "one finds many examples when the agitation was provoked directly by a verdict and an execution: small, but innumerable 'disturbances around the scaffold'. In their most elementary forms, these disturbances began with the shouts of encouragement, sometimes the cheering, that accompanied the condemned man to his execution. […] If the crowd gathered round the scaffold, it was not simply to witness the sufferings of the condemned man or to excite the anger of the executioner: it was also to hear an individual who had nothing more to lose curse the judges, the laws, the government and religion. The public execution allowed the luxury of these momentary saturnalia […]." It might be of interest to note that Alan Sheridan's English translation of *Discipline and punish*, appeared in 1977 by Allen Lane, uses the expression 'disturbances around the scaffold' to render Foucault's '*émotions d'échafaud*' ('scaffold emotions', in verbatim translation), and the expression 'social disturbances' to render Foucault's '*agitations sociales*' ('social agitations'), referring to either political rebellions, or rebellions directed against unjust punishment. Thus, in the reception of Foucault, direct references to emotions became blurred and mingled with other factors.

nature of punishment changed, the "whole technology of representation" (Foucault 1975 [1995]: 109) on which it rested shifted accordingly:

> "The criminal [. . .] is detached from society, he leaves it. But not in those ambiguous festivals of the *Ancien Régime* in which the people inevitably took part, either in the crime or in the execution, but in a ceremony of mourning. The society that has discovered its laws has lost the citizen who violated them. Public punishment must manifest this double affliction: that a citizen should have been capable of ignoring the law and that one should have been obliged to separate oneself from a citizen." (Foucault 1975 [1995]: 110).[24]

Transferred away from the body of the punished, modern punishment does not erase emotions, rather alters the modes of emotional production. In this new regime, the "focus of public interest and emotional intensity falls upon the court ritual and the declaration of sentence. Thereafter, the offender – and the remaining penal process – is removed from public view. […] The public concern with punishment, and the rise and fall of 'passionate reactions', tend to centre around the deployment of available sanctions – who gets what sentence?" (Garland 1990:73-74).

Goffman's Schadenfreude

To understand the connection between *who gets what sentence* and the emotional implications of the act of sanctioning (through trial and verdicts) in the modern regime of punishment, one contribution by Erving Goffmann (1952) appears central. In *On cooling the mark out*, Goffman focuses on adaptation to failure, using criminal fraud as a case study (the 'mark' is in fact the victim of a fraud, and 'cooling the mark out' involves a process of 'consolation', to allow the mark to accept the loss without commotion).[25] While describing situations evoking the need of

[24]Foucault directly follows referring to an 1850 speech to the French National Assembly by member of Parliament Dufau: "let the magistrate, wearing black, funereal crêpe, announce the crime and the sad necessity of a legal vengeance to the people. Let the different scenes of this tragedy strike all the senses."
[25]Although I do not describe the process of '*cooling out'* (see Goffman 1952:453-458), another useful intuition, suggested to Goffman by Howard S. Becker (Goffman 1952: 462, footnote 6), is the

"cooling a mark out", and detailing possible ways in which a mark gets cooled out, Goffman (1952: 461) also infers for society at large, starting by defining a "person" as "an individual who becomes involved in a value of some kind - a role, a status, a relationship, an ideology – and then makes a public claim that he is to be defined and treated as someone who possesses the value or property in question."

In Goffman's view, a person's public claims have specific limits, which are primarily determined by the "objective facts" of their own life: in fact, "any event which demonstrates that someone has made a false claim, defining himself as something which he is not, tends to destroy him […] in the eyes of others." (Goffman 1952: 461). This is the case of the defrauded mark: cheated by the 'operators' of the fraud, in Goffman's account a mark loses their face and their claim to their own self. In fact, the mark has committed "a cardinal social sin […]. He has defined himself as possessing a certain set of qualities and then proven to himself that he is miserably lacking in them." (Goffman 1952: 452). In those situations, that involve the loss of the mark's claim, hence its public "humiliation", some people "may treat the […] loss as a symbol of what the loser deserves." (Goffman 1952: 454). Goffman also identifies a set of institutional settings in which this process of "social death" occurs. Among these, he lists legal punishment as a primary example, as it represents a ritual destruction of identities who can, or should, no longer sustain "one of his social roles." (Goffman 1952:462).[26] In fact, much like the mark, the criminal committed actions that made them lost their public claim: so, the ceremony of punishment publicly rectifies this claim. In Goffman's view, punishment is thus

following: "even in those cases where the cooler makes an effort to make things easier for the person, he is getting rid of, we often find that there are bystanders who have no such scruples."

[26]The subsequent related question, for Goffman (1952: 463), has to do with what "we become after we have died in one of the many social senses and capacities in which death can come to us. […] There is, first of all, the dramatic process by which persons who have died in important ways come gradually to be brought together into a common graveyard that is separated from the living community. […] Jails and mental institutions are, perhaps, the most familiar examples […]." See Goffman (1968).

a symbolic act, which erases an individual's public claim and rebalances the distribution of identities within a given social space. This has significant affective implications:

> There are barbarous ceremonies in our society, such as criminal trials and the drumming-out ritual employed in court-martial procedures, that are expressly designed to prevent the mark from saving his face. Onlookers who are close enough to observe the blowoff, but who are not obliged to assist in the dirty work often enjoy the scene, taking pleasure [. . .] in the destruction of the mark. What is trouble for some is Schadenfreude for others." (Goffman 1952:462).

Goffman's intuition, I propose, helps characterising the downstream implications of modern punishment, away from both purely functionalists accounts and from "penological" approaches that erase emotions from punishment. In this formulation, the identity of the target (or 'who gets what', in Garland's words) and fairness, or perceived deservedness, of the outcome ('who gets what, and why') can be seen as acting in conjunction to shape emotional responses. In other words, emotional reactions to punishment are directly shaped by evaluative appraisals on the link between action and outcome: mismatches between the two, as in presence of positive outcomes after negative or socially sanctioned actions, engender negative feelings. These *offended consciences,* to echo Durkheim's works, may trigger Schadenfreude when the mismatch is erased, i.e., the wrong is righted.[27] To generate my hypotheses, I propose that these two elements conflated in the case of Mr. Berlusconi, whose punishment lends itself to a test of Goffman's intuition. In particular, I hypothesise that the punishment of Berlusconi, a salient

[27]Both of these elements (identity and deservedness) were already central in Foucault, whose analysis of 'scaffold emotions' was however mainly focused on how their combination may generated solidarity: "this was especially the case if the conviction was regarded as unjust – or if one saw a man of the people put to death, for a crime that would have merited, for someone better born or richer, a comparatively light penalty. […] There was agitation against the difference in penalties according to social class […]. There was agitation, too, against the excessive sentences passed on certain common offences that were not regarded as serious (such as house-breaking); or against punishments for certain offences connected with social conditions such as petty larceny […]." (Foucault 1975 [1995]: 61-62).

and powerful individual – whose achievements were surrounded by controversial accounts –, erased his public claims and activated Schadenfreude (*Hypothesis 1*).

Schadenfreude and Collective Attachment

According to Durkheim (1893 [1933]: 102), "the social character of this reaction […] comes from the social nature of the offended sentiments. Because they are found in all consciences, the infraction committed arouses in those who have evidence of it or who learn of its existence the same indignation." In this respect, Garland (1990:28) notices that "the existence of strong bonds of moral solidarity are the conditions which cause punishment to come about and, in their turn, punishment result in the reaffirmation and strengthening of these same social bonds." For Durkheim, by strengthening feelings of collective attachments around shared moral notions, the collective response to crime through punishment "brings together upright consciences and concentrates them" (Durkheim 1893 [1933]: 192). Vis-à-vis a weakening of the norm, brought about by transgression, "a collective passionate reaction to such crimes is to give a powerful demonstration of the real force which supports the norms, and thereby reaffirm them in the consciousness of individual members." (Garland 1990:33). As we have seen, by this Durkheimian view, punishment can be considered as an expressive institution, aimed at sanctioning the social convention upon which social solidarity rests (Garland 1991).[28] Thus, punishment rituals can trigger emotional arousal and strengthen the social bond, providing foundations of meaning to person-to- collectivity attachments in ways "that involve a social harnessing of our individual sensory potentialities to collective orders." (Nisbet 1966). According to Lawler (1992:332), for example, person-to-collectivity attachments are driven by

[28]Although, to generate my hypotheses on the reactions of Italians to this specific instance of punishment, I refer to Durkheim's work, it should be noted that, in reality, Durkheim's arguments work at a general level, and should be really discussed in terms of averages over time, rather than short-run average responses to individual events.

repeated emotional experiences. Accordingly, my second hypothesis, is that, if successful, emotional activation following the conviction verdicts of Mr. Berlusconi was associated to an increase in social cohesion (*Hypothesis 2)*.

Data and Methods

Analysis Sample

To test these hypotheses, I use the European Social Survey (ESS),[29] a large-scale biennial cross-section of the European population, started in 2002. Round 6 of the ESS also includes Italy. However, while the majority of countries participating to Round 6 undertook fieldwork between the 4th quarter of 2012 and the 1st quarter of 2013, Italy started fieldwork much later, on June 6th, 2013, and completed the last interview on December 14th, 2013 (European Social Survey 2014). I exploit this unexpected variation in the timing of data collection to test my hypotheses. During the ESS fieldwork, three separate events related to Berlusconi's "demise" occurred: the Ruby trial and tax fraud verdict (June 24th and August 1st respectively), as well as the expulsion from the Senate (November 26th). These could be seen as multiple, or compounded treatments, that can be expected to generate Schadenfreude (*Hypothesis 1*) and increased cohesion (*Hypothesis 2*). When faced with multiple events, closely related in times and in type, one approach in the literature entails characterising as 'treated' all respondents interviewed after the first event. For example, in studying the impact of terrorist attacks on subjective well-being, Colombo, Rotondi and Stanca (2019) set a dummy equal to 1 after January 7th, 2015, in correspondence of the Charlie Hebdo attack. However, they notice: "the Charlie Hebdo attack was followed by several related attacks around Paris, including an attack

[29]ESS Round 6: European Social Survey Round 6 Data (2012). Data file edition 2.4. NSD – Norwegian Centre for Research Data, Norway – Data Archive and distributor of ESS data for ESS ERIC. Retrieved from: doi:10.21338/NSD-ESS6-2012. Retrieved on December 30, 2018.

to a kosher supermarket where a terrorist held 19 hostages, four of whom died." In this setting, such an approach leads to estimating treatment effects imprecisely, and coefficients "should rather be interpreted as the joint effect of the event and the subsequent reactions." (Muñoz et al. 2019:5). Additionally, the longer the timeframe under analysis, the higher the probability that other intervening factors might impact outcomes of interest, beyond the treatment. Accordingly, for my estimation, I only focus on the first event: the verdict on Ruby's trial. The rationale for this choice can be grasped from Figure 2, where I plot daily frequency of the interviews undertaken in Italy during Round 6 of the ESS.

As it is possible to observe from Figure 2, the odd timing of the tax fraud conviction (August 1st) coincides with a decline in interview frequency. As a consequence, the density of the running variable – number of interviews per day – drops significantly after August 1st, which implies that identification may be challenged (Imbens and Lemieux 2008). A similar fieldwork-dependent issue is identifiable in relation to the third and final event (expulsion from Senate, November 26th). Coming late in the fieldwork, the density before and after treatment is low: with only 53 observations before the Senate expulsion and 39 after, the numbers of observations is small enough that relatively small selection effects will have distinct effects on the regression. Accordingly, I choose to focus only on the first event (June 26), the day of Ruby Trial's verdict, and restrict my estimation on the 35-day support of 17 days before and after the event. I exclude from the sample those respondents who are not Italian citizens (n=37), as well as those for whom observations in either dependent or independent variables are missing. Finally, I drop all respondents that reported having studied for more than 30 years of formal education (n=37). In the timeframe of analysis, 99.3% of the interviews are face to face: I drop those who were self-completed interviews (n=2) to have constant modality of interviews. I perform case-wise deletion and obtain, in the 35 days around Ruby Trial's verdict, a sample of

295 observations: 129 before and 167 after the treatment. In Appendix, I present re-estimation of the same Equation (1) model on the other two events (August 1 and November 26).

