

Considering the native land of witnesses

Citation for published version (APA):

Anakwah, N. (2021). *Considering the native land of witnesses: Cultural influences on memory reports*. [Doctoral Thesis, Maastricht University, University of Portsmouth]. The House of Legal Psychology. <https://doi.org/10.26481/dis.20210921na>

Document status and date:

Published: 01/01/2021

DOI:

[10.26481/dis.20210921na](https://doi.org/10.26481/dis.20210921na)

Document Version:

Publisher's PDF, also known as Version of record

Please check the document version of this publication:

- A submitted manuscript is the version of the article upon submission and before peer-review. There can be important differences between the submitted version and the official published version of record. People interested in the research are advised to contact the author for the final version of the publication, or visit the DOI to the publisher's website.
- The final author version and the galley proof are versions of the publication after peer review.
- The final published version features the final layout of the paper including the volume, issue and page numbers.

[Link to publication](#)

General rights

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal.

If the publication is distributed under the terms of Article 25fa of the Dutch Copyright Act, indicated by the "Taverne" license above, please follow below link for the End User Agreement:

www.umlib.nl/taverne-license

Take down policy

If you believe that this document breaches copyright please contact us at:

repository@maastrichtuniversity.nl

providing details and we will investigate your claim.

**Considering the native land of witnesses:
Cultural influences on memory reports**

Nkansah Anakwah

Considering the native land of witnesses: Cultural influences on memory reports by Nkansah Anakwah

ISBN/EAN: 978-94-6416-631-6

Copyright © 2021 Nkansah Anakwah

All rights reserved. No part of this thesis may be reproduced, stored or transmitted in any way or by any means without the prior permission of the author, or when applicable, of the publishers of the scientific papers.

Cover design by Rita Sus (amusedanimal@gmail.com)

Layout and design by Birgit Vredenburg, persoonlijkproefschrift.nl

Printing: Ridderprint | www.ridderprint.nl

Considering the native land of witnesses:

Cultural influences on memory reports

To obtain the degree of Doctor of Philosophy from the University of
Portsmouth and the degree of Doctor at the Maastricht University,

on the authority of the Rector Magnificus,

Prof. dr. Rianne M. Letschert

in accordance with the decision of the Board of Deans,

to be defended in public

on Tuesday 21st of September 2021 at 16:00

by

Nkansah Anakwah



The House of
Legal Psychology

SUPERVISORS:

Prof. dr. Peter J. van Koppen

Maastricht University
and VU University Amsterdam
University of Portsmouth

Prof. dr. Lorraine Hope

Co-supervisor:

Dr. Robert Horselenberg

Maastricht University

Assessment Committee:

Prof. dr. Suzan van der Aa (**Chair**)

Maastricht University

Dr. Alistair Harvey

University of Portsmouth

Prof. dr. Schneider Hildegard

Maastricht University

Prof. dr. Corine de Ruiter

Maastricht University

Prof. dr. Brent Snook

Memorial University of
Newfoundland

Prof. dr. Renate Volbert

Psychologische Hochschule,
Berlin and Charité-
Universitätsmedizin Berlin

This research is supported by a fellowship from the Erasmus Mundus Joint Doctorate Program The House of Legal Psychology (EMJD-LP) awarded to Nkansah Anakwah (FPA 2013-0036 and SGA 532473-EM-5-2017-1-NL-ERA MUNDUS-EPJD).

TABLE OF CONTENTS

Chapter 1: General Introduction	11
Introduction	12
Considering non-WEIRD cultures: Eyewitness memory reports across cultures	13
Aims of the current thesis	14
The concept of culture	14
Power distance: Cross-cultural differences in relating to authority figures	16
Individualism-Collectivism	18
Self-construal: The independent-interdependent view of the self	18
Cross-cultural differences: Implications for cognition	21
Culture and memory	22
Overview of the current thesis	27
Chapter 2: Cross-cultural differences in eyewitness memory reports	31
Abstract	32
Introduction	33
The current research	35
Method	37
Participants and Design	37
Materials	38
Procedure	39
Coding	40
Results	41
Discussion	49
Conclusion	55
Chapter 3: The acculturation effect and eyewitness memory reports among migrants	57
Abstract	58
Introduction	59
Cross-cultural differences: Implications for memory reports	59
Acculturation: Implications for eyewitness memory reports	62

The Present Study	63
Methods	64
Participants and Design	64
Materials	65
Procedures	66
Coding	67
Results	67
Discussion	73
Conclusion	78
Chapter 4: The misinformation effect and eyewitness memory reports: A cross-cultural investigation	81
Abstract	82
Introduction	83
The misinformation effect	83
Culture and cognition	84
The misinformation effect and culture	85
The Current Study	86
Method	87
Design	87
Participants	87
Materials	88
Procedure	91
Coding	91
Results	92
Discussion	96
Conclusion	101
Chapter 5: The effect of authority on eyewitness memory reports across cultures	103
Abstract	104
Introduction	105
Authority and eyewitnesses	105
Authority and memory reports across cultures	107

The current study	109
Methods	110
Participants and design	110
Materials	111
Procedure	111
Coding	112
Results	113
Discussion	115
Conclusion	119
Chapter 6: General Discussion	123
Introduction	124
Summary of findings	125
Theoretical considerations	129
Scope and generalisability of the current programme of research	134
Methodological considerations and future research	137
Implications of the current research	141
Methodological challenges in conducting cross-cultural research	147
Conclusion	151
References	153
Impact Paragraph	176
Summary	187
English Summary	188
Dutch Summary	189
Acknowledgements	192
Dissemination	198
Curriculum Vitae	200
Appendices	203
Appendix 1: Supplementary materials (Chapters 2 and 3)	204
Appendix 2: Supplementary materials (Chapter 3)	224
Appendix 3: Supplementary material (Study 4)	228

TABLES AND FIGURES

Tables

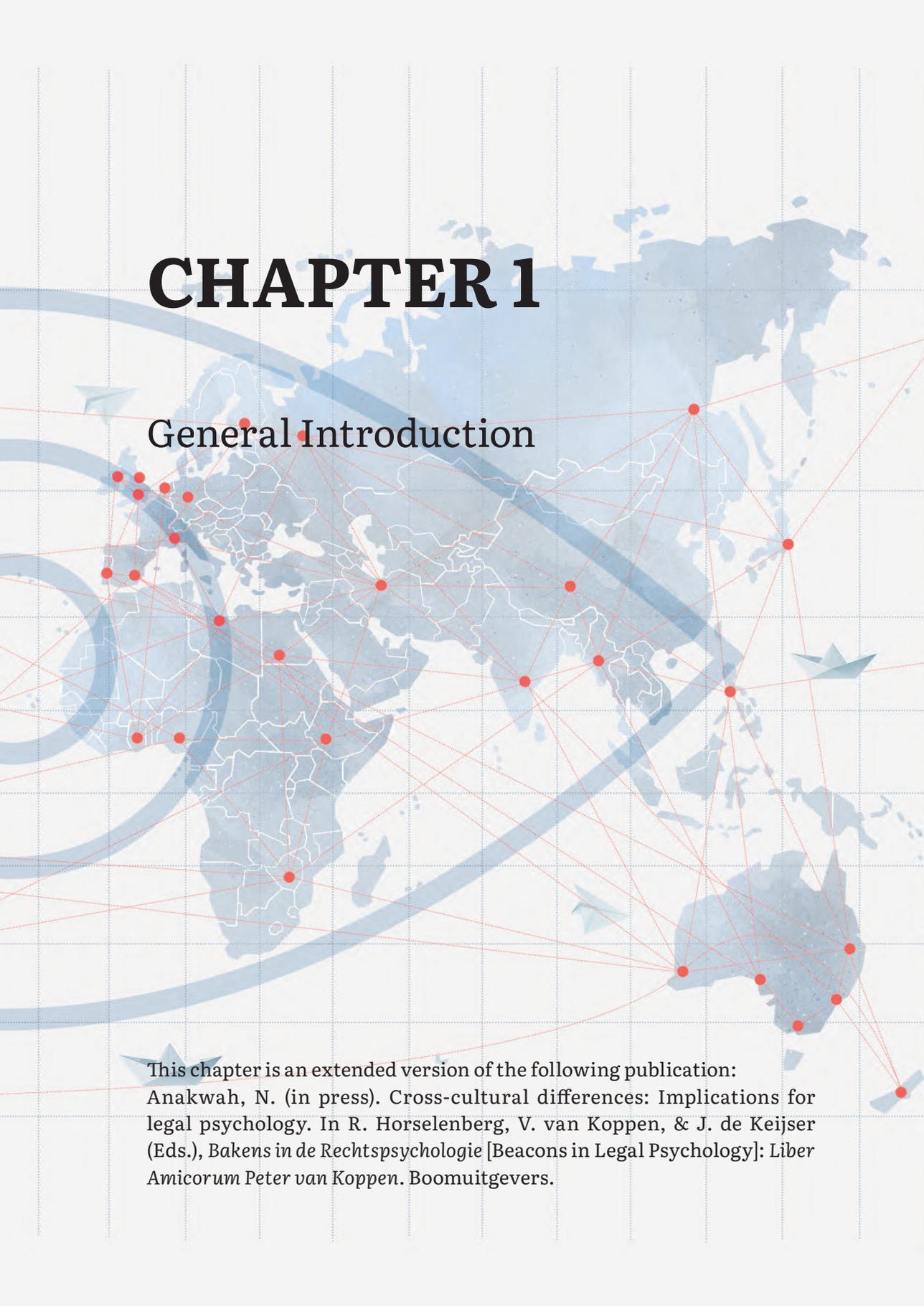
Table 2. 1 Mean (Standard Deviation) correct, incorrect, and withheld central and background details reported in free and cued recall by cultural groups	43
Table 2. 2 Mean (Standard Deviation) correct and incorrect details reported in free and cued recall for cultural groups by crime setting	44
Table 2. 3 Mean (Standard Deviation) of amount of central vs background details for cultural groups under free and cued recall	48
Table 3. 1 Mean (standard deviation) of correct details, incorrect details, and unanswered questions by groups	69
Table 3. 2 Mean (standard deviation) of correct details, incorrect details, and unanswered questions for crime setting by groups	71
Table 3. 3 Mean (Standard Deviation) of amount of central vs background details for groups under free and cued recall	72
Table 4. 1 Misinformation item matrix	90
Table 4. 2 Mean (standard deviation) of memory for original details and misinformation endorsement for misleading and control items by cultural groups on the recognition task	95
Table 4. 3 Mean (Standard deviation) of memory for original details and misinformation endorsement by cultural group on recognition task	95
Table 5. 1 Mean (Standard Deviation) for correct details, accuracy rate, unanswered questions, and confidence ratings in the respective conditions by cultural group in free recall and cued recall	114

Figures

Figure 1. 1 Conceptual representation of the self (A. Independent construal, B. Interdependent construal; Markus & Kitayama, 1991).	20
Figure 2. 1 Mean correct central details for different crime settings reported across cultural groups under free recall.	42
Figure 2. 2 Mean correct details for different crime settings reported across cultural groups under cued recall.	46
Figure 6. 1 Cross-cultural reporting model	132



CHAPTER 1



General Introduction

This chapter is an extended version of the following publication:
Anakwah, N. (in press). Cross-cultural differences: Implications for legal psychology. In R. Horselenberg, V. van Koppen, & J. de Keijser (Eds.), *Bakens in de Rechtspsychologie [Beacons in Legal Psychology]: Liber Amicorum Peter van Koppen*. Boomuitgevers.

INTRODUCTION

Laurent Gbagbo, former President of Cote D'Ivoire, together with his right-hand man, Charles Ble Goude, a former political youth movement leader, were charged with crimes against humanity at the International Criminal Court (ICC) in 2011. The pair were linked to post-electoral violence in Cote D'Ivoire during 2010-2011 that led to the death of over 3000 people. The Office of the Prosecutor at the ICC commenced an investigation into the alleged heinous crimes. In the course of the trial, 82 prosecution witnesses from Cote D'Ivoire, a country in West Africa, were presented before the court (Goldstone, 2019; Rosenberg, 2017). Each of these witnesses had been interviewed by investigators in order to obtain an account of what they had seen or known about the defendants. As these witnesses had been socialised in a sub-Saharan cultural context, they may bring culturally determined reporting norms into the interview context. To date, no research has focused on cross-cultural differences that might emerge for eyewitnesses in this particular reporting context. Thus, a lack of insight as to how sub-Saharan African witnesses normatively report about such events may have impeded investigators' efforts at eliciting memory reports.

This challenge faced by investigators at the ICC is an emerging challenge for all investigators. Increasing trends in migration and globalisation (United Nations Population Division, 2019) have resulted in increased cross-cultural contacts in formal interviewing settings (e.g., law enforcement and immigration settings). This increase in cross-cultural interactions makes it more likely for legal professionals to interview an eyewitness, victim, suspect, or asylum seeker from a cultural background different from that of the legal professional. Such interviewees may have been socialised in their respective cultures, hence, they are likely to bring into the criminal justice setting, behaviours consistent with their cultural norms.

Without insight into how their cultural backgrounds impact their report from memory about witnessed events, efforts at eliciting eyewitness memory reports in such cross-cultural contexts may be impeded. That may have implications for legal decision-making and justice delivery. There is, therefore, the need for an increased understanding of how culture shapes eyewitness memory reports among legal professionals. For example, within the healthcare context, research shows that the expression of pain and other behaviours vary between cultures (Liao, Henceroth, Lu, &

LeRoy, 2016). As a result, there has been a call for healthcare providers to understand cultural influences on pain and behaviours of patients better in order to deliver efficient healthcare (Callister, 2003; Sowattanagoon, Kotchabhakdi, & Petrie, 2009). Similarly, an increase in cross-cultural understanding would enhance the efficiency of legal and investigative professionals (Giebels, Oostinga, Taylor, & Curtis, 2017). Specifically, understanding of cultural influences on behaviour and psychological functioning would be beneficial for legal and investigative professionals working in diverse areas such as asylum seeker contexts, international criminal justice settings, law enforcement contexts, and counter-terrorism settings (Beune, Giebels, & Taylor, 2010; De Bruïne, Vredeveltdt, & Van Koppen, 2018; Hope & Gabbert, 2019; Kleinman, 2006; Van Veldhuizen, Maas, Horselenberg, & Van Koppen, 2018).

Considering non-WEIRD cultures: Eyewitness memory reports across cultures

Despite the fact that eyewitnesses have been socialised in their respective cultures and that psychological processes may not be universal, the vast majority of research on eyewitness memory has relied on western samples. In fact, over 94% of psychological research published in top psychology journals used western samples (Henrich, Heine, & Norenzayan, 2010; Rad, Martingano, & Ginges, 2018). What we know about eyewitness memory reports is mostly conclusions drawn from WEIRD (Western, Educated, Industrialised, Rich, and Democratic; Henrich, Heine, & Norenzayan, 2010) samples. Such conclusions have usually been generalised to witnesses from less WEIRD populations. Generalising findings from studies on eyewitness memory conducted with individuals from western cultures to other cultural groups may be problematic. Overreliance on WEIRD samples may result in missing other important variations in psychological processes (Henrich et al., 2010). Given this important shortcoming, there have been a number of calls for improvement in psychological science by understanding the psychological functioning of less WEIRD cultures (Brady, Fryberg, & Shoda, 2018). Gelfand, Harrington, and Jackson (2017), for example, have recently called for psychological research to go beyond western borders, to enhance understanding of cultural variations in behaviour.

Currently, there is a particular dearth of research on whether a witnesses' culture of socialisation impacts their eyewitness memory reports. To date, knowledge about how individuals socialised in non-

western cultures formulate their eyewitness memory reports is almost entirely absent. As a result, investigative professionals eliciting memory reports in cross-cultural contexts have limited understanding of cultural factors that may impact information elicitation. An insight into the eyewitness memory reports of individuals from non-western cultures may help improve the effectiveness of investigative interviews in cross-cultural contexts. For example, insight into how culture shapes eyewitness memory reports could help in developing culturally sensitive techniques when eliciting memory reports. Research on how witnesses from non-western cultures formulate their eyewitness memory reports may be beneficial in developing techniques based on findings from such research, as current techniques used in obtaining memory reports were mostly developed based on research with western samples.

Aims of the current thesis

The overarching aim of this thesis is to examine the content of memory reports provided by witnesses from different cultures. The first aim of the thesis was to examine whether individuals socialised in different cultures differ in the content of their eyewitness memory reports. The second aim of the thesis was to examine whether adaptation in a new cultural environment would impact the content of eyewitness memory reports. The third aim was to examine whether cultural background plays any role in susceptibility to the misinformation effect. The final aim of the thesis was to examine whether cross-cultural differences with respect to relating to authority figures play any role in the content of eyewitness memory reports.

In this introductory chapter, I provide a general overview of this research area and discuss key concepts and frameworks in cross-cultural psychology relevant to the current programme of work. Drawing on these concepts, I examine how socialisation in different cultures shapes behaviour and psychological functioning. I also consider the implications of these cross-cultural differences for cognition and eyewitness memory reports.

The concept of culture

Culture involves the collective programming of the mind of a people group, that distinguishes them from members of other groups (Gyekye, 2002; Hofstede, 2011). In his seminal work *Primitive Culture* published in 1871, Edward Tylor defined culture to be a complex whole embodying

belief, knowledge, custom, arts, morals, and any habits and traditions that members of a society acquire (Altarriba, 1993). These knowledge structures arise from the histories and experiences of the cultural group. Thus, the histories and experiences of a people group evolve into norms and values over the years (Bhugra, 2004; Brady et al., 2018; Triandis, 2001). Such norms and values then shape social relationships, family systems, and other social practices within that cultural group (Amos, 2013; Istomin, Panáková, & Heady, 2014; Nisbett & Masuda, 2003).

The manifestations of a group's culture include their symbols, heroes, rituals, and maxims (Hofstede, 2010). For example, present at a museum in Ghana, West Africa, are artefacts depicting the cultural values of the Akan ethnic group (Hess, 2003). Among the artefacts present at this museum is an emblem of two crocodiles called *funtunfunafu ne denkyemfunafu* (conjoined crocodiles), lying perpendicular across each other with a conjoined stomach. Popularly called *Adinkra* symbol, that artefact is said to signify the communal orientation or oneness of the people (Kuwornu-Adjaottor, Appiah, & Nartey, 2016). More specifically, the significance of that artefact to the ethnic group is to highlight the fact that as individual members of the society, they are intricately connected to each other and interdependent (Quaynor, 2018). Also exhibited at the museum is another artefact showing a group of individuals carrying the same bowl together called *abusua ayowa* (clan bowl), signifying the togetherness and the collective spirit of the Akan people (Boakyewaa, 2008). These artefacts capture a particular set of cultural values and, specifically, depict the importance the ethnic group places on communal living. Such communalism has been illustrated by an Akan maxim 'a person is not a palm tree that he should be self-complete' (Gyekye, 2002, p. 300).

