



CATO-2 Deliverable WP5.4-D02

Progress report on first year of WP 5.4

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A handwritten signature in blue ink, likely belonging to J. Brouwer.

1 Executive Summary (public)

This document contains the progress report on the first year of the CATO-2 WP5.4 PhD project “Resistance of valid beliefs about CCS against low quality information”. PhD student Charlotte Koot started working on the project on August 16th 2010. The planned work for this work package is fundamental in nature, and aims to identify elements of communication that influence whether people are able to form definite –or closed– opinions about CCS. Because definite opinions are more closed-off, they are relatively stable. Consequently, definite opinions are predictive of actual support of, or opposition to, CCS.

PhD student Koot spent the first weeks of her appointment getting acquainted with the topic of CCS and the relevant scientific literature. In October 2010, PhD student Koot conducted her first experiment. In this study she compared the effects of different alleged sources of CCS information (experts versus non-experts) on people’s self-perceived ability to form closed opinions about the technology. A follow-up study was conducted in November/December 2010. In both studies, we systematically varied the alleged information source, and presented participants with either a certified group of experts (e.g., an association of geophysicists) or a group of non-experts (e.g., a citizens association) as the source of the information. We examined whether this affects the likelihood that people expect to feel able to form an opinion and close their minds about CCS on the basis of the information provided (i.e., that people feel able to achieve a state of cognitive closure). As expected, participants reported higher levels of expertise for the expert source than for the non-expert source. The combined results of the two studies further indicate that expert information is no guarantee for formation of a definite opinion: Under certain circumstances, non-expert information can be perceived as being even more helpful in forming definite opinions than expert information. In November 2010, Charlotte Koot presented the results of Study 1 and the design of Study 2 at the social cognition research meeting of the Kurt Lewin Institute (see “Presentations”). To further examine this issue and gain understanding of the conditions under which expert information does and does not lead to achievement of a state of cognitive closure regarding CCS, follow-up studies in this line of research are planned in fall 2011. In addition to examining antecedents of the ability to achieve cognitive closure, PhD student Koot also studied how people’s ability to achieve cognitive closure affects their cognition and behavior. Two experimental studies have been conducted in this line of research so far; the first in March 2011 and the second in May 2011. These studies demonstrate how people’s perception of their own ability to make up their minds about CCS (i.e. their level ability to achieve closure), or their perceived ability to achieve closure, manifests itself during attitude formation and affects the extent to which people are able to form closed attitudes. Results suggest effects in the expected direction on both cognitive measures as well as on behavioral measures. Participants in the high ability to achieve closure condition for instance felt that they were more able to form a certain and closed opinion, and were more often ready to cast their vote in a poll regarding the implementation of CCS than participants in the low ability to achieve closure condition. The results of the two studies of research line 2 have been written up in a paper during the summer (see WP5.4-D03) and will be submitted to a high-impact journal. Also Koot has been accepted to present her work at the annual conference of the national association of work and organizational psychology (WAOP) in November 2011. Finally, PhD student Koot had been accepted to present an overview of her WP5.4 research and research plans at the 2nd One-Day Research Student Conference: Human Behaviour and Climate Change in September in Cardiff, UK (see “Presentations accepted”).



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Document Change Record

(this section shows the historical versions, with a short description of the updates)

Version	Nr of pages	Short description of change	Pages



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2 Applicable/Reference documents and Abbreviations

2.1 Applicable Documents

(Applicable Documents, including their version, are documents that are the “legal” basis to the work performed)

	Title	Doc nr	Version
AD-01a	Beschikking (Subsidieverlening CATO-2 programma verplichtingnummer 1-6843	ET/ED/9078040	2009.07.09
AD-01b	Wijzigingsaanvraag op subsidieverlening CATO-2 programma verplichtingennr. 1-6843	CCS/10066253	2010.05.11
AD-01c	Aanvraag uitstel CATO-2a verplichtingennr. 1-6843	ETM/10128722	2010.09.02
AD-01d	Toezegging CATO-2b	FES10036GXDU	2010.08.05
AD-01f	Besluit wijziging project CATO2b	FES1003AQ1FU	2010.09.21
AD-02a	Consortium Agreement	CATO-2-CA	2009.09.07
AD-02b	CATO-2 Consortium Agreement	CATO-2-CA	2010.09.09
AD-03a	Program Plan 2009	CATO2-WP0.A-D.03	2009.09.17
AD-03b	Program Plan 2010	CATO2-WP0.A-D.03	2010.09.30
AD-03c	Program Plan 2011	CATO2-WP0.A-D.03	2010.12.07