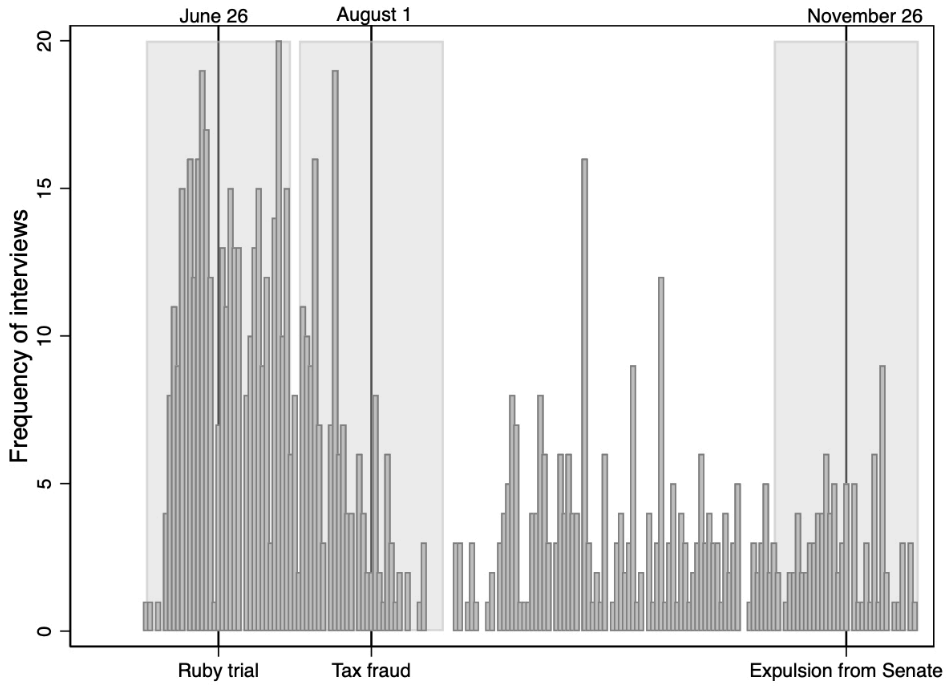

Figure 2. Daily distribution of interviews during ESS Round 6 in Italy and events of interest. Bars indicate the daily frequency of interviews; vertical lines correspond to three treatments. Grey areas show the 34 days bandwidth before and after each treatment. 17 days is both the maximum bandwidth available before the Ruby trial, and the maximum bandwidth available after Berlusconi's expulsion from the Italian Senate.

Dependent Variables

To test *Hypothesis 1*, as dependent variable I use two typical Likert-scale questions, where wellbeing is measured on a scale ranging from 0 to 10. In particular, I leverage the ESS Life Satisfaction and Happiness questions. These are worded as follows: '*All things considered, how satisfied are you with your life as a whole nowadays?'* and '*Taking all things together, how happy would you say you are?*', respectively. These two measures are sometime taken as distinct, with life satisfaction referring to cognitive, global evaluations of one's own personal circumstances, and happiness referring to affective, hedonic appraisals (Veenhoven 2012). In practice, however, the literature often employed these two measures interchangeably, as they generally show high levels of inter-correlation, suggesting that they tap on the same underlying construct (Diener et al. 1985; Diener et al. 1993; Medvedev and Landhuis 2018). In the ESS sample, Pearson's *r* for these two measures is equal to 0.66. Rather than imposing assumptions on their underlying meaning attached to these two measures by respondents, in this paper I analyze both of them separately, and jointly, computing a "wellbeing score" as their simple average. In the main text, I present results on happiness only, and report in Appendix model results for life satisfaction and for the average wellbeing score. To test *Hypothesis 2*, I instead focus on measures of social cohesion. I follow existing literature and define cohesion as a function of interpersonal trust (Demireva and Heath 2014; Demireva and McNeil 2015). I combine three variables asking respondents: (i) 'Generally speaking, would you say that most people can be trusted, or that you can't be too careful in dealing with people?; (ii) 'Do you think that most people would try to take advantage of you if they got the chance, or would they try to be fair?'; and (iii)'Would you say that most of the time people try to be helpful or that they are mostly looking out for themselves?'. These items are often employed and typically factorised in the ESS literature on the subject (Reeskens and Hooghe 2008; Kelly et al. 2009). I focus on the only factor with score higher than 1, which constitutes the threshold value set by Guttman (1954) and Kaiser (1960). The eigenvalue for this factor equals 1.25: this means that the factor score that I employ as my dependent variable explains as much variance as 1.25 of the 3 original variables. This is mirrored by the fact that their factor loading is a bit lower than 0.5 and their uniqueness, on the contrary, above 0.6.

Table 1
Factor analysis for the cohesion dependent variables

	Mean	Sd	Skewness	Min	Max	Loading	Uniqueness
Social cohesion							
Most people can be trusted	4.90	2.46	-0.38	0	10	0.56	0.68
Most people try to be fair	4.83	2.36	-0.32	0	10	0.60	0.63
Most people are helpful	4.16	2.45	0.06	0	10	0.60	0.64

Identification Strategy

I employ a regression discontinuity (RD) design defining respondents interviewed before the Ruby trial verdict (June 24, 2013) as the non-exposed, control-group and those interviewed after the verdict as the treated group. By this identification strategy, the verdict represents an exogenous cut-off point over a continuous time covariate, with days as units of observation. I estimate an ordinary least square (OLS) model written as follows:

$$\mathrm{Y_i} = \alpha + \delta\ \mathrm{T_t} + \mathbf{X}_\mathrm{i} + \varepsilon_\mathrm{I} \tag{1}$$

where $\mathbf{X}_\mathrm{i}$ is a vector of individual-level covariates, which include working status, age, gender, educational level, and political affiliation (Table 2). I also include a dummy for whether a respondent voted at the previous elections. In Equation (1), $\mathrm{Y_i}$ represents wellbeing and social cohesion factor variables. As described in the previous paragraph, δ represents the impact of the treatment. Formally, I employ a treatment assignment function, T, written as follows:

$$T = \begin{cases} 0\ for\ respondents\ interviewed\ before\ Ruby\ Trial's\ verdict \\ i.e. respondents\ interviewed\ before\ June\ 24th \\ \\ 1\ for\ respondents\ interviewed\ after\ Ruby\ Trial's\ verdict \\ i.e. respondents\ interviewed\ from\ June\ 24th \end{cases}$$

I take into account the fact that the Ruby verdict was issued at 4:30pm on June 24th, and appropriately set T=1 for respondents interviewed after that time on June 24th (*n*=2). Clearly, this identification requires that all respondents interviewed after June 24th have learned about the verdict by the time of the interview. However, I have no information on the actual treatment status of respondents, nor on the extent to which non-compliance affected the exposed group. Therefore, δ should be interpreted as an *intent-to-treat*, rather than a treatment effect.

In addition, identification in this setting is sustained by an 'ignorability' assumption, positing that assignment to the treatment must not be correlated with characteristics of the respondents. In principle in "sharp" RD settings, ignorability is trivially satisfied through the dichotomous nature of the treatment indicator T, which assigns value 1 to all units laying above the threshold of a certain variable, called forcing variable, and value 0 for all units laying below the threshold. Thus, by construction, T varies only based on values of the forcing variable and does not depend on any other factors that may be correlated to the outcomes of interest (Lee and Lemieux 2010:298). Similarly, in the setting of this Chapter, the probability of being assigned into treatment is a deterministic function of time, with all respondents interviewed before June 24 3, 2013 (t_0) having probability *p*=0 of being assigned to the treatment, and all respondents interviewed since October 3, 2013 having probability *p*=1. When dealing with data from surveys such as the ESS, ignorability might be violated if the timing t_i of interview for respondent *i* is associated to *i*'s individual characteristics, correlated to the outcomes of interest. This might be due, e.g., to differences in 'reachability, that might make certain categories of respondent more or less likely to be interviewed at different points (Legewie 2013:1207).

Table 2
Summary Statistics

	Mean	Sd	Min	Max
Outcome variable				
Happiness	7.18	1.86	0	10
Life satisfaction	6.68	2.41	0	10
Social cohesion	4.63	1.92	0	10
Socio-demographic covariates				
Sex (1=*Male*)	0.51	0.50	0	1
Age (*years*)	46.14	17.22	16	98
Education (*years*)	12.61	5.15	0	30
Occupation				
Education or training	0.09	0.28	0	1
Housework	0.07	0.25	0	1
Paid work	0.53	0.50	0	1
Retired or disabled	0.17	0.37	0	1
Unemployed	0.12	0.32	0	1
Other	0.03	0.16	0	1
Political covariates				
Voter at last elections	0.83	0.37	0	1
Party affiliation			0	1
Right-wing	0.15	0.36	0	1
Left-wing	0.32	0.47	0	1
Five Star movement	0.15	0.35	0	1
Other	0.06	0.23	0	1
None reported	0.33	0.47	0	1

One way to address this issue is to restrict the timeframe of analysis, as respondents interviewed closer in time will more likely be similar. Additionally, the longer the timeframe under analysis, the higher the probability that other intervening factors, beyond the control of the researcher, might impact the outcome of interest, leading to failure of the standard 'excludability' assumption of continuity of potential outcomes (Hahn, Todd, and Van der Klaauw 2001). To avoid failures of excludability, regression discontinuity approaches based on survey data follow the general procedure of focusing on narrow bandwidths around the treatment cut-off and estimating local average treatment effects (see Muñoz, Falcó-Gimeno and Hernández 2019 for a review). In the ESS sample, however, even after restricting to the 17 days before and after June 24 verdict, exposed and non-exposed group groups differ along some key covariates: a direct threat to ignorability. This is shown in Figure 3.a, where I plot standardized difference in means and variance ratio across the treated and control groups, for all covariates listed in $\mathbf{X}_i$, in relation to the threshold suggested by Rubin (2001), who suggests that the absolute standardized differences in means should not be greater than 0.25, and the variance ratio should be between 0.5 and 2.

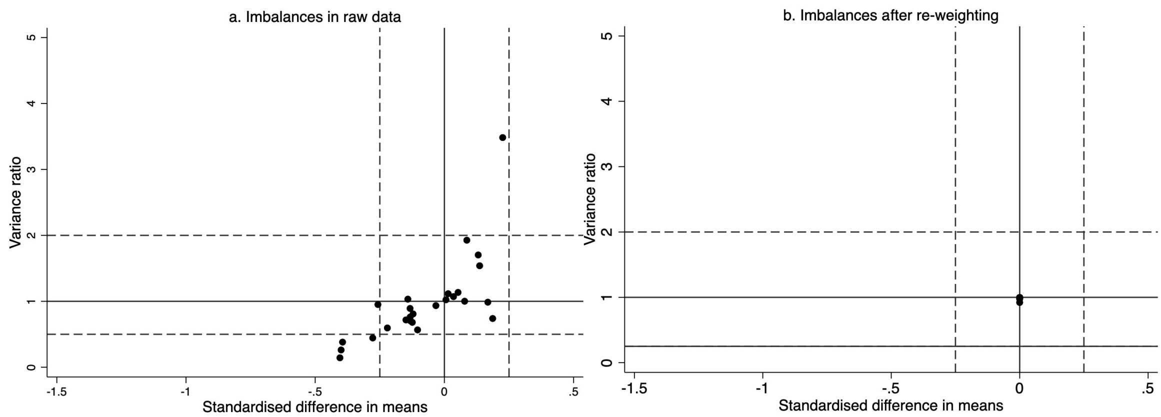

Fig. 3 – Entropy balancing weighting on key covariates

In Figure 3.a, for most of the covariates, imbalances across treated and control is found within these thresholds, but not for all, indicating small imbalances across the two groups. In this situation, δ might capture different selections into treatment, rather than the genuine intent-to-treat effect. To minimise threats to ignorability, I use entropy balancing, a data processing method that allows, in observational studies with binary treatment assignment, to rebalance groups across covariates (Hainmueller 2012).[30] I calibrate weights to rebalance my exposed and non-exposed groups with respect to the mean, variance, and skewness of the distribution

[30] I leverage the user-written command 'ebalance' (Hainmueller and Xu 2013).

of the individual-level covariates listed in $\mathbf{X}_i$. Re-weighting fully eliminates these imbalances, making the exposed and the non-exposed group directly comparable (Figure 3.b). Through matching, I thus orthogonalize the treatment assignment with respect to the covariates, making the two samples as close as possible to being the "same" and making the δ coefficient a more credible estimate of the treatment effect (although by no means perfect, see Discussion).

