Imagined Interdependence: Manipulating Discourse Changes How People Construe
Interdependence

Jiří Münich

Student number: 10890874

Supervisors: dr. Allard Rienk Feddes; dr. mr. Irena Rosenthal

University of Amsterdam

21/06/2017

Word count (excl. abstract and references): 8636

Abstract

Social psychology has been exploring how people react to social situations, but little work has been done on how interdependence is imagined in situations that are fully construed. Here, I investigate the effects of discourse used in media communication on the perception of interdependence in a situation providing no objective constraints. I propose that construals of situations emerges from comprehensive patterns of communication that should be studied as a whole, rather than as collection of isolated components. Using an experimental design, I attempt to bring the strands of interpretivist and positivist science together, combining theories and methods of psychology, sociology and political science. Manipulating discourse, I find that a theme in communication can have strong effects on situation construal, but a more thorough theoretical framework is needed to make more accurate predictions.

Keywords: discourse, situation, interdependence, interdisciplinary, Functional Interdependence Theory

Imagined Interdependence: Manipulating Discourse Changes How People Construe Interdependence

In the book *Imagined communities: Reflections on the origin and spread of nationalism*, Anderson (2006) compares nations to imagined communities. Where real communities consist of physically interacting and interdependent individuals, nations comprise of enormous amounts of people who have never met or interacted in person – and probably never will. Yet, these people still imagine living in a community and depending on each other. History has shown that imagining such communities can lead to large collective actions - ranging from pro-social acts of national solidarity, to horrors of war and genocide experienced throughout 20th century.

Theorists nested in the branch of social sciences such as sociology or political science have exerted substantial effort into studying how such imaginations come into being and subsequently operate, putting great emphasis on language and communication: for instance exploring how representations of Middle East are construed (Said, 1978) or how the concepts of ecology, environment and environmentalism developed (Bramwell, 1989). The theory of Symbolic interactionism sums these ideas in three propositions: „, (1) that people act toward things, including each other, on the basis of the meanings they have for them; (2) that these meanings are derived through social interaction with others; and (3) that these meanings are managed and transformed through an interpretive process that people use to make sense of and handle the objects that constitute their social worlds” (Snow, 2001, p. 367). These theoretical approaches have inspired generous amounts of qualitative research.

Social psychology has focused less on how such representations emerge in the social sphere and more on how people act on them. Ever since Kurt Lewin (1936), social psychologists have been trying to understand human behaviour (B) as a function of personality (P) and

environment (E), or as expressed in the Lewin's formula $B = f(P, E)$. A key question of this approach is, whether the same personality manifests itself differently, depending on the environment it is put in. But should the effects of environment be studied through its objective properties, or should we focus more on how environment is mentally represented (Reis, 2008)? What effects should we expect from environments, that, like Anderson's communities, are *only* imagined? Would psychology be able to work with imagined environments and situations, especially when they include the most complex component - interdependence with other people?

In this paper, I would like to integrate these two streams of research – interpretivist political science and experimentalist social psychology. I will attempt to answer the following research question: “How do people construe mental representations of interdependence?” To specify, I ask two sub-questions: “Does the discourse in which information is communicated influence the mental representation of interdependence?” and “If it does, in what way?”

The structure of my argumentation can be summarised in three points: a) people interact with the world through mental representations; b) changing discourse results in changing these representations; c) manipulating discourse can result in varying mental representations of interdependence. In the following section, I will review theoretical and empirical literature to further explain my claims and derive testable hypotheses about effects of discourse on the construal of social situations. Using the case of HIV/AIDS epidemics in Sub-Saharan Africa, I will report an experiment testing these predictions.

Answering my research questions has a threefold purpose. First, it is a confirmatory empirical test of predictions based on the Functional Interdependence Theory (Balliet, Tybur & Van Lange, 2016). Second, it is a theoretical attempt to incorporate qualitative methods and constructionist theories into experimental designs and quantitative methods of social psychology.

Third, aiming towards *applied science*, it is an exploration of grounds for translating results of discourse analysis and other qualitative research into quantifiable behavioural predictions.

Case study: HIV/AIDS epidemics in Sub-Saharan Africa

This paper will use the case of HIV/AIDS epidemics in Sub-Saharan Africa to both illustrate and test a theoretical account of imagined interdependence. Before I proceed to theory, I am going to elaborate on the relevance of this case for my study. HIV/AIDS poses a substantial problem in many regions of Africa. Since as early as late 80's, HIV/AIDS epidemic has been a major issue threatening large parts of African population. Even despite a recent decrease in the total number of infected, the epidemics still constitute a major demographic, economic, and – most of all – humanitarian crisis of our time. To imagine its severity, just consider the statistics provided by Kharsany and Karim (2016, p.35): “Sub-Saharan Africa is home to only 12% of the global population, yet accounts for 71% of the global burden of HIV. Ten countries, mostly in southern and eastern Africa, viz. South Africa (25%), Nigeria (13%), Mozambique(6%), Uganda (6%), Tanzania (6%), Zambia (4%), Zimbabwe (6%), Kenya (6%), Malawi (4%) and Ethiopia (3%), account for almost 80% of all people living with HIV.”

Besides its enormous societal relevance, I have chosen this topic for two main reasons: First, being spatially distant and notably absent in the dominant media content of Western audiences, it constitutes a theme that a) we mainly encounter on the level of our imagination, and b) has fewer pre-established meanings than, say, the refugee crisis. Second, it provides room for construals of various situations of interdependence – between the infected and the healthy, governments and citizens, men and women, etc. I will further elaborate on these points in the following sections.

People interact with the world through mental representations

We mainly encounter the HIV/AIDS situation on the level of our imagination. What does that mean? The Social Representations Theory (SRT; Moscovici, 1988; Potter & Edwards, 1999; Bauer & Gaskell, 2008; Höijer, 2011) suggests that humans interact with the world through mental representations they create. For instance, think about a person who started experiencing health problems and considers going to a hospital to get tested for HIV. The decision to do so might depend on whether that person imagines the hospital to be a place where the sick are being helped or as a place where they are isolated and restrained. Let's consider these two possibilities as distinct mental representations.

According to SRT, mental representations are functions of the *constraints of reality*, the *mind of the perceiver* and the *communicating other* (Bauer & Gaskell, 2008). Figure 1 presents this conception. First, the *objective constraints* of a situation set some boundaries for imagination. It can be difficult to imagine the hospital as an internment camp for HIV positive people, if one knows about others getting diagnosed with HIV, yet returning from the hospital to their everyday lives. Second, the perceiving person most likely has some prior knowledge, preconceptions and personal interpretations that shape the representation. For instance, people with right-wing political orientations seem to form different representations of conflict than left-wing oriented people (Halevy & Katz, 2013). A generally suspicious person, or a person having negative experience with medical institutions could be more likely to represent the hospital as an internment camp. Third, communicating with some other party might make us adjust our mental representations. For instance, when a regular person from the West thinks about the Sub-Saharan HIV crisis, it rarely happens through direct experience. Few people actually go to Africa to

experience the situation first hand. Most would just read about it in the news media that produce a representation of their own and the reader reacts to this representation.