2.2 Reference Documents

(Reference Documents are referred to in the document)

	Title	Doc nr	Issue/version	date
RD-01	Consequences of the ability to achieve closure for cognition and behavior	CATO2-WP5.4-D03-REP-v2011.08.31.doc	1	2010.08.31

2.3 Abbreviations

(this refers to abbreviations used in this document)

SP	Sub-program
WP	Work Package
EB	Executive Board
N/A	Not applicable
CCS	Carbon dioxide capture and storage

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Reporting period: August 2010 till August 2011
Work Package: 5.4
WP leader: Prof. dr. Naomi Ellemers, Leiden University
SP leader: Dr. Dancker Daamen, Leiden University
Participants: Leiden University, DCMR, Shell

Main objectives of WP5.4

The first objective of WP5.4 “Resistance of valid beliefs about CCS against low quality information” is to identify elements of communication procedures that make people more sensitive to the quality of information provided (so that they learn to distinguish between valid and invalid information about CCS risks). The second objective is to test the resistance of valid beliefs about the consequences of CCS against subsequent provision of low quality information (e.g. in the media). These objectives will be pursued by means of experimental studies.

Expert information formally provided by CCS stakeholders may have less influence on public beliefs than lay information, as provided in the media, or informal communications among members of the general public. While people normally tend to attach more importance to expert information, results of studies carried out in the context of CATO-1 indicate that in the case of CCS communication the characteristics of the source of information (such as its perceived trustworthiness) may be more important than the content of the information provided, because the topic under consideration is novel and complex. As a result, when CCS stakeholders are perceived as being untrustworthy (e.g., because they are seen as being primarily driven by economic motives) people dismiss the expert information provided by these stakeholders. Instead, they focus on information provided by parties they perceive as having less of an interest in the implementation of CCS, even if this information of lesser quality is provided by lay people or journalists. To identify elements of communication that make people more sensitive to the quality of the information provided, experimental studies will systematically examine elements of communication that contribute to this sensitivity (e.g. identity of the information source). Knowledge acquired regarding communication elements that make people more sensitive to information quality can be applied to the development of new communication procedures. Therefore, the second objective will be pursued by testing whether communication procedures that help people focus on quality of information also make them more resistant against invalid information they receive later (e.g., in the media).

Progress

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PhD student Koot spent the first weeks of her appointment getting acquainted with the topic of CCS and the relevant scientific literature. In October 2010, PhD student Koot conducted her first experiment. In this study she compared the effects of different alleged sources of CCS information (experts versus non-experts) on people’s self-perceived ability to form closed opinions about the technology. A follow-up study was conducted in November/December 2010. In

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both studies, we systematically varied the alleged information source, and presented participants with either a certified group of experts (e.g., an association of geophysicists) or a group of non-experts (e.g., a citizens association) as the source of the information. We examined whether this affects the likelihood that people expect to feel able to form an opinion and close their minds about CCS on the basis of the information provided (i.e., that people feel able to achieve a state of cognitive closure). As expected, participants reported higher levels of expertise for the expert source than for the non-expert source. The combined results of the two studies further indicate that expert information is no guarantee for formation of a definite opinion: Under certain circumstances, non-expert information can be perceived as being even more helpful in forming definite opinions than expert information. In November 2010, Charlotte Koot presented the results of Study 1 and the design of Study 2 at the social cognition research meeting of the Kurt Lewin Institute (see "Presentations"). To further examine this issue and gain understanding of the conditions under which expert information does and does not lead to achievement of a state of cognitive closure regarding CCS, follow-up studies in this line of research are planned in fall 2011. In addition to examining antecedents of the ability to achieve cognitive closure, PhD student Koot also studied how people's ability to achieve cognitive closure affects their cognition and behavior. Two experimental studies have been conducted in this line of research so far; the first in March 2011 and the second in May 2011. These studies demonstrate how people's perception of their own ability to make up their minds about CCS (i.e. their level ability to achieve closure), or their perceived ability to achieve closure, manifests itself during attitude formation and affects the extent to which people are able to form closed attitudes. In both studies, we put participants in a high versus low state of ability to achieve closure. They then received a brief text with general information in CCS, and were presented with cognitive measures of certainty and difficulty regarding opinion formation and level of cognitive closure (e.g., a questionnaire that had been used in previous research measuring participants' ability to form an opinion and close their minds about CCS on the basis of the information provided) and with behavioral measures of opinion certainty and level of cognitive closure (e.g., readiness to participate in a poll on the implementation of CCS). Results suggest effects in the expected direction on both cognitive measures as well as on behavioral measures. Participants in the high ability to achieve closure condition for instance felt that they were more able to form a certain and closed opinion, and were more often ready to cast their vote in a poll regarding the implementation of CCS than participants in the low ability to achieve closure condition. The results of the two studies of research line 2 have been written up in a paper during the summer (see WP5.4-D03) and will be submitted to a high-impact journal. Also, Koot has been accepted to present the results at the annual conference of the national association of work and organizational psychology (WAOP) in November 2011.