Results

Main Analysis

In Figure 4, I show appropriately reweighted averages for the levels of wellbeing and social cohesion as a function of being interviewed in the 17 days after Mr. Berlusconi's conviction in the Ruby case. Compatibly with Goffman's Schadenfreude hypothesis, wellbeing is found at a significantly higher level after the treatment ($p<0.01$). This effect is significant and equal to 0.79 points on an 11-point scale, or 0.4 standard deviations. Unlike wellbeing, however, social cohesion does not appear to be significantly altered by the treatment (Figure 4.b)

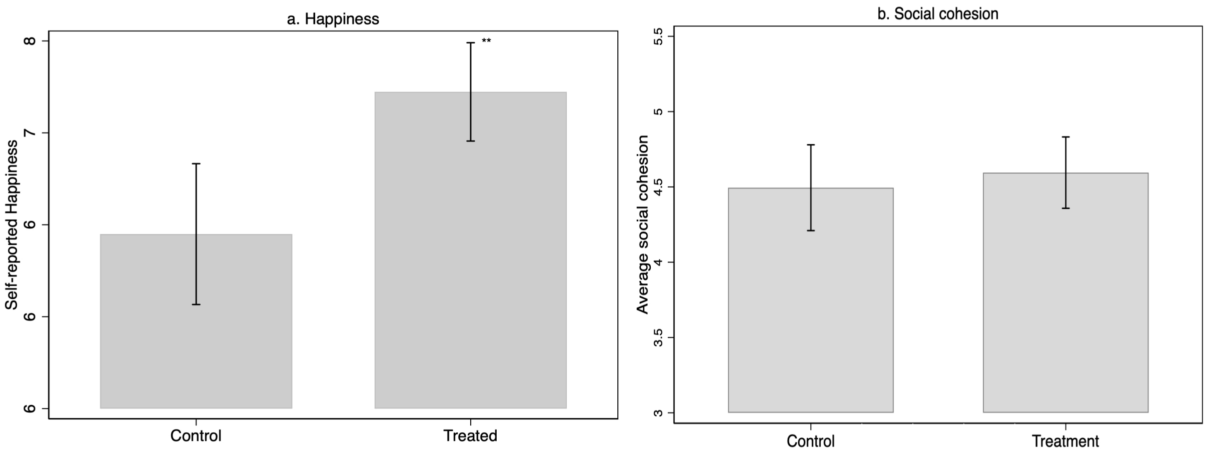

Fig. 4 – Effect of exposure to the Ruby Trial verdict on wellbeing and social cohesion; **$p<0.01$

In Table 3, I present a set of models that restrict the threshold around the treatment, thus increasing the likelihood that the treatment is the sole source of variation in outcomes. Starting from the baseline model, I progressively restrict the bandwidth by three days on both sides, down to only 3 days before and after June 24. These also include asymptotically optimal bandwidths estimated via the data-driven selection algorithm proposed by Calonico, Cattaneo, and Titiunik (2014a, h_{CCT}=12) and Imbens and Imbens and Kalyanaraman (2012, h_{IK}=6). Throughout these models, the treatment effect is stable and significant at conventional levels when happiness is regressed on the treatment, with the exception of the narrowest bandwidth (n^{t-3}=28; n^{t+3}=30). For social cohesion, I can never reject the null hypothesis of no effect.

Table 3

Sensitivity checks around the June 24th bandwidth

	(1)	(2)	
Bandwidth:	a. Happiness	b. Social cohesion	*Observations (pre; post)*
Baseline: -17, 17	0.79**	0.15	295
	(3.35)	(0.73)	*(129;166)*
-15, 15	0.59*	0.06	271
	(2.42)	(0.30)	*(128;143)*
h_{CCT}: -12, 12	0.59*	0.06	232
	(2.15)	(0.29)	*(123;109)*
-9, 9	0.75*	0.14	177
	(2.27)	(0.53)	*(100;77)*
$h_{IK:}$ -6, 6	0.89*	-0.01	124
	(2.11)	(-0.04)	*(72;5)2*
-3, 3	0.50	-0.19	57
	(0.93)	(-0.48)	*(28;29)*

t statistics in parentheses; $^{+}p<0.10$, $^{*}p<0.05$, $^{**}p<0.01$, $^{***}p<0.001$

Validity Tests

Next, I turn to a set of validity tests by comparing treatment results for subsamples that I expect to be differentially affected by the treatment. In particular, I compare responses by political affiliation: if the identified effect is indeed driven by the treatment, I expect that Mr. Berlusconi's supporter will enjoy significantly lower level of wellbeing, compared to respondents of parties farther away from Mr. Berlusconi. Thus, I explore heterogeneities in treatment effects building a variable that captures respondents' party affiliation. The ESS asks in fact which party respondents feel close to, and which party they voted for in the last election. Response rates are different across the two questions, with 110 respondents for the political affiliation question and 192 respondents for the vote question. I match these two variables[31] and recode them in order to get four dummies, to capture four macro- categories of political affiliation: first, right-wing, identified by those party that supported Mr. Berlusconi at the 2013 elections; second, left-wing, third, the Five Star Movement; fourth, all other parties.[32] In Figure 5, I show that left-wing respondents and voters for non-right-wing parties both display a significantly higher level of well-being after the treatment, compared to right-wing supporters. Interestingly, social cohesion is found for 'Other party' respondents at a higher level compared to right-wing respondents as a function of the treatment (p=0.05), while the increase in social cohesion is marginally insignificant for left-wing parties (p=0.10). This provides indication of polarised emotional responses across party affiliation lines. Instead, Five Star Movement voters do not show higher levels of either well-being or social cohesion as a function of the treatment, compared to right wing voters.

[31] In particular, I retained information on political affiliation, rather than that for previous voting, for those respondents who presented a mismatch across these two variables (*n*=14).

[32] In particular, I coded *Popolo delle Libertà*, *Lega Nord* and *Fratelli d'Italia* as 'right-wing'; *Partito Democratico*, *Rivoluzione Civile* and *Sinistra e Libertà* as left wing; *Scelta civica*, *Fare per fermare il declino*, *UDC* and the category 'other parties' as other. For an overview of the political party system in 2013, see D'Alimonte (2013).

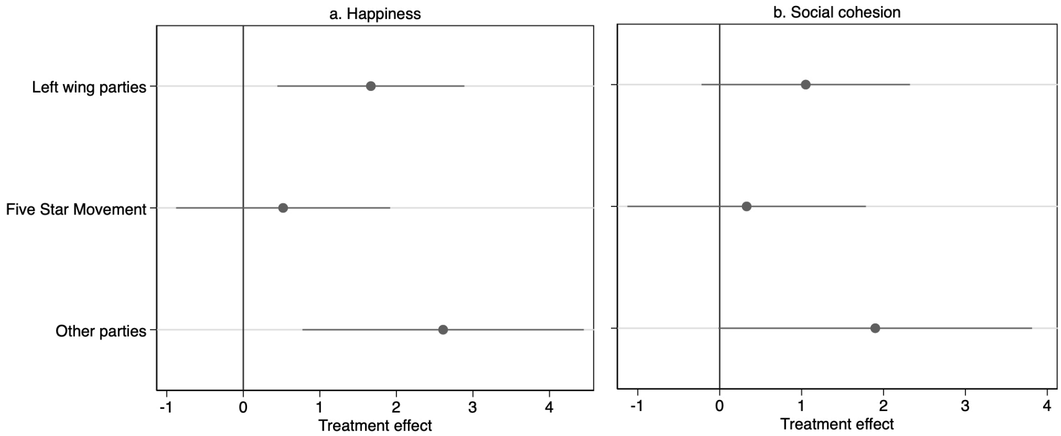

Figure 5 – Verdict treatment effect by political affiliation (relative to right wing supporters)

Finally, in Table 4, I operate a set of placebo tests. In particular, I estimate the model of Equation (1) on a subsample of respondents who a) declared that they did not vote at the previous elections; b) state that they are not interested in politics; c) do not follow political news on the television. Reassuringly, I find that well-being ceases to be significantly correlated with treatment assignment when we estimate Equation (1) on these respondents, who might not be as interested or not learn about the event under investigation. In Table 4 Column (3), I look at the association between treatment assignment and well-being for those respondents who state that they do not follow political news on TV. This coefficient is also not significant.

Table 4
Placebo tests

	(1)	(2)	(3)	(4)	(5)	(6)
	a. Wellbeing			b. Social cohesion		
Treatment effect	-0.18	0.68	0.29	-0.15	0.53	-0.23
	(-0.27)	(0.94)	(0.67)	(-0.28)	(0.78)	(-0.50)
Controls						
Did not vote at last elections	✓			✓		
Uninterested in politics		✓			✓	
Not following TV political news			✓			✓
Observations	56	48	74	56	48	74

t statistics in parentheses; $^{+}p<0.10$, $^{*}p<0.05$, $^{**}p<0.01$, $^{***}p<0.001$.

Discussion

A few qualifications of these findings are in order, related to both internal and external validity of this study. From an internal validity point of view, I have addressed threats to identification by focusing only on the first of three events which could theoretically influence the outcome under investigation. In fact, fieldwork issues might have affected units interviewed around the second and third events coinciding with the ESS fieldwork: Mr. Berlusconi's conviction for tax fraud, and his expulsion from the Italian Senate. In particular, the tax fraud case coincided with August 1st and with a reduction in the density of the running variable (McCrary's 2008 density test t=-4.02, p=0.00), which would threaten the validity of treatment estimates. In addition, the start of refusal conversions in the second part of the fieldwork, coinciding with the expulsion of Mr. Berlusconi from the Italian Senate, might have magnified geographic sampling unbalances and interviewer effects. In fact, refusal conversions were concentrated only on the six largest cities. Additionally, interviewers employed later in the fieldwork were paid EUR 50 instead of the baseline rate of 30 (European Social Survey 2014:119-125). By focusing only on the first out of the three events found during the fieldwork, I minimize these threats. It should be noted here that, based on the qualitative Google Trends evidence presented in Figure 1, the Ruby trial was associated with relatively lower increase in search intensity. Thus, it could not have impacted interviewers as much as the other two cases. Nevertheless, I find a statistically significant effect on subjective well-being, capture through responses to self-reported happiness questions (see Appendix Table A3 for estimates on Life Satisfaction and average wellbeing). In Appendix (Table A1), I use the information that I excluded from the main analysis, by estimating treatment effects for the Tax fraud case and the expulsion from Senate separately. Analyses centred around these additional events appear to confirm that wellbeing increased after the treatment, although this correlation is not significant in the case of expulsion from the Italian Senate. I also re-estimate an average treatment effect across all events by ‘normalising end pooling’ the three cut-offs (Cattaneo et al. 2016). Results obtained from this procedure are generally consistent but biased by imprecise definition of the treatment (see discussion in Appendix). Turning to the social cohesion dependent variable, although I have departed from the idea that emotional activation might be conducive of increased social cohesion, I did not find confirmation of this hypothesis in the aggregate. In fact, social cohesion does not significantly differ after the treatment, with the interesting exception of a subsample of respondents who report to be affiliated to parties in opposition to Mr. Berlusconi.