The communal lifestyle of the Akan ethnic group in Ghana is typical of many sub-Saharan African societies. In his influential work profiling the culture of the Igbo ethnic group of Nigeria, for example, Uchendu (2007) described the Igbo people as having a holistic culture, with complex social relationships. Individuals from such cultures mostly remain loyal to the extended family system, and the raising of a child is traditionally a collective responsibility of the community (Amos, 2013). Marriage in such societies is considered an arrangement that does not only bring two individuals together but their families or clans as well (Kalule-sabiti, Palamuleni, Makiwane, & Amoateng, 2007). It has been documented that such social structures shape and condition their worldview (Uchendu, 2007). Also writing on African personhood, Gyekye (2002) noted that

members of the Gikuyu ethnic group of Kenya, East Africa do not consider themselves as isolated individuals but rather a relative of several people and that the personal pronoun 'I' is rarely used in social gatherings. The sub-Saharan African view of the person is summed up in the maxim 'I am, because we are; and since we are, therefore I am' (Menkiti, 1984, p. 171). The social complexity observed in cultural groups in sub-Saharan Africa is less evident in other cultures, such as Western Europe where, for example, the nuclear family system rather than extended family model, tends to dominate.

In light of broadly observable cultural differences, Hofstede and colleagues proposed a useful framework for the consideration and exploration of such differences (Hofstede, 1983, 2011; Hofstede & Bond, 1988). This framework of national cultures provides a theoretical foundation for exploring cross-cultural differences among people groups, and cultural differences in the complexity of social structures feature prominently. The work on the classification of national cultures was based on extensive research on attitudinal surveys in over 70 countries across the world (Hofstede, 1983; Hofstede, Hofstede, & Minkov, 2010).¹ Based on similarities that emerged consistently across countries, six dimensions of national cultures (Power distance, individualism-collectivism, uncertainty avoidance, masculinity-femininity, long term orientation, and indulgence-restraint) were distilled, with countries ranking from high to low on these dimensions (Hofstede, 1983, 2011; Hofstede & Bond, 1988). In this thesis, I draw on two of these cultural dimensions – power distance and individualism-collectivism – and examine their implications for eyewitness memory reports.

Power distance: Cross-cultural differences in relating to authority figures

The power distance (PD) dimension concerns the extent to which the less powerful members in society expect and accept the unequal distribution of power, with regards to social status, wealth, rights and privileges, and respect (Hofstede, 2001; Sharma, 2010). In low PD cultures, there is less emphasis on hierarchy in social relationships and those in authority mostly treat other members of the social group as equals. For example, within an organisational context, subordinates in low PD cultures actively

1 Data on Hofstede's dimensions has been updated to 111 countries as at 2016. See Hofstede's insight database at <https://www.hofstede-insights.com/product/compare-countries/>

participate in decision making and there is less gap in communication with authority figures (Khatri, 2009). In high PD cultures, however, hierarchy in social relationships is mostly emphasised. For example, high PD cultures value respect and deference to people of higher status, and decisions are mostly made by those at the top hierarchy (Basabe & Ros, 2005). The hierarchy in high PD cultures extends into familial relationships. For example, in the upbringing of children, parents in high PD cultures emphasise obedience, respect, and fear for the elderly and people in authority. Research shows that children in such cultures are more likely to receive physical punishment, more directives, and are less likely to be engaged in conversation with adults (Henrich et al., 2010; Wang, 2006). Hence, people socialised in high PD cultures become more predisposed and sensitive to hierarchy and status in their social relationships, than people socialised in low PD cultures.

The extent of power distance may determine the amount of information provided to authority figures in social interactions (Białas, 2009; Rhee, Dedahanov, & Lee, 2014). Specifically, for individuals socialised in high PD cultures, interacting with authority figures may impede spontaneous provision of information than individuals socialised in low PD cultures (Ghosh, 2011). Individuals socialised in high PD cultures have been shown to engage more in mitigated speech, are less direct and less explicit, and are more apprehensive when communicating with authority figures (Koc, 2013; Madlock, 2012). It may be the case that sensitivity to power differentials by witnesses with high PD cultural backgrounds may hamper reports made in forensic contexts. That is because investigative interviews with witnesses are conducted by an interviewer (e.g., police detective) who assumes an authority status. In cross-cultural settings, sensitivity to such power differentials may have implications for eliciting eyewitness memory reports during investigative interviews. The cultural dimension of power distance is related with the individualism-collectivism cultural dimension (Basabe & Ros, 2005; Hofstede, 2011). Specifically, most collectivistic cultures have a high PD whereas most individualistic cultures have a low PD (Minkov et al., 2017). Both dimensions are the most important cultural dimensions regarding social relationships (Basabe & Ros, 2005). This is because, among the dimension of national cultures, power distance and individualism-collectivism are those directly related to social interactions.

Individualism-Collectivism

The individualism-collectivism cultural dimension is the degree to which individuals in a society are integrated into social groups (Hofstede, 1983; Hofstede et al., 2010). Essentially, that dimension entails the extent to which individual members of a society are embedded in social relationships. According to Hofstede (2001), the relationship among individuals is loose in individualistic cultures, as individuals from such cultures are less embedded in a web of social relations. It has been further posited that in individualistic cultures, an individual is expected to look after his or her own self, and to an extent his or her immediate family (Hofstede et al., 2010). Individualistic cultures include cultures in North America, Australia, and Western Europe (Basabe & Ros, 2005; Piyush Sharma, 2010). People in collectivistic cultures, however, are socialised into a strong cohesive in-group right from birth. According to the framework, they tend to be more embedded in a web of social relationships, and relationships among individuals are tight. Individuals in collectivistic cultures are born into an extended family or clan and the raising of a child is seen as a communal responsibility. That has been typified by an African proverb 'it takes a village to raise a child' (Seymour, 2013, p. 115). Individuals remain loyal to the cohesive in-group right from birth, in exchange for unquestioning loyalty in return (Hofstede, 2011; Sharma, Zhan, & Su, 2016). Thus, in such societies, it is expected that members prioritise the opinions, interests, and preferences of the group above their own (Amer, Ngo, & Hasher, 2017; Basabe & Ros, 2005; Markus & Kitayama, 1991). Collectivism is related with values such as tradition and conformity (Piyush Sharma, 2010). Asian, South American, and African cultures are examples of collectivistic cultures (Basabe & Ros, 2005; Hofstede et al., 2010). The individualism-collectivism cultural dimension has been used extensively in research in cross-cultural psychology to describe, explain, and, predict cultural differences in socialisation, values, attitudes, communication, self-construal, and cognition (Green, Deschamps, & Páez, 2005; Schimmack, Oishi, & Diener, 2005).

Self-construal: The independent-interdependent view of the self

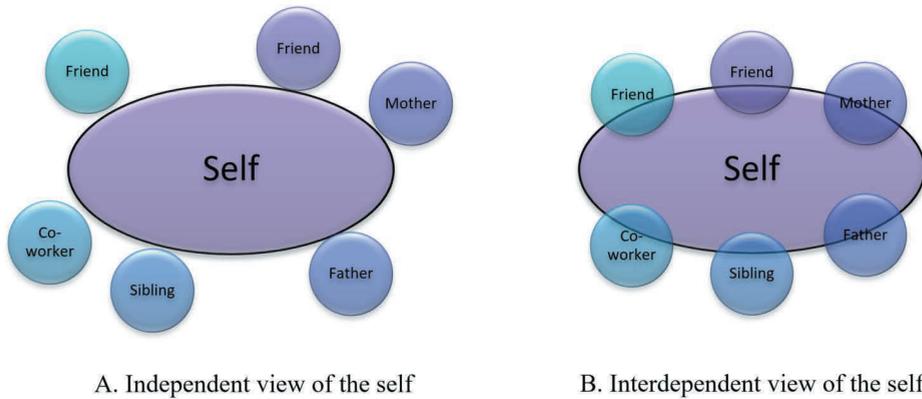
The individualism-collectivism cultural dimension has been proposed to systematically shape the construal of the self (Markus & Kitayama, 1991). Self-construal refers to the meaning individuals ascribe to the self in relation to others (Cross, Hardin, & Gercek-Swing, 2011). Through

interaction with others and the cultural environment, one develops a schema of the self that is consistent with the cultural context (Markus & Kitayama, 2003; Pilarska, 2014). Markus and Kitayama (1991) developed a comprehensive theory describing this phenomenon presented in their seminal paper about how culture shapes self-construal. Self-construal theory is currently the dominant framework for studying culture and memory (Gutchess & Sekuler, 2019). Depending on the social context an individual is socialised, the individual develops either an independent or an interdependent construal of the self (Markus & Kitayama, 1991; 2010). According to Markus and Kitayama (1991), individuals socialised in individualistic cultures develop an independent self-construal, whereas those socialised in collectivistic cultures develop an interdependent self-construal.

The notion of an independent self is grounded in the belief that each individual in society is whole and unique (Markus & Kitayama, 1991). According to the theory, an individual socialised in an individualistic culture develops a schema of the self as inherently and separately distinct from others and the social context (see Figure 1.1A). Consequently, the self is viewed as more autonomous, independent, and possesses unique dispositions and attributes. Due to that, for individuals with an independent view of the self, life is organised and made more meaningful by focusing on one's own feelings, thoughts, and actions (Markus & Kitayama 1991; Yamagishi et al., 2012). Markus and Kitayama (1991) further assert that the independent self is responsive to the social environment and that this social responsiveness stems from the need for individuals with the independent self-construal to look for avenues or best ways to express their unique dispositions. Consequently, individuals with independent self-construal may become more self-assertive, expressive, and less restrained (Takata, 2003; Yamagishi, Hashimoto, & Schug, 2008), a phenomenon referred to as self-enhancement. Self-enhancement is judged as more desirable in individualistic cultures, as individuals are seen in a more positive light when they self-enhance and express themselves confidently (Markus & Kitayama, 1991; Takata, 2003).

Figure 1.1

Conceptual representation of the self (A. Independent construal, B. Interdependent construal; Markus & Kitayama, 1991).



Individuals socialised in collectivistic cultures develop an interdependent self-construal (Markus & Kitayama, 1991). According to the model, individuals socialised in collectivistic cultures develop a schema of the self as inherently connected to or interdependent with others in the social context (see Figure 1.1B). Interactions with others in collectivistic cultures are guided by culturally prescribed tasks that require adjusting to others, fitting in with others, and using others as a reference for actions (Bond & Smith, 1996; Markus & Kitayama, 2010). Consequently, proponents of the self-construal theory assert that the behaviour of individuals socialised in such cultures is based to a large extent on the feelings, thoughts, and actions of other people in the social context (Markus & Kitayama, 1991, 2010). Markus and Kitayama (2010), however, note that an interdependent construal of the self does not necessarily mean that individuals cannot express their unique attributes or function effectively without being in the company of other people. Rather, they emphasise it takes a high degree of self-control in restraining one's unique attributes, dispositions, and preferences. They point out that in cultures that emphasise the interdependent view of the self, individuals are seen in more positive light if they do not self-assert their unique traits and dispositions (Masuda, Ellsworth, et al., 2008). As a consequence individuals from such cultures are more likely to emphasise modesty in self-presentation, a phenomenon referred to as self-effacement (Suzuki, Davis, & Greenfield, 2008; Takata, 2003).

Cross-cultural differences: Implications for cognition

The independent-interdependent self-construal has implications for cultural differences in cognitive processes (Gutchess & Sekuler, 2019; Kurman, 2010; Wang, 2021). For example, it has been proposed individuals with independent self-construal develop an analytic perception (Norenzayan & Nisbett, 2000). Analytic perception has been defined as the tendency to focus on the attributes and characteristics of an object to assign it to categories or a tendency to engage in context-independent perceptual processes (Nisbett, Choi, Peng, & Norenzayan, 2001). Individuals with an interdependent self-construal have been proposed to develop a holistic perception (Nisbett et al., 2001; Norenzayan & Nisbett, 2000). Holistic perception is the orientation to the context of an event, where individuals become predisposed to focus broadly on contextual details (Miyamoto, Nisbett, & Masuda, 2006; Uskul, Nisbett, & Kitayama, 2008).

Research in cross-cultural cognition has provided evidence consistent with the analytic-holistic cognitive styles (Chua, Boland, & Nisbett, 2005; Park & Huang, 2010). Specifically, it has been shown in those research that cognitive processes across cultures may vary. In a classic study, the rod-and-frame test (RFT) was used to examine cross-cultural differences in analytic-holistic cognition (Peng, & Nisbett, 2000). The rod-and-frame test is an apparatus that has a frame as well as a rod that is located inside the frame, which can be rotated independently of the frame. The rod was turned around in the frame and participants were asked to indicate when the rod appears vertical. Participants are considered field-independent if they accurately judge the verticality of the rod when it is turned around in the frame. Similarly, participants are regarded as field-dependent if they make errors in judging the verticality of the rod when turned around in the frame. The authors found that Americans were more accurate on the RFT, showing they were less field-dependent than East Asians, who made more errors on the task.

That finding on cross-cultural differences in analytic-holistic cognition has been corroborated in research using a different paradigm. For example, in a research using the classic framed-line test (FLT), participants were shown a square frame within which a vertical line had been drawn (Kitayama, Duffy, Kawamura, & Larsen, 2003). Participants were later shown another square frame that was either of the same size or different size to the original frame, in which they were requested to complete an absolute and a relative task, respectively. For the absolute task, participants were asked to draw a line in the new square (i.e., the square

similar in size to the original one), so that the new line was equal to the one in the original square in absolute length. For the relative task, participants were asked to draw a line in the new square (i.e., the square different in size to the original one), whose proportion to the size of the new square frame was similar to the proportion of the original line to the size of the original square frame. The authors reasoned that because individuals with analytic perception engage in context-independent perceptual processes, they are more likely to ignore both the original frame (in their assessment of the length of the line in the original frame) as well as the new frame (in their reproduction of the line in the new frame). Similarly, they reasoned that because individuals with holistic perception are more oriented to the context, they are likely to incorporate contextual information such as the height information of the surrounding frame in their encoding and reproduction of the line in a different sized frame. Consistent with that proposition, they found that compared to East Asians, North Americans were more accurate on the absolute task, showing they were less context-dependent. East Asians were also more accurate on the relative task than North Americans, showing East Asians were more context-dependent.

Kitayama et al. (2003, Experiment 2) further provided evidence showing that when adapting to a new culture, individuals tend to develop cognitive styles consistent with the host culture. Specifically, using the framed-line test paradigm, they showed in another experiment that North American migrants in Japan showed cognitive style consistent with the predominant cognitive style in East Asia (holistic cognition). Similarly, Japanese migrants in North America showed cognitive style consistent with the predominant cognitive style in North America (analytic cognition). Their findings show that the cultural environment in which individuals are socialised can have implications for holistic-analytic cognition.

Culture and memory

The cultural difference in holistic-analytic cognition may lead to cultural differences in memory for event details (Chua et al., 2005). That is because as individuals' cultural orientation makes them more inclined to prioritise particular type of details (i.e., central vs contextual detail), there is the likelihood that a specific type of detail would dominate in the content of memory reports of individuals from the respective cultures. Evidence from previous research shows cultural differences in the content of memory reports in line with the proposal on holistic-analytic cognition

(Gutchess & Sekuler, 2019; Istomin et al., 2014). Essentially, it has been shown in previous work that whereas accounts of events by people from individualistic cultures are not context-dependent, accounts by those from collectivistic cultures are context-dependent (Amer et al., 2017; Boduroglu, Priti, & Nisbett, 2009; Miyamoto et al., 2006). Systematic reviews show that people from western cultures are more inclined to attend to and remember more focal (central) information, whilst those from Eastern cultures are more inclined to attend to and remember more contextual (background) information (Gutchess & Indeck, 2009; Nisbett & Masuda, 2003). Indeed laboratory experiments with individuals from individualistic and collectivistic cultures show an individual's cultural orientation can influence memory. For example, in one study, Japanese and American participants were exposed to images of underwater scenes and later given a recall task asking them to describe what they saw (Masuda & Nisbett, 2001). The participants were then given a recognition task which consisted of objects they had earlier seen in the underwater scenes, presented either in their original backgrounds or novel backgrounds. The results showed that when describing underwater scenes from memory, Japanese participants provided more contextual information than American participants (Masuda & Nisbett, 2001). Japanese participants in that study were also more accurate in recognizing previously seen objects when those objects were presented with their original backgrounds. However, when the objects were presented with a novel background, Japanese participants' memory for the previously seen objects was more disrupted than that of American participants.

Research using the change blindness paradigm has provided evidence consistent with previous research showing cultural differences in memory for focal and contextual details (Masuda & Nisbett, 2006). Participants were presented with 30 different pairs of images and later asked about the difference between the images. For example, participants were first presented with a scene of a township consisting of a focal object (e.g., bicycle) and other contextual objects (e.g., buildings at the background). They were later presented with a similar image with an alteration to the focal object (e.g., change in bicycle's front wheel) or the contextual object (e.g., change in the shape of the building in the background) and asked to indicate when they recognise a change. East Asian participants detected changes to contextual details faster than did American participants, who identified changes to focal objects faster than they did contextual details. In a second experiment using a similar paradigm, participants

viewed five pairs of vignettes and requested to describe the changes they saw on a sheet of paper. Again, East Asian participants identified more contextual changes than American participants. American participants also identified more focal changes than East Asian participants.

Research on cultural priming has provided further evidence on the role of cultural self-construal in cognition (Miyamoto et al., 2006; Mok & Morris, 2012; Oyserman, 2006; Peng & Knowles, 2003; Wang & Ross, 2005). Cultural priming is a technique that involves using situational cues to activate a cultural schema in individuals (Sanchez-Burks et al., 2003). When presented with a book of a cartoon story and later asked about what they saw, Americans and Asian Americans recalled more details about personal autonomy, when the independent-self was primed (Wang & Ross, 2005). Priming the interdependent self resulted in more recall about other characters, social interaction, and other contextual information. Participants' self-construal in that study was primed by asking them to describe their unique attributes or their collective self. Thus, priming the interdependent self leads to holistic cognition, whilst the independent self leads to analytic cognition. Hence, in cultures where the social structure leads to the development of an independent or interdependent self-construal, members of that cultural group may develop cognitive styles consistent with the predominant norm for self-construal. Indeed that study also showed that American participants provided more focal details than Asian American participants, who also provided more contextual details than American participants (Wang & Ross, 2005).

Although research shows culture may shape memory, findings from other research is somewhat inconsistent with previous studies. For example, in a study on cultural differences in memory for focal and background details, the authors found that Canadians had better memory for background objects than did Chinese (Wong, Yin, Yang, Li, & Spaniol, 2017). They also did not find a cultural difference in memory for focal objects. Participants viewed 60 pictures (each consisting of focal and background details) and later identified the respective images that were present in the pictures in a recognition test. The authors argued the reason for Chinese participants' poorer memory for isolated background scenes on the recognition test could be because they might have bound those background scenes with their corresponding focal objects when viewing them in the pictures. Hence, separating those background scenes from the corresponding focal objects in a recognition test becomes more difficult

for Chinese participants to identify them, due to their tendency to engage more in holistic processing.

It may also be that cultures do not differ at encoding but rather differ at reporting. For instance, in some of these studies, participants did not provide a narrative from memory about what they perceived on the stimulus. Indeed some research show that cultures do not differ at the stage of encoding, but instead at the stage of reporting (Senzaki, Masuda, & Ishii, 2014). In that study, Japanese and Canadian participants were exposed to images of underwater scenes and their eye movements measured. It was found that Japanese and Canadian participants did not differ in visual attention to both central and contextual details. In a follow-up experiment, Japanese and Canadian participants were exposed to the same stimuli and asked to construct narratives about their observation. The results showed that Japanese participants provided more contextual details than Canadian participants, who also provided more focal details than Japanese participants. Thus, when reporting from memory about witnessed events, cultures may differ in what details they prioritise.