Finally, PhD student Koot had been accepted to present an overview of her WP5.4 research and research plans at the 2nd One-Day Research Student Conference: Human Behaviour and Climate Change in September in Cardiff, UK (see "Presentations accepted").

Key decisions taken (go - no go)

None

Main problems encountered (delays, ...)

None

Changes in work plan?

No

Patents applied for

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None

Organizational aspects

Charlotte Koot's WP 5.4 PhD research is supervised by Naomi Ellemers (promotor) and Emma ter Mors (co-promotor).

Internal WP meetings held (results?)

Weekly WP5.4 meetings where the progress and next steps in the implementation of this project are discussed (Koot, Ellemers, Ter Mors; occasionally accompanied by incidental supervisors Daamen and Terwel)

Relevant meetings with external parties (results?)

None

Personnel changes

No changes

Deliverables due

Deliverable	Title	Due date	Status/remark
CATO2-WP5.4-D01	Progress report on first (quarter) of this PhD project (including detailed description of planned research written by senior researchers)	31/Aug/2010	Report delivered on August 31st, 2010. Public.
CATO2-WP5.4-D02	Progress report on the first year of this PhD project	30/Aug/2011	Report delivered on August 30 th , 2011, public. Original due date was 15/Apr/2011 but because this PhD project started only in August 2010, the due date was postponed by 4,5 months with permission of program office (Hopman).
CATO2-WP5.4-D03	Paper on: Resistance of valid beliefs about CCS against low quality information	31/Aug/2011	Delivered on August 31 st , 2011. Public
CATO2-WP5.4-D04	Paper on: Resistance of valid beliefs about CCS against low quality information	Year 3	Public
CATO2-WP5.4-D05	Paper on: Resistance of valid beliefs about CCS against low quality information	Year 4	Public

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CATO2-WP5.4-D06	PhD thesis on: Resistance of valid beliefs about CCS against low quality information	Year 5	Public
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Workshops held, or expected

In December 2010, Koot attended the national conference of the Association of Social Psychological Researchers (ASPO) in Enschede.

Koot also became a member of The Kurt Lewin Institute (KLI). The KLI offers a 4-year inter-university teaching and training program in the field of social and organizational psychology. PhD students following this program participate in specialist and general courses throughout the 4-year period.

Presentations and papers

Presentations held: where, when, which subject?

In November 2010, Charlotte Koot presented the results the two studies on the effects of different alleged sources of CCS information (experts versus non-experts) on people's self-perceived ability to form closed opinions about CCS at the social cognition research meeting of the Kurt Lewin Institute.

Presentations submitted

N/A

Presentations accepted: where, when, which subject?

An abstract has been accepted by the 2nd One-Day Research Student Conference: Human Behaviour and Climate Change, September 22nd, 2011 in Cardiff, UK. The title of the abstract is "Attitude Formation about Environmental Technologies" and will discuss the research and research plans of WP5.4.

Another abstract has been accepted by the annual conference of the national association of work and organizational psychology (WAOP) which will take place in Tilburg in November 25th, 2011. The title of the abstract is "Consequences of the Ability to Achieve Closure for Cognition and Behavior" and concerns the results of the experiments on which cognitions and behaviors are affected by high versus low ability to achieve cognitive closure.

Interviews given: where, when, published?

N/A

Papers submitted: title, journal, date

N/A

Papers accepted: title, journal, date

N/A

Need for actions / decisions by CATO management or Steering Committee

None