Figure 1: In SRT, forming a representation happens in communication between a person, communicating other and objective constraints of the represented object. Both communicating sides react to the constraints, but also to each other's representation.

Media can take up the role of communicating other. At the same time, reading about a situation exclusively through media means there are no direct *objective constraints* of the situation besides data provided in the news. Höijer (2011) offers a SRT – based framework for studying media content. She argues that dominant mechanisms for assimilating new information into mental representation are various types of *anchoring*. In communication between a person and a media source, various information is presented – in case of AIDS, it could be data on the infected, description of governmental plans, testimonies of involved people, etc. To make sense of this information, the person assigns the information meanings by integrating it into something already established. In *thematic anchoring*, information is assigned meanings based on the overarching theme that connects it all together: Consider a description of HIV symptoms observed in a person. If it is provided in the context of humanitarian aid, the resulting meaning

can be suffering and call for help. But presented in the context of epidemiological control, the symptoms could be seen rather as a warning sign signalling a potentially dangerous person. Either representation might have unique implication on individual's decisions about whether to approach or avoid, help or suppress.

Minimalist framing in psychological research

Following the SRT framework, I propose that setting a *theme* should affect the meaning people assign to information and the meaning should in turn contribute to shaping their mental representations. There is considerable experimental psychological literature on the behavioural effects of setting a *theme*, usually conducted under the concept of *framing*: maintaining logically equivalent outcomes, but varying the frames of gain, loss, absolute values or probabilities can result in strong reversals of preferences (Tversky & Kahneman, 1981), merely re-labelling a Prisoner's Dilemma game from *Community Game* to *Wall Street Game* resulted in a decrease in the proportion of cooperative behaviour by more than 30% (Lieberman, Samuels & Ross, 2004) and framing of a situation even interacts with political orientation: left-wingers display more cooperative behaviour than others when a *Public Good* game is framed in terms of taking from the good, but not in contributing towards it (Fosgaard, Hansen & Wengström, 2017). Overall, the research about effects on framing in economic games seems to be converging around three main topics: manipulating the valence of choices, defining in-group/out-group categories and inducing specific social norms (Jaeger & Gerlach, 2016).

I suggest there are two caveats to this stream of research. First, it looks only at behavioural outcomes, but does not test for mediation by cognitive processes such as creation of mental construal of the situation. Second, it approaches *theme* too analytically, using minimalist

manipulations. More empirical research should focus on measuring mental representations and instead of manipulating mere wording or labels, manipulate entire *discourses*.

What is discourse?

The simplest way to explain *discourse* in terms close to the intentions of this paper is as a „presentation of events in a narrative“ (Johnstone, 2005, p. 636). A slightly more elaborate explanation of what discourse could mean, is an interwoven, yet internally consistent network of linguistic patterns and social factors producing meaning in text, speech or other subjects (Fairclough, 1992). What distinguishes a discourse from minimalist frames is that it is far more comprehensive: Telling a story does not make coherent sense only because certain values are presented in terms of *gain* or *loss*. Think about the person from the previous example with mental representation of a hospital: she might learn about the chances of an HIV test a) giving a true negative result, or b) giving a false negative. While such information is logically equivalent, regular framing research (Tversky & Kahneman, 1981) might suggest people would systematically vary in its evaluation, because the second option frames the probability in negative terms (making a mistake). But making a false negative conclusion can have different meanings depending on the bigger picture. It is a loss when people see hospital as a place that helps the sick and a false negative means they won't get the treatment they need. But if hospital is seen as an internment camp, it is a gain – the mistake allows one to avoid detention. A moderation of this kind was found for instance between valence framing and regulatory focus of information recipients (Kim, 2006). The number of possible moderating factors in motives constituting a *theme* makes the analytical approach of psychology hard to integrate with other social sciences. That is why I suggest we should broaden our focus above the analytical approach and consider *theme* in communication as a whole.

For instance, Van Atteveldt, Ruigrok and Kleinnijenhuis (2006) have developed a (quantitative) method for measuring media content. In their conceptualization, framing as it is used in psychology is only one component of the overall *discourse*. Psychologists predominantly use *equivalence framing* – using logically equivalent formulations of the same data with different words. However, there are at least three more components of the final story that the authors discuss: *emphasis frames* – highlighting some sides of a problem while marginalizing other, *interactive frame setting* – taking the subject as an active participant in the meaning-making process, and *associative framing* – producing meaning of a piece of information by linking it to an associative network of other concepts. Only taken together and in interaction with each other do all these factors produce specific meanings of presented information. Knowing how people react to particular components of an overall frame might be informative for certain purposes. But using it to study how people form mental representation of the world around them is similar to presenting patients with isolated doses of either carbon, oxygen or hydrogen and using thus gained knowledge to infer, how will they react to various bio-chemical substances like alcohol. Ultimately, the tested substance must be presented as a whole in clinical tests, to assess its effects on population.

Operationalizing a discourse

I suggest, that if we can identify a discourse in which a situation is presented, we should be also able to predict, how that situation will be mentally represented. To experimentally test these predictions, we need to operationalize the identified discourses.

First, let us start with the discourses used for communication about HIV/AIDS in Sub-Saharan Africa. Seidel (1993) identified two dominant strands of discourse in which meanings of HIV/AIDS are being construed. While these findings refer mainly to communication within the

affected regions, Joffe (1995) came to similar conclusions in the Western context. Seidel suggests that the dominant discourses can be ultimately sorted into two groups: Discourse of *Rights and Empowerment* and discourse of *Control and Exclusion*. While the first shows the infected as agents facing problems, yet having the will to participate in solving them, the latter speaks in terms of risk groups, contagion, controlling the diseased and separating the threat from those threatened. I argue that if Western audiences are exposed to documents framed in one of these discourses, lacking objective backgrounds, their construal of the situation should at least to some extent reflect that discourse.

Key property of a discourse are the meanings it gives to particular names or categories. An operationalization of a discourse should then be possible by using these meanings. For analysing news media discourse, Pan and Kosicki (1993) propose to focus on the categories of *Who, What, When, Where, Why* and *How*. These categories seem to be very similar to main categories of cues relevant to social situations discussed in psychological literature, namely: „*Who is with you? Which objects are around you? What is happening? Where are you? When is this happening?*”(Rauthmann, Sherman & Funder, 2015). I suggest, that if documents imply similar meanings across these categories, they can be considered to belong to the same discourse. Table 1 specifies what these meanings would be for the discourses of Control and Empowerment.