The independent-interdependent self-construal also has implications for more elaborate memory reporting (Ross & Wang, 2010; Wang, 2001; Wang, Song, & Kim Koh, 2017). Research shows that individuals from cultures that emphasise the independent self-construal tend to be more elaborate and specific in their memory reports than individuals socialised in cultures that emphasise the interdependent self-construal (Wang, 2001, 2004). When asked to narrate earliest childhood memories, it was found that the autobiographical memory reports of Asians were less specific and included fewer details than those of Americans (Wang, 2001; Wang & Ross, 2005). According to Hall (1976), communication in individualistic cultures (low context cultures) is more explicit and direct, whereas in collectivistic cultures (high-context cultures) communication is not explicit, as individuals rely on the context to communicate what is implied. Hall (1976) posits that in high context cultures, most of the message is not communicated but internalised. Indeed research within the forensic context shows cultural differences in detail provision between individuals socialised in individualistic cultures and those socialised in collectivistic cultures. For example, recent deception research shows interviewees with an individualistic cultural background report more details than those with a collectivistic cultural background (Leal et al., 2018; Taylor, Larner, Conchie, & Menacere, 2017; Vrij et al., 2020).

To date, little is known about eyewitness memory among non-western populations. As the individuals that legal and investigative professionals encounter have been socialised in their cultural contexts, an appreciation of whether cultural factors impact their memory reports is essential. Cross-cultural factors may impact the nature of reporting during investigative interviews (Hope & Gabbert, 2019). However, research in the field has largely been conducted with western samples. Also, research on cross-cultural cognition has largely compared Asian and Western cultures. Although sub-Saharan African cultures are regarded as collectivistic, not much comparative work in cross-cultural cognition has been done with samples from sub-Saharan Africa. Thus, even though non-WEIRD cultures are least represented in psychological research, it is worth mentioning that even among the least represented, sub-Saharan African populations have rarely been examined. Indeed, cross-cultural research on self-construal and cognition has not paid much attention to the entire African continent (Eaton & Louw, 2000). Consequently, there have been calls for cross-cultural research to go beyond Western and East Asian comparisons (Ji & Yap, 2016).

In recent work within the forensic context, object recognition has been examined among asylum seekers from sub-Saharan Africa (De Bruïne et al., 2018). While such research provides valuable initial insight into cross-cultural cognition within a forensic context, its focus was on recognition performance that involved transforming a two-dimensional representation to a three-dimensional representation and vice versa. Hence, that study does not tell us much about the nature or the content of the memory reports of sub-Saharan Africans. Secondly, because the target sample of that study was sub-Saharan African asylum seekers, it may be that adapting to the new cultural environment might have had some impact on their cognition. Indeed in other research on cross-cultural cognition, collectivistic cultural participants are often migrants who were compared with indigenes from the host culture (e.g., Wang, 2009). In view of research showing adapting to a new cultural environment might impact cognitive processes (Kitayama et al., 2003), sampling individuals from collectivistic cultures who have been raised and living in their native culture may give us a clearer picture of how socialisation in the native culture might impact reporting from memory. The current programme of research builds on previous work by examining cultural differences in the nature and content of eyewitness memory reports. This programme of research goes beyond the North American – East Asian comparisons

by sampling participants from Western Europe and sub-Saharan Africa, representing the individualistic and collectivistic cultures respectively. The experiments conducted for this programme of research mostly draw on participants that were born, raised, and living in their native cultural context.

Overview of the current thesis

Despite evidence showing an individual's culture of socialisation may shape behaviour and psychological functioning, research in eyewitness memory reports has not made much progress in examining cultural differences in the nature and content of eyewitness memory reports, warranting further research in this area. In the remaining chapters of the thesis, I present experiments conducted to address the overarching aim of the thesis: Whether there are cultural differences in the nature and content of eyewitness memory reports.

In Chapter 2, the results of a preliminary experiment where I examined whether individuals from different cultural backgrounds would indeed differ in the content of their eyewitness memory reports are reported. Using the individualistic-collectivistic cultural framework, I compared eyewitness memory reports of individuals socialised in collectivistic and individualistic cultures. Specifically, I sought to find out whether individuals differed in the reporting of central and contextual details from a crime scene depending on their cultural background. I sampled participants from sub-Saharan Africa (Ghana) and Western Europe (The Netherlands), representing the collectivistic and individualistic cultures, respectively.

Chapter 3 builds on Chapter 2 by examining whether living in a new cultural environment other than one's native culture shapes their cultural orientation and eyewitness memory reports. I specifically wanted to examine whether the eyewitness memory reports of migrants with a collectivistic cultural background now living in individualistic cultures would differ from those living in their native culture. I sampled sub-Saharan African migrants living in Western Europe and compared them with a control group of sub-Saharan Africans currently living in their native culture.

In Chapter 4, I examined whether individuals from different cultures differ in their susceptibility to misleading information about central and contextual details. Mock witnesses representing the respective cultures

Chapter 1

were sampled from Western Europe (United Kingdom) and sub-Saharan Africa (Ghana).

Chapter 5 explores whether cultural differences in relating with authority figures play any role in eyewitness memory reports. Based on the power distance cultural dimension, I examined whether the memory reports of individuals socialised in high PD cultures are more likely to be impeded by the power dynamics in the investigative context, compared to individuals socialised in low PD cultures.

In Chapter 6, I synthesise from the previous chapters and discuss what has been learned so far from the current experiments with respect to cross-cultural differences in eyewitness memory reports. I also discuss theoretical considerations, methodological limitations, and future directions. The implications of the findings and challenges in conducting cross-cultural research are also discussed.



CHAPTER 2

Cross-cultural differences in eyewitness memory reports

This chapter is published as:

Anakwah, N., Horselenberg, R., Hope, L., Amankwah-Poku, M & Van Koppen, P. J. (2020a). Cross-cultural differences in eyewitness memory reports. *Applied Cognitive Psychology*, 34 (2), 505 – 515. <https://doi.org/10.1002/acp.3637>

ABSTRACT

Increasingly, investigators conduct interviews with eyewitnesses from different cultures. The culture in which people have been socialised can impact the way they encode, remember, and report information about their experiences. We examined whether eyewitness memory reports of mock witnesses from collectivistic (Sub-Saharan Africa) and individualistic (Northern Europe) cultures differed regarding quantity and quality of central and background details reported. Mock witnesses (total N = 200) from rural Ghana, urban Ghana, and The Netherlands were shown stimuli scenes of crimes in Dutch and Ghanaian settings and provided free and cued recalls. Individualistic culture mock witnesses reported the most details, irrespective of detail type. For each cultural group, mock witnesses reported more correct central details when crime was witnessed in their own-native setting than a non-native setting, though for different recall domains. The findings provide insight for legal and investigative professionals as well as immigration officials eliciting memory reports in cross-cultural contexts.

Keywords: Eyewitness memory report, cultural differences, individualism-collectivism, interview

INTRODUCTION

An international criminal tribunal, The Special Court for Sierra Leone, put Charles Taylor, a former president of the West African state of Liberia, on trial in The Hague. Taylor was accused of war crimes, crimes against humanity, and violations of international human rights law during the civil war in Sierra Leone. He was alleged to have supplied arms to rebel groups in Sierra Leone in exchange for diamonds and also to have been involved in the massacre of many innocent people. In the legal proceedings that ensued in his trial, eyewitness evidence from sub-Saharan African witnesses was instrumental (Keith, 2012). As in the trial of Taylor, eyewitness memory reports in international criminal settings are crucial in prosecuting alleged atrocities. However, due to the cross-cultural context of international criminal settings, investigators who interview witnesses in such settings may find it challenging, particularly if insight into culturally determined reporting norms of the witnesses is limited.

Aside from international criminal settings, the increase in international migration has made it more likely that legal and investigative professionals in different countries will need to obtain eyewitness memory reports in cross-cultural contexts. For instance, police detectives are increasingly likely to interview eyewitnesses from cultural backgrounds different to their own. In other contexts, immigration officials typically interview asylum seekers from different cultures about their recollections of events and locations in order to verify their claims (van Veldhuizen et al., 2018). Irrespective of the case type, such interviewees will have been socialised into their respective cultures, and embedded in these cultures are norms (Hofstede, 2001). Various cultural norms may have implications for how people view, remember, and report about their experiences, and how they behave in the course of cross-cultural interactions (Kastanakis & Voyer, 2014; Wang, Song, & Kim Koh, 2017). Hence, it is entirely possible that witnesses, victims, and other interviewees reflect culturally determined reporting norms when being questioned in legal and forensic contexts. Therefore, an increased understanding of the impact of cross-cultural differences on interviews in forensic settings is vital (see Hope & Gabbert, 2019).

The culture in which people have been socialised has been shown to impact both behaviour and psychological processes (Schwartz, Boduroglu, & Gutchess, 2014; Wang, 2004). The individualism-collectivism cultural dimension has been particularly influential in research exploring cross-

cultural differences across various social phenomena (Triandis, 2001; Triandis, Bontempo, Villareal, Asai, & Lucca, 1988). Individualism refers to a cultural orientation where the ties between individuals in a society are relatively loose, whereas collectivism refers to a cultural orientation where a person is embedded in a complex web of social relationships (Hofstede, 1983). The individualism-collectivism cultural dimension may lead to biases in what is considered worthy and informative to report when people from these cultures are exposed to similar scenes (Boduroglu et al., 2009). For example, drawing on the individualism-collectivism dimension, Markus and Kitayama (1991, 2003) proposed independent-interdependent cognitive styles. In that framework, they posit that an independent construal of the self is characteristic of individualistic societies, and features the self as having significant dispositional attributes, and as being more autonomous and independent. For that reason, individuals with an independent self-construal become more perceptually oriented towards the properties of an object than the context (analytic perception). Accordingly, they become more prone to attend to the properties and characteristics of an object and as a result, narrow their attentional resources to focal objects at a visual field (Boduroglu et al., 2009). In contrast, an interdependent construal of the self whereby individuals view the self as integrated with (i.e. not separate from) the social context, is proposed as a characteristic of collectivistic cultures. According to Markus and Kitayama (1991), due to the interdependent self-construal, people from collectivistic cultures become more perceptually oriented towards a broader visual field (holistic perception) and, as a result, are more likely to allocate their attentional resources broadly. Applying Markus and Kitayama's (1991) framework, it might be predicted that reports about events by people from individualistic and collectivistic cultures may differ as their cultural background biases them to be either analytically or holistically oriented.

Aside from an individual's cultural background, it has also been observed that the characteristics of a cultural setting could direct attention (Masuda & Nisbett, 2006; Miyamoto et al., 2006). According to proponents of that perspective, irrespective of their cultural background, individuals are likely to detect changes to focal objects of scenes from individualistic cultures than scenes from collectivistic cultures (Miyamoto et al., 2006). Conversely, they point out that individuals, regardless of their cultural background, are more likely to detect changes to contextual objects for scenes from collectivistic cultures than scenes from individualistic cultures (Masuda & Nisbett, 2006). Other researchers have observed a

tendency for familiar environments to modulate the processing of visual stimuli (Epstein, Higgins, Jablonski, & Feiler, 2007). According to Epstein et al. (2007), people activate long-term representations of spatial structures of familiar environments to aid recall. Therefore, it is plausible that eyewitnesses are likely to have superior performance when attending to scenes in their native cultural environment (own-cultural-setting effect) than scenes located in a different cultural environment.

Consistent with these perspectives, research shows that individuals' cultural orientation can bias their perceptual processing and content of their reports (Boduroglu et al., 2009; Istomin et al., 2014; Masuda & Nisbett, 2006). For example, in a study comparing children from three Siberian cultures, Istomin et al. (2014) found children from the two cultures with holistic perception included more contextual information in their drawings than those from the culture with analytic perception. They also found that children from a collectivistic cultural orientation tend to draw background objects before drawing focal objects, while the reverse was true for those from individualistic cultural orientation. Istomin et al. (2014) attributed these findings to differences in attention that the different cultures accord to contextual information.

However, other results have been inconclusive with respect to cultural differences in memory reporting. For example, Wong et al. (2017) compared Canadian and Chinese participants with respect to memory for individual and background objects of picture scenes. Participants were exposed to picture drawings containing focal and background scenes and later reported whether they attended to the focal or background scene. Irrespective of participants' cultural background, participants reported attending more to focal details than background details, with a large effect size. It was also found that there was no difference in memory for focal objects between cultures. However, Canadian participants reported attending more to background scenes than Chinese participants did. Thus, there seem to be mixed findings on research on the influence of culture on memory.

The current research

Increasingly, investigators interview witnesses from diverse cultural backgrounds, and given that cultural norms may influence the nature or content of the information reported in such interviews, this may have implications for the criminal justice system. Criminal justice professionals can be confronted with challenges when they lack the relevant awareness,

knowledge, and training about cultural differences in eyewitness memory reports. To date, research in this area has largely been conducted using WEIRD (Western, Educated, Industrialised, Rich and Democratic; Henrich, Heine, & Norenzayan, 2010) samples, with little consideration of cross-cultural factors or comparisons. There have been calls for cross-cultural research to go beyond Western borders to enhance our understanding of cultural variations in behaviour (Brady et al., 2018; Gelfand et al., 2017) and, more specifically, to appreciate cultural differences relevant for the field of investigative interviewing (Hope & Gabbert, 2019).

Consequently, efforts are being made in psychological science to explore other non-WEIRD samples. However, a recent meta-analytic review revealed that, even for the small proportion of non-WEIRD populations studied in cross-cultural research, the majority of these non-WEIRD populations were from East Asia (collectivistic culture), with only 0.63% of the non-WEIRD sample populations from Africa (Veillard, 2017). Hence, in the current study, we sampled participants from sub-Saharan Africa (typifying collectivistic culture) and Western Europe (typifying individualistic culture). Within the collectivistic culture, we were also interested in comparing rural and urban cultures, as the latter tends to be less collectivistic than the former (Rooks, Klyver, & Sserwanga, 2016). This difference is likely due to the fact that urban centres are prone to cultural infiltration and there is greater exposure to western cultural values in urban areas than rural areas (Ma, Pei, Jin, & De Wit, 2015). To date, the literature on cross-cultural cognition has rarely made that distinction between rural and urban dwellers in collectivistic societies. To address this issue in the current research, we compared eyewitnesses from Western European culture with eyewitnesses from urban and rural sub-Saharan African cultures.

Mock-witnesses from sub-Saharan Africa and Western Europe viewed stimuli scenes presenting African and European settings and reported what they saw in a free recall test. Afterwards, they were asked cued recall questions that focused on both central and background details of the scenes. Drawing on theory and previous findings, we predicted cultural differences in the types of details reported by the cultural groups. Specifically, we expected Western European mock witnesses to report more focal details about the crime scene than sub-Saharan African mock witnesses. Conversely, we expected sub-Saharan African mock witnesses to report more contextual details than Western European mock witnesses. Among sub-Saharan African mock witnesses, we expected

differences between mock witnesses from rural and urban areas in the type of details reported. Specifically, we predicted that those from rural sub-Saharan Africa would report more contextual details than those from urban sub-Saharan Africa. Mock witnesses from urban sub-Saharan Africa were expected to report more focal details than those from rural sub-Saharan Africa. We also expected that cultural setting would play a role in the memory reports of mock witnesses of all cultural groups. Specifically, we predicted that mock witnesses across cultures would report more central details about Western European cultural settings than sub-Saharan African cultural settings. Mock witnesses across cultures were also predicted to report more background details for sub-Saharan African settings than Western European settings. Finally, we expected mock witnesses from sub-Saharan Africa to report more central and background details about sub-Saharan African settings than Western European settings, while we expected the reverse for mock witnesses from Western Europe.

METHOD

Participants and Design

A total of 207 participants were sampled from Ghana ($n_{\text{rural Ghana}} = 78$; $n_{\text{urban Ghana}} = 73$) and The Netherlands ($n = 56$). The selection of countries for inclusion is consistent with previous research (Hofstede, 1983, 2001).² Out of the 207 participants recruited, 7 were excluded. These participants were excluded because they did not follow instructions ($n = 2$), viewed only three out of the four scenes ($n = 4$), and had East Asian parents although born in The Netherlands ($n = 1$). Our final sample comprised 200 participants (103 males, 97 females, $M_{\text{age}} = 28.44$, $SD = 12.43$). The urban sample ($n = 70$; $M_{\text{age}} = 26.39$, $SD = 10.79$) in Ghana were recruited in the capital city, Accra, while the rural sample ($n = 75$; $M_{\text{age}} = 31.61$, $SD = 14.29$) were recruited in Akim Aduasa, a farming community in the Eastern Region of Ghana. Participants from The Netherlands ($n = 55$, $M_{\text{age}} = 26.78$, $SD = 10.96$) were recruited in Maastricht, a provincial capital in the south of the country. Student participants in The Netherlands were awarded course credits

2 Hofstede's individualism-collectivism index indicates the extent to which countries are individualistic and collectivistic. On Hofstede's index (ranging from 0 - 100), The Netherlands is associated with an individualism index of 80 while Ghana is associated with an index of 14, where a higher score reflects greater individualism.

whereas non-student participants received a €5 shopping voucher. Student and non-student participants from Ghana received a GH¢5 voucher for phone credit.

The design for the study was a 3 (Cultural Group: Rural Ghana, Urban Ghana, The Netherlands) X 2 (Crime Setting: Ghanaian setting, Dutch setting) mixed factorial design. The between-group variable was cultural group and the within-group variable was crime setting. The dependent variables were correct, incorrect, and withheld (Don't know) details, for both central and background information.

Materials

Stimuli. The stimuli used were eight photographs rich in central and background details. The photographs depicted four crime scenarios (theft, assault, accident, and robbery). Each of these crime scenarios was photographed in a Ghanaian setting as well as a Dutch setting. For example, for a crime depicting a theft in a Ghanaian setting, the same crime was depicted in a Dutch setting. Each participant viewed four of these stimuli (Two stimuli each for Dutch and Ghanaian settings). The stimuli were prepared in The Netherlands and Ghana. Scenarios were prepared with a very clear central event that was distinct from the background.