A discussion of internal validity should also contemplate the role of potential alternative explanations, which could drive the observed result. Considering alternative channels requires theorising about confounders, correlated to both the treatment and the outcomes under investigation. In this identification, there are three main alternative explanations for the observed outcomes: first, it is possible that a highly visible punishment might have spurred feelings of increased efficacy of the state, thus fostering trust towards institutions. On its turn, high institution trust, generally found to correlate with well-being (Orviska, Caplanova and Hudson 2014), might have triggered increased self-reported happiness and life satisfaction. To investigate this possibility, in Appendix (Figure A2) I show that average self-reported trust towards institutions is found to be at a lower (but not significant) level after the Ruby trial, compared to before the verdict. I can thus infer that increased trust towards institutions is not driving the observed results – although I cannot exclude that other confounders might. Second, it must be considered that well-being might increase on average in this time frame, and that my treatment coefficient is actually capturing a time trend in well-being, rather than the effect of the verdict. Here, narrowing the timeframe of analysis around the treatment threshold of June 24th increases the plausibility of my identification. When I narrow the timeframe, my results are confirmed. Unfortunately, however, I cannot operate placebo tests around the same time, but for different years, as in none of the other ESS Round that Italy took part to, interviews were fielded in the same timeframe. Third, it is possible that my results were driven by interviewer effects. This is a general possibility with wellbeing measurement through face-to-face surveys. I have looked to minimise this threat by excluding from the main analysis of this paper the refusal conversion part of the fieldwork, when skewed incentives might have magnified effects. Unfortunately, however, reducing the timeframe of analysis also reduces my ability to deal with this threat to identification by fitting, e.g., a regression with interviewer fixed effects. In fact, 21 out of the 59 interviewers found in my 35-day timeframe of analysis carried out only two or one interviews (10 and 11, respectively). For the latter, this implies that fitting interviewer fixed effects would incorrectly act as fitting individual fixed effects. As a result, the treatment coefficient ceases to be significant in such a model (not shown).

Turning to external validity, during Round 6, the ESS in Italy obtained an average response rate of 36%, versus the target ESS rate of 70% and the average response rate in other European countries, equal to 64% in the same round.[33] Koch (2016) compares European Social Survey and Labour Force Survey data, whose participation is compulsory, and finds that workers are overrepresented by 9.2 percentage point in the ESS, but does not find other significant differences across other socio demographic correlates. In addition, the particular re-weighting procedure due to entropy balancing involves assumptions about the representativity of the individuals within each one of the groups controlled. Therefore, generalization of findings beyond the sample under investigation should be approached with caution.

Conclusions

Despite these limitations, in this paper I have shown that, compatibly with Goffman's Schadenfreude hypothesis, well-being significantly increased in a sample of Italian

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[33] Author's calculations based on: https://www.europeansocialsurvey.org/data/deviations_6.html See also Beullens et al. (2014).

respondents interviewed right after the verdict against Mr. Berlusconi, found guilty of abuse of office and child prostitution on June 24, 2013. In the 17 days after the verdict, average levels of wellbeing are 0.4 standard deviations higher than in the pre- treatment period. The estimated coefficient is larger than that of turning from being single to being in a partnership, which represents a relevant indicator of subjective well-being in the standard literature. However, this effect is only estimated on a short time window after the verdict and cannot be thought to carry over long after the event, since wellbeing typically quickly reverses to its mean (Frederick and Loweinstein 2003). Furthermore, overall, emotional activation does not directly map into increased social cohesion, as predicted by a specific tradition in the reception of Durkheim's view of punishment. On the other hand, social cohesion does increase for a subgroup of respondents whose political affiliation is farther away from that of Mr. Berlusconi. The visibility of punishment does not significantly alter trust towards institutions, which actually declines for institutions involved in the court case (such as the police). Overall, these results offer a first tentative indication that emotions may persist in modern punishment and suggest that current approaches to the sociology of punishment should reconsider the role of emotions, which has been largely downplayed in the study of 'modern' regimes.

References

- Agi, 2019. Berlusconi ha detto un sacco di cose. Le abbiamo verificate, una per una. Retrieved from: https://www.agi.it/fact- checking/berlusconi_processi_tav_tasse-5002772/news/2019-02-15/
- ANSA, 2011. Cassazione, Mills fu teste reticente, April 21. Retrieved from: http://www.ansa.it/web/notizie/rubriche/politica/2010/04/21/visualizza_new.html_1764540421.html
- Bail, Christopher, Taylor Brown, Andreas Wimmer. 2019. "Prestige, Proximity, and Prejudice: How Google Search Terms Diffuse across the World." *American Journal of Sociology*, 124 (5): 1496-1548.
- Balcells, L., & Torrats-Espinosa, G., 2018. Using a natural experiment to estimate the electoral consequences of terrorist attacks. *Proceedings of the National Academy of Sciences*, *115*(42), 10624-10629
- Barone, G., and Kreuter, H., 2019. Low-wage import competition and populist backlash: The case of Italy, *FiFo Discussion Paper*, *19*(5).
- Barrie, C. 2020, Sect, Nation, and Identity after the Fall of Mosul: Evidence from a Natural Experiment, *Working manuscript.*
- BBC, 2013a. Profile: Karima El Mahroug. Retrieved from: https://www.bbc.co.uk/news/world-europe-12473645
- BBC, 2013b. Berlusconi's supporters rally in Rome. Retrieved from: https://www.bbc.co.uk/news/av/world-europe-23571074/silvio-berlusconi-supporters-rally-in-rome
- BBC, 2018. Italy election: what does the result mean?, March 5. Retrieved from: https://www.bbc.co.uk/news/world-europe-43291390

- Benini, S. 2012. Televised bodies: Berlusconi and the body of Italian women. *Journal of Italian Cinema & Media Studies*, *1*(1), 87-102.
- Beullens, K., Hideko, M., Geert, L., and Vandenplas, C.. 2014. Quality report for the European Social Survey, Round 6. London: European Social Survey ERIC.
- Bollen, K. A., 1989. Structural Equations with Latent Variables John Wiley New York.
- Camera dei Deputati, 2010. Relazione della Giunta per le autorizzazioni sulla richiesta di deliberazione in materia di insindacabilità, ai sensi dell'articolo 68, primo comma, della Costituzione nell'ambito dei procedimenti giudiziari nei confronti del deputato Berlusconi. 28 June 2010. Doc. IV-ter, N. 8-A, 13- A e 17-A. Retrieved from: https://leg16.camera.it/_dati/leg16/lavori/documentiparlamentari/indiceetesti/004ter/0081317a/frontesp.htm
- Cattaneo, M. D., Titiunik, R., and Vazquez-Bare, G., 2019. Analysis of Regression Discontinuity Designs with Multiple Cutoffs or Multiple Scores, *The Stata Journal*, ii, 1-21, October
- Cattaneo, M. D., Titiunik, R., Vazquez-Bare, G., and Keele, L., 2016. Interpreting regression discontinuity designs with multiple cutoffs. *The Journal of Politics*, *78*(4), 1229-1248.
- Ceccarini, L., and Newell, J. L., 2019. *The Italian General Election of 2018: Italy in Uncharted Territory*. Springer.
- Chester, D. S., Powell, C. A., Smith, R. H., Joseph, J. E., Kedia, G., Combs, D. J., and De Wall, C. N., 2013. Justice for the average Joe: The role of envy and the mentalizing network in the deservingness of others' misfortunes. *Social neuroscience*, *8*(6), 640-649

- Chiaramonte, A., and D'Alimonte, R., 2012. The twilight of the Berlusconi era: local elections and national referendums in Italy, May and June 2011. *South European Society and Politics*, *17*(2), 261-279.
- Clark, A. E., Doyle, O. and Stancanelli, E., 2017. *The Impact of Terrorism on Well-being: Evidence from the Boston Marathon Bombing*. School of Economics, University College Dublin, *201717*
- Colombo, E., Rotondi, V., and Stanca, L., 2019. The Day after the Bomb: Well-being Effects of Terrorist Attacks in Europe. *University of Milan Bicocca Department of Economics, Management and Statistics Working Paper*, (416)
- Comrey, A. L., and Lee, H. B., 1992. *A First Course in Factor Analysis*, 2nd Edition. Hillsdale, NJ
- Corriere della Sera, 1994. 'Cosa nostra? Anni fa voleva rapire mio figlio.', Marzo 1994. Retrieved: https://web.archive.org/web/20090703091801/http://archiviostorico.corriere.it/1994/marzo/20/Cosa_nostra_anni_voleva_rapire_co_0_94032015535.shtml
- Corriere della Sera, 2004. Cassazione, conti Fininvest: reati estinti per il premier, April 15. Retrieved: https://web.archive.org/web/20121106151444/http://archiviostorico.corriere.it/2004/aprile/15/Cassazione_conti_Fininvest_reati_estinti_co_9_040415041.s html
- Corriere della Sera, 2007. Sme, la Cassazione assolve Berlusconi, October 27. Retrieved from: https://www.corriere.it/cronache/07_ottobre_26/berlusconi_cassazione_assolt o.shtml
- Corriere della Sera, 2015. 'Di Pietro si laureò grazie ai servizi.' Berlusconi paga ed evita la querela, Marzo 2015. Retrieved from:

https://www.corriere.it/cronache/15_marzo_02/di-pietro-berlusconi-si-laureo-grazie-servizi-paga-ed-evita-querela-b4fb04f6-c102-11e4-b2c9- 4738a8583ea9.shtml

- Corriere della Sera, 2019. Berlusconi indagato a Firenze per le stragi del 1993: potrà non deporre al processo Dell'Utri. L'ira della moglie, September 25. Retrieved from: https://www.corriere.it/cronache/19_settembre_25/mafia- berlusconi-indagato-le-stragi-1993-puo-non-rispondere-giudici-palermo- 67c838a4-df8c-11e9-aa5f-fbca0c81b7c9.shtml
- Corte di Cassazione, 2010. Sezioni Unite Penali, 10/02/2010 (Ud.26/11/2009), Sentenza n. 5385. Retrieved from: https://web.archive.org/web/20121227110619/http://www.diritto-in-rete.com/sentenza.asp?id=950
- Corte di Cassazione, 2015. Sentenza n. 377, UP 10/03/2015, N. R.G. 554/2014: https://www.penalecontemporaneo.it/upload/1433322800Cass_22526_15.pdf
- D'Alimonte, R., 2013. The Italian elections of February 2013: the end of the Second Republic?. *Contemporary Italian Politics*, *5*(2), 113-129
- D'Avanzo, G., 2007. Lodo Mondadori, Previti condannato. La Cassazione conferma la sentenza d'appello. *La Repubblica,* July 14. Retrieved from: https://www.repubblica.it/2007/07/sezioni/cronaca/cassazione-previti/lodo-condanna/lodo-condanna.html
- Dallara, C., 2015. Powerful resistance against a long-running personal crusade: the impact of Silvio Berlusconi on the Italian judicial system. *Modern Italy*, *20*(1), 59-76.
- De Neve, J. E., Ward, G., De Keulenaer, F., Van Landeghem, B., Kavetsos,, G. and Norton, M.I., 2018. The asymmetric experience of positive and negative economic growth: Global evidence using subjective well-being data. *Review of Economics and Statistics*, *100*(2), 362-375.

