Abstract

Öhman, L. (2013). *All Ears: Adults' and Children's Earwitness Testimony*. Department of Psychology, University of Gothenburg, Sweden

Many crimes are committed under conditions of darkness, by masked perpetrators or over a phone. In such cases the witnesses' auditory observations may have a vital role in the investigative phase and in court. Nevertheless, earwitness testimony is a neglected research area. The present thesis investigated earwitnesses' (i) identification performance for an unfamiliar voice, (ii) memory for the perpetrator's statement, and (iii) ability to describe the voice. All four studies used the same general setup; exposure to an unfamiliar voice for 40 seconds, and an interview including a seven-voice lineup after a two week delay. High ecological validity was a specific aim across all studies. **Study I** explored the performance of children aged 7–9 ($N = 95$), 11–13 ($N = 78$), and adults ($N = 91$). Half were exposed to a Target-Present lineup (TP), and half to a Target-Absent lineup (TA). For both types of lineups the participants performed poorly. In the TP condition only the 11–13-year olds (27 % correct) performed above chance level. Furthermore, in the TA condition, all age-groups showed a high willingness to make an identification. **Study II** investigated the influence of presentation format (direct vs. mobile phone recorded voices) on voice recognition accuracy. The participating adults ($N = 165$) were assigned randomly to one of the four conditions (Initial exposure: direct vs. mobile phone recorded voice; Lineup presentation: direct vs. mobile phone recorded voices). The overall accuracy for correct identification was 13%, which is expected by chance. Further, the results did not reveal any significant effect of presentation format or lineup format. **Study III** compared three types of interviews intended to enhance witnesses' voice memory, as well as content recall. Additionally, an interview protocol developed by the Swedish Security Service, for questioning people that have only heard the perpetrator, was evaluated. After exposure, 11–13-year-olds ($N = 119$) and adults ($N = 93$) were interviewed, and returned after two weeks for an additional interview and a lineup. Overall performance for correct identifications was poor (children: 20%, adults: 19%), and an interview shortly after the witnessed event did not seem to help. The Cognitive Interview (vs. the Swedish Security Service protocol) was found to be beneficial for recalling the content of a brief conversation. **Study IV** investigated the effect of the perpetrator's *tone of voice* and *time delay* on voice recognition accuracy. Further, two types of voice description interviews intended to strengthen the encoding of the voice, were tested. Adults ($N = 148$) and 11–13-year-olds ($N = 160$) either heard the perpetrator speak in a normal tone both at encoding and in the lineup, or in an angry tone at encoding and in a normal tone in the lineup. Witnesses were then interviewed about the voice, either with global questions, or by rating voice characteristics. Half of the witnesses were presented with a lineup shortly after the interview and the others after two weeks. Overall, neither age-group performed above chance level (children: 13%, adults: 10%) and only time delay affected accuracy significantly. Children tested immediately performed better (21% correct) compared to those children tested after two weeks (9% correct). Further, voice descriptions were found to be poor. In sum, after testing a total of 949 witnesses under a number of different conditions, the message is clear; voice identification under reasonably realistic conditions is a highly difficult task. Actors in the legal system should therefore treat voice identification evidence with caution. For earwitnesses to be really useful we must find ways of improving their performance for voice identification, content recall, and voice descriptions.

Keywords: Earwitnesses, voice identification, content memory, voice descriptions, children

Lisa Öhman, Department of Psychology, University of Gothenburg, Box 500, SE-405 30 Gothenburg, Sweden. Phone: +46 31 786 19 34, E-mail: lisa.ohman@psy.gu.se

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Adults' and Children's Earwitness Testimony

Lisa Öhman
Department of Psychology, 2013

Avhandling för avläggande av filosofie doktorsexamen i psykologi, som med vederbörligt tillstånd av samhällsvetenskapliga fakulteten vid Göteborgs Universitet kommer att offentligen försvaras fredagen den 1 mars 2013 kl. 10.00 i sal F1, Psykologiska institutionen, Haraldsgatan 1, Göteborg.

Fakultetsopponent: Professor Daniel Yarmey, Department of Psychology, University of Guelph, Canada

Föreliggande uppsats grundar sig på följande fyra artiklar:

I. Öhman, L., Eriksson, A., & Granhag, P.A. (2011). Overhearing the planning of a crime: Do adults outperform children as earwitnesses? *Journal of Police and Criminal Psychology*, *26*, 118–127. doi: 10.1007/s11896-010-9076-5

II. Öhman, L., Eriksson, A., & Granhag, P.A. (2010). Mobile phone quality vs. direct quality: How the presentation format affects earwitness identification accuracy. *The European Journal of Psychology Applied to Legal Context, 2,* 161–182.

III. Öhman, L., Eriksson, A., & Granhag, P.A. (Available online: 27 Feb 2012). Enhancing adults' and children's earwitness memory: Examining three types of interviews. *Psychiatry, Psychology and Law*. doi: 10.1080/13218719.2012.658205

IV. Öhman, L., Eriksson, A., & Granhag, P.A. (2013). Angry voices from the past and present: Effects on adults' and children's earwitness memory. *Journal of Investigative Psychology and Offender Profiling*, *10*, 57–70. doi:10.1002/jip.1381

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