Two of the stimuli (1 Ghanaian setting and 1 Dutch setting) were piloted in the respective countries. A total of 14 participants (9 males, 5 females, $M = 24.07$, $SD = 3.20$) from Ghana and 15 participants (4 males, 11 females, $M = 30.40$, $SD = 13.12$) from The Netherlands provided ratings, using a five-point Likert scale. They rated the extent the stimulus (i) represented their native setting and (ii) represented a crime scene. Consistent with Paz-Alonso, Goodman, and Ibabe's (2013), the mid-rating score was used in deciding whether a stimulus received sufficient rating. The stimuli settings were rated by participants to adequately represent settings in their respective countries (Ghanaian stimuli – $M = 3.79$, $SD = .97$; Dutch stimuli – $M = 3.33$, $SD = .62$) and reflect plausible crime scenes (Ghanaian stimuli – $M = 3.43$, $SD = 1.28$; Dutch stimuli – $M = 3.47$, $SD = .83$). The pilot study also determined which details participants regarded as central and background details in each scene. To establish stimulus centrality, the participants were asked two open-ended questions: 'What do you regard as the central event in the picture?' and 'What do you regard as background event(s) in the picture?'. All participants identified the central and contextual events in a manner consistent with our intended central and contextual elements when constructing the stimuli (with the exception

of one participant who did not identify central event for the Ghanaian stimuli as such). Results from this pilot informed the development of the remaining stimuli with Ghanaian and Dutch settings, which were developed to have a clear central event distinct from the background. The stimuli are available on Open Science Framework at https://osf.io/t89hu/?view_only=59e038117b2d4d5588e00c804de3539a

Cultural Orientation Scale. We used the cultural orientation scale (Triandis & Gelfand, 1998) to measure self-reported individualism and collectivism of participants. This scale has 16 items with a nine-point Likert scale (1 = *never or definitely no* and 9 = *always or definitely yes*). It has four subscales: vertical individualism (VI), horizontal individualism (HI), vertical collectivism (VC) and horizontal collectivism (HC).³ Sample items on the scale include: VI – “winning is everything”; HI – “I often do my own thing”; VC – “Parents and children must stay together as much as possible”; and HC – “If a co-worker gets a prize, I would feel proud”. The coefficient alphas of the subscales range from .62 to .75 (Soh & Leong, 2002).

Procedure

All participants in the study were tested individually. After consenting to participate, participants completed the cultural orientation scale and a short demographic questionnaire. Participants then viewed the stimulus scenes, one at a time. Consistent with previous research (e.g., Wang & Pomplun, 2012), participants viewed each scene for 5 seconds. After viewing a scene, participants worked on a distractor task (mathematical problems) for five minutes. Participants were then instructed to provide a verbal free recall describing what they could remember about the scene they viewed. Participants were asked to be as detailed and accurate as possible in their reports about the scene. Participants had up to six minutes to provide that account.

After the free recall task, participants answered 20 cued recall questions about central and background events or items in the stimulus (e.g., ‘How was the attacker dressed’ and ‘Can you describe the colour of the building?’). The order of questions alternated between questions on

3 Vertical individualism refers to individualistic cultures where hierarchy is emphasised in social relationships; horizontal individualism refers to individualistic cultures where equality is emphasised in social relationships; vertical collectivism refers to collectivistic cultures where hierarchy is emphasized in social relationship; and horizontal collectivism refers to collectivistic cultures where equality is emphasize in social relationships (Triandis & Gelfand, 1998).

central and background details. The instructions and questions for some participants in rural Ghana were given in the local language (Twi) as these participants had a low level of English comprehension.⁴

After completing both recall tasks, participants saw the next scene and the procedure was repeated until they had viewed all four scenes. The presentation of the scenes was counterbalanced. Participants received the same instructions for all tasks. Participants' responses were audio recorded. After completing the procedures, they were thanked and debriefed. The test session took approximately 60 minutes per participant. The study received ethical approval from the Ethics Review Committee Inner City faculties, Maastricht University, and the Ethics Committee for the Humanities, University of Ghana.

Coding

Verbal responses were transcribed. The interviews conducted in Twi in rural Ghana were translated into English during the transcription by one of the research assistants indigenous to the region. A detailed coding template for each of the stimulus scenes was developed by the first author and was adapted from previous research (Gabbert, Hope, & Fisher, 2009; Wright & Holliday, 2007). For the purposes of our study, details provided by participants were classified as either a background detail or central detail, in both free and cued recall, adhering a coding manual prepared in advance.⁵ An item was coded as correct if it was present in the stimuli scene and given a correct description. Incorrect items were also coded and scored accordingly. Vague responses (e.g., It was a red or green bag) or subjective inferences (e.g., The car belonged to the woman lying on the floor) were not coded. 'Don't know' responses were coded as withheld details. A second coder coded 20% of the transcripts which were randomly selected to check for coding consistency. We found high inter-coder reliability (intraclass correlation coefficient) for free recall with regard to correct central details ($r = .97$) and correct background details ($r = .95$). The details provided by participants were collated across all stimuli and analysis was based on data for all scenes.

4 A PhD student in Linguistics with expertise in the Ghanaian language translated the protocol. The interviewer who also had a good command of the local language explained the study instructions to these participants thoroughly, and also read the questions out to such participants in the Twi language.

5 Classification of central and background details in this coding manual was based on stimulus centrality established in the pilot study earlier reported.

RESULTS

Analyses were conducted using a mixed factorial ANOVA, except analysis on type of detail that dominated in the memory reports of the cultural groups, where repeated-measures ANOVA was used. Where significant difference existed, we used Games-Howell multiple comparisons test as this post-hoc test is suitable for comparison groups of unequal size (S. Lee & Lee, 2018). We applied a Bonferroni correction (.017) to control for increased familywise error rates arising from multiple tests.

Free Recall

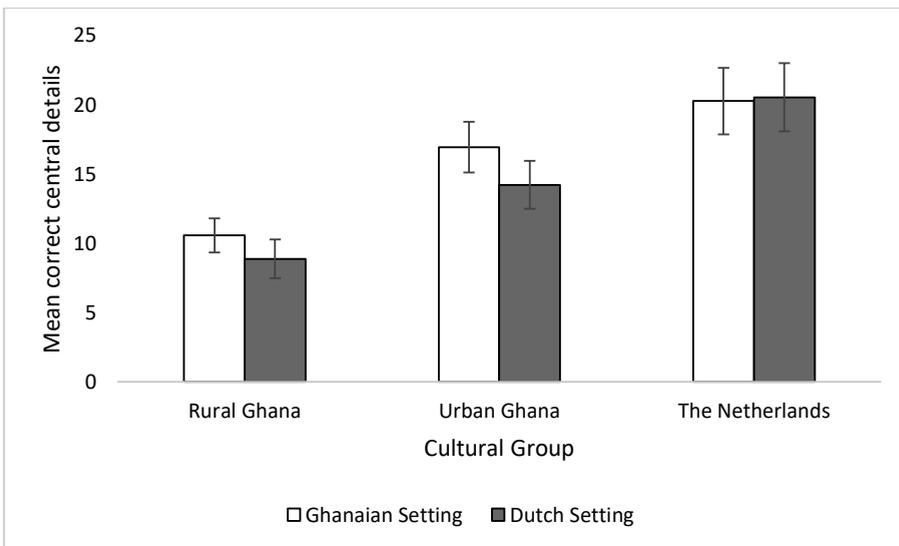
Central Details. Cultural group had a significant main effect on the number of correct central details reported, $F(2, 197) = 43.02, p < .001, \eta_p^2 = .30$. Participants from The Netherlands reported significantly more correct central details than participants from urban Ghana ($p = .003$), who also reported significantly more correct central details than participants from rural Ghana ($p < .001$; see Table 2.1). We also found a significant main effect for crime setting on correct central details, $F(1, 197) = 8.78, p = .003, \eta_p^2 = .04$. Participants reported more correct central details when the crime scene was a Ghanaian setting ($M = 15.91, SD = 7.50$) than when it was a Dutch setting ($M = 14.54, SD = 7.35$). There was no significant interaction effect between cultural group and crime setting, $F(2, 197) = 3.28, p = .04, \eta_p^2 = .03$. In order to test evidence in favour of the null, we proceeded with a Bayesian ANOVA analysis using JASP (Wagenmakers, 2007). The analysis yielded a Bayes Factor of $BF_{10} = 2.35 \times 10^{14}$. According to Raftery (1995), Bayes factor of 150 and above is indicative of very strong evidence in favour of the alternate hypothesis. A planned comparison revealed both participants from rural Ghana ($p = .019$) and urban Ghana ($p = .001$) reported significantly more correct central details for Ghanaian crime settings than Dutch crime settings. Participants from the Netherlands, however, did not significantly differ in correct central details reported for Ghanaian and Dutch crime settings ($p = .770$). Results are shown in Figure 2.1.

There was a significant main effect of cultural group on the number of incorrect central details reported, $F(2, 197) = 9.27, p < .001, \eta_p^2 = .09$. Participants from rural Ghana reported significantly fewer incorrect central details than participants from The Netherlands ($p = .001$). Participants from urban Ghana and The Netherlands did not significantly

differ in incorrect central details reported ($p = .055$). Participants from rural Ghana and urban Ghana also did not significantly differ in incorrect central details reported ($p = .146$; see Table 2.1). Crime setting did not have a significant effect on incorrect central details $F(1, 197) = 3.80, p = .05, \eta_p^2 = .02$. The interaction effect for cultural group and crime setting for incorrect central details was not significant, $F(2, 197) = 2.05, p = .13, \eta_p^2 = .02$.

Figure 2.1

Mean correct central details for different crime settings reported across cultural groups under free recall.



Background Details. There was a significant main effect of cultural group on the reporting of correct background details $F(2, 197) = 45.35, p < .001, \eta_p^2 = .32$. Participants from The Netherlands reported more correct background details than participants from urban Ghana ($p = .002$). Participants from urban Ghana also reported more correct background details than participants from rural Ghana ($p < .001$; see Table 2.1). There was also a significant main effect for crime setting, $F(1, 197) = 38.03, p < .001, \eta_p^2 = .16$. Participants reported more correct background details for crime scenes with Dutch settings ($M = 9.22, SD = 5.94$) than Ghanaian settings ($M = 6.93, SD = 4.81$). However, the interaction between cultural group and crime setting was not significant, $F(2, 197) = .94, p = .39, \eta_p^2 = .01$.

Cultural group had no significant main effect on incorrect background details reported, $F(2, 197) = .47, p = .62, \eta_p^2 = .01$. Crime setting also had no

significant main effect on incorrect background details reported, $F(1, 197) = .33, p = .57, \eta_p^2 = .002$. The interaction between cultural group and crime setting on incorrect background details was also not significant $F(2, 197) = 1.13, p = .33, \eta_p^2 = .01$.

Table 2.1

Mean (Standard Deviation) correct, incorrect, and withheld central and background details reported in free and cued recall by cultural groups

			Rural Ghana	Urban Ghana	The Netherlands
Free Recall	Correct	Central	9.71 (6.58)	15.57 (6.53)	20.39 (5.78)
		Background	3.99 (4.76)	8.36 (4.69)	11.87 (4.75)
	Incorrect	Central	1.13 (1.39)	1.51 (1.34)	2.17 (1.33)
		Background	.78 (1.13)	.91 (1.09)	.96 (1.11)
Cued Recall	Correct	Central	13.47 (5.72)	18.06 (5.69)	22.77 (5.71)
		Background	4.59 (3.38)	6.26 (3.35)	10.73 (3.34)
	Incorrect	Central	5.59 (2.25)	5.15 (2.26)	6.10 (2.30)
		Background	4.27 (2.51)	4.27 (2.51)	5.73 (2.52)
	Withheld	Central	6.25 (4.16)	5.54 (4.18)	3.75 (4.15)
		Background	10.54 (3.64)	10.13 (3.68)	7.18 (3.63)

Type of Detail Reported. We examined the total (correct and incorrect) amount of central and background details reported by each group. Participants from The Netherlands reported more central details than background details, $F(1, 54) = 93.25, p < .001, \eta_p^2 = .63$. A similar pattern was found for participants from urban Ghana who also reported more central details than background details, $F(1, 69) = 100.85, p < .001, \eta_p^2 = .59$. Participants from rural Ghana also reported more central details than background details, $F(1, 74) = 156.35, p < .001, \eta_p^2 = .68$. See Table 2.3.

Table 2.2 Mean (Standard Deviation) correct and incorrect details reported in free and cued recall for cultural groups by crime setting

		<u>Rural Ghana</u>		<u>Urban Ghana</u>		<u>The Netherlands</u>		
		Ghanaian setting	Dutch setting	Ghanaian setting	Dutch setting	Ghanaian setting	Dutch setting	
Free Recall	Correct	Central	10.56 (5.45)	8.87 (5.02)	16.93 (7.80)	14.21 (7.38)	20.25 (9.08)	20.53 (9.29)
		Background	3.20 (2.68)	4.79 (4.52)	7.06 (4.86)	9.66 (6.76)	10.55 (6.63)	13.20 (6.40)
	Incorrect	Central	1.29 (1.55)	.97 (1.00)	1.46 (1.73)	1.56 (1.97)	2.53 (2.40)	1.82 (1.86)
		Background	.63 (1.17)	.93 (1.26)	.97 (2.02)	.86 (1.12)	.95 (1.15)	.96 (1.41)
Cued Recall	Correct	Central	13.51 (5.70)	13.44 (6.70)	17.69 (6.30)	18.44 (7.72)	21.45 (5.85)	24.09 (6.70)
		Background	3.72 (3.10)	5.45 (3.86)	4.81 (3.17)	7.71 (4.06)	7.78 (4.54)	13.67 (5.17)
	Incorrect	Central	5.85 (3.28)	5.33 (2.96)	5.61 (2.47)	4.69 (2.61)	6.60 (3.20)	5.60 (2.86)
		Background	3.59 (2.60)	4.96 (3.02)	4.06 (2.76)	4.49 (3.15)	5.25 (3.06)	6.20 (3.37)
Withheld	Central		6.45 (11.26)	6.05 (3.05)	4.81 (2.52)	6.27 (2.47)	3.56 (2.49)	3.93 (2.36)
	Background		11.96 (4.64)	9.39 (4.16)	10.74 (4.17)	9.51 (3.69)	8.55 (4.61)	5.81 (3.53)

Although central details dominated in the memory reports of all cultural groups, there was a significant difference in the total amount of central details reported across cultural groups, $F(2, 197) = 43.09, p < .001, \eta_p^2 = .30$. Participants from The Netherlands reported significantly more central details than participants from urban Ghana ($p = .002$), who also reported more central details than participants from rural Ghana ($p < .001$; see Table 2.3).

Cued Recall

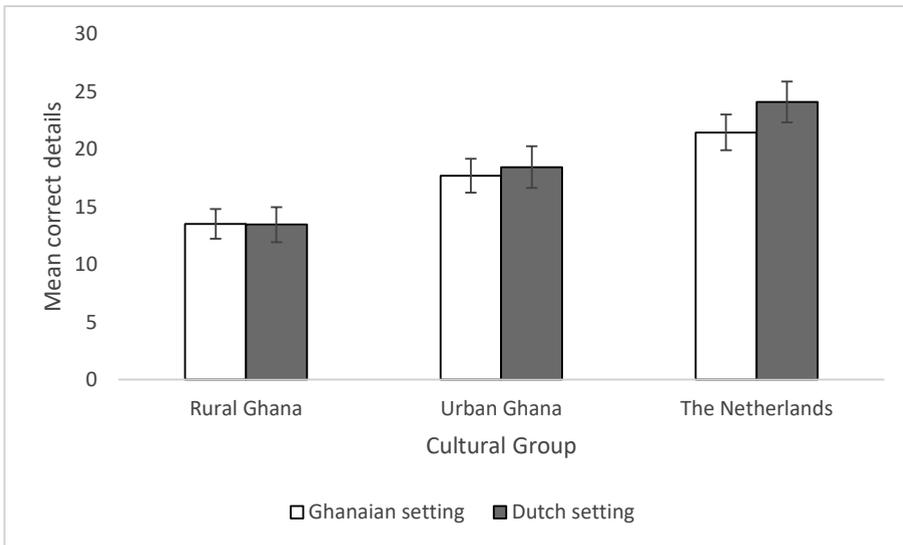
Central Details. There was a significant main effect of cultural group on correct central details reported in response to cued recall questions focused on central details, $F(2, 197) = 42.66, p < .001, \eta_p^2 = .30$. Participants from The Netherlands reported more correct central details than participants from urban Ghana ($p < .001$), who also reported more correct central details than participants from rural Ghana ($p < .001$; See Table 2.1). There was also a significant main effect of crime setting on correct central details reported, $F(1, 197) = 5.82, p = .017, \eta_p^2 = .03$. Participants reported more correct central details when the crime scene was a Dutch setting ($M = 18.66, SD = 7.21$) than when it was a Ghanaian setting ($M = 17.55, SD = 6.08$). The interaction between cultural group and crime setting was not significant, $F(2, 197) = 2.85, p = .06, \eta_p^2 = .02$. We proceeded with a Bayesian ANOVA to test for evidence for the null. We found the Bayes Factor to be $BF_{10} = 7.964 \times 10^{12}$, indicative of very strong evidence (Raftery, 1995) in favour of the alternate hypothesis. A planned comparison revealed participants from rural Ghana did not differ on correct central details reported for Ghanaian and Dutch crime settings ($p = .91$). Participants from urban Ghana also did not significantly differ on correct central details reported for the two cultural settings ($p = .36$). However, participants from the Netherlands reported more correct central details for Dutch crime settings than they did for Ghanaian crime settings ($p = .01$; See Figure 2.2).

The main effect of cultural group on incorrect central details reported, in response to questions focused on central details was not significant, $F(2, 197) = 2.66, p = .07, \eta_p^2 = .02$. There was, however, a significant main effect of crime setting on incorrect central details reported, $F(1, 197) = 10.16, p = .002, \eta_p^2 = .05$. Participants reported more incorrect central details when the crime setting was a Ghanaian setting ($M = 6.02, SD = 2.97$) than when it was a Dutch setting ($M = 5.21, SD = 2.83$). The interaction between cultural group and crime setting was not significant, $F(2, 197) = .36, p = .699, \eta_p^2 = .004$.

Cultural group had a significant main effect on the central details withheld by participants, $F(2, 197) = 5.97, p = .003, \eta_p^2 = .06$. Participants from rural Ghana withheld more responses for questions about central details than participants from The Netherlands ($p = .004$). Participants from urban Ghana also withheld more central details than participants from The Netherlands ($p < .00$). Participants from rural Ghana and urban Ghana did not significantly differ in central details withheld ($p = .619$; see Table 2.1). Crime setting did not have a significant main effect on the central details withheld by participants, $F(1, 197) = .90, p = .34, \eta_p^2 = .01$. The interaction between cultural group and crime setting on withheld central details was also not significant, $F(2, 197) = 1.29, p = .28, \eta_p^2 = .01$.

Figure 2. 2

Mean correct details for different crime settings reported across cultural groups under cued recall.



Background Details. There was a significant main effect of cultural group on correct background details reported in response to questions about background details, $F(2, 197) = 55.59, p < .001, \eta_p^2 = .36$. Participants from The Netherlands reported more correct background details than participants from urban Ghana ($p < .001$) and rural Ghana ($p < .001$). Participants from urban Ghana also reported more correct background details than participants from rural Ghana ($p = .004$; see Table 2.1). The main effect of crime setting on correct background details reported was

significant, $F(1, 197) = 130.51, p < .001, \eta_p^2 = .40$. Participants reported more correct background details when the crime setting was a Dutch setting ($M = 8.95, SD = 4.38$) than when it was a Ghanaian setting ($M = 5.44, SD = 3.68$). The interaction between cultural group and crime setting was also significant, $F(2, 197) = 15.23, p < .001, \eta_p^2 = .13$. A planned comparison revealed participants from rural Ghana reported more correct background details for Dutch settings than Ghanaian settings ($p < .001$). Participants from urban Ghana also reported more correct background details when the crime scene was a Dutch setting than Ghanaian setting ($p < .001$). We found a similar pattern for participants from The Netherlands, who reported more correct background details when the crime setting was a Dutch setting than when it was a Ghanaian setting ($p < .001$). The interaction effect for correct background details could be accounted for by the magnitude of the simple main effect. This is because, for all cultural groups, the slopes of the simple main effect of crime setting have the same direction. See Table 2.2 for descriptive statistics on interaction between cultural group and crime setting.