- Demireva, N., and Heath, A., 2014. Diversity and the civic spirit in British neighbourhoods: an investigation with MCDS and EMBES 2010 Data. *Sociology*, *48*(4), 643-662.
- Demireva, N., and McNeil, R., 2015. Immigration, diversity and social cohesion. *Migration Observatory Briefing*.
- Diener, E. D., Emmons, R. A., Larsen, R. J., and Griffin, S., 1985. The satisfaction with life scale. *Journal of personality assessment*, *49*(1), 71-75.
- Diener, E., Sandvik, E., Seidlitz, L., and Diener, M., 993. The relationship between income and subjective well-being: Relative or absolute?. *Social indicators research*, *28*(3), 195-223.
- Dudycha, G. J., 1942. The attitudes of college students toward war and the Germans before and during the Second World War. *The Journal of Social Psychology*, *15*(2), 317-324.
- Durante, R., Pinotti, P., and Tesei, A., 2019. The Political Legacy of Entertainment TV. *American Economic Review*, *109*(7), 2497-2530.
- Durkheim, E., 1893. *The division of labor in society*. 1933, Glencoe, Ill.: Free Press.
- Durkheim, E., 1902. The two laws of penal evolution, in S. Lukes and A. Scull (eds.), 1983, *Durkheim and the law*, Oxford: Martin Robertson.
- Durkheim, E., 1925. *Moral education: a study in the theory of the sociology of education*. 1961, New York: Free Press
- Elias, N., 1939. *The civilizing process: Sociogenetic and psychogenetic investigations*. 2000, Cambridge, Massachusetts.
- Flamini, R. 2017. Bunga bunga no more: Berlusconi takes a bath. *World Affairs*, *174*(1), 71-77.
- Foot, J., 2006. *Calcio. A history of Italian football*. Harper Perennial.

- Foot, J., 2014. *Modern Italy*. Macmillan International Higher Education.
- Foucault, M., 1975. *Surveiller et punir.* Paris: Gallimard.
- Foucault, M., 1977. *Discipline and punish.* 1995, New York: Random House.
- Garland, D., 1990. *Punishment and society: A study in social theory.* Clarendon Paperbacks.
- Giuliani, G., 2016. Gender, Race and the Colonial Archive. Sexualized Exoticism and Gendered Racism in Contemporary Italy. *Italian studies*, *71*(4), 550-567
- Goffman, E., 1952. On cooling the mark out: Some aspects of adaptation to failure. *Psychiatry*, *15(*4), 451-463
- Goffman, E., 1968. *Asylums: Essays on the social situation of mental patients and other inmates*. AldineTransaction.
- Greene, J. D., Nystrom, L. E., Engell, A. D., Darley, J. M., & Cohen, J. D., 2004. The neural bases of cognitive conflict and control in moral judgment. *Neuron*, *44*(2), 389-400.
- Guttman, L., 1954. Some necessary conditions for common-factor analysis. *Psychometrika*, *19*(2), 149-161.
- Hahn, J., Todd, P., and Van der Klaauw, W., 2001. Identification and estimation of treatment effects with a regression-discontinuity design. *Econometrica*, *69*(1), 201-209.
- Hainmueller, J., 2012 Entropy balancing for causal effects: A multivariate reweighting method to produce balanced samples in observational studies. *Political Analysis*, *20*(1), 25-46.
- Hainmueller, J., 2012. Entropy Balancing for Causal Effects: A Multivariate Reweighting Method to Produce Balanced Samples in Observational Studies. *Political Analysis, 20*(1): 25-46

- Hainmueller, J., and Xu, Y., 2013. Ebalance: A Stata package for entropy balancing. *Journal of Statistical Software*, *54*(7).
- Hofstetter, C. R., 1969. Political disengagement and the death of Martin Luther King. *The Public Opinion Quarterly*, *33*(2), 174-179.
- Imbens, G. W., and Lemieux, T., 2008. Regression discontinuity designs: A guide to practice. *Journal of econometrics*, *142*(2), 615-635.
- Jones, T., 2008. *The dark heart of Italy*. Faber & Faber
- Kaiser, H. F., 1960. The application of electronic computers to factor analysis. *Educational and psychological measurement*, *20*(1), 141-151.
- Kelly, B. D., Davoren, M., Mhaoláin, Á. N., Breen, E. G., and Casey, P., 2009. Social capital and suicide in 11 European countries: an ecological analysis. *Social psychiatry and psychiatric epidemiology*, *44*(11), 971.
- Kerns, J. G., Cohen, J. D., MacDonald, A. W., Cho, R. Y., Stenger, V. A., and Carter, C. S., 2004. Anterior cingulate conflict monitoring and adjustments in control. *Science*, *303*(5660), 1023-1026.
- Koch, A., 2016. Assessment of socio-demographic sample composition in ESS Round 6". Mannheim: European Social Survey, GESIS.
- La Repubblica, 2009. Berlusconi, il Tribunale dei ministri archivia l'inchiesta sui voli di Stato, October 20. Retrieved from: https://www.repubblica.it/2009/10/sezioni/politica/voli-di-stato/voli-di-stato/voli-di-stato.html
- La Repubblica, 2012. Il ddl anti-corruzione è legge. La Camera approva, Idv vota contro. Retrieved from: https://www.repubblica.it/politica/2012/10/31/news/il_ddl_anti-corruzione_legge_la_camera_approva_idv_vota_contro-45641154/

- La Repubblica, 2013a. Caso Santoro, archiviate le posizioni di Berlusconi, Masi e Innocenzi, January 31. Retrieved from: https://www.repubblica.it/politica/2013/01/31/news/caso_santoro_archiviate_le_posizioni_di_berlusconi_masi_e_innocenzi-51643993/
- La Repubblica, 2013b. Dell'Utri, la Cassazione conferma la condanna a 7 anni, Maggio 2014. Retrieved from: https://www.repubblica.it/politica/2014/05/09/news/dell_utri_sentenza_cassazione-85677592/
- La Stampa, 2013. Berlusconi, il discorso integrale, September 18. Retrieved from: https://www.lastampa.it/politica/2013/09/18/news/berlusconi-il- discorso-integrale-1.35980601?refresh_ce
- Lacey, N., Soskice, D., and Hope, D., 2018. Understanding the determinants of penal policy: crime, culture, and comparative political economy. *Annual Review of Criminology*, 1, 195-217.
- Lawler, E. J., 1992. Affective attachments to nested groups: A choice-process theory. *American Sociological Review*, 327-339
- Legewie, J., 2013. Terrorist events and attitudes toward immigrants: A natural experiment. *American journal of sociology*, *118*(5), 1199-1245.
- Lench, H. C., Levine, L. J., Perez, K. A., Carpenter, Z. K., Carlson, S. J. and Tibbett, T., 2019. Changes in subjective well-being following the US Presidential election of 2016. *Emotion*
- Leonardi, M., Mossucca, R., Schivardi, F., and Severgnini, B. 2019, Gains from early support of a new political party. *Working manuscript*
- Lever, H., 1969. The Johannesburg station explosion and ethnic attitudes. *The Public Opinion Quarterly*, *33*(2), 180-189

- Lewbel, A., 2012. Using heteroscedasticity to identify and estimate mismeasured and endogenous regressor models. *Journal of Business & Economic Statistics*, *30*(1), 67-80.
- MacCallum, R. C., Widaman, K. F., Zhang, S., and Hong, S., 1999. Sample size in factor analysis. *Psychological methods*, *4*(1), 84.
- McCarthy, P., 1997. Italy at a turning point. *Current History*, *96*(608), 111.
- McCrary, Justin. "Manipulation of the running variable in the regression discontinuity design: A density test." *Journal of econometrics* 142.2 (2008): 698-714.
- McDonnell, D., 2013. Silvio Berlusconi's Personal Parties: From Forza Italia to the Popolo Della Libertà. *Political Studies*, *61*, 217-233.
- McNally, D., 2016. Norms, corruption, and voting for Berlusconi. *Politics & Policy*, *44*(5), 976-1008
- Medvedev, O. N., and Landhuis, C. E., 2018. Exploring constructs of well- being, happiness and quality of life. *PeerJ*, *6*, e4903.
- Meyer, P., 1969. Aftermath of Martyrdom: Negro Militancy and Martin Luther King. *The Public Opinion Quarterly*, *33*(2), 160-173.
- Montanelli, I., and Cervi, M., 1995. *Storia d'Italia – L'Italia di Berlusconi*. Fabbri Editori, Milano
- Muñoz, J., Falcó-Gimeno, A., and Hernández, E. (2019). Unexpected event during surveys design: Promise and pitfalls for causal inference. *Political Analysis*
- Nisbet, R. A., 1966. *The sociological tradition*, Basic Books, New York
- Olzak, S., 1989. Analysis of events in the study of collective action. *Annual review of sociology*, *15*(1), 119-141.
- Orviska, M., Caplanova, A., and Hudson, J., 2014. The impact of democracy on well-being. *Social indicators research*, *115*(1), 493-508.

- Pasquino, G., 2014. Italy: The Triumph of Personalist Parties. *Politics & Policy*, *42*(4), 548-566
- Pavot, W., and Diener, E., 2009. Review of the satisfaction with life scale. In *Assessing well-being*, 101-117. Springer, Dordrecht.
- Pinker, S., 2012. *The better angels of our nature: Why violence has declined*. Penguin Group USA.
- Reeskens, T., & Hooghe, M., 2008. Cross-cultural measurement equivalence of generalized trust. Evidence from the European Social Survey (2002 and 2004). *Social Indicators Research*, *85*(3), 515-532
- Sabatini, F. 2012. Who trusts Berlusconi? An econometric analysis of the role of television in the politica arena. *Kyklos*, *65*(1), 111-131.
- Seago, D. W., 1947. Stereotypes: before Pearl Harbor and after. *The Journal of psychology*, *23*(1), 55-63.
- Sicinski, A., 1969. Dallas and Warsaw: The impact of a major national political event on public opinion abroad. *The Public Opinion Quarterly*, *33*(2), 190-196
- Sinha, A. K. P., and Upadhyaya, O. P., 1960. Change and persistence in the stereotypes of university students toward different ethnic groups during Sino- Indian border dispute. *The Journal of Social Psychology*, *52*(1), 31-39.
- Smith, D. M., 1997. *Modern Italy: A political history*. University of Michigan Press.
- Smith, P., 2008. *Punishment and culture*. Chicago: The University of Chicago Press.
- Smith, R. H., Turner, T. J., Garonzik, R., Leach, C. W., Urch-Druskat, V., & Weston, C. M., 1996. Envy and Schadenfreude. *Personality and Social Psychology Bulletin*, *22*, 158-168.
- Sørensen, G., 2009. Berlusconi e la riorganizzazione postdemocratica del potere. *Studi storici*, *50*(2), 371-0

- Sorrentino, R. M., and Vidmar, N., 1974. Impact of events: Short-vs. long- term effects of a crisis. *Public Opinion Quarterly*, *38*(2), 271-279.
- Sorrentino, R. M., Vidmar, N., and Goodstadt, M. S., 1974. Opinion change in a crisis: Effects of the 1970 Canadian kidnapping crisis on political and ethnic attitudes. *Canadian Journal of Behavioural Science/Revue Canadienne des sciences du comportement*, *6*(3), 199
- The Guardian, 2013. Berlusconi's prison sentence upheld by Italian supreme court. Retrieved from: https://www.theguardian.com/world/2013/aug/01/silvio-berlusconi-prison-sentence-upheld
- Tribunale di Milano, 2013. Sentenza n. 7927/2013 del 24/06/2013. Retrieved from: http://speciali.espresso.repubblica.it/pdf/ruby.pdf
- Ubiali, M. C., 2016. In tema di corruzione del parlamentare: la sentenza del Tribunale di Napoli sul leading-case Berlusconi-De Gregorio. *Rivista italiana di diritto e procedura penale*, *61*(4), 2296-2324.
- Uchida, Y., Takahashi, Y. and Kawahara, K., 2014. Changes in hedonic and eudaimonic well-being after a severe nationwide disaster: The case of the Great East Japan Earthquake. *Journal of Happiness Studies*, *15*(1):207-221
- Veenhoven, R., 2012. Happiness: Also known as 'life-satisfaction' and 'subjective well-being'. In: Kenneth C. Land, Alex C. Michalos, and M. Joseph Sirgy (Eds.) Handbook of Social Indicators and Quality of Life Research. 2012 Dordrecht, Netherlands: Springer Publishers. page 63-77.
- Yoder, K. J., and Decety, J., 2014. The good, the bad, and the just: Justice sensitivity predicts neural response during moral evaluation of actions performed by others. *Journal of Neuroscience*, *34*(12), 4161-4166.