Table 1: Meanings of cue categories in discourses of Control and Empowerment

	Control	Empowerment
Who	High risk groups, promiscuous people, prostitutes, sources of infection, depersonalized others, victims	The infected people, activists, community-based initiatives, victors
What	Symptoms, Situations of risk, judgement	Problem solving, self-efficacy
When	Colonial past, blame past	Now, future
Where	Cities, sources of epidemics	Communities
Why	Lack of development, moral punishment, safety concerns, ethical discourse of beneficence (greatest good, decision for one part at the cost of other)	Rights and ethics, solidarity, giving voice, empowerment
How	Sexuality, Chastity, Love faithfully, restrict others,	Access to drugs, adjusting drug research principles, political participation, face to face discussion, solidarity, education, access to technology

Manipulating Focus

Various methods for analysing discourse provide useful frameworks for uncovering or highlighting meanings in documents or speech acts, but it might be difficult to account for the variance coming from *interactive frame setting* - active interpretations coming from the side of the receiver. People participate in meaning-making and do not accept narratives passively. Individual opinions, background knowledge or even random mind-wandering might introduce substantial noise that cannot be easily controlled for. But it might be possible that narrowing down the focus of recipient towards processed documents could reduce the noise by cutting away

other established structures of meaning. Considerable psychological literature seems to suggest that positive emotions broaden focus and attention, while negative emotions narrow them down (Huntsinger, 2013; Uddenberg & Shim, 2015; Nabi, 1999; Armitage, Conner & Norman, 1999; Fredrickson, 2004). The specific mechanism still remains to be explored and it has been even suggested, that some specific negative emotions can result in decreased focus – for instance those related to task-completion (Gable & Harmon-Jones, 2010). But overall, there seems to be a consensus that general negative mood should result in narrowed focus and increased attention towards the focal object.

There are multiple methods that can effectively elicit moods and emotions in experimental settings (Lench, Flores & Bench, 2011). One of these methods is *autobiographical recall*, a simple procedure, in which participants are asked to think or write about a time when they experienced the sought-upon affective state. If the phenomenon of mood-induced focus holds, people asked to recall time when they were in a very bad mood should also display increased focus on subsequent tasks. Reducing thus the incorporation of background knowledge or connections to outside topics, they should be also more reactive to the discourse they are presented with.

What is a social situation and why is it important?

In the previous section, I have concluded that various discourses can contribute to the way people create mental representations of environment they interact with. In this paper, I focus on a specific aspect of environment, namely social situations of interdependence. That means situations where the outcomes of individual's behaviour depend on the behaviour of another party.

For instance, in the traditional game theoretical approach, some situations of interdependence in bilateral social situations can be modelled using matrices like that in Table 2. Each side of the matrix represents one of two players involved in a situation. Each player has two options: to cooperate, or to defect (compete). When plotted against each other, these options create four cells. Each cell of the matrix contains two values: the outcome for Player 1 and outcome for Player 2. An example of such table can be seen in the so-called *Game of Chicken*. Game of Chicken could represent a negotiation between a local and the central government on who should provide healthcare for HIV positive citizens. If both parties compete – refuse to take the responsibility, the citizens either die or further spread the disease, a generally undesirable outcome (value of 1) for both. If both sides cooperate and provide the healthcare together, they achieve relatively high outcome, taking care of the sick and preventing the disease from spreading (value of 3). But if one party decides not to cooperate and wait until the other caves in (chickens out), then the sick are taken care of, but the defecting side keeps the resources otherwise spent on healthcare (value of 4), while the provider has to pay for the entire project (value of 2). In such situation, the best strategy is always to do the exact opposite of what the other party does. If the other cooperates, it pays to compete and free-ride on the provided healthcare (get from value 3 to 4). If the other defects, it pays to step in and save the people (get from value 1 to 2).

Table 2

Game of Chicken		Player 2			
		Cooperate		Defect (compete)	
Player 1	Cooperate	3	3	2	4
	Defect (compete)	4	2	1	1

Table 2 presents an example of the Game of Chicken, where two players decide on whether to cooperate or compete. The table displays payoffs each player will get under four possible combinations of their behaviour.

There are many other ways in which interdependence can be structured with major implications for individual decisions to cooperate or deviate. Bornstein (2003) offers an entire taxonomy of multilevel games simulating various social situations involving groups, claiming that: “Depending on the game’s payoff structure, contradictions or conflicts can arise between the rational choices at the individual, group, and collective levels—a generalization of the contradiction between individual and collective rationality occurring in the traditional mixed-motive games.” (p.132).

Considerable empirical evidence supports the notion that people’s expectations about others, as well as their decisions to cooperate or compete with them, depend on how interdependence is structured. Levels of cooperative behaviour within the in-group change with the payoff structure of a game (Bornstein, 1992), people tend to behave more competitively when facing groups than when interacting with individuals (Wildschut, Pinter, Vevea, Insko & Schopler, 2003; Wildschut & Insko, 2007), changing the structure of a game can strongly reduce negative behaviour oriented against out-group (Halevy, Bornstein & Sagiv, 2008) or levels of coordination within in-group (De Dreu, Gross, Méder, Giffin, Prochazkova, Krikeb & Columbus, 2016). These are just a handful of examples showing why environment created by acting others can impact cooperative tendencies of an individual.

Perceived situation

All the reviewed research conceptualized real-life scenarios as objective situations that can be reduced to and represented by payoff matrices used in experimental settings. Some games are considered to imitate management of shared resources (Sadowski, Spierre, Selinger, Seager, Adams & Berardy, 2015), other asymmetric intergroup conflict (De Dreu et al., 2016). But in the real life, people are not provided with pay-off matrices with contingencies of any combination of

behaviours. Some authors have suggested, that while there is substantial knowledge about how people behave in particular experimental *games*, we should start asking, what *games* people think they play (Reis, 2008; Rauthmann, Sherman & Funder, 2015). Consider the negotiation example from Table 2. Even if we assume that the outcomes from the table represent some objective reality, the two parties might have different expectations. For instance, they might think that whoever chickens out will incur additional costs of humiliation – appearing weak in the eyes of citizens, while defecting when the other defects would make the party look strong. In that case, the payoff structure would change into a Prisoner’s Dilemma (Table 3), where the dominant strategy for both parties is to always defect. If parties perceive the situation this way, no-one will provide the healthcare.

Table 3

Prisoner’s Dilemma		Player 2			
		Cooperate		Defect (compete)	
Player 1	Cooperate	3	3	1	4
	Defect (compete)	4	1	2	2

Table 3 displays another game. While the combinations of possible actions are the same as in Table 2, outcomes differ, making defection an optimal strategy for both players.