There was also a significant main effect of cultural group on incorrect background details, $F(2, 197) = 6.81, p = .001, \eta_p^2 = .07$. Participants from urban Ghana reported fewer incorrect background details than participants from The Netherlands ($p = .009$). Participants from rural Ghana also reported fewer incorrect background details than participants from The Netherlands ($p = .005$). Participants from urban Ghana and rural Ghana did not differ in incorrect background details reported ($p = 1.00$). See Table 2.1. Setting of crime had a significant main effect on incorrect background details reported, $F(1, 197) = 15.29, p < .001, \eta_p^2 = .07$. Participants reported more incorrect background details for Dutch crime settings ($M = 5.22, SD = 3.25$) than Ghanaian crime settings ($M = 4.30, SD = 2.83$). The interaction effect between cultural group and crime setting on incorrect background details reported was not significant, $F(2, 197) = 1.50, p = .23, \eta_p^2 = .02$.

The analysis also revealed that the main effect of cultural group on background details withheld by participants was significant, $F(2, 197) = 15.06, p < .001, \eta_p^2 = .13$. Participants from urban Ghana withheld significantly more responses for questions on background details than participants from the Netherlands ($p < .001$). We also found a similar pattern for participants from rural Ghana, who withheld significantly more responses to questions on background details, than participants from The Netherlands ($p < .001$). No significant difference was observed for

withheld responses for participants from rural Ghana and urban Ghana ($p = .781$; See Table 2.1). The setting of crime also had a significant main effect on background details withheld by participants, $F(1, 197) = 54.54, p < .001, \eta_p^2 = .22$. Participants withheld more background details for Ghanaian crime settings ($M = 10.33, SD = 4.53$) than Dutch crime settings ($M = 8.24, SD = 3.81$). The interaction effect between cultural group and crime setting for background details withheld by participants was not significant, $F(2, 197) = 2.47, p = .09, \eta_p^2 = .02$.

Type of Detail Reported. The total (correct and incorrect) amount of details reported for central and background details for each group was compared to find out the type of detail that dominated in their reports. Participants from rural Ghana reported significantly more central details than background details, $F(1, 74) = 304.58, p < .001, \eta_p^2 = .81$. Participants from urban Ghana also reported significantly more central details than background details, $F(1, 69) = 370.02, p < .001, \eta_p^2 = .84$. We found the same pattern for participants from The Netherlands who also reported significantly more central details than background details, $F(1, 54) = 334.83, p < .001, \eta_p^2 = .86$ (See Table 2.3). Notwithstanding the observation that in all cultural groups central details dominated in the memory reports, the cultural groups significantly differed in amount of central details reported, $F(2, 197) = 44.11, p < .001, \eta_p^2 = .31$. Participants from The Netherlands reported significantly more central details than participants from urban Ghana ($p < .001$), who also reported more central details than participants from rural Ghana ($p < .001$).

Table 2.3

Means (Standard Deviation) of amount of central vs background details for cultural groups under free and cued recall

	The Netherlands				Urban Ghana				Rural Ghana			
	Central		Background		Central		Background		Central		Background	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
Free Recall	45.13	19.21	25.65	11.70	34.16	14.27	18.54	12.34	21.69	9.41	9.55	6.66
Cued Recall	57.75	10.97	32.91	9.89	46.43	11.83	20.97	8.02	38.13	12.24	17.64	8.59

Self-Reported Cultural Orientation

We conducted an exploratory analysis on the self-reported cultural orientation of participants from the cultural groups. The analysis revealed that the cultural groups did not differ on horizontal collectivism, $F(2, 197) = .69$, $p = .50$, $\eta_p^2 = .01$, but did differ on vertical collectivism, $F(2, 197) = 8.30$, $p < .001$, $\eta_p^2 = .08$. Participants from rural Ghana ($M = 29.72$, $SD = 6.87$) scored significantly higher on vertical collectivism than participants from The Netherlands ($M = 26.20$, $SD = 4.67$) ($p = .002$). Participants from urban Ghana ($M = 30.01$, $SD = 4.99$) also scored higher on self-reported vertical collectivism than participants from The Netherlands ($p < .001$). There was no significant difference between participants from rural Ghana and urban Ghana on vertical collectivism ($p = .95$).

There was also a (marginally) significant difference between the cultural groups on horizontal individualism, $F(2, 197) = 3.05$, $p = .05$, $\eta_p^2 = .03$. Participants from rural Ghana ($M = 26.83$, $SD = 6.45$) and The Netherlands ($M = 25.84$, $SD = 4.78$) did not differ on scores on horizontal individualism ($p = .57$). There was also no significant difference between participants from rural Ghana and urban Ghana ($M = 28.29$, $SD = 5.21$) on self-reported horizontal individualism ($p = .29$). However, there was a significant difference in self-reported horizontal individualism between participants from urban Ghana and The Netherlands ($p = .02$). Participants from urban Ghana gave higher ratings than participants from The Netherlands on horizontal individualism. The cultural groups significantly differed on self-reported vertical individualism $F(2, 197) = 14.86$, $p < .001$, $\eta_p^2 = .13$. Participants from rural Ghana ($M = 24.52$, $SD = 6.80$) reported higher scores on vertical individualism than participants from The Netherlands ($M = 17.98$, $SD = 7.26$) ($p < .001$). Participants from urban Ghana ($M = 23.04$, $SD = 6.83$) also gave significantly higher ratings on vertical individualism than participants from the Netherlands ($p < .001$). There was no significant difference between participants from rural Ghana and urban Ghana on self-reported vertical individualism ($p = .40$).

DISCUSSION

We examined eyewitness memory reports of individuals from different cultural groups thought to typify individualistic (Western Europe) and collectivistic cultures (sub-Saharan Africa). The results appear to reveal a tendency toward the under-reporting of details by sub-Saharan African mock witnesses. In addition, central details dominated in the eyewitness

memory reports provided across cultures. The results also showed that in free recall, sub-Saharan African mock witnesses reported more correct central details when the crime scenario was witnessed in their own-native setting than when it was witnessed in a non-native setting. Western European mock witnesses also reported more correct central details in cued recall when the crime scenario was witnessed in their own-native setting than a non-native setting. Mock witnesses from sub-Saharan Africa reported more background details about a non-native setting than they did for their own-native setting under cued recall. Crime context did not appear to affect the nature of correct background details that Western European mock witnesses reported in free recall. However, they reported more correct background details when crime was witnessed in their own-native setting than a non-native setting in cued recall.

The differences between cultural groups with respect to the amount of reported details is noteworthy. One possible explanation for this finding could be elaboration differences due to socialisation affordances (Peterson, Sales, Rees, & Fivush, 2007). Such a difference is conspicuous in childrearing practices, where it has been observed that parents from individualistic cultures provide much more feedback to their children in conversations than those from collectivistic cultures (Wang, 2004). It may be the case that differences in linguistic elaboration are transmitted to children and persist to later adulthood. Consequently, while eyewitnesses from collectivistic cultures report details about a crime scene, they may not spontaneously provide a detailed elaboration in their memory narratives. This speculation fits with assertions that individuals from collectivistic cultures report less specific and more generic details than individuals from individualistic cultures (Millar, Serbun, Vadalía, & Gutches, 2013; Wang & Ross, 2005). Similar results have been observed in research on deception detection, showing interviewees in individualistic cultures typically report more explicit details than interviewees from collectivistic cultures (Leal et al., 2018). Leal et al. (2018) argued that interviewees from collectivistic cultures tend to leave many things unsaid, allowing the context to communicate what is implied, whereas in individualistic cultures the communication style tends to be more explicit. Therefore, during investigative interviews, it may be necessary to prompt and encourage eyewitnesses from collectivistic cultures to elaborate further on the initial information they provide.

Apart from the possibility of elaborative differences, it may be the case that individuals from collectivistic cultures have a tendency to be

more modest or restrained when providing their memorial accounts than those from individualistic cultures. Cultural differences in self-effacement and self-enhancement have been documented, with self-effacement attributed to collectivistic cultures and self-enhancement attributed to individualistic cultures (Takata, 2003; Yamagishi et al., 2012a). Such differences may reflect cultural disparities in the independent-interdependent construal of the self (Markus & Kitayama, 1991). Individuals from cultures with independent construal of the self are more likely to emphasise the unique attributes of a person. This tendency may be reflected in their self-presentation in regard to expressing themselves, as they may be inclined to emphasise their positive attributes (self-enhancement; Takata, 2003). In contrast, individuals from collectivistic cultures, in comparison to individuals from individualistic cultures, have a tendency to be self-critical and modest about emphasising their unique attributes (self-effacement; Heine, Lehman, & Takata, 2000). Therefore, individuals from collectivistic cultures are more likely to be modest in terms of self-presentation and expression (Wise, Gong, Safer, & Lee, 2010). These concepts have been identified as powerful determinants of behaviour, especially within a social context (Brown & Gallagher, 1992). It is possible for a witness from a collectivistic culture to self-efface when being interviewed, by being modest in terms of the extent of the personal memory narrative provided (i.e., providing a less elaborative or detailed account spontaneously). However, it is worth noting that this tendency to self-efface may attenuate when the implications or stakes of self-effacing are high (Yamagishi et al., 2012a). Future research should explore whether this tendency is attenuated when investigators emphasize the importance of providing details to pursue an investigation.

In the current study, mock witnesses from the collectivistic cultural groups provided more 'Don't Know' responses than those from the individualistic cultural group. Thus, in this study at least, participants from collectivistic cultures might have applied a relatively strict criterion for reporting, and withheld details they remembered but were not confident about (Cai, Brown, Deng, & Oakes, 2007). This pattern aligns well with the self-effacing tendency of collectivistic cultures. In a study on self-effacement and self-enhancement among Canadians and Japanese participants, Heine et al. (2000) found that while the former were confident they performed well on a test, the latter were reluctant to admit that they had performed better. It may be that when sub-Saharan mock witnesses were not confident about memory for certain details, they simply decided

not to report them. Consistent with this notion is the observation that participants from Western Europe, who tend to be more assertive and expressive than people from collectivistic cultures (Matsumoto et al., 2008), provided more inaccurate responses than participants from sub-Saharan Africa which suggests Western European mock witnesses had a looser threshold for reporting accurate details. Future research should examine the extent to which there are cultural differences in the reporting of low-confidence memories.

The social dynamics during the interview may have also played a role in the amount of information mock witnesses reported, particularly those from sub-Saharan Africa. Individuals from sub-Saharan Africa have been shown to be high on the cultural dimension of power distance (Hofstede, 1983). Power distance, another dimension in which cultures differ, is the extent to which a society endorses hierarchy in social relationships (Oyserman, 2006). High power distance (endorsement of hierarchy in social relationships) may inhibit free and spontaneous communication when an individual is in a social interaction with an authority figure (Ghosh, 2011). Consistent with this speculation, in the present study, sub-Saharan African mock witnesses endorsed more hierarchy in social relationships (vertical collectivism) than Western European mock witnesses. Therefore, there is the possibility that the mere fact of reporting to an authority or expert (i.e., a researcher) may have produced cultural differences in the amount of details provided. Future research should explore the impact of this dimension further to (i) determine whether in an interview context, the presence of an authority figure plays a culture-related role in the amount of information reported by witnesses and (ii) explore how such differences might be attenuated.

None of the cultural groups appear to have processed background information deeply (cf. central details; Wong et al., 2017) as, regardless of cultural background, central details dominated in the memory reports provided. This finding does not align with previous research where participants from collectivistic cultures were shown to attend holistically to a visual field (Istomin et al., 2014). However, it is worth noting that the stimuli used in our study were crime scenes and quite different from the stimuli used in previous research. Previous studies used stimuli such as pictures from the physical environment and artistic representations (Boduroglu et al., 2009; Miyamoto et al., 2006). The focus of attention when a crime occurs is likely not the same as any ordinary or neutral everyday scene. For example, in a robbery, the threatening and unusual nature of

the scene will make it more likely for people at the scene to attend to this focal event than other activities that may be going on at the background. The tendency to attend more to noticeable details in a visual field is well documented (Loftus & Mackworth, 1978; Masuda & Nisbett, 2006, Experiment 3; Wang & Pomplun, 2012).

It is also worth noting that past research on culture and visual attention focused mostly on comparing East Asian and other Western cultures. Hence, even though African cultures are regarded as collectivistic, the findings for East Asian cultures may not be generalizable to sub-Saharan Africa. Studies in cross-cultural cognition have largely studied East Asian cultures and it may be that the collectivistic self (interdependent self-construal) may not be a one-size-fits-all phenomenon for all collectivistic cultures. This conclusion is consistent with the notion that collectivism is not a context-free construct (Triandis, 2001). As such, the self-construal for collectivistic cultures may be context-specific. For example, it has been argued that the interdependent self-construal among Africans does not suggest a total loss of the independent self in the collective (Adams & Dzokoto, 2003) and there may be different variations of the interdependent self-construal among collectivistic cultures. In that vein, the holistic-analytic categorisation of visual attention across cultures may be relative. Future research should explore differences between and within different collectivist cultures.

The current results show that the cultural setting in which a crime is witnessed may also be important when considering eyewitness reports. Mock witnesses reported more correct central details for Ghanaian crime settings than for Dutch crime settings for free recall. When cued recall questions were asked, mock witnesses reported more correct central details for Dutch settings than Ghanaian settings. That finding partially aligns with the results of previous research. For example, Masuda and Nisbett (2006) found that both participants from individualistic (North America) and collectivistic (Japan) cultural groups detected focal changes to North American stimuli scenes quicker than they did for Japanese stimuli scenes. In the current research, sub-Saharan African mock witnesses reported more correct central details in free recall, when reporting about crime witnessed in their own-native setting than when it was witnessed in a non-native setting. This superior performance for crime witnessed in a native setting was not observed when cued recall questions were asked. However, Western European mock witnesses reported more correct central details when the witnessed crime was in their own-native

setting than a non-native setting in cued recall, but not for free recall. The own-cultural-setting effect for central details observed for the cultural groups is consistent with work showing familiar environments have the tendency to modulate the processing of visual details (Epstein et al., 2007). However, that explanation does not fit for correct background details witnessed by sub-Saharan African mock witnesses when crime setting was considered, as sub-Saharan African mock-witnesses reported more contextual information about a non-native setting than they did for their own-native setting in cued recall. We suspect that because the non-native setting was an unfamiliar setting, participants from sub-Saharan Africa may have attended more to contextual information in that setting than they did for their own-native setting. Future work should pursue the issue of crime context and how this relates to reporting in cross-cultural contexts.

There are some limitations associated with the current research. The first limitation relates to some unavoidable differences in the education levels for one of the cultural group samples. While the Dutch and urban Ghanaian samples comprised mainly university-level students with a similar age range and were, as such, well matched with respect to education level, this was not the case for the rural Ghanaian sample. Participants from rural Ghana had a minimal level of education and were relatively older. Both of these factors may have affected the performance of this group relative to the other experimental groups – although it is also worth noting that it would likely be impossible to recruit university-level educated sample in rural Ghana. Similar issues relating to the difficulty of matching samples across different cultures is common in the cultural literature (Buil, De Chernatony, & Martínez, 2012). A second possible methodological concern relates to the test language. As the study instructions were translated for participants in rural Ghana who lacked adequate comprehension of the English language, we do not rule out the possibility that the translation into a different language may have in some way affected the outcomes for the rural sample. Finally, we acknowledge that the static nature of the stimuli used limits generalizability to the eyewitness context. Typically, crime events involve dynamic movement and action and the reporting of such information may also vary culturally. While static images might be a useful starting point to examine reporting from memory, future research should adopt the more typical mock witness paradigm using recorded or live events.

CONCLUSION

In this research, we sought to take the first steps in addressing an important gap in the eyewitness literature. Specifically, drawing on samples from sub-Saharan Africa and Western Europe, we examined eyewitness memory reports for differences predicted by theory in the cross-cultural literature. Our results show that individuals from individualistic cultures provide more details in their account of crime scene information, irrespective of type of detail. We also found evidence that regardless of the culture of an eyewitness, central details dominated in their report of crime scene information. Finally, we found evidence that the cultural setting in which a crime is witnessed may play a role in eyewitness memory reports. These findings not only identify important routes for future research in this area but also highlight the importance of considering the cultural background of the witness when eliciting memory reports. As such, these findings should be informative for legal and investigative professionals working in international criminal justice settings, border and security practitioners interviewing in asylum, migration, and intelligence-gathering contexts, and law enforcement personnel who regularly interview witnesses from different cultural backgrounds.



CHAPTER 3

The acculturation effect and eyewitness memory reports among migrants

This chapter is published as:

Anakwah, N., Horselenberg, R., Hope, L., Amankwah-Poku, M & Van Koppen, P. J. (2020). The acculturation effect and eyewitness memory reports. *Legal and Criminological Psychology*, 25 (2), 237 – 256. <https://doi.org/10.1111/lcrp.12179>

ABSTRACT

When people migrate to new cultures, they adapt to their new culture while at the same time retaining the norms of their original culture. The phenomenon whereby migrants adapt to the cultural norms of a host culture has been referred to as *acculturation*. Using a mock witness paradigm, we examined the acculturation effect in the eyewitness memory reports of sub-Saharan African migrants in Western Europe. We sampled sub-Saharan African migrants in Western Europe, as well as sub-Saharan Africans living in Africa as a control group (total N = 107). The mock witnesses were shown stimuli scenes of crimes in African and Western European settings and provided free and cued recall reports about what they had seen. Central details were reported more than contextual details by both groups of sub-Saharan Africans. Relative to the control group of sub-Saharan Africans living in Africa, sub-Saharan African migrants in Western Europe provided more correct central details in free recall. The longer migrants had resided in Western Europe, the less collectivistic they become. Migrants also provided more elaborate reports the longer their duration of residence in Western Europe. The findings of the current research show the new cultural environment of migrants impacts their cultural norms, which may have implications for their eyewitness memory reports.

Keywords: eyewitness memory reports, acculturation, investigative interview, migrants

INTRODUCTION

There has been an increasing trend in migration globally (United Nations Population Division, 2019) which means there is an increasing chance that legal and investigative professionals will interview eyewitnesses who are migrants. No matter who the migrant is or where they have been born, they would have been socialized into a particular cultural context. When individuals migrate to new cultures, they move with the cultural norms and values of their native culture (Sam & Berry, 2010). With time, they may adapt to their new cultural environment, internalizing some of the norms of the host culture in the process (Arends-Tóth & van de Vijver, 2009; Triandis, 2001). The culture in which individuals have been socialised can impact the content of their memory reports (Anakwah, Horselenberg, Hope, Amankwah-Poku, & van Koppen, 2020; Gutchess & Boduroglu, 2019; Wang, 2009). Given that migrants adapt to their new cultural environments, it is necessary to examine whether this adaptation process also shapes the content of their eyewitness memory reports. A lack of relevant knowledge about how migrants formulate their memory reports as a consequence of cultural or acculturation factors may impede efforts at eliciting eyewitness memory reports from migrants. In the current research, we examined whether the acculturation of migrants in their new cultural environment has any impact on their reports from memory about witnessed events.

