



UvA-DARE (Digital Academic Repository)

CNV, LRP, and ERN/PE effects in the Differentiation-of-Deception Paradigm

Suchotzki, K.; Verschuere, B.; Smulders, F.; Meijer, E.; Crombez, G.

DOI

[10.1111/j.1469-8986.2012.01440.x](https://doi.org/10.1111/j.1469-8986.2012.01440.x)

Publication date

2012

Document Version

Final published version

Published in

Psychophysiology

[Link to publication](#)

Citation for published version (APA):

Suchotzki, K., Verschuere, B., Smulders, F., Meijer, E., & Crombez, G. (2012). CNV, LRP, and ERN/PE effects in the Differentiation-of-Deception Paradigm. *Psychophysiology*, *49*(S1), S32. <https://doi.org/10.1111/j.1469-8986.2012.01440.x>

General rights

It is not permitted to download or to forward/distribute the text or part of it without the consent of the author(s) and/or copyright holder(s), other than for strictly personal, individual use, unless the work is under an open content license (like Creative Commons).

Disclaimer/Complaints regulations

If you believe that digital publication of certain material infringes any of your rights or (privacy) interests, please let the Library know, stating your reasons. In case of a legitimate complaint, the Library will make the material inaccessible and/or remove it from the website. Please Ask the Library: <https://uba.uva.nl/en/contact>, or a letter to: Library of the University of Amsterdam, Secretariat, Singel 425, 1012 WP Amsterdam, The Netherlands. You will be contacted as soon as possible.

Poster 1-44

CNV, LRP, AND ERN/PE EFFECTS IN THE DIFFERENTIATION-OF-DECEPTION PARADIGM

Kristina Suchotzki¹, Bruno Verschuere², Fren Smulders³, Ewout Meijer³,
& Geert Crombez¹

¹Ghent University, ²University of Amsterdam, ³Maastricht University

Descriptors: Differentiation-of-Deception, Lying, ERPs

The Differentiation-of-Deception paradigm is unique in that the experimental (lie) and control (truth) condition differ only in the crucial variable: Deception. In this study, we extended the paradigm to gain insight in the cognitive mechanisms of deception using different event-related components: the Contingent Negative Variation (CNV), the Lateralized Readiness Potential (LRP) and error-related components, i.e., the Error-Related Negativity (ERN) and the Error Positivity (Pe). Twenty participants committed a mock crime and gave speeded yes/no responses to crime and control questions using left and right button presses. A question was presented (e.g., Did you steal a . . .) for 2000 ms, followed by a truth (T) or lie (L) cue. The cue was replaced after 1500 ms by a keyword (e.g., wallet), allowing participants to respond. The CNV was measured during the cue-keyword interval, the LRP during the keyword-response interval, and the ERN and the Pe after (correct) responses. In line with previous research, lying resulted in more errors and longer reaction times than truthful responses. Results revealed an enlarged frontal CNV after the lie cue, which might be interpreted as anticipation of a higher cognitive workload. The stimulus-locked LRP and the ERN did not differ between the lie and the truth condition. A larger Pe was found after lie responses compared to truth responses, which may indicate a conscious conflict between the lie response and the known truth.