The work of Halevy and colleagues (2012) has provided some corroborative evidence for the claim that people behave in accord with their mental model of a situation. Halevy and colleagues presented people with information on a negotiation situation. Then they asked them to fill-in the outcomes they expected in the situation into a table similar to those provided in the examples with values ranging from 1 (the worst) to 4 (the best). Out of the 576 possible games (78 of these non-equivalent), the authors have found participants to converge on four *archetypal* structures, already widely used in game theory (Games of: *Maximizing Differences*, *Assurance*, *Chicken* and *Prisoner’s Dilemma*). These perceptions affected the behaviour of players, as well as how it was seen by their counterparts. Such mental models of conflict also seem to correlate

with personality type and experience of workplace conflict (Halevy, Cohen, Chou, Katz & Panter, 2014), political orientation (Halevy & Katz, 2013) or positions towards Israeli-Palestine conflict (Halevy, Sagiv, Roccas & Bornstein, 2006).

Functional Interdependence Theory

While conceptually intriguing, Halevy's paradigm poses several challenges. First, asking participants to fill-in matrices can severely restrain their scope of thinking about the conflict. Second, many studies conducted by Halevy are correlational. It is then difficult to infer, whether people experience more conflict because they construe situations as such, or vice versa. A similar, yet more broad-minded approach has been proposed in the Functional Interdependence Theory (FIT; Balliet, Tybur & Van Lange, 2016). According to FIT, representations of interdependence people make are based on real recurring social situations humans have been experiencing throughout their evolutionary history. These representations can be mapped on several dimensions:

FIT originally proposed four different indexes that people use to map social situations. The subsequently developed Situational Interdependence Scale (SIS; Gerpott, Balliet & de Vries, *under review*) resulted in removing one of the original dimensions and adding two new, ending up with five dimensions of social situations: a) *Future interdependence*. Some situations include the outlook for future interactions; other can be seen as one-shot games. People living in a community might have to think ahead and protect their reputation, because they will interact with others on a regular basis. But in the anonymity of cities, individual's behaviour in one situation can have little impact on his future interactions with others; b) *Interdependence* reflects how the outcomes of involved parties depend on each other. When sexual protection is accepted and available, an individual can regulate his or her risk of getting infected with HIV, irrespective

of the other party's behaviour. In such case, interdependence is low. When there is no access to protection, the risk for either sexual partners depends on the behaviour (such as fidelity) of the other partner; c) *Conflict*, shows whether outcomes for both parties are similar within various combinations of behaviour, or not. When two communal centres for HIV prevention compete over funding, a success of one implies a loss for the other and conflict is high. But when they start a joint program, their interests might covary; d) *Information certainty*. Knowing what the other side wants and how both sides can affect each other matters. When a person experiencing HIV symptoms considers getting tested at a hospital, she might behave differently if it is not clear how the hospital handles people found to be HIV positive. The person herself might also behave differently being certain/uncertain about her health status; e) *Power*. In some situations, both sides can influence the final outcomes equally, but not in others. When sexual protection is available to men only (in form of male condoms), men have power over the risk a woman is exposed to and the power is asymmetric. When microbicidal gels get available to women (or neither gels, nor male condoms are available) power balance becomes equal.

Using these five dimensions, it should be possible to describe how people perceive a social situations. The authors propose that people make inferences about these dimensions by observing particular cues – observable properties and behaviours of the partner or other *objective* factors. But Rauthman and colleagues (2015) suggest a distinction should be made between *cues* and *characteristics* of a situation. Whereas cues are objective properties that can be described by a researcher and presented uniformly to subjects, *characteristics* are meanings people assign to these *cues*. As I have suggested before, in a situation with little *objective constraints*, people should create mental representations from meanings created by the discourse in which information is presented. Discourse provides cues and simultaneously assigns them meanings. In

other words, discourse creates *characteristics* and *characteristics* produce mental representations of interdependence. For instance, according to FIT, anger and expecting need of welfare trade-offs should result in higher perceived conflict. If a discourse produces such meanings, it should also produce an increased perception of conflict.

Figure 1: Mental representations of interdependence emerge from observing cues. The effect of cues is mediated by the meaning they create. But in communication, the cues are provided by the communicators and the process of assigning meaning to these cues is moderated by the theme (discourse) they are presented in.

Hypotheses

I argue that to understand human behaviour in social situations, we need to understand how people perceive interdependence. Mental representations of interdependence people form should be determined by *the person*, a *communicating other* and *objective constraints* of a situation. In media communication of large-scale distal events such as the HIV/AIDS epidemics, the objective constraints of a situation are not accessible, so the mental representation should occur only on the level of communication. Then, the discourse in which communication takes place should have an impact on creating characteristics used to build the representation. First, I hypothesize that since within one discourse, similar meanings should be assigned to information, different discourses should produce different perceptions of interdependence:

H1: People exposed to the same situation presented in different discourses will display more similar representations of the situation within, than between discourses - the same discourse will produce similar construals of interdependence.

The first hypothesis serves mainly an exploratory function, testing the viability of discourse as a determinant of mental representation of interdependence. To provide more specific hypotheses, I suggest the following pair of particular predictions, derived from a conjunction of Seidel's (1993) claims and FIT. I make these predictions for two particular dimensions on which the two discourses should differ. The first is *Conflict*. While intuitively, the discourse of *Control* might seem as involving higher conflict, the discourse of *Empowerment* actually implies both higher anger and welfare trade-offs. First, Control discourse does not acknowledge the agency of the sick, presenting them merely as a part of epidemics that needs to be regulated. As such, the sick do not display emotions, nor do they have any interests that could collide with those of the governments. On the other hand, the activism and related participation of the sick in protests suggests signs of anger and a gap between their interests and the government's actions.

H2a: The discourse of *Empowerment* should result in higher perceived conflict than the discourse of *Control*.

Second, *Information certainty* should be lower in the discourse of *Empowerment*. Where the discourse of *Control* uses the language of risk groups and need for regulation, it also creates the picture of clearly delineated boundaries, causes and effects. On the other hand, the discourse of *Empowerment* raises the problems of marginalization, voices that ask to be heard, low access to technology and scientific findings etc.

H2b: Information certainty should be lower in the discourse of *Empowerment* than in the discourse of *Control*.

Without deeper theoretical inquiry into the two discourses, it is difficult to derive particular hypotheses about the other dimensions. *Power* could be seen more balanced in the *Empowerment* discourse on the basis of increased activism, but it might be as well argued, that seeing the sick as a threat in the *Control* discourse also makes them seem influential in the situation. I believe similar positions could be argued with the dimensions of *Interdependence* and *Future interdependence*. This does not mean there is no way to make predictions about them, but these would require further study and more detailed experimental design – both beyond the scope of this paper. Therefore, while I am ready to suggest predictions H2a and H2b to constitute falsification criteria for my theoretical account of FIT in a SRT framework, I acknowledge observed scores on the other dimensions will be mainly exploratory.