Cross-cultural differences: Implications for memory reports

Cultural orientation is the predisposition for members of a cultural group to think, feel, and act in ways consistent with the norms of the cultural group (Hofstede et al., 2010). Cultural orientation forms the basis for cross-cultural differences in social relationships (Chioneso, 2008; Hofstede, 2011; Lalwani, Shavitt, & Johnson, 2006; Uchendu, 2007). In his model of national cultures, Hofstede (1983; 2011) proposed six cultural orientations (power distance, masculinity-femininity, individualism-collectivism, long-term orientation, indulgence-restraint, and uncertainty avoidance), with countries considered low or high on each of these dimensions. Among these cultural dimensions, the individualism-collectivism dimension is the most influential regarding social phenomena (Oyserman, Coon, & Kimmelmeier, 2002; Tassell, Flett, & Gavala, 2010; Triandis, 2001). Individualism refers to a cultural orientation where the relationships between individuals tend to be very loose, whereas in collectivism,

the relationships between individuals tend to be very tight (Hofstede, 1983). In individualistic cultures, it is proposed that individual goals are prioritised above that of the group, whereas in collectivistic cultures the goals of the group and collective achievement are prioritised over that of the individual (Sharma et al., 2016). Thus, in collectivistic cultures, individuals are thought to be embedded in a strong cohesive in-group and are expected to remain committed to the in-group (Hofstede, 2001). Countries in Western Europe, North America, and Australia are examples of individualistic cultures whereas countries in sub-Saharan Africa, Asia, and Latin America are examples of collectivistic cultures (Gyekye, 2002; Hofstede, 2011; Minkov et al., 2017).

The prevailing cultural orientation of the society in which an individual is socialized can shape the individual's cultural self-construal and cognition (Chasiotis, Bender, Kiessling, & Hofer, 2010; Gutchess & Boduroglu, 2019; Huang & Park, 2013; Markus & Kitayama, 1991, 2003; Wang, 2001). According to prevalent theories in this domain, individuals socialised in collectivistic cultures tend to develop an interdependent self-construal, whereby the self is viewed as more integrated with the social context (Gyekye, 2002; Markus & Kitayama, 1991, 2010). Interdependent self-construal is proposed to lead to more holistic perception, making individuals inclined to attend more to context in a visual field (Boduroglu, Priti, & Nisbett, 2009; Miyamoto, Nisbett, & Masuda, 2006; Nisbett & Miyamoto, 2005; Wang, 2021). On the contrary, individuals socialised in individualistic cultures tend to develop an independent self-construal, viewing the self more as containing unique dispositions (Markus & Kitayama, 1991, 2010). Independent self-construal is proposed to lead to analytic perception, making people socialised in such cultures more inclined to attend to focal details in a visual field (Chua, Boland, & Nisbett, 2005; Gutchess & Indeck, 2009; Miyamoto et al., 2006; Nisbett & Miyamoto, 2005). These purported cultural differences at the encoding stage can impact right through to the reporting stage (Istomin et al., 2014; Masuda & Nisbett, 2001). For example, Istomin et al. (2014) note that cross-cultural difference in holistic-analytic cognition affects reporting norms of the respective cultures. Consistent with this perspective, some research shows that individuals socialised in individualistic cultures report more information about focal details, while those socialized in collectivistic cultures report more information about contextual details (Istomin et al., 2014; Masuda, Gonzalez, Kwan, & Nisbett, 2008; Masuda & Nisbett, 2001).

Independent-interdependent self-construal may lead to cross-cultural differences in terms of tendency to provide enhanced or elaborate responses (Leal et al., 2018; Wang, 2004). For example, it has been observed that individuals from collectivistic cultures acquire a habitual modest response pattern through socialisation (Markus & Kitayama, 1991). This pattern has been attributed to the tendency for individuals from collectivistic cultures to exercise more self-restraint, a phenomenon known as self-effacement (Yamagishi et al., 2012b). Conversely, in individualistic cultures where the self is viewed as more unique and as embodying significant dispositional attributes (Markus & Kitayama, 1991), there is a tendency to show less restraint and be less modest in individual responses, a phenomenon referred to as self-enhancement (Yamagishi et al., 2012). Thus, whereas individuals from individualistic cultures tend towards self-expression, those from collectivistic cultures are likely to be more self-restrained. These cultural differences in self-presentation may reflect in the content of memory reports (Schwarz, Oyserman, & Peytcheva, 2010). For example, previous research shows cultural differences in self-presentation shape autobiographical memory reports, with individuals from individualistic cultures providing more explicit and detailed autobiographical memory reports (Wang, 2004).

Consistent with research on cultural self-construal and autobiographical memory, research has also demonstrated cultural differences in eyewitness memory reports. For example in research by Anakwah et al. (2020), participants from a collectivistic culture (Ghana) and an individualistic culture (The Netherlands) were shown stimuli scenes of crime scenarios in both countries and reported what they saw. Results showed that mock witnesses from individualistic cultures provided more detailed memory reports than mock witnesses from collectivistic cultures, with a large effect size. Interestingly, irrespective of cultural background, mock witnesses reported more central details than background details. The authors also found that mock witnesses from both cultural groups reported more details when the crime was witnessed in their own-native setting than a non-native setting. These findings demonstrate that a person's cultural orientation and the cultural setting of the witnessed crime can impact the content of their memory reports. If the culture in which individuals are socialised shape their memory reports, does the content of such reports change when one migrates to a new cultural environment?

Acculturation: Implications for eyewitness memory reports

The phenomenon whereby individuals who have been socialised in their native culture migrate to a new culture and adapt to the norms of the host culture has been referred to as acculturation (Berry, 2003; Birman & Simon, 2013; Chudek, Cheung, & Heine, 2015; Kim, 2001). The acculturation process involves both cultural and psychological change (Berry, 2003; Bhugra, 2004; Hedden, Ketay, Aron, Markus, & Gabrieli, 2008). For example, it has been shown that the traditional family values of immigrants with collectivistic cultural orientation living in an individualistic culture decrease with time living in the new cultural environment (Rosenthal, Ranieri, & Klimidis, 1996). As cultural orientation systematically impacts cognition (Chasiotis et al., 2010; Markus & Kitayama, 1991; Park & Huang, 2010), the shifting of the traditional cultural values of the immigrants could also systematically shape their behavior and cognition. It is possible that when migrants adapt to a new cultural environment, the adaptation process systematically shapes their cultural self-construal and psychological processes. Consistent with this argument, research by Mesoudi, Magid, and Hussain (2016) shows that migrants from collectivistic cultures now living in individualistic cultures do not differ from the indigenes of the host culture in terms of holistic-analytic cognition and self-enhancement, the individualistic cultural disposition to be self-expressive and less restrained. In this research, participants were groups of migrants with collectivistic cultural backgrounds living in the UK and groups of British non-migrants who completed measures of cultural orientation and cognitive styles (categorization and drawing tasks). The researchers also observed that migrants declined in collectivism the longer they lived in the host culture. Although no longitudinal or transitional data were available, such similarities are suggestive of an acculturation effect on the migrants' cultural orientation and psychological processes. As such, the content of eyewitness memory reports of migrants living in individualistic cultures may share similarities with that of eyewitnesses from the host culture.

Previous work shows that the content of the autobiographical memory reports of migrants may be shaped by acculturation (Kim, 2013; Wang, 2013). For example, in a study by Wang (2013), Asian immigrants and Caucasians living in the US received text messages three times within a week that asked them to record what was happening 30 minutes before they received the text message. At the end of the week, the participants were given surprise memory tests about what they had recorded. The Asian migrants and the indigenous Caucasians did not differ in their

autobiographical memory reports. It was also observed that Asian migrants who moved to the USA at an earlier age identified more with American culture and provided more elaborate details than those who migrated at an older age. Thus, while it is important that forensic interviews consider the cultural background of the interviewee, taking cultural background into account when interviewing eyewitnesses who are migrants, without an appreciation of whether acculturation factors might influence their memory reports, may be counterproductive.

The Present Study

Eyewitness evidence is crucial in legal proceedings. Criminal prosecutions, as well as legal decision-making, often rely on eyewitness accounts (Albright, 2017; Fisher, 2010; Wells et al., 2020). To date, there is no research examining the impact of migrants' acculturation on their eyewitness memory reports. Also, studies on acculturation have usually compared migrants with participants from the host culture (Arends-Tóth & van de Vijver, 2009; Mesoudi, Magid, & Hussain, 2016). While that approach allows comparison of cultural values, it does not enable an assessment of potential divergence of cultural orientation within the same cultural group when some have migrated but others have not. An appropriate comparison group in this regard would be members of the same cultural group currently living in the native culture.

Individualistic cultures are usually the regions of destinations for most migrants, who mostly are from countries with collectivistic orientation (Birman & Simon, 2013; United Nations Population Division, 2019). In the current study, we compared the eyewitness memory reports of migrants with a collectivistic cultural background but living in an individualistic culture, with that of those living in their native culture. We recruited sub-Saharan African migrants living in Western Europe, with sub-Saharan Africans living in Africa as a comparison control group. Based on previous findings (Rosenthal et al., 1996), we expected that during the years in Western Europe, self-reported collectivism among sub-Saharan African migrants would decrease. We also expected that the self-reported individualism of sub-Saharan African migrants would increase during the years in Western Europe. Based on the findings of previous research (Anakwah et al., 2020a), we predicted that sub-Saharan Africans living in Western Europe would report more central and background details than sub-Saharan Africans living in Africa. Although previous research shows that mock witnesses report more details for their own-native setting than

a non-native setting (Anakwah et al., 2020a), in view of the hypothesized acculturation, we expected these migrants to report an equal amount of details for sub-Saharan African crime settings and Western European crime settings.

METHOD

Participants and Design

A total of 107 participants took part in the current study. Of these, 60 (10 females, 50 males; $M_{age} = 21.03$, $SD = 2.58$) were sub-Saharan Africans living in Africa and 47 (22 females, 25 males, $M_{age} = 25.38$, $SD = 4.96$) were sub-Saharan African migrants living in Western Europe. Sub-Saharan Africans in Western Europe were from Ghana ($n=20$), Guinea Bissau ($n=3$), Kenya ($n=4$), Malawi ($n=1$), Nigeria ($n=11$), Tanzania ($n=2$), Uganda ($n=2$) and Zimbabwe ($n=3$). One sub-Saharan African migrant did not specify the country of origin.⁶ The migrants were sampled in the Netherlands and the United Kingdom. All the countries migrants originated from are collectivistic in cultural orientation (Hofstede, 1983, 2011; Minkov et al., 2017). Participants in this sample all had university-level education at either bachelors or postgraduate education level (see Supplementary Materials for exploratory analyses with respect to education).⁷ The average duration of residence of the migrants in Western Europe was 99.33 months ($SD = 101.89$; range: 2 – 288 months, equivalence of 0.17 – 24 years). Sub-Saharan Africans living in Africa were born and raised in Ghana. Participants who volunteered for compensation were given a €5 shopping voucher in Western Europe, or a GH¢10 credit card voucher in sub-Saharan Africa; some participants opted to take part without compensation. The design was a 2 (Group location: Africans living in Western Europe, Africans living in Africa) X 2 (Crime setting: European setting, African setting) mixed factorial design. The between-group variable was cultural group and the within-group variable was crime setting. Dependent variables

6 This participant was included in analysis as he fell within inclusion criteria specifying sub-Saharan African migrants.

7 Only one of the sub-Saharan Africans living in Africa had primary education level. Excluding data for this participant did not change the pattern of results so it was included in the analysis.

were correct details, incorrect details, and unanswered questions (Don't know responses)⁸ for both central and background information.

Materials

Stimuli. Eight photographs with rich central and background details were used as stimuli. These photographs consisted of four different crime scenarios (a theft, assault, robbery, and an accident). Each of the depicted crime scenarios had a Ghanaian and a Dutch setting. The staged crimes in these settings were by actors from the respective countries. For example, actors for scenarios for Ghanaian settings were all from sub-Saharan Africa. Similarly, actors for scenarios for Dutch settings were from Western Europe. Also, the actors in the respective photos were different for each of the stimuli, for both Dutch and Ghanaian settings. This variation was introduced to limit the impact of any stimuli specific effects. The stimuli were developed, piloted and used in a previous study (Anakwah et al., 2020a). In that study, two of the stimuli were piloted (1 Ghanaian setting and 1 Dutch setting) in Ghana and the Netherlands to find out whether participants regard them as representing their respective settings, and also a crime setting. A total of 14 participants (9 males, 5 females, $M = 24.07$, $SD = 3.20$) from Ghana and 15 participants (4 males, 11 females, $M = 30.40$, $SD = 13.12$) from the Netherlands rated the extent to which the stimuli represented scenes in Western Europe and sub-Saharan Africa, using a five-point Likert scale. The mid-rating score was used as a criterion in determining whether the stimuli received an adequate rating, consistent with previous research (Paz-Alonso et al., 2013). Participants rated the stimuli to adequately represent settings in their respective countries (Ghanaian stimuli – $M = 3.79$, $SD = .97$; Dutch stimuli – $M = 3.33$, $SD = .62$) and also reflect plausible crime scenes (Ghanaian stimuli – $M = 3.43$, $SD = 1.28$; Dutch stimuli – $M = 3.47$, $SD = .83$). Consistent with previous studies, we operationalised centrality both in terms of importance to the plot and visual centrality (Boduroglu et al., 2009; Mahé, Corson, Verrier, & Payoux, 2015; Masuda & Nisbett, 2006; Wong et al., 2017; Wyler & Oswald, 2016). To confirm what constituted central and background event(s), participants in the pilot test made centrality judgments. They were asked the following questions: (a) “What do you regard as central event”, and (b) “What do you regard as background events”. Participants’ judgement of central

8 This variable refers to situations where participants responded don't know or don't remember.

and background events was consistent with our operationalisation, in line with previous research (Davidson & Vanegas, 2015). The stimuli are available at Open Science Framework via https://osf.io/t89hu/?view_only=59e038117b2d4d5588e00c804de3539a.

Cultural orientation scale. The cultural orientation scale (Triandis & Gelfand, 1998) was used to measure the self-reported cultural orientation of participants. The scale measures individualism and collectivism across 16 items and uses a nine-point Likert scale ranging from 1 (never or definitely no) to 9 (always or definitely yes). Sample items are ‘Family members should stick together, no matter what sacrifices are required’ and ‘My personal identity, independent of others, is very important to me’. The cultural orientation scale has a reliability of .75 (Gelfand & Realo, 1999).

Procedures

After consenting to participation, participants completed the cultural orientation scale and provided demographic details (gender, education level, country of origin, and duration of residence in host country). They then viewed the first crime scenario for five seconds. This exposure duration is consistent with exposure durations used in previous studies using similar methodologies (e.g., Levy-Gigi & Vakil, 2014; Prull & Yockelson, 2013; Wang & Pomplun, 2012). Following this, participants completed a short distraction task (mathematical problem) for five minutes. After that, participants provided a free recall account of what they had seen in the crime scenario. They were asked to provide as much information as possible in their own words and to be as accurate and detailed as possible. Participants had up to six minutes to provide this verbal free recall and were informed they still had time to remember and report more if they finished their initial account before the six minutes had elapsed. This time limit was based on earlier pilot observations and all participants completed their account before six minutes had elapsed. Following the free recall task, participants were asked a series of cued recall questions about the scenario. The cued recall task consisted of 20 questions about details of the stimulus event (10 questions each about central and background details). Cued recall questions alternated between central and background details. Participants then viewed the next crime scenario after which they completed a distraction task. Again, this was followed by free and cued recall tasks. The instructions and questions were in English, for all participants, who were all proficient in the

language.⁹ The procedure continued, using exactly the same instructions for all groups until participants had finished viewing all four of the crime scenario stimuli. The presentation of the crime scenario stimuli was counterbalanced. The interviews were conducted by the first author and a research assistant, who were both trained on the study protocol and used the same script. The study protocol received ethical approval from the Ethics Review Committee Inner City faculties, Maastricht University, and the Ethics Committee for the Humanities, University of Ghana.

Coding

The coding protocol used by Anakwah et al. (2020) was used in coding the transcripts for the current experiment. The protocol categorises the crime scenario details into central and background information, based on the stimulus centrality established in the pilot study. For both the free and cued recall tasks, information that was present in the stimuli and accurately described was scored as correct. Information that was present but described inaccurately was scored as incorrect. A response was also scored as incorrect if it was a detail mentioned by participants that was not actually present in the scene. 'Don't know' or 'Don't remember' responses to cued recall questions were coded as unanswered questions. Subjective (e.g. The car belonged to the woman lying on the floor) and vague responses (e.g. left or right arm) were not coded. Each detail that was scored as correct received 1 point. Similarly, each detail scored as incorrect received 1 point. This was same for both free and cued recall. Don't know responses under cued recall also received 1 point each. The scores were aggregated for the respective variables. The first author conducted the coding. A second coder who was also trained on the coding guide and blind to the hypothesis coded 17% of the transcripts for inter-coder reliability. There was high inter-rater reliability. Intra-class correlation coefficients ranged from .72 to .99 (see Supplementary Materials).

RESULTS

The analysis was conducted using mixed ANOVA with group location as the between-subjects factor and crime setting as the within-subject factor. Pearson's r was used for analysis on the relationship between migrants'

9 All migrant participants and participants in Ghana were proficient in English. The official language and medium of instruction in educational institutions, from basic to tertiary level in Ghana is English.

duration of residence and internalised cultural norms, as well as analysis on the relationship between migrants' duration of residence and reported details.

Free recall

Central Details. There was a significant main effect of group location on the number of correct central details reported, $F(1, 105) = 5.32, p = .02, \eta_p^2 = .05$. Sub-Saharan African migrant mock witnesses ($M = 12.81, SD = 6.31$) reported more correct central details than sub-Saharan African mock witnesses living in Africa ($M = 9.98, SD = 6.27$). See Table 3.1 for descriptive statistics. Crime setting did not have a significant main effect on the number of correct central details reported, $F(1, 105) = .48, p = .49, \eta_p^2 = .01$. The interaction between location and crime setting for the number of correct central details reported was also not significant, $F(1, 105) = .61, p = .44, \eta_p^2 = .01$.

Group location did not have a significant main effect on the number of incorrect central details reported, $F(1, 105) = 3.74, p = .06, \eta_p^2 = .03$. We proceeded with a Bayes analysis and found a Bayes Factor of $BF_{01} = 1.09$, showing weak evidence in favour of the null hypothesis (Raftery, 1995). Sub-Saharan African migrants in Western Europe ($M = .88, SD = .89$) reported more incorrect central details than sub-Saharan Africans located in Africa ($M = .55, SD = .85$). The setting of crime also did not have a significant main effect on the number of incorrect central details reported, $F(1, 105) = .00, p = .98, \eta_p^2 = .000$. The interaction between group location and crime setting was also not significant $F(1, 105) = 1.90, p = .17, \eta_p^2 = .02$.