- Yong, A. G., and Pearce, S., 2013. A beginner's guide to factor analysis: Focusing on exploratory factor analysis. *Tutorials in quantitative methods for psychology*, *9*(2), 79-94.
- Young, A. (2019). Consistency without inference: Instrumental variables in practical application
- Young, L., and Saxe, R., 2008. The neural basis of belief encoding and integration in moral judgment. *Neuroimage*, *40*(4), 1912-1920.

Appendix

Alternative Identification Approaches: Regimes of Events

From a methodological point of view, having several events affecting an outcome is akin to the issue of estimating treatment effects from multiple cut-offs. Cattaneo et al. (2016) identify 45 studies leveraging multiple cut-offs in fields as diverse as education, political science and criminal justice. Examples of this kind include studying the effect of winning an election under a plurality electoral rule, or the effect of estimating the effect of financial awards to teacher based on different threshold of performance. In these situations, a 'normalise and pooling' approach is often employed: this requires normalising the score of the cut-off to zero across all observations and pool all treatments together to estimate an overall effect. Cattaneo et al. (2016) show that, in these circumstances, "the pooled parameter can be interpreted as a double average: the weighted average across cut-offs of the local average treatment effects across all units facing each particular cut-off value." (Cattaneo et al. 2016:1230). This approach works best when populations are partitioned in such a way that different parts of the same population are only faced with one potential treatment, allowing to clearly define multiple comparison around the respective cut-offs. Instead, when the "population is not partitioned, each observation can be used to estimate two different (but contiguous on the score dimension) treatment effects […] As a result, cutoff- specific estimators may not be independent." (Cattaneo, Titiunik and Vazquez-Bare 2019:5). Balcells and Torrats-Espinosa (2018) implicitly apply this framework to the study of repeated events by pooling data from 8 attacks perpetrated by ETA from 1989 and 1997, overlapping with the fieldwork of surveys by the Spanish *Centro de Investigaciones Sociólgicas*, and find that the treatment is associated to a 2.3%-point increase in electoral participation. In addition to the typical local randomisation assumption, i.e., the idea that treatment assignment around the cut-offs is 'as good as random', their work relies on the idea that the events under investigation are independent from one another, or that all control groups are appropriate controls, containing non-treated units.

This assumption, however, might be questionable when pooling data from close and directly related events: for example, the average distance between the four 1995 attacks studied by Balcells and Torrats-Espinosa (2018), which account for 50% of their sample, is 32 days, with two events distanced by only 10 days. This implies that control units for one event might be 'treated' by a prior, related event, so that the control group does not provide an appropriate baseline for estimation of the treatment effect. To relax this assumption and obtain appropriate treatment estimates with repeated events, I employ a 'normalise, partial-pool and reweighting' approach. Given a population, whose potential outcomes are perturbed by a *regime of events*, i.e., a set of closely related and repeated external shocks, first, I normalise the score of all the possible cut-offs to zero. Second, I drop 'control' observations for all $C_i>1$. This implies that, while the treatment group is composed by the units laying just above all identified cut-offs, the control group is only composed by those observations laying just below the first cut-off. In Figure A1, I replicate Figure 2 of the main text, highlighting in grey areas used in the analysis.

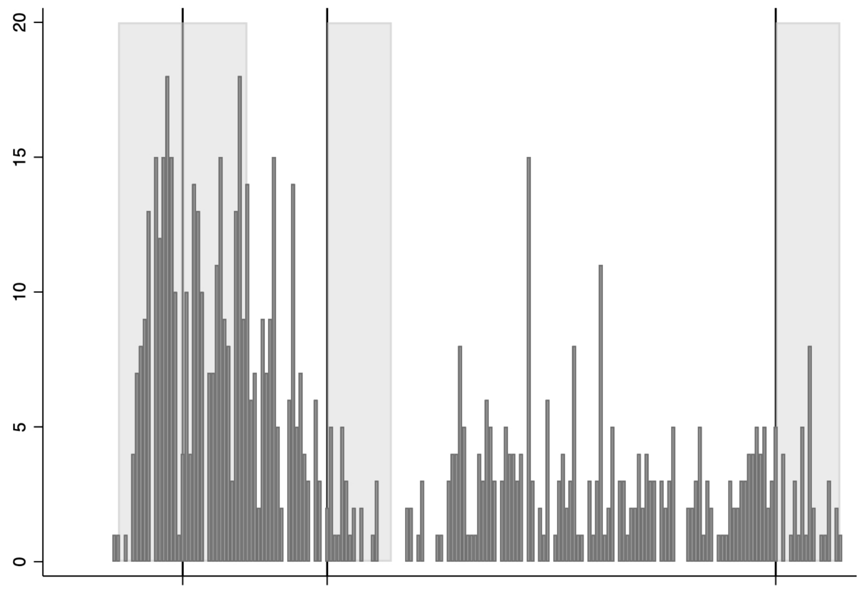

Figure A1. Normalise, partial-pool and reweighting approach – sample selection

I compare average outcomes for all the treated with the average outcome of the 'never-treated', which I leverage as a baseline. In the simplest model, the treatment indicator is set equal to 1 for all treated units, but this approach also allows to compute cumulative treatment effects relative to the baseline. In fact, "by normalizing-and-pooling the running variable, researchers may miss the opportunity to uncover key observable heterogeneity in RD designs." (Cattaneo et al. 2016:1230). Given n related events potentially affecting the outcome*, Y*, their average effect can be written as follows:

$$\tau_P = \omega_c \sum_{C} \lim_{x \to c^+} \mathrm{E}\,[Y_i | X_i = x,] - \lim_{x \to c_1{}^-} \mathrm{E}[Y_1 | X_1 = x]\,;\ \forall\, i \in 1, \dots, n$$

where X is the running variable, centred around zero (see Cattaneo et al. 2019). In the equation, ωò represents a set of weights, whose computation is the third and final step of this approach. In fact, since this strategy cannot rely on the local randomisation assumption, in addition to the important assumption of excludability (whose tenability can be seen as a function of the length of the timeframe analysed), for identification to be sustained it is crucial that assignment to treatment is independent of expected outcomes (ignorability assumption). Generally, in social surveys, this assumption is put into question by a 'reachability bias', that makes some respondent more or less likely to be interviewed as a function of the fieldwork's progression (Legewie 2013:1207). Since, compared to the typical local randomisation approach, 'normalise, partial-pool and reweighting' requires comparing treated and control-units selected in longer interval, threats to ignorability are magnified. Thus, I match treatment and control groups based on a set of observable characteristics, which define their assignment to the treatment. This way, I aim at minimising the threat from ignorabiliy. In Table A1, I present results from models estimated using both 'normalise and pool' methods, and for the remaining events (tax fraud case and expulsion from the Senate of the Italian Republic). Starting from the tax fraud verdict of August 1st, 2013, I find that this positively maps into well-being in the 17 days following the treatment. The effect is significant at the 0.001 level and sensibly larger than that presented in the main text of this paper. One the one hand, this might be compatible with the fact that, while that of the Ruby trial was not a final conviction, the tax fraud case instead was a final verdict. As we have seen in Figure 1, this event also corresponds with the peak of relative queries for the keyword ‘Berlusconi’ on Google Trends. On the other hand, the fact that the August 1st event coincides with summertime may have an impact, especially since we are looking at wellbeing outcomes – while we do not find a significant effect of the treatment on social cohesion.

Table A1

Alternative approaches to treatment

	(1)	(2)
	Happiness	Social cohesion
a. Baseline (Ruby trial)	0.79**	0.146
	(3.53)	(0.72)
Observations	295	295
b. Normalise and pool	0.37*	0.045
	(2.03)	(0.24)
Observations	359	359
c. Normalise, pool and re-weight	0.76***	0.100
	(3.77)	(0.55)
Observations	359	359
d. Tax fraud conviction	0.91**	-0.061
	(3.06)	(-0.16)
Observations	120	120
e. Senate expulsion	0.64	1.792**
	(1.38)	(3.18)
Observations	82	82

Social cohesion is instead found to be positive (and large) for the last event, when Berlusconi was expelled from the Senate on November 26th, 2013. Turning to pooling approaches, as expected based on the previous discussion, the ‘normalise and pool approach’ returns a smaller treatment coefficient compared to the baseline ‘Ruby trial’ treatment. In fact, by assigning those interviewed after June 24th, but in the 17 days before the other two events (August 1st and November 26th) to the control group, this approach inflates the control mean by construction, leading to downward biased estimates of the treatment effect. The coefficient, however, is still positive and barely insignificant at the 0.10 level (p=0.101). In Table 2.c, I show that both the ‘normalise and pool’ and the ‘normalise, partial-pool, reweight’ approach return positive and statistically significant coefficients for happiness (but not for social cohesion). Because of the fact that most of the sample is populated by observation connected to the first event, the estimate of the ‘normalise, partial-pool and reweight’ approach tilts towards those of the ‘Ruby trial’. However, reweighting to obtain equal representation around each of the three event leads to an inflated coefficient (τ =0.87).

Alternative Channels: Trust Towards Institution

Figure A1 shows that the treatment does not positively impact trust, which is found after the treatment at a lower level on average (difference not significant). Interestingly, when the effect is broken down by item, I observe that trust towards the police records a significant decline after the treatment – this is consistent with the fact that the abuse of office was in fact directed towards a member of the police, who abided by Mr. Berlusconi request of releasing Ms. El Mahroug. Almost all other intercepts are negative, with satisfaction towards democracy being marginally insignificant (p=0.109).

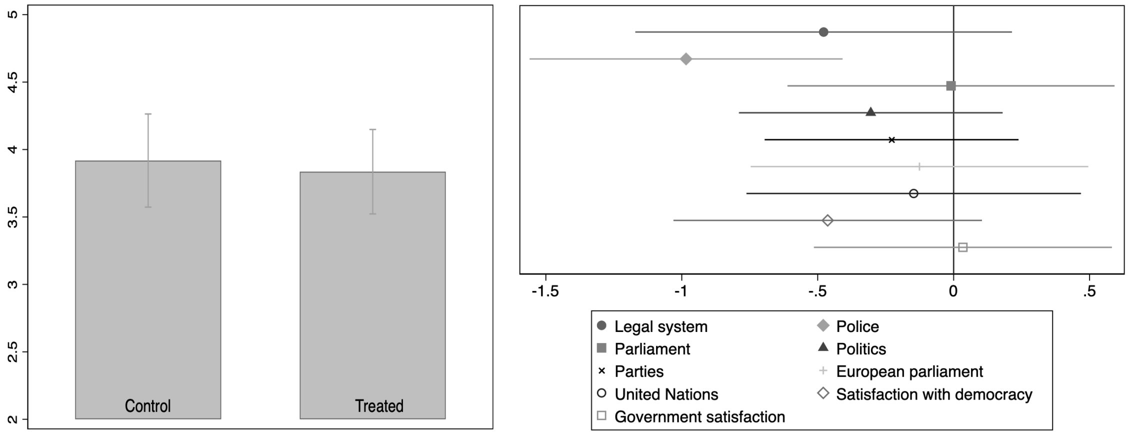

Figure A2. Effect of the treatment on Institution trust

Alternative Outcomes

Finally, I report on confirmatory estimations of treatment effect on alternative outcomes, namely life satisfaction and a simple average of the happiness and life satisfaction measures.