To test the role of active individual interpretations, I hypothesize, that participants in a negative mood will have narrowed focus on the discourse at hand and therefore display responses more aligned with its theme.

H3: People in a negative mood will show less variability in their perceptions of interdependence.

Methods

Design

To test the hypotheses, a 2x2 between subjects experimental design was used with Mood and Discourse type as independent variables and scores on the five dimensions of the SIS scale as DV. Discourse type was manipulated by randomly selected news-article fragments coming either from a pool representing discourse of *Control* or of *Empowerment*. Mood was manipulated using autobiographical recall.

Sample

Data were collected through social networks, predominantly among undergraduate student population. Offering to display subjects their scores on the SIS after the survey concluded was used as a motivation for participation.

160 people started the survey, but only 91 finished the main questionnaire. One case was excluded for entering nonsensical response. The final sample consisted of 90 participants (63% female). The majority of participants indicated to be between 18-24 (78%) years old, originating mainly from Czech Republic (37%), the Netherlands (22%) and Germany (12%). The majority of participants has indicated to have achieved at least bachelor's degree (33% with the degree, 88% cumulative percentage).

Procedure

Participants were assigned to groups based on two conditions: mood (positive/negative) and discourse (Control/Empowerment). After providing consent, based on the condition, participants were induced into either a positive or a negative mood, using *autobiographical recall*: “Before the survey starts, we would like to ask you to think about a recent situation when

you were in a (very good / very bad) mood. Please, describe that situation briefly in two or three sentences. “

Afterwards, the participants were presented several fragments of news articles selected to represent either the discourse of *Control* or of *Empowerment*, with the following instructions: *“The aim of this research is to find out, how good picture of a situation can people draw from limited amounts of information. You will be shown several excerpts from news articles. These fragments come from real newspapers writing about the AIDS situation in Sub-Saharan Africa. Read them carefully. Try to think about the sick and the local governments. Afterwards, you will be asked to fill in a questionnaire about the situation. After you finish the survey, you will be able to see how you scored. “*

Each participant was then shown several fragments randomly selected from the pool of fragments representing the discourse condition he/she was assigned to. The randomization was introduced to account for the possible particular effects of a single article. As fragments representing the two discourses varied in lengths, participants in the Control condition were shown 5 fragments, while participants in the Empowerment only 4, making the word count in both conditions approximately equal.

After the manipulations were presented, participants were asked to fill in a survey measuring the five dimensions of interdependence, followed by a short demographic survey. Afterwards, participants were shown their scores on the five dimensions of interdependence including explanation of the meaning of the dimensions. The last part served both as a debriefing and a motivation for participation in the experiment.

Materials

Perceived situation.

To measure perceived situation, I have used the SIS scale (Gerpott, Balliet & de Vries, *under review*). Items on the scale were slightly adjusted to refer to the *sick* and to the *local governments*. The scale consists of 30 questions, 6 per dimension. *Interdependence*, *Conflict*, *Information Certainty* and *Future Interdependence* were measured using 5-point Likert scale (Completely Disagree-Completely Agree) with statements such as „*The government prefers different outcomes than the sick do in this situation.*“ or „*The government does not understand how its actions affect the sick.*“ *Power* was measured using 5-point Likert scales (Definitely the government-Definitely the sick) with questions like „*Who do you feel was most in control of what happens in the situation?*“

After recoding responses, all five dimensions were tested for reliability, resulting in *Future interdependence* ($\alpha=.67$), *Interdependence* ($\alpha=.66$), *Conflict* ($\alpha=.75$), *Information certainty* ($\alpha=.77$) and *Power* ($\alpha=.90$). One item on the *Future interdependence* scale (*Behavior of the sick in this situation affects how the government will behave in future situations.*) turned out to be strongly decreasing the scale's reliability and it was excluded from the analysis. The reliability of the scale then increased ($\alpha=.73$). The remaining responses within each dimension were then averaged to generate aggregate scores.

Discourse manipulations

To develop my experimental manipulations, I have started with the conclusions of Seidel (1993) and attempted to *reverse engineer* a set of news articles that could have led to such conclusion. I have used the framework of *Who, What, When, Where, Why and How* (Pan &

Kosicki, 1993), setting up the meaning each of these cues should have in either discourse identified by Seidel (Table 1). Subsequently, I have search the NEXIS database of news article. Search terms *Africa, AIDS* and *Africa, AIDS* and *activism* were used and 32 articles were selected. A subset of 75 fragments with the potential to represent either discourse was selected for detailed evaluation.

Fragment as a unit of analysis was selected for two reasons: a) being short enough, several paragraphs from multiple articles can be presented to a single participant, allowing for randomization, b) at the same time, fragments are long enough to provide a small narrative, creating meanings of cues. The final argument is, that in the real life, people can be expected to encounter similar materials on the internet – either browsing through the web or in their news feeds. Therefore, it might not be very unrealistic to provide the participants only with fragmented information, instead of more coherent wholes.

I have subjectively evaluated every fragment on the *Who, What, When, Where, Why and How* categories. When the fragment could be used to answer any of these questions in line with the meanings summarized in Table 2, it received either a C(ontrol) or (E)mpoverment value in that category. Using these scores, fragment were selected to constitute experimental manipulations. The following criteria were used: The fragments that had 4 or 5 letters of the same discourse were selected for that discourse automatically. Those that scored only 3 were reassessed and only those subjectively considered to provide good examples of the discourses were selected. Fragments with scores from both discourses were excluded. In the end, 14 fragments were selected to represent the Control discourse and 16 the Empowerment discourse (for the selected fragments, see the appendix).

Results

Analysis plan

To test my first hypothesis that discourse can result in different construals of social situation, I decided to run a MANOVA and assess how much variance in situation construal can be attributed to discourse. Besides testing a theoretical account of imagined interdependence, this test is also intended to explore the viability of studying discourse as a potential source of situation construal. This potential will be assessed through observed effect size in the MANOVA.

Series of independent sample t-tests will be conducted to assess the direction of effect of discourse and test hypotheses derived from the FIT.

Finally, a prediction that mood narrows focus on the presented discourse will be tested using ten Levene's tests, comparing the two mood conditions in 2 (Discourse) x 5 (Dimension of interdependence) categories.

Power analysis

As there is no prior research on this topic, there are no estimates of expectable effect sizes. Given the scope and resources of my research, computing required sample size to detect a small-to-medium effect at $\beta=.80$ would have resulted in unrealistic required sample size. Therefore, midway through data collection, a preliminary data analysis was conducted instead. The results of the preliminary analysis were used to estimate effect sizes for a power analysis to compute required sample size. Observed effects in the final sample will be then contrasted with those used in a priori power analysis. Although observed power can be seen as little more than

another expression of p-values (Lakens, 2014), I will report it to contrast final power estimates to those set up with original effect-estimate benchmark.