Background Details. Location of group did not have a significant main effect on the number of correct background details reported, $F(1, 105) = .96, p = .33, \eta_p^2 = .01$. Crime setting, however, had a significant main effect on the number of correct background details reported, $F(1, 105) = 4.19, p = .04, \eta_p^2 = .04$. Mock witnesses reported more correct background details for Western European crime settings ($M = 8.59, SD = .47$) than they did for sub-Saharan African crime settings ($M = 7.38, SD = .59$). There was no interaction effect between crime setting and location of group on correct background details $F(1, 105) = .87, p = .35, \eta_p^2 = .01$.

There was a significant main effect of group location on the number of incorrect background details $F(1, 105) = 6.24, p = .01, \eta_p^2 = .06$. Sub-Saharan African migrant mock witnesses ($M = .77, SD = .82$) reported more incorrect background details than sub-Saharan Africans living in Africa ($M = .38, SD = .77$). See Table 3.1 for descriptive statistics. The setting of crime also

had a significant main effect on the number of incorrect background details $F(1, 105) = 11.61, p = .001, \eta_p^2 = .10$. Mock witnesses reported more incorrect background details for Western European crime settings ($M = .72, SD = 1.10$) than they did for sub-Saharan African crime settings ($M = .37, SD = .81$). However, there was no interaction effect between group and crime setting on incorrect background details $F(1, 105) = 1.49, p = .23, \eta_p^2 = .01$.

Table 3.1

Mean (standard deviation) of correct details, incorrect details, and unanswered questions by groups

			Sub-Saharan African migrants	Sub-Saharan Africans in Africa
			M (SD)	(M (SD)
Free Recall	Correct	Central	12.81 (6.31)	9.98 (6.27)
		Background	8.42 (4.52)	7.55 (4.57)
	Incorrect	Central	.88 (.89)	.55 (.85)
		Background	.77 (.82)	.38 (.77)
Cued Recall	Correct	Central	17.75 (4.80)	16.83 (4.80)
		Background	8.89 (4.18)	7.79 (4.18)
	Incorrect	Central	5.53 (2.19)	4.29 (2.25)
		Background	4.87 (2.54)	4.23 (2.56)
	Unanswered Questions	Central	5.00 (2.61)	5.23 (2.63)
		Background	8.65 (3.63)	9.23 (3.64)

Cued Recall

Central Details. Location had no significant main effect on correct central details reported under the cued recall task, $F(1, 105) = .97, p = .33, \eta_p^2 = .01$. Neither the main effect of crime, $F(1, 105) = .61, p = .44, \eta_p^2 = .01$, nor the interaction, $F(1, 105) = 2.70, p = .104, \eta_p^2 = .03$, was significant for the number of correct central details reported in response to cued recall questions.

There was a significant effect of group on incorrect central details reported in response to cued recall questions, $F(1, 105) = 8.29, p = .01, \eta_p^2 = .07$. Sub-Saharan African migrants ($M = 5.53, SD = 2.19$) provided

more incorrect central details than sub-Saharan Africans living in Africa did ($M = 4.29$, $SD = 2.24$). Setting of crime did not have a significant main effect on incorrect central details reported, $F(1, 105) = .39$, $p = .54$, $\eta_p^2 = .004$. There was also no interaction effect between group and crime setting on incorrect central details reported, $F(1, 105) = 1.30$, $p = .26$, $\eta_p^2 = .01$.

The setting of crime had a significant effect on unanswered questions for central details, $F(1, 105) = 19.30$, $p < .001$, $\eta_p^2 = .16$. There were more unanswered questions about central details for Western European crime settings ($M = 5.66$, $SD = 2.90$) than there was for sub-Saharan African crime settings ($M = 4.58$, $SD = 2.90$). Neither the main effect of location, $F(1, 105) = .21$, $p = .65$, $\eta_p^2 = .002$, nor the interaction between location and crime setting, $F(1, 105) = 1.65$, $p = .20$, $\eta_p^2 = .02$ for unanswered questions about central details was significant.

Background Details. The setting in which the crime was witnessed had a significant main effect on correct background details reported by mock witnesses in response to cued recall questions, $F(1, 105) = 44.11$, $p < .001$, $\eta_p^2 = .30$. Mock witnesses reported more correct background details if the crime was witnessed in a Dutch setting ($M = 9.91$, $SD = 5.20$) than if it was witnessed in a Ghanaian setting ($M = 6.64$, $SD = 4.63$). Neither the main effect of location, $F(1, 105) = 1.8$, $p = .18$, $\eta_p^2 = .02$, nor the interaction effect between location and setting of crime, $F(1, 105) = .17$, $p = .68$, $\eta_p^2 = .002$, on correct background details reported was significant.

Location had no significant main effect on incorrect background details reported, $F(1, 105) = 1.72$, $p = .19$, $\eta_p^2 = .02$. The setting of the crime, however, had a significant main effect on incorrect background details reported by the groups, $F(1, 105) = 12.71$, $p = .001$, $\eta_p^2 = .11$. Mock witnesses reported more incorrect background details for Western European crime settings ($M = 5.06$, $SD = 2.30$) than they did for sub-Saharan African crime settings ($M = 4.04$, $SD = 2.30$). Group location and crime setting had a significant interaction effect on incorrect background details reported, $F(1, 105) = 4.96$, $p = .03$, $\eta_p^2 = .05$. Sub-Saharan African migrant mock witnesses significantly reported more incorrect background details for Western European crime settings than they did for sub-Saharan African crime settings ($p = .001$). Sub-Saharan Africans located in Africa, however, did not differ in incorrect background details reported for both crime settings ($p = .30$). See Table 3.2 for descriptive statistics.

Table 3.2
Means (standard deviation) of correct details, incorrect details, and unanswered questions for crime setting by groups

		Sub-Saharan African Migrants				Sub-Saharan Africans in Africa			
		Ghanaian setting		Dutch setting		Ghanaian setting		Dutch setting	
		M (SD)	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)
Free Recall	Correct	12.79 (7.58)	12.83 (8.85)	10.35 (5.44)	9.62 (5.35)				
	Background	8.09 (7.11)	8.74 (4.78)	6.67 (5.11)	8.43 (4.77)				
Incorrect	Central	.79 (1.06)	.98 (1.38)	.65 (1.33)	.45 (.75)				
	Background	.66 (1.05)	.87 (1.19)	.15 (.44)	.60 (1.01)				
Cued Recall	Correct	17.51 (6.01)	17.98 (6.72)	17.48 (4.70)	16.17 (4.91)				
	Background	7.15 (5.81)	10.64 (5.92)	6.25 (3.44)	9.33 (4.54)				
Incorrect	Central	5.79 (3.49)	5.28 (2.56)	4.22 (2.31)	4.37 (2.31)				
	Background	4.04 (3.58)	5.70 (3.44)	4.03 (2.30)	4.42 (2.47)				
Unanswered Questions	Central	4.62 (3.09)	5.38 (3.03)	4.53 (2.70)	5.38 (.3.03)				
	Background	9.43 (5.10)	7.87 (4.31)	9.82 (3.75)	8.63 (3.90)				

There was no significant main effect of group on unanswered questions about background details $F(1, 105) = .65, p = .42, \eta_p^2 = .01$. Setting of crime had a significant main effect on unanswered questions about background details $F(1, 105) = 10.75, p = .001, \eta_p^2 = .09$. There were more unanswered questions about background details for sub-Saharan African crime settings ($M = 9.62, SD = 4.45$) than Western European crime settings ($M = 8.25, SD = 4.14$). However, there was no interaction effect between group and crime setting on unanswered questions about background details $F(1, 105) = .20, p = .66, \eta_p^2 = .002$.

Prioritised Details

A repeated measures ANOVA was used to determine the type of detail that was mostly reported in the eyewitness memory reports of migrants. Sub-Saharan African migrants in Western Europe provided significantly more central details than background details in both free recall $F(1, 46) = 23.79, p < .001, \eta_p^2 = .34$, and cued recall tasks $F(1, 46) = 119.92, p < .001, \eta_p^2 = .72$. Similarly, sub-Saharan Africans in Africa also significantly reported more central details than they did for background details, also for both free recall $F(1, 59) = 17.05, p < .001, \eta_p^2 = .22$, and cued recall $F(1, 59) = 232.68, p < .001, \eta_p^2 = .80$. See Table 3.3 for descriptive statistics on prioritised details.

Table 3.3

Means (Standard Deviation) of amount of central vs background details for groups under free and cued recall

	Sub-Saharan African migrants		Sub-Saharan Africans in Africa	
	Central	Background	Central	Background
	M (SD)	M (SD)	M (SD)	M (SD)
Free Recall	27.38 (16.41)	18.36 (11.22)	21.07 (10.80)	15.85 (8.48)
Cued Recall	46.55 (14.23)	27.53 (14.40)	42.23 (9.24)	24.03 (8.07)

Duration of residence and memory reports

There was a small but significant relationship between the number of correct central details reported and duration of residence in Western Europe, for both free recall ($r(47) = .29, p = .048$) and cued recall ($r(47) = .30, p = .041$). There was, however, no significant relationship between migrants' duration of residence in individualistic culture and the number

of correct background details reported for free recall ($r(47) = .12, p = .442$) and cued recall ($r(47) = .07, p = .624$).

Migrants and self-reported individualism/collectivism

There was a significant difference in self-reported individualism for the two groups, $t(105) = 2.43, p = .02, d = .47$. Sub-Saharan Africans in Africa ($M = 51.35, SD = 9.55$) gave higher ratings on individualism than sub-Saharan Africans in Western Europe ($M = 46.96, SD = 8.91$). Self-reported collectivism between migrants in Western Europe and Africans located in Africa did not significantly differ, $t(105) = .77, p = .45, d = .15$. However, we found a significant negative correlation between sub-Saharan African migrants' duration of residence in Western Europe and their self-reported collectivism, $r(47) = -.56, p < .001$. Duration of residence in Western Europe was not related with self-reported individualism $r(47) = .01, p = .97$.

DISCUSSION

In this study, we compared eyewitness memory reports provided by sub-Saharan African migrants with reports provided by sub-Saharan Africans located in Africa. We found that mock witnesses across groups reported central details more than they did background details. We also found that sub-Saharan African migrants in Western Europe provided more correct central details in their free recall accounts than did sub-Saharan Africans in Africa. An exploratory correlation analysis showed that the sub-Saharan African migrants reported more details the longer they lived in Western Europe.

Sub-Saharan African migrants reported more correct central details in their free recall than did sub-Saharan Africans living in Africa. This more elaborative reporting by sub-Saharan African migrant mock witnesses could be due to reporting norms in Western cultures that emphasize explicitness (Holtgraves, 1997). Previous research has reported a similar pattern of findings, with Western Europeans providing more detailed responses in their memory reports than sub-Saharan Africans living in Africa (Anakwah et al., 2020a). Through childhood socialization, people from individualistic cultures tend to become more elaborate in communication than people from collectivistic cultures (Jobson, 2009). Wang and colleagues (Wang & Ross, 2005; Wang, Song, & Kim Koh, 2017) observed that such cultural differences in memory reports occur because each culture creates a model of what life narratives or personal storytelling

should look like, resulting in response bias in memory narratives. The model for reporting life narratives in individualistic cultures tends to emphasise specificity and explicitness whereas in collectivistic cultures, reporting models tend to be more general and less explicit (Jobson, 2009; Wang, 2001). Hence, it is possible that through socialization in the new culture, the migrants become adapted to the reporting models of the individualistic culture overtime. That speculation is consistent with the finding that migrants reported more elaborate details the longer they have lived in their new culture. Living in the new cultural environment could facilitate cultural learning and socialization into the host cultural norms. Thus, socialization might occur not only when one migrates as a child or adolescent, but is also the case for adult migrants. That is because, although cultural norms are formalised in childhood and adolescence (Chua et al., 2005; Nisbett & Masuda, 2003), cultural learning facilitates the adaptation of adult migrants to the new cultural environment (Hsu, 2010; Mesoudi, 2018). This adaptation, however, may be more rapid for those who migrated at a younger age (before age 15; Cheung et al., 2011; Tsai, Ying, & Lee, 2000). Notwithstanding, research also shows sub-Saharan migrants who migrated as adults seem to adapt more quickly to the host culture overtime (Chudek et al., 2015). Future research should explore differences in memory reports between those who migrated as children and those who migrated as adults.

It is possible that as migrants adapt to their new cultural environment, they also become predisposed to self-enhance, a cultural disposition identified among individualistic cultures (Takata, 2003; Yamagishi et al., 2012b). Research has shown cultural differences in self-expression, with self-enhancement identified as a characteristic of individualistic cultures whereas self-effacement is identified as a feature of collectivistic cultures (Suzuki et al., 2008). It has been documented that the modest self-presentation among collectivistic cultures could lead to giving modest responses and providing descriptions that are abstract and lack informativeness (Markus & Kitayama, 1991). That tendency for cultures to differ at the level of description might be illustrated by contrasting American and Japanese proverbs, two cultures that reflect the individualistic and collectivistic dimensions, respectively. Markus and Kitayama (1991) note the difference between the American proverb 'the squeaky wheel gets the grease' and the Japanese proverb 'the nail that sticks out gets pounded' (p. 224). These proverbs in the respective cultures illustrate cultural differences in self-presentation. When

migrants from a collectivistic culture move to an individualistic culture, it is likely that the demands of the new culture require migrants from collectivistic cultures to assert their uniqueness. It is possible that, in terms of self-presentation, they become less modest and instead, assert their unique traits and attributes as a way of adapting to the host culture. For example, it has been documented that the communication traits of migrants become more similar to those of the host culture in an effort to meet the new cultural demands (Hsu, 2010). The shift in self-presentation is consistent with studies that have found migrants from collectivistic cultures do not differ from the non-migrant individualistic cultural group in self-enhancement (Mesoudi et al., 2016). It may be helpful to assess the cultural adaptation of the migrant witness (e.g., using a cultural adaptation inventory) to determine migrants' level of acculturation and tailor interviewing techniques accordingly. Thus, we recommend future research to examine this issue further in field settings.

Consistent with the acculturation effect, we found sub-Saharan African migrants' self-reported collectivism decreased with time living in Western Europe. This finding is consistent with studies showing that when people migrate to a different cultural environment, their cultural orientation is impacted as they adapt to the host culture (Bhugra, 2004; Rosenthal et al., 1996). Research shows such migrants can be primed to respond in a manner consistent with either the norms of the host culture or that of their home culture (Adair & Xiong, 2018; Mok & Morris, 2009; Peng & Knowles, 2003; Wang, 2008; Wang & Ross, 2005). Thus, it is possible the migrants adjust their cognitive style depending on the cultural context. In forensic and asylum seeker settings, priming migrants' self-construal might be beneficial for information elicitation. Research on cultural priming has demonstrated the content of memory reports reflects aspects of the self-construal that is primed (Wang & Ross, 2005). Techniques employed in previous research to prime the independent self-construal included asking participants to describe themselves as unique individuals or listing personal attributes and beliefs about themselves, prior to recall (Wang & Ross, 2005). Such priming techniques have been shown to yield results consistent with the aspect of the self that is primed. Future research should examine whether cultural priming would facilitate memory reports consistent with the reporting norms of the primed culture.

There were similar amounts of unanswered questions by Sub-Saharan African migrant mock witnesses and sub-Saharan Africans living in Africa. In a previous study, more questions were left unanswered by

mock witnesses from collectivistic cultures than mock witnesses from individualistic cultures (Anakwah et al., 2020a). The authors argued that mock witnesses from collectivistic cultural background used strict criterion for reporting, which resulted in leaving questions they were not certain or confident about the answer unanswered (Anakwah et al., 2020a). The findings of the current study show that when people from collectivistic cultures migrate to individualistic cultures, that tendency might persist in their memory reports. Thus, even though migrants adapt to their new cultural environment, this does not affect confidence in their memory reports. Hence, during investigative interviews with eyewitnesses who are migrants from collectivistic cultures, it may be appropriate to emphasize that they should report any detail they remember no matter how insignificant it might be. Future research should examine accuracy-confidence trade-offs in memory reports across different cultural groups, including migrants.

Both sub-Saharan African migrants and sub-Saharan Africans living in Africa reported central details more than background details. That finding is not consistent with research on self-construal and cognition showing individuals with collectivistic cultural orientation report more contextual than focal details (Istomin et al., 2014; Masuda, Gonzalez, et al., 2008). That could perhaps be attributed to the fact that previous research on self-construal and cognition used neutral and ordinary scenes as the to-be-remembered stimuli. The stimuli used in the current study, however, depicted crime scenarios. The threatening nature of a crime may draw more attention to the focal details and featured prominently in memory reports than other contextual details (Yegiyani & Lang, 2010). The current finding is consistent with previous research in which mock witnesses reported more central details (cf. background details) about a crime scenario, regardless of their cultural background (Anakwah et al., 2020a).

There are some limitations associated with the present research. The varied experiences when people migrate may limit the generalizability of the study findings. People migrate for different reasons, including to pursue education, to continue relationships, to benefit economically and to seek asylum. Depending on their reasons for migration, migrants are likely to have quite different experiences and exposure to the host culture (Orton, 2012). For example, people who migrated for education or economic reasons are more likely to come into contact with other members of the host culture. As most participants in our study had migrated for education and economic reasons they are likely to have members of the

host culture within their social network, facilitating exposure to the host cultural norms. Conversely, some migrants may have minimal social contact with members of the host culture. Research has shown minimal change in cultural norms among migrants whose social network is limited to migrant members of their home culture (Chioneso, 2008). Future research should examine the extent to which acculturation affects the eyewitness memory report among such migrants. A related limitation is that motivation to embrace the host culture among migrants may vary. For example, migrants who have migrated to Europe for the long-term might have a stronger motivation to embrace and adapt to the host culture than migrants who are in Europe for a short period. Thus, it is likely that the effects of acculturation might differ depending on the motivation of migrants to engage with the host culture. Future research should examine whether motivation to engage with the host culture plays any role in the acculturation effect. It is also possible that people who choose to migrate, share some idiosyncratic features that could be a confound in the current study. In other words, it may be the case that migrants are already different in some way from the population who stay in their native country. A longitudinal design tracking the nature of memory reports of migrants over time, from the period of arrival in the host country, may contribute to a fuller understanding of the extent of acculturation in the memory reports. That said, the comparison group of sub-Saharan Africans located in Africa was a first step in determining how the reporting norms of African migrants change as they adapt to their new culture. This approach is consistent with previous acculturation research where group differences and duration of residence in the host culture were used as a proxy for acculturation (e.g., Berry, Phinney, Sam, & Vedder, 2006; Cheung et al., 2011; Chudek et al., 2015; Wang, 2013; Wang & Ross, 2005).