Table A2

Sensitivity checks around the June 24th bandwidth

	(1)	(2)	
Bandwidth:	a. Life Satisfaction	b. Average wellbeing	*Observations (pre; post)*
Baseline: -17, 17	0.72^{*} (2.27)	0.75^{**} (2.93)	295 *(129;166)*
-15, 15	0.60^{+} (1.78)	0.59^{*} (2.19)	271 *(128;143)*
h_{CCT}: -12, 12	0.57 (1.51)	0.58^{+} (1.90)	232 *(123;109)*
-9, 9	0.76^{+} (1.66)	0.76^{*} (2.04)	177 *(100;77)*
h_{IK}: -6, 6	0.72 (1.20)	0.81^{+} (1.66)	124 *(72;5)2*
-3, 3	-0.57 (-0.84)	-0.04 (-0.07)	57 *(28;29)*

t statistics in parentheses; $^{+}p<0.10$, $^{*}p<0.05$, $^{**}p<0.01$, $^{***}p<0.001$

Conclusions

Overview

Outline of the Findings

In the three Chapters that compose this Thesis, I have investigated how subjective well-being, measured in terms of self-reported happiness and life satisfaction, may be impacted by reports on the comparative well-being of others. In Chapter 1, which stems from a collaboration with Arnstein Aassve and Francesco C. Billari, I used data from the Eurobarometer, a large repeated cross-section of all European Union countries, to document the patterns of well-being of European citizens, with focus on the effects of exposure to news concerning the Greek crisis. In the spirit of Diego Gambetta, I departed from the paradoxical descriptive finding that the overall levels of self-reported life satisfaction were resilient throughout the Great Recession. I first reviewed the role of social comparisons in subjective well-being evaluations turning to the relative income literature, which posits that happiness and life satisfaction are dependent on comparison to others. I then retrieved monthly Google Search intensity data to capture the online search behaviour of approximately 300 million European citizens, and reconstructed the patterns of relative interest for topics concerning the Greek crisis. I have shown that, during the European sovereign debt crisis, variations in the relative interest for Greece are associated to variations in life satisfaction in the Eurobarometer sample. This correlation is positive, indicating increased life satisfaction in country-months with higher search intensity. I have also investigated a set of theoretically relevant mediators. In particular, I found that this effect is larger in countries that contribute more to the EU budget, tapping into the idea that existing grievances over international redistribution have moderated comparisons.

In Chapter 2, I turned to investigate reactions to the death of a ‘common enemy’, Osama bin Laden, happened in Abbottabad on May 2nd, 2011. Because the reach of al-Qaida's warfare activities spanned in over 30 countries, I scanned for all social surveys active in 2011, based on four criteria – the main one being the requirement of a continuous fieldwork across the May 2, 2011 cut-off. Based on these data, I could define a pseudo-panel of respondents interviewed in a continuum around the event and I compared average wellbeing outcomes before and after the treatment. Building on the sociological tradition, emphasising the role of conflict for the definition and redefinition of societies and groups, I theorised that conflict loops generate flows of emotions – or emotional chains. Drawing from Randall Collins, I briefly reconstructed the emotional chains linking 9/11 to 5/2, centred around the grief for ingroup victims in the United States, and dominated by US-centred narratives. I hypothesised that ingroup belonging would predict Schadenfreude and showed that being interviewed right after Osama bin Laden's death is associated to a significant increase in self-reported happiness. However, reactions from respondents in a few countries with peculiar histories appear to account for a sizeable portion of the overall effect. Furthermore, I could not find confirmation that this effect was driven by the toll paid to 9/11 by a country. This points to the role of unmeasured confounders at the country level, such as economic linkages to the United States and media coverage. Investigating these interrelations can allow to better understand how patterns of solidarity extend beyond borders and how narratives are received and can be mobilized across countries.

Finally, in Chapter 3, I leveraged an unexpected deviation in the timing of the fieldwork of Round 6 of the European Social Survey in Italy to explore the emotional implications of the 'ceremony of recoding' of public punishment. I exploited the fact that former Italian Prime Minster, Silvio Berlusconi, was found guilty in two criminal cases during the fieldwork of the European Social Survey to compare average subjective well-being before and after these verdicts. In doing so, I drew from Goffman, who proposed that criminal court trials could represent *loci* of emotional activation and sketched a brief *en passant* argument on how they might generate

Schadenfreude. I reconstructed Goffman's underlying reasoning and generated specific hypotheses, that I tested through a regression discontinuity design. I found that, on average Italian respondents interviewed after the verdict enjoyed higher levels of well-being, measured either in terms of happiness or life satisfaction. I also tested the hypothesis that, by activating emotions, punishment increased social cohesion. This hypothesis is not sustained in the overall sample, although I found some evidence of increased social cohesion for Italian respondents whose political affiliation was farther away from that of Mr. Berlusconi.

Common Limitations of the Chapters

Identification across all of these studies presents limitations, that are discussed at length within each of the Chapters. There are however two main limitations that span across all of the Thesis, and that should be reviewed before turning to a discussion on its contributions. First and foremost, the idea, hinted in the Title of this Thesis, that these studies entail experimental situations is no more than a polite fiction. None of the data involve pre- and post-treatment measures, and effects are estimated by comparing different pre- and post-groups on measures of self-reported happiness and life satisfaction. This approach has three distinct implications: first of all, the quality of the identification depends principally on resemblance to random assignment for respondents interviewed before and after events of interest. This is particularly true in the case of Chapter 2 and Chapter 3, where I use regression discontinuity techniques to identify differences in well-being in correspondence of specific events. In principle, milder assumptions, such as that of continuity of potential outcomes, may sustain identification in sharp regression discount settings, conditional to meeting a broader ignorability assumption (see discussion Chapter 2). However, contrary to traditional sharp regression discontinuity designs, ignorability cannot be taken for granted when using survey data. To address threats to ignorability, in Chapters 2 and 3, I have employed reweighting with the aim of guaranteeing comparability across exposed and non-exposed groups, and to achieve an artificial ‘as-if’ randomization. This leads to the second implication of my approach: drawing inference from reweighted samples involves distinct assumptions about the representativity of the individuals within each one of the groups controlled, which cannot be guaranteed a priori. Third, throughout these Chapters, I employed treated group structurally affected by non-compliance, the extent to which is unknown. The fact that full compliance cannot be guaranteed implies that I estimate intent-to-treat, rather than treatment effects. It also posits into question the meaningfulness of my treatment coefficients. This is particularly the case for Chapter 1, when the large timeframe of analysis and the fact that my main predictor is measured at a country-month level cannot guarantee that the results are not driven by epidemiological fallacies.

Second, a broader general limitation has to do with the choice of my dependent variable. In fact, again despite what the title of this Thesis suggests, it should be stressed that in none of the three Chapters I can directly observe Schadenfreude. Rather, I look at the direction of changes in well-being scales, and theoretically reconstruct the motivations for this change. This sets well apart my studies from the literature based on laboratory settings, that measure in-brain activation of reward processing areas in response to direct stimuli (e.g., Takahashi et al. 2009). It also implies that alternative rationalizations can be offered, based on different assumptions on what subjective well-being indicators are actually measuring. Moreover, even if one agrees on a ‘somatic marker’ approach, that assumes short run variations in happiness scales to be meaningful signals of changes in affect (see Introduction), the tentative nature of identification does not allow to exclude that other factors might actually drive the observed effects. These possibilities ae discussed in each of the Chapter and require maintaining some degree of agnosticism with respects to the empirically estimated treatment effects. Finally, even if identification was fully credible, it should be noted that changes in well-being are taken as fleeting across these studies and, when meaningfully measured, small in size.

Contributions

Placement in the Sociology of Emotions

In 1989, Peggy Thoits noted that an increased awareness on the fact that humans have motivations spanning beyond their rational, self-interested control had led to a growing interest for the study of emotions. This emerging interest saw sociologists in a strategic position to tilt the research agenda away from purely psychological approaches and into the realm of normed social interactions (Gordon 1981; Scheff 1983). Writing only three years after the establishment of the 'Sociology of emotion' section within ASA, the American Sociological Association, Thoits (1989) distinguished between micro- and macro-sociological approaches to emotions, with emotions more frequently entering as an independent and as a dependent variable of analysis respectively (see Kemper 1978; Shott 1979; Hochschild 1979; Heise 1987 for micro-level analyses, Hammond 1983; Swidler 1986 for analyses at the macro-level). According to Thois, sociological empirical works on emotions still lacked a valid universal measurement approach, which led her to conclude with a cautionary statement: "methodological problems are likely to loom large as more empirical studies and conflicting findings accumulate in the next stage of the field's development" (Thoits 1989:339).

Turner and Stets (2006) identify five theoretical approaches, emerged in the three decades following Thoits' original 1989 review: among these, dramaturgical approaches focus on the cultural forms that shape emotions and the 'feelings rules' that govern them, easing individuals into becoming "self-regulating participants in social encounters." (Goffman 1967:44). Symbolic interaction theories, instead, build on traditional sociological work by Mead (1934) and Cooley (1902 [1964]) and "are mainly concerned with impression management and strategic behaviour" (Turner and Stets 2006:29). Durkheim (1915 [1934]: 397) used to put it as follows: "mourning is not a natural movement of private feelings wounded by a cruel loss; it is a duty imposed by the group. One weeps, not simply because he is sad, but because he is forced to weep. It is a ritual attitude he is forced to adopt out of respect for custom, but which is, in a large measure, independent of his affective state." In most recent years, relevant extensions of symbolic interactionist approaches to emotions have included attempts at integrating the strategic mobilisation of gender-based, social-structural inequalities in the analysis of interpersonal relations (Sweet 2019). A third line of research involves the iterative feedback loops between emotions and prestige, especially in relation to how gaining (losing) power and status may lead to increased (decreased) self-affirmation and sense of agency (Kemper and Collins 1990). Empirical approaches to this feedback loops have included twin studies focused on the interaction between affective processes and success (Schnittker 2008).

In exchange theories, emotions flow with interpersonal exchange, which on its turn is thought as a continuously generative process of affective experiences. Lawler and Thye (1999) distinguish six different approaches to social exchange theories of emotions: first, a cultural-structural approach, which stresses the role of norms in shaping up specific emotional tones in interpersonal interactions (Clark 1990; Thoits 1990); second, a structural-relational approach, tangent and sometime largely overlapping with the power-structural approach identified by Turner and Stets (2006), with focus on the affective implications of the interaction between agents of unequal status; third, a sensory-informational approach, conceptualising emotions as social signals, directed both inward and outward (Heise 1987); fourth, a socio-cognitive approach, based on the idea that experiencing positive or negative emotions defines personal judgments of situations and contexts (Isen 1987); fifth, a social attribution approach, departing "from the notion that attributions of credit or blame to self, the other, or the situation are likely to have emotional effects on actors." (Lawler and Thye 1999:222).

Sixth, social-formation approaches build on Durkheim's notion of effervescence to stress emotional outcomes of collective experiences (Collins 1975). This sixth approach to social exchange, as classified by Lawler and Thye (1999:235- 238) is expanded by Turner and Stets (2006) in an 'interaction ritual theory' to the sociology of emotions. This approach directly builds on Durkheim to analyse emotions as an outcome of repeated interaction rituals, and as a mean of production of social solidarity. Drawing from Erving Goffman's mediation of Durkheim (Goffman 1959; 1961; 1967), Collins (2004) distinguishes between rituals of low and transient coordination, such as casual greetings in a public space, and experiences involving high and sustained emotional synchronisation, which might require devices for continuous arousal. While the first ritual form innervates the interaction order with a flow of low-degree emotional energy, the second can generate *loci* of focalised, high interpersonal solidarity and foster symbolic attachment to groups. According to Turner and Stets (2006:34): "the more an interaction ritual leads to the symbolization of solidarity and the more this ritual is iterated over time, the more likely that symbols marking group solidarity will circulate among group members and increase the level of particularized cultural capital in the group."