As having an idea about test sensitivity would be most relevant in pairwise comparisons, I have compared mean scores on the five dimensions of interdependence between the Control and Empowerment discourses. The total sample size was rather small and the sample sizes differed between conditions, ($N_{Control}= 31$; $N_{Empowerment}= 23$), possibly due to a higher dropout rate in one of the conditions, so I have computed Hedge's g (Lakens, 2013) with the following absolute effect sizes: *Future interdependence* ($g = .63$), *Interdependence* ($g = .80$), *Conflict* ($g = .66$), *Information certainty* ($g = .74$) and *Power* ($g = .44$).

Planning to run five tests, I have decided to use a correction for multiple comparisons. Running a partly exploratory study, I have used Benjamini-Hochberg procedure instead of the more conservative Bonferroni (Glickman, Rao & Schultz, 2014). Using the G*Power software, I have used the following parameters for computing my required sample size: independent sample two-tailed t-test ($d=.65$; $\alpha=.03$; $\beta=.80$; allocation ratio = 1.3). The required sample size was $N=90$.

Differences between discourses

Scores on the five dimensions were tested for normality over the two *Discourse* conditions using the Shapiro-Wilk test. After correcting significance threshold for multiple tests, the data appeared to be normally distributed across dimensions and conditions ($p>.005$).

First, a MANOVA was run with 5 dimensions of interdependence as dependent variables and Discourse manipulation as independent variable. The effect of discourse was large and significant ($F(5,84)=3.14$, $p<.05$, $\eta^2_p=.16$), meaning that discourse explained a substantial amount of variance in people's construals of interdependence

A follow-up series of five t-tests was conducted to compare scores on the five dimensions of interdependence between *Discourse* conditions. Using the Benjamini-Hochberg correction, *Interdependence* ($t(88)=-2.81, p<.03, 95\% \text{ CI } [-.52, -.09]$) and *Information certainty* ($t(88)= 2.4, p<.035, 95\% \text{ CI } [.06, .59]$) displayed significant differences, *Future interdependence* ($t(88)=-1.77, p=.08, 95\% \text{ CI } [-.47, .03]$) and *Conflict* ($t(88)=1.77, p=.08, 95\% \text{ CI } [-.03, .55]$) showed marginally significant differences, and *Power* ($t(88)= 1.53, p>.05, 95\% \text{ CI } [-.08, .59]$) did not display a significant difference. People in *Control* condition scored higher on *Interdependence* and lower on *Information certainty*, appeared to score higher on *Future interdependence* and lower on *Conflict* and did not differ from *Empowerment* condition in *Power*.

The observed effect sizes and power were lower than expected in the preliminary power analysis: *Future interdependence* ($g = -.37, \beta=.48$), *Interdependence* ($g = -.59, \beta=.79$), *Conflict* ($g = .37, \beta=.42$), *Information certainty* ($g = .51, \beta=.66$) and *Power* ($g = .32, \beta=.32$).

	<i>Control</i>		<i>Empowerment</i>	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Future interdependence	4.36	.55	4.13	.63
Interdependence	4.38	.45	4.07	.56
Conflict	2.93	.71	3.19	.68
Information certainty	2.46	.62	2.78	.65
Power	3.70	.83	3.95	.77

Table 4 displays estimated means and standard deviations for the five dimensions of interdependence within the two *Discourse* conditions.

Figure 3. Horizontal axis displays five dimension of interdependence. Vertical axis shows mean estimates for two experimental conditions: Empowerment and Control (original scales ranging from 0-5). Error bars display 95% confidence intervals of the estimated means.

Effects of mood

A Levene's test for equality of variance was conducted comparing two Mood conditions across all five Dimensions of interdependence x Discourse condition. After correcting the alpha levels for multiple comparisons, no results were significant in both *Control* condition: *Future interdependence* ($F=.15, p=.70$), *Interdependence* ($F=4.30, p=.04$), *Conflict* ($F=1.91, p=.17$), *Information certainty* ($F=.07, p=.79$), *Power* ($F=.03, p=.85$) and *Empowerment* condition: *Future*

interdependence ($F=.91, p=.34$), *Interdependence* ($F=2.65, p=.11$), *Conflict* ($F=.03, p=.87$), *Information certainty* ($F=.40, p=.54$) and *Power* ($F=1.45, p=.23$).

A post-hoc two-way MANOVA to assess possible effects of mood on dimensions of interdependence was conducted with interaction of mood and discourse condition. Main effect of discourse remained large and significant ($F(5,82)=2.98, p<.05, \eta^2_p=.15$), but there was no main effect of mood ($F(5,82)=.68, p>.1, \eta^2_p=.04$), nor interaction of mood and discourse ($F(5,82)=1.50, p>.1, \eta^2_p=.08$).

Discussion

I have tested whether different discourses can result in different mental representations of interdependence. I have also tested, whether the patterns of interdependence in these representations can be predicted from knowledge about the discourse. Finally, I tried to manipulate processing of the discourse via mood adjustment.

The experiment provided a strong corroboration of my first hypothesis (H1). I found a large and significant effect of discourse on scores of the five dimensions of interdependence. People who read articles from the same discourse created mental representations more consistent with each other than with people exposed to other discourse. In other words, the mental representations of interdependence people create seem to emerge from discourse in which a situation was presented.

Testing the two hypotheses about the predicted direction of effects yielded weaker results. As predicted in hypothesis H2a, people who read the *Empowerment* discourse excerpts displayed higher perception of conflict in the situation. The difference was only marginally significant. However, both the confidence interval and observed effect size suggest that the lack of statistical significance might be only a result of low power. It seems that people who read materials from the *Control* discourse saw less conflicting interests between the sick and the government than people who read the *Empowerment* discourse materials.

Difference in *Information certainty* was large and significant, as predicted in H2b. However, it had opposite direction to the one I predicted. One explanation might be, that as discourse of Empowerment gives voice to both sides of the situation, it also creates the impression of high information certainty between the actors, as the reader knows what their demands and intentions are. The observed effect suggest that exposure to the *Empowerment*

discourse results in a construal of situation where both the government and the sick know what each other wants better, than in a situation construed by the *Control* discourse.

Finally, negative mood did not reduce variance in answers within discourse manipulations and H3 had to be rejected. Manipulating mood did not reduce the individual noise in situation construal. H3 was based on a conjunction of statements: a) negative mood narrows individual focus, and b) individual interpretations result in inter-individual differences in situation construal. The observed lack of effect therefore must be interpreted as either only a), only b), or neither a), nor b) are true. Given the apparent robustness of a), I suggest cognitive processes such as relating discourse to prior knowledge or mind wandering are not behind individual differences in situation construal. An alternative account of how people participate in meaning making needs to be proposed.

Caveats

The first major caveat comes from the interdisciplinary nature of this paper and refers to the lacking depth of work with discourse analysis. My discourse analysis revolved around subjective evaluations of meanings within a simple framework based on theoretical literature. It might well be argued that the replicability of my manipulation development would have been better with more complex methodology, relying less on subjective assessments and more on objective structures in the texts (for instance the co-occurrence of certain words). Indeed, this paper should be ultimately read rather as an offer of interdisciplinary collaboration than a complete work in itself.

Another caveat of my experiment is the imbalance between lengths of texts used as manipulations in the two conditions. It could be argued that the length and complexity of

paragraphs are not coincidental, actually reflecting some parts of the Empowerment discourse, but it is difficult to find clear theoretical reasons for such arguments.

Some critique might address the use of mood as a manipulation of focus – not only based on criticizing the assumed phenomenon of narrowing focus by negative mood: Some could argue that mood introduced systematic variance into the data. I have post-hoc tested for this possibility and found no significant effects. Due to the limited resources of this study, mood manipulation was introduced when simultaneously testing other hypotheses (H1, H1a and H1b). In an ideal paper, effects of mood would be examined in a separate study.

Finally, my use of the SIS might be slightly problematic, as the scale was originally developed for bilateral situations involving the *self* and one *other*. Not only using it for groups, but replacing the original actors by two third-parties might not be a valid use of the scale and if possible, an alternative for multilateral interdependence should be developed for similar situations – as interdependence can take place between more than two parties (for instance rural population, urban population and governments) and on multiple levels (between individuals within groups, but also between groups or institutions – for situations with multilevel interdependence, see Bornstein, 2003) . This point also relates to the possible critique of limiting the situation to the *sick* and the *governments*. Not only reducing the situation to these two parties, but also using the particular labels could have imposed some meanings on the participants. For example, calling one party “the sick” already draws on some pre-established meanings related to defining AIDS epidemics in medical rather than humanitarian terms. It is therefore a relevant point of critique and should be answered in any future research.

Implications and future research

This research started with a threefold aim: Test the FIT, suggest bringing sciences from two different strands of ontology into a common research program, and finally, try to form grounds for translating document analysis into claims about human behaviour. In relation to each point, the result suggest the following (respectively):

First: Testing two predictions about the direction of effects yielded ambivalent results. Taking into account that the prediction about *conflict* was both more strongly based in FIT and seemed to hold under the empirical test gives reasons for optimism. FIT is in an early phase of development and currently does not offer an exhaustive account of cues that should result in varying perceptions of *Information certainty*. Therefore, the predictions about differences of discourses on this scale were based on some general conceptual considerations coming from the discourse, rather than on the account provided by FIT.

Second: Finding a large overall effect of discourse is in turn evidence for a great opportunity for bringing together worlds of discourse analysis and experimental research. I have shown that the situations people imagined strongly differed under the two discourses. Discourse of *Control* produced a mental representation of more interdependent and less conflicting parties, whereas discourse of *Empowerment* resulted in lower interdependence, yet more conflicting interests. Ultimately, these are two differing situation created merely in the world of language and communication. In the first world, cooperative outcome might be far more expectable, than in the latter, paradoxically making *Control* appear more opened to solutions than *Empowerment*. It is upon future research to take these methods and findings one step further and explore the behavioural implications of such representations. So far, it appears that discourse strongly matters to how people imagine interdependence. Now, we need to understand how.

Finally, my research shows that representations emerging from discourse do not have to be described merely by scholarly claims and interpretations, but could be studied on a larger scale in the minds of real people out in the open – in psychological laboratories.

I suggest two directions in which discourse could be further studied in experimental settings. The main division lies between qualitative and quantitative methodologies. Following the qualitative path, statements about discourse itself could be considered as subjective interpretations. Then, instead of developing replicable methods for analysing documents, focus should be turned to developing replicable methods for extracting judgements from scholars conducting qualitative research. For instance by independently asking several scholars to group pre-selected documents based on their analysis and then aggregating their judgements could be a solution to this problem. Alternatively, many quantitative methods have been developed for analysing document contents, even on a large scale (see Collingwood, Jurka, Boydston, Grossman & Van Atteveldt, 2013, for example). Quantifying the process might lose some of the sensitivities of qualitative methodologies and would require stronger theoretical grounds. But it could offer much easier replicability and formulations of more detailed hypotheses. For instance, by varying strength of connections between some words, we could make concrete predictions about what meanings these words should have and in turn, derive hypothesis about what construals of interdependence they will result in.

Conclusion

I have shown there is a large potential for experimental studies of mental representations of situations emerging from discourse. Answering my research questions, I claim that discourse plays a role in the way people construe mental representations of interdependence, but more research is needed to answer the question *how*. People exposed to discourse of Control about HIV/AIDS in Sub-Saharan Africa displayed different representations of interdependence than people in the Empowerment condition. Mood did not result in reduced variability within conditions. More theoretical work is needed to build stronger grounds for making predictions about imagined interdependence emerging from discourse.

References

- Anderson, B. (2006). *Imagined communities: Reflections on the origin and spread of nationalism*. Verso Books.
- Armitage, C. J., Conner, M., & Norman, P. (1999). Differential effects of mood on information processing: Evidence from the theories of reasoned action and planned behaviour. *European Journal of Social Psychology*, 29(4), 419-433.
- Balliet, D., Tybur, J. M., & Van Lange, P. A. (2016). Functional Interdependence Theory An Evolutionary Account of Social Situations. *Personality and Social Psychology Review*, 1088868316657965.
- Bauer, M. W., & Gaskell, G. (2008). Social representations theory: A progressive research programme for social psychology. *Journal for the theory of social behaviour*, 38(4), 335-353.
- Bornstein, G. (1992). The free-rider problem in intergroup conflicts over step-level and continuous public goods. *Journal of Personality and Social Psychology*, 62(4), 597.
- Bornstein, G. (2003). Intergroup conflict: Individual, group, and collective interests. *Personality and social psychology review*, 7(2), 129-145.
- Bramwell, A.(1989) *Ecology in the 20th Century, A History*. New Haven & London: Yale University Press.
- Collingwood, L., Jurka, T., Boydston, A. E., Grossman, E., & van Atteveldt, W. H. (2013). RTextTools: A supervised learning package for text classification. *The R Journal*, 5(1), 6-13.