Contribution and Outstanding Questions

Turner and Stets (2006) identify a set of unresolved issues in the sociological literature on emotions, which are still open today, 14 years later. This Thesis is directed towards three of these open issues. First, Turner and Stets emphasise that an overly constructionist approach to emotions is dominant in sociology, which disregard insights from 'hard' sciences. In the past decade, several sociological studies have drawn from evidence in evolution and biology to base investigations broadly focused on emotions (e.g., Schnittker 2008; Simons et al. 2011; Perry 2016). Although my hypothesis generation is grounded in sociological theory, in this Thesis I depart from insights derived from an emerging corpus of cognitive neuroscience findings, with the aim of better integrating these approaches. Findings from neurobiology has thus contributed to inform the 'core' of my theorization, to use Imre Lakatos' (1970) famous expression, by a) indicating that Schadenfreude entails differential moral processing of information, or counter-empathic responses (Cikara et al. 2014); b) revealing its connection with the activation of reward processing in brain; c) linking the emergence of Schadenfreude to fairness infractions (De Quervain et al. 2004), both connected to the activation of the anterior cingulate cortex, which governs pain processing and predicts Schadenfreude in the laboratory. In doing so, I respond to calls by Scheff (2000:84), according to whom, although "many sociological theorists have at least implied that emotions are a powerful force in the structure and change of societies, most references to [emotions] are generalized and vague." In fact, according to Turner and Stets (2006), the range of emotions theorised is still relatively narrow, compared, e.g., to the broad spectrum originally detailed by Theodor Kemper in 1987. Work on this last dimension has been largely lacking over the past 14 years (with the notable exception of Stets and Carter 2012). Admitting Schadenfreude to a comprehensive sociological understanding would help in acquiring a better view of negative interrelations in empathy and to broaden the categorization of emotions into the discipline.

Finally, Turner and Stets (2006: 25) stress that "there needs to be much more integration of social psychological theories with those dealing with meso- and macro-level phenomena" in order to appropriately account for the role of emotions in the change or persistence of macro-level structures. They argue that "emotions are what drive people to tear down macrostructures. They are implicated in all forms of collective behaviour […] theorizing about emotions can provide one way to address the problem of linking micro, meso, and macro levels of analysis. With few exceptions […] sociology of emotion researchers have not done this." (Turner and Stets 2006:48). Recently, studies placed at the intersection between these dimensions have multiplied, with one stream focused on how emotions shape mobilisation and organisation change (Klandermans, van der Toorn and van Stekelenburg 2008; Parker and Hacket 2012; Bail, Brown and Mann 2017, see also Jasper 2011) and one, in the opposite direction, concerned with the effect of macro structures for individual emotions and feelings (Moon 2012; Mueller and Abrutyn 2016; Bonilla-Silva 2019). Other works have reconstructed feedback looks by placing micro-level emotional activation within macro-dynamics (O'Hearn 2009; Maher 2010; Bail 2012; Collins 2012; Light, Massoglia and Dinsmore 2019). The third and final contribution of this Thesis goes towards this strand of literature, by emphasising how macro-events may lead to emotional reactions at the population level.

Overall, throughout this work, my approach to the theorisation of Schadenfreude has been inspired by Billari (2015), who proposes that the first step of social explanation is that of considering individuals as embedded in macro-situations. This implies shifting the focus from a micro-micro level of analysis, where individual characteristics explain individual outcomes, to a macro-micro level, where situational mechanisms affect individual outcomes. By investigating how specific events impacted emotions while keeping individuals as my unit of analysis, the empirical investigations of this Thesis can be seen as a direct application of this approach. In this framework, the second explanatory step is involved in reconstructing action-formation mechanisms, or the ways in which individuals react to their macro-embeddedness. Because of the measurement issues already described by Thoits (1989), reconstructing this mechanism in the realm of emotions might be challenging (see, e.g., Scheff 1994 and Collins 2012 for alternative explanations of cycles of conflict). In Chapter 3, I turned to potential action-formation mechanisms by linking emotional activation to social cohesion, with only tentative findings. Further investigation across these lines might be key to turn to the third and final explanatory step, which involves the reconstruction of transformational mechanisms, or the ways in which individual interactions, fuelled by emotional forces, may aggregate up to generate macro-observable outcomes.

References

- Bail, C. A., 2012. The fringe effect: Civil society organizations and the evolution of media discourse about Islam since the September 11th attacks. *American Sociological Review*, *77*(6), 855-879
- Bail, C. A., Brown, T. W., and Mann, M., 2017. Channeling hearts and minds: Advocacy organizations, cognitive-emotional currents, and public conversation. *American Sociological Review*, *82*(6), 1188-1213
- Billari, F. C., 2015. Integrating macro-and micro-level approaches in the explanation of population change. Population studies, 69(sup1), S11-S20.
- Bonilla-Silva, E., 2019. Feeling Race: Theorizing the Racial Economy of Emotions. *American Sociological Review*, *84*(1), 1-25
- Cikara, M., Bruneau, E., Van Bavel, J. J., and Saxe, R., 2014. Their pain gives us pleasure: How intergroup dynamics shape empathic failures and counter-empathic responses. *Journal of experimental social psychology*, *55*, 110-125
- Collins R., 2004. *Interaction Ritual Chains*. Princeton, NJ: Princeton Univ. Press
- Collins, R., 1975. *Conflict sociology: Toward an explanatory science*. Academic Press
- Collins, R., 2012. C-escalation and D-escalation: A Theory of the Time- dynamics of Conflict. *American Sociological Review*, *77*(1), 1-20
- Cooley, C. H., 1902. *Human Nature and the Social Order*, 1964. NY: Schocken Books
- De Quervain, D. J., Fischbacher, U., Treyer, V., & Schellhammer, M., 2004. The neural basis of altruistic punishment. *Science*, *305*(5688), 1254
- Durkheim, E. 1915. *The Elementary Forms of Religious Life*, 1934. NY: Macmillan

- ‘Goffman, E., 1959. *The Presentation of Self in Everyday Life*. Garden City, NY: Doubleday Goffman, E., 1961. *Encounters: Two Studies in the Sociology of Interaction*. Indianapolis, IN: Bobbs-Merrill
- Goffman, E., 1967. *Interaction Ritual: Essays on Face-to-Face Behavior*. Garden City, NY: Anchor Books
- Gordon, S. L., 1981. The sociology of sentiments and emotion. In *Social Psychology: Sociological Perspectives*, eds. M. Rosenberg and R. H. Turner, 562-92. New York: Basic Books
- Hammond, M., 1983. The sociology of emotions and the history of social differentiation. *Sociological Theory*, 90-119
- Haushofer, J., Reisinger, J., and Shapiro, J., 2015. Your gain is my pain: Negative psychological externalities of cash transfers. *Online paper*
- Heise, D. R., 1987. Affect control theory: Concepts and model. *Journal of Mathematical Sociology*, *13*(1-2), 1-33
- Hochschild, A. R., 1979. Emotion work, feeling rules, and social structure. *American Journal of Sociology*, *85*(3), 551-575
- Isen, A. M., 1987. Positive affect, cognitive processes, and social behavior. In *Advances in experimental social psychology, 20*, 203-253. Academic Press
- Jasper, J. M., 2011. Emotions and social movements: Twenty years of theory and research. *Annual Review of Sociology*, *37*, 285-303
- Kemper, T. D., 1978. *A social interactional theory of emotions*. John Wiley & Sons
- Kemper, T. D., 1987. How many emotions are there? Wedding the social and the autonomic components. *American Journal of Sociology*, *93*(2), 263-289

- Kemper, T. D., and Collins, R., 1990. Dimensions of microinteraction. *American Journal of Sociology*, *96*(1), 32-68
- Klandermans, B., Van der Toorn, J., and Van Stekelenburg, J., 2008. Embeddedness and identity: How immigrants turn grievances into action. *American Sociological Review*, *73*(6), 992-1012
- Lakatos, I., 1970. Falsificationism and the Methodology of Scientific Research Programs, in I. Lakatos and A. Musgrave (eds.), Criticism and the Growth of Knowledge. Cambridge University Press (1970)
- Lawler, E. J., and Thye, S. R., 1999. Bringing emotions into social exchange theory. *Annual Review of Sociology*, *25*(1), 217-244
- Light, M. T., Massoglia, M., and Dinsmore, E., 2019. How do criminal courts respond in times of crisis? Evidence from 9/11. *American journal of sociology*, *125*(2), 485-533
- Maher, T. V., 2010. Threat, resistance, and collective action: The cases of Sobibór, Treblinka, and Auschwitz. *American Sociological Review*, *75*(2), 252-272
- Mead, G. H., 1934. *Mind, Self and Society*. Chicago: University of Chicago Press
- Moon, D., 2012. Who am I and who are we? Conflicting narratives of collective selfhood in stigmatized groups. *American Journal of Sociology*, *117*(5), 1336-79
- Mueller, A. S., and Abrutyn, S., 2016. Adolescents under pressure: A new Durkheimian framework for understanding adolescent suicide in a cohesive community. *American Sociological Review*, *81*(5), 877-899
- O'Hearn, D., 2009. Repression and solidary cultures of resistance: Irish political prisoners on protest. *American Journal of Sociology*, *115*(2), 491- 526

- Parker, J. N., and Hackett, E. J., 2012. Hot spots and hot moments in scientific collaborations and social movements. *American Sociological Review*, *77*(1), 21-44
- Perry, B. L., 2016. Gendering genetics: biological contingencies in the protective effects of social integration for men and women. *American Journal of Sociology*, *121*(6), 1655-1696
- Scheff, T. J., 1983. Toward integration in the social psychology of emotions. *Annual Review of Sociology*, *9*(1), 333-354
- Scheff, T. J., 1994. Bloody revenge: Emotions, nationalism, and war.Westview Press.
- Scheff, T. J., 2000. Shame and the social bond: A sociological theory. *Sociological Theory*, *18*(1), 84-99
- Schnittker, J., 2008. Happiness and success: Genes, families, and the psychological effects of socioeconomic position and social support. *American Journal of Sociology*, *114*(S1), S233-S259
- Shott, S., 1979. Emotion and social life: A symbolic interactionist analysis. *American Journal of Sociology*, *84*(6), 1317-1334
- Simons, R. L., Lei, M. K., Beach, S. R., Brody, G. H., Philibert, R. A., and Gibbons, F. X., 2011. Social environment, genes, and aggression: Evidence supporting the differential susceptibility perspective. *American Sociological Review*, *76*(6), 883-912
- Smith, R. H., Turner, T. J., Garonzik, R., Leach, C. W., Urch-Druskat, V., and Weston, C. M., 1996. Envy and Schadenfreude. *Personality and Social Psychology Bulletin*, *22*, 158-168
- Stets, J. E., and Carter, M. J., 2012. A theory of the self for the sociology of morality. *American Sociological Review*, *77*(1), 120-140
- Sweet, P. L., 2019. The Sociology of Gaslighting. *American Sociological Review*,

84(5), 851-875.

- Swidler, A., 1986. Culture in action: Symbols and strategies. *American Sociological Review*, 273-286
- Thoits, P. A., 1989. The sociology of emotions. *Annual review of sociology*, *15*(1), 317-342
- Thoits, P. A., 1990. Emotional deviance: Research agendas. *Research agendas in the sociology of emotions*, *180*, 203
- Turner, J. H., and Stets, J. E., 2006. Sociological theories of human emotions. *Annual Review of Sociology*, *32*, 25-52