- De Dreu, C. K., Gross, J., Méder, Z., Giffin, M., Prochazkova, E., Krikeb, J., & Columbus, S. (2016). In-group defense, out-group aggression, and coordination failures in intergroup conflict. *Proceedings of the National Academy of Sciences*, 201605115.
- Fairclough, N. (1992) *Discourse and Social Change*. Cambridge: Polity.
- Fosgaard, T. R., Hansen, L. G., & Wengström, E. (2017). Cooperation, framing and political attitudes. *Department of Economics, Lund University Working Papers*, 2017(4).
- Fredrickson, B. L. (2004). The broaden-and-build theory of positive emotions. *Philosophical transactions-royal society of london series b biological sciences*, 1367-1378.
- Gable, P., & Harmon-Jones, E. (2010). The blues broaden, but the nasty narrows: Attentional consequences of negative affects low and high in motivational intensity. *Psychological Science*, 21(2), 211-215.
- Gerpott, F., Balliet, D., & de Vries, R. (*under review*). How Do People Think About Interdependence? Testing a Multidimensional Model of Subjective Outcome Interdependence.
- Glickman, M. E., Rao, S. R., & Schultz, M. R. (2014). False discovery rate control is a recommended alternative to Bonferroni-type adjustments in health studies. *Journal of clinical epidemiology*, 67(8), 850-857.
- Halevy, N., Bornstein, G., & Sagiv, L. (2008). “In-group love” and “out-group hate” as motives for individual participation in intergroup conflict: A new game paradigm. *Psychological science*, 19(4), 405-411.
- Halevy, N., Chou, E. Y., & Murnighan, J. K. (2012). Mind games: the mental representation of conflict. *Journal of personality and social psychology*, 102(1), 132.

- Halevy, N., Cohen, T. R., Chou, E. Y., Katz, J. J., & Panter, A. T. (2014). Mental models at work: Cognitive causes and consequences of conflict in organizations. *Personality and Social Psychology Bulletin*, 40(1), 92-110.
- Halevy, N., & Katz, J. J. (2013). Conflict templates thinking through interdependence. *Current Directions in Psychological Science*, 22(3), 217-224.
- Halevy, N., Sagiv, L., Roccas, S., & Bornstein, G. (2006). Perceiving intergroup conflict: From game models to mental templates. *Personality and Social Psychology Bulletin*, 32(12), 1674-1689.
- Höijer, B. (2011). Social representations theory. *Nordicom review*, 32(2), 3.
- Huntsinger, J. R. (2013). Does emotion directly tune the scope of attention?. *Current Directions in Psychological Science*, 22(4), 265-270.
- Jaeger, B., & Gerlach, P. (2016, December 30). Another frame, another game? Explaining framing effects in economic games. Retrieved from osf.io/preprints/socarxiv/yf36n
- Joffe, H. (1995). Social representations of AIDS: Towards encompassing issues of power. *Papers on Social representations*, 4(1), 29-40.
- Johnstone, B. (2005) Discourse Analysis and Narrative, in *The Handbook of Discourse Analysis* (eds D. Schiffrin, D. Tannen and H. E. Hamilton), Blackwell Publishers Ltd, Malden, Massachusetts, USA. doi: 10.1002/9780470753460.ch33
- Kharsany, A. B., & Karim, Q. A. (2016). HIV infection and AIDS in Sub-Saharan Africa: current status, challenges and opportunities. *The Open AIDS Journal*, 10, 34.
- Kim, Y. J. (2006). The role of regulatory focus in message framing in antismoking advertisements for adolescents. *Journal of Advertising*, 35(1), 143-151.

- Lakens, D. (2013). Calculating and reporting effect sizes to facilitate cumulative science: a practical primer for t-tests and ANOVAs. *Frontiers in psychology*, 4, 863.
- Lakens, D. (2014, December 19). Observed power, and what to do if your editor asks for post-hoc power analyses [Bog post]. Retrieved from <http://daniellakens.blogspot.nl/2014/12/observed-power-and-what-to-do-if-your.html>
- Lench, H. C., Flores, S. A., & Bench, S. W. (2011). Discrete emotions predict changes in cognition, judgment, experience, behavior, and physiology: a meta-analysis of experimental emotion elicitations. *Psychological bulletin*, 137(5), 834.
- Lewin, K. (1936). *Principles of topological psychology*. McGraw-Hill Book Company, Inc.
- Liberman, V., Samuels, S. M., & Ross, L. (2004). The name of the game: Predictive power of reputations versus situational labels in determining prisoner's dilemma game moves. *Personality and social psychology bulletin*, 30(9), 1175-1185.
- Moscovici, S. (1988). Notes towards a description of social representations. *European journal of social psychology*, 18(3), 211-250.
- Nabi, R. L. (1999). A cognitive-functional model for the effects of discrete negative emotions on information processing, attitude change, and recall. *Communication theory*, 9(3), 292-320.
- Pan, Z., & Kosicki, G. M. (1993). Framing analysis: An approach to news discourse. *Political communication*, 10(1), 55-75.
- Potter, J., & Edwards, D. (1999). Social representations and discursive psychology: From cognition to action. *Culture & Psychology*, 5(4), 447-458.
- Reis, H. T. (2008). Reinvigorating the concept of situation in social psychology. *Personality and Social Psychology Review*.

- Rauthmann, J. F., Sherman, R. A., & Funder, D. C. (2015). Principles of situation research: Towards a better understanding of psychological situations. *European Journal of Personality*, 29(3), 363-381.
- Sadowski, J., Spierre, S. G., Selinger, E., Seager, T. P., Adams, E. A., & Berardy, A. (2015). Intergroup cooperation in common pool resource dilemmas. *Science and engineering ethics*, 21(5), 1197-1215.
- Said, E. W. (1978). *Orientalism*. New York: Pantheon Books.
- Seidel, G. (1993). The competing discourses of HIV/AIDS in sub-Saharan Africa: discourses of rights and empowerment vs discourses of control and exclusion. *Social Science & Medicine*, 36(3), 175-194.
- Snow, D. A. (2001). Extending and broadening Blumer's conceptualization of symbolic interactionism. *Symbolic interaction*, 24(3), 367-377.
- Tversky, A., & Kahneman, D. (1981). The framing of decisions and the psychology of choice. *Science*, 211 (4481), 453-458.
- Uddenberg, S., & Shim, W. M. (2015). Seeing the world through target-tinted glasses: Positive mood broadens perceptual tuning. *Emotion*, 15(3), 319.
- Van Atteveldt, W., Ruigrok, N., & Kleinnijenhuis, J. (2006). Associative framing: A unified method for measuring media frames and the media agenda. *International Communication Association (ICA)*.
- Wildschut, T., & Insko, C. A. (2007). Explanations of interindividual–intergroup discontinuity: A review of the evidence. *European review of social psychology*, 18(1), 175-211.

Wildschut, T., Pinter, B., Vevea, J. L., Insko, C. A., & Schopler, J. (2003). Beyond the group mind: a quantitative review of the interindividual-intergroup discontinuity effect.

Psychological Bulletin, 129(5).