We also acknowledge the possibility of cross-cultural factors to have accounted for the ratings on the Cultural Orientation Scale. For example, sub-Saharan Africans in Africa self-reported high individualism ratings, inconsistent with the individualism-collectivism model of national cultures. In our previous study comparing Africans with Western Europeans, we found a similar pattern (Anakwah et al., 2020a). Specifically, in that study, sub-Saharan Africans living in Africa self-reported higher individualism scores than Western Europeans. Also, sub-Saharan Africans in Africa in that study did not differ from Western Europeans on self-reported collectivism. Such unexpected responding has been shown to be attributable to a response process that is culturally

grounded (Harzing, 2006) and concerns over such unexpected differences have been expressed in the cross-cultural research literature (Bou Malham & Saucier, 2016; Lalwani et al., 2006). Previous research in cross-cultural psychology has shown that social desirability/ acquiescence response patterns are stronger among collectivistic cultural samples (de Bruïne, Vredeveltdt, & van Koppen, 2018; He & Van de Vijver, 2016; Kim & Kim, 2016), and this issue has been highlighted as a major challenge in conducting cross-cultural surveys (Kemmelmeier, 2016). In view of such response bias in previous cross-cultural surveys, some have argued response bias in cross-cultural studies should be considered a cultural behaviour in themselves (Bou Malham & Saucier, 2016; Kemmelmeier, 2016).

Finally, we acknowledge the possibility of the instruction for participants to recall the event in six minutes to have created time pressure that may have impaired reporting. It is noteworthy, however, that previous verbal free recall task with this kind of stimuli and piloting showed this was an adequate amount of time to make available (Anakwah et al., 2020a). Indeed throughout the testing, none of the participants in any of the groups exhausted the six minutes in the free recall report tasks.

CONCLUSION

The main aim of the current research was to examine whether the eyewitness memory reports of migrants are impacted by their new cultural environment. We sampled mock witnesses who are sub-Saharan African migrants in Western Europe and sub-Saharan Africans living in Africa as a control group. Our results show that migrants originally from a collectivistic culture but now living in individualistic cultures provide more elaborate memory reports in free recall than individuals still located in their native culture. This acculturation effect in eyewitness memory report is consistent with our finding that the self-reported collectivism of sub-Saharan African migrants attenuates with time living in Western Europe. Our findings provide some preliminary insights for investigative professionals with respect to how the eyewitness memory reports of migrants may be impacted as they adapt in their host culture.



CHAPTER 4

The misinformation effect and eyewitness memory reports: A cross-cultural investigation

This chapter has been submitted for publication as:

Anakwah, N., Horselenbeg, R., Hope, L., Amankwah-Poku, M. & Van Koppen, P. J. (2021). *The misinformation effect and eyewitness memory reports: A cross-cultural investigation*. Manuscript submitted for publication.

ABSTRACT

The culture in which individuals are socialised can play a role in shaping their eyewitness memory reports. Based on cultural self-construal theory, we examined cultural differences in the misinformation effect for central and contextual details. In a mock witness paradigm, participants sampled from collectivistic (Ghana; $n = 65$) and individualistic (UK; $n = 62$) cultures were exposed to misleading post-event information. Participants provided a free recall account and then completed a recognition task that included misinformation items. Across cultural groups, misleading post-event information impaired memory for original details to the same extent, for both central and contextual details. This effect was, however, larger for contextual details than it was for central details, for both cultural groups. Mock witnesses from the collectivistic cultural group endorsed misleading items more, in the recognition task than those from the individualistic cultural group. This cultural difference in misinformation endorsement was not observed in the free recall task. These findings provide preliminary insight into the role of cultural self-construal in susceptibility to misleading post-event information across cultures and highlight the need for investigative interviewers in cross-cultural contexts to avoid leading or suggestive questions.

Keywords: eyewitness memory reports, cultural orientation, misinformation effect, investigative interview, self-construal

INTRODUCTION

Eyewitness evidence is crucial in legal proceedings. Criminal prosecutions, as well as investigative decision-making, often rely on eyewitness accounts (Albright, 2017; Fisher, 2010; Wells et al., 2020). Errors in eyewitness accounts can, therefore, have grave implications for the criminal justice system. One of the common sources of such errors is misleading post-event information (Ecker, Lewandowsky, Cheung, & Maybery, 2015; LaPaglia & Chan, 2019; Loftus, 2005). Exposure to misleading post-event information (PEI) can compromise eyewitness evidence, impairing its legal usefulness (Luna & Migueles, 2009). Consequently, investigators have to be aware of the potential impact of misinformation, whatever the source, when conducting investigative interviews (Oeberst & Blank, 2012).

Recent trends in migration (United Nations Population Division, 2019; van Veldhuizen et al., 2018) have made it more likely that investigators will interview eyewitnesses from different cultures. Psychological processes across cultures may differ and the eyewitness memory reports may be shaped by cultural factors (Anakwah et al., 2020a). Given that early work shows that cultural factors may affect reporting (Jobson, 2009; Wang, 2001; 2011), then the reporting of misleading PEI may also vary across cultures.

The misinformation effect

The change in memory about a witnessed event as a result of exposure to erroneous information about the event has been referred to as the misinformation effect (Frenda, Nichols, & Loftus, 2011; Loftus, 2005). Research has demonstrated how an eyewitness' memory for a witnessed event can be altered after exposure to misleading information about that event (Loftus & Palmer, 1974; Stark, Okado, & Loftus, 2010; Weingardt, Loftus, & Lindsay, 1995; Zaragoza, Belli, & Payment, 2007). It has been proposed that the misinformation effect is a result of an impairment in memory that could result when misleading information alters the original memory trace (Belli, Lindsay, Gales, & McCarthy, 1994; Loftus, 1979, 2005). Proponents of this alteration hypothesis posit that there is a permanent loss of the original information after an eyewitness accepts misleading information. Thus, according to that perspective, the encoding of a misinformation item leads to memory impairment by altering the memory traces of the original item. Other perspectives propose that the misinformation effect is not a result of impairment of the original

memory trace but that the original information was not encoded in the first place or not remembered, making individuals likely to accept later introduced misleading information (McCloskey & Zaragoza, 1985). These perspectives provide insights into various ways misinformation can impact the accuracy of eyewitness accounts. In sum, the misinformation effect may be due to the fading of the original memory, failure to properly encode the original memory, and weakening of the original memory trace by misleading PEI (Loftus, 2019; Zaragoza et al., 2007).

The way in which attentional resources are allocated can have implications for the extent of the misinformation effect (Ayers & Reder, 1998; Loftus, 2005). For example, misleading information is more likely to impair memory for an original event when attentional resources at the time of encoding were weak (Frenda et al., 2011; Loftus, 2005; Wright & Loftus, 1998). However, during encoding individuals attend to central details more than peripheral details (Burke, Heuer, & Reisberg, 1992; Christianson & Loftus, 1991; Yegiyani & Lang, 2010). As a result, it is likely that individuals have stronger memories for central details than background details (Ibabe & Sporer, 2004). Hence, susceptibility to misleading information may be stronger for the latter than the former (Candel, Merckelbach, Jelicic, Limpens, & Widdershoven, 2004; Paz-Alonso et al., 2013; Roebbers & McConkey, 2003). What individuals attend to in visual scenes, however, has been shown to vary across cultures (Gutchess & Inneck, 2009; Masuda & Nisbett, 2006).

Culture and cognition

Behaviour and psychological processes are situated within a cultural context. A cultural dimension particularly influential in research in cross-cultural cognition is the individualist-collectivism cultural dimension (Gutchess & Sekuler, 2019; Wang 2021). Individualism is a cultural orientation where the individual is viewed as separated from the social context (Ghosh, 2011; Hofstede, 2001). Collectivism, on the other hand, is a cultural orientation where members from such cultures are not separate from the social context but integrated into a cohesive social relationship (Hofstede, 1983, 2001). Collectivistic cultures include cultures in East Asia, Latin America, and sub-Saharan Africa, while individualistic cultures include cultures in North America, Australia, and Northern Europe (Hofstede et al., 2010; Minkov et al., 2017).

The individualism-collectivism cultural dimension plays an important role in shaping cognition (Gutchess & Boduroglu, 2019; Markus & Kitayama,

2010; Masuda, Gonzalez, Kwan, & Nisbett, 2008; Wang, 2021). Previous research shows that while individuals socialised in individualistic cultures attend more to central (focal) details, those socialised in collectivistic cultures attend more to background (contextual) details (Ji & Yap, 2016; Kastanakis & Voyer, 2014b; Markus & Kitayama, 1991; Masuda & Nisbett, 2001). In their self-construal theory, Markus and Kitayama (1991; 2010) posit that individuals socialised in individualistic cultures develop independent self-construal, whereas those socialised in collectivistic cultures develop interdependent self-construal. According to this account, individuals with an independent construal of the self view the self as containing more unique dispositions and attributes and, consequently, become more oriented to the properties of an object, developing an analytic perception, and attending more to focal events. Individuals having an interdependent construal of the self, however, consider the self to be intricately connected to other members of the society, and value communal living. Markus and Kitayama (1991) further propose that due to the interdependent view of the self, individuals socialised in collectivistic cultures tend to become perceptually oriented to their surroundings (holistic perception), attending more to the context. Consistent with this perspective, previous research has demonstrated differences in attentional allocation across cultures (Boduroglu et al., 2009; Masuda & Nisbett, 2006; Miyamoto et al., 2006). For example, in one such study using a visual change detection paradigm, East Asians were shown to allocate attention broadly at a visual scene, compared to Americans, who attended more to focal details (Masuda & Nisbett, 2006).

The misinformation effect and culture

Given the cross-cultural differences in attentional allocation, memory impairment for central and background details after exposure to misleading post-event information (PEI) may vary cross-culturally. Post-event information is information received after an event has occurred which may contain erroneous details that may impair the memory for the original event (Blank, 1998; Lee & Chen, 2013). In light of previous findings showing that people from collectivist cultures attend more to background than central details (Huang & Park, 2013; Masuda & Nisbett, 2006), it is plausible that misleading PEI may impair memory performance for central details more than for background details in a collectivist sample. That is because when attentional resources are distributed broadly at a visual field, there may be fewer cognitive resources allocated to a focal event

(Boduroglu et al., 2009). Similarly, if individuals from individualistic cultures attend more to focal details than contextual events, their available cognitive resources for background details may be limited. Consequently, for individuals from individualistic cultures, misleading PEI may impair memory performance for background details more than for central details.

Aside from the possibility of cross-cultural differences in memory impairment resulting from misleading PEI, cultures might differ in their tendency to endorse misleading PEI. Due to the independent-interdependent construal of the self, it is possible that individuals from different cultures may respond to social influences differently (Markus & Kitayama, 1991). For instance, it may be that individuals from collectivistic cultures who view the self as integrated with the social context (Markus & Kitayama, 1991), may be more sensitive to social influences than individuals from individualistic cultures. As such, information from other social sources may influence individuals from collectivistic cultures. Similarly, if individuals from individualistic cultures view the self as separate from the social context (Markus & Kitayama, 1991), they may be less likely to incorporate information from other social sources in their accounts.

The Current Study

Research on the misinformation effect spans over four decades. Conclusions from research in this area have largely been based on Western samples and, to date, cross-cultural research using the misinformation effect paradigm is limited. In the present study, we examined the misinformation effect across two cultures. Mock witnesses from sub-Saharan Africa and Western Europe received misleading PEI about an incident, and later provided free recall and completed a recognition test for details of the incident. In line with previous research showing that individuals from individualistic cultures are less sensitive to contextual details (Boduroglu et al., 2009; Huang & Park, 2013; Masuda & Nisbett, 2006), we expected misleading PEI to impair memory for original background details, for mock witnesses from individualistic cultures more than for mock witnesses from collectivistic cultures. Similarly, in line with past research showing individuals from collectivistic cultures attend broadly to contextual details but are less sensitive to central details (Boduroglu et al., 2009), we expected misleading PEI to impair memory for original central details for mock witnesses from collectivistic cultures more than for mock witnesses from individualistic cultures. We also expected the

cultural groups to differ in the extent to which they endorse misleading items, consistent with the theory on independent-interdependent self-construal (Markus & Kitayama, 1991, 2010). Specifically, we expected mock witnesses from collectivistic cultures would accept and report suggested details than mock witnesses from individualistic cultures.

METHOD

Design

A 2 (Cultural Group: Ghana, United Kingdom) x 2 (Misinformation: Control items, Experimental items) mixed design was used. The between-subject factor was cultural group and the within-subject factor was misinformation. The dependent variables were the number of correct details reported about central and background events, the number of incorrect details reported about central and background events, and the number of misleading details reported about central and background events.

Participants

One hundred and twenty-seven undergraduates from Ghana (15 males, 50 females, $M_{age} = 19.89$, $SD = 1.44$) and the UK (30 males, 32 females, $M_{age} = 20.53$, $SD = 2.70$) participated in the study. These participants were born, raised, and lived in the respective countries at the time of testing. The two countries represent the cultural dimension of interest in the current study, as The UK is more individualistic, scoring 89 on the Hofstede Index while Ghana is more collectivistic, scoring 14 on the same index (Hofstede et al., 2010).¹⁰ Participants in Ghana and the United Kingdom were university students in the respective countries. Participants in both countries were proficient in the English language.¹¹ Participants in Ghana were recruited through advertisements and announcements at lecture halls. Participants in the United Kingdom were recruited through advertisements and departmental participant pools. Participants recruited in Ghana received GH¢ 10 voucher for phone credits or opted to

10 On Hofstede's Index, higher score reflects greater individualism. See <https://www.hofstede-insights.com/product/compare-countries/> for comparison of country scores.

11 The study was conducted in English in both countries. The official language and medium of instruction, from basic to tertiary education level in both countries are English.

participate without compensation. Participants in the UK received course credits or opted to participate without compensation.

Materials

Stimulus event. The stimulus event was a film about a theft in a travel agency. In the event, a courier wearing a motorcycle helmet is seen entering the office of a travel agency with a parcel. When she enters the office, a receptionist collects the parcel and signs for it. While the receptionist goes to another room to fetch a glass of water, the courier quickly takes a laptop from the office desk and rushes out of the office. When the receptionist returns, she realises the courier is not in the office and also notices the laptop is not on the desk. The receptionist rushes out and starts shouting to raise the alarm. She attempts chasing the courier, but cannot apprehend her. In the last scene of the event, the courier stops running, removes her helmet, throws it into a nearby garden, and then leaves the scene. The event is approximately 1 minute 30 seconds in duration.

Misinformation items. The stimulus event was piloted to identify misinformation items. Twelve participants (5 males, 7 females, $M = 20.33$, $SD = 2.39$) from Ghana and UK watched the event and provided a free recall in writing of what they remembered. Participants were also asked to indicate within that written report which details they regard as central and background within the event. From the free recall reports of participants, four items with medium to high memorability were identified as critical (target) items, in line with previous studies (Blank et al., 2013; Van Bergen, Horselenberg, Jelicic, & Beckers, 2010). These four critical items were ‘jacket’, ‘desk’, ‘laptop’, and ‘shopping bags’. These selected items were regarded as central (jacket, laptop) and background (desk, shopping bags) details by participants in the pilot study. The critical items were manipulated to produce contradictory misinformation items (Huff & Umanath, 2018; Van Bergen et al., 2010). For example ‘white desk’ (correct item) was changed to ‘black desk’ (misleading item) to develop a contradictory misinformation item.

The pilot data were also used to generate four other (additive) misinformation items. Participants in the pilot study were presented with a list of 21 events (central and background) that were either present or absent in the video event. Participants were asked to rate the plausibility of these events to have occurred in the video event, on a scale of 1 (*not at all plausible*) to 8 (*extremely plausible*), consistent with Scoboria, Mazzoni, Kirsch, and Relyea (2004). Among events that were not present in the

video, four of those events that received the highest plausibility rating were selected. The selected events were ‘The office employee shook hands with the courier’, ‘The courier pulled out a mobile phone at the office’, ‘There were two kids walking at the other side of the street’ and ‘There was a dog on the pavement outside the office’. Thus, in total eight (additive and contradictory) critical misinformation items, comprising central (4 items) and background (4 items) details were selected for the current study. These critical items were used as control and experimental items in a within-subject misinformation design (see Blank et al., 2013, for similar within-subject misinformation manipulation). The misinformation item matrix is presented in Table 4.1.

Post-event narrative. In order to enhance the credibility of the post-event narrative, we prepared a mock news report that gave an account of the incident of theft at the travel agency. The report ended by appealing to the general public to provide information about the perpetrator. This mock news report was formatted to resemble a BBC webpage report (for similar misinformation format, see Gabbert, Hope, Fisher, & Jamieson, 2012). Two versions of the report were prepared, with the control and experimental (misleading) items counterbalanced across the reports, consistent with previous studies (Blank et al., 2013; Garry, French, Kinzett, & Mori, 2008). Thus, although participants read about the same event, half of them were misled about four of the critical items (jacket, desk, kids, phone) but not the other four critical items (laptop, shopping bag, dog, handshake), and vice versa for the other half of the participants. The post-event narratives are available on OSF at https://osf.io/jn36k/?view_only=e24b6afd843b46ed9f5f73f15f6ae97a .

Recognition Test. The recognition test consisted of twelve forced-choice questions; eight questions about the critical (target) items and four filler questions. Consistent with Zhu et al. (2013), each question offered four possible response options: the original item, misinformation item; new foil item and, to minimise guessing (Paz-Alonso et al., 2013), a ‘don’t know’ response option. A sample question is ‘The courier was wearing a_____’, with response options as ‘black jacket’ (original item), ‘brown jacket’ (misinformation item, where this erroneous colour detail is provided in the misinformation narrative), ‘blue jacket’ (foil item) and ‘don’t know’. The twelve forced-choice questions comprised of six questions each about central and background event. The recognition test is available at https://osf.io/fwm3n/?view_only=5bc602edf1e94b35a06b2c06a441404d .

Table 4.1

Misinformation item matrix

	Control detail	Misled detail	Detail Type	Mis-information Type
PEI Set A	The courier looked on as the secretary signed for the parcel.	As the secretary signed for the parcel, the courier pulled out her mobile phone.	Central	Additive
	She ran past a woman wearing black clothes.	She ran past two school children.	Background	Additive
	Black jacket	Brown jacket	Central	Contradictory
	White desk	Black desk	Background	Contradictory
PEI Set B	The courier and the office employee did not shake hands before delivering the parcel.	The courier shook hands with the office employee before delivering the parcel.	Central	Additive
	Just beside the entrance was a bicycle	Just beside the entrance was a dog	Background	Additive
	Grey-coloured laptop	Blue-coloured laptop	Central	Contradictory
	Yellow shopping bags	Green shopping bags	Background	Contradictory

PEI = Post-event information

Cultural orientation scale. This scale measures self-reported cultural orientation. It is a 16-item scale that measures individualism and collectivism on a 9-point Likert scale (1 = *never or definitely no* and 9 = *always or definitely yes*). Sample items on the scale include ‘It is important to me that I respect the decisions made by my groups’ and ‘My personal identity, independent of others, is very important to me’. The reliability of the scale is .75 (Gelfand & Realo, 1999).

Procedure

Participants took part in the study individually. After consenting to participate, they watched the video event, which was followed by a distraction task (visual illusion task and mathematical problems) for 15 minutes. Participants were then asked to read the mock news report (post-event narrative) and were told that it was a media report about the incident published after it occurred. The presentation of the post-event narratives was counterbalanced across participants such that half of the participants received PEI Set A while the other half received PEI Set B, whereby each misinformation item was paired with a control item (See Blank et al., 2013; Pansky, Tenenboim, & Bar, 2011, for similar within-subjects misinformation methodology). After reading the post-event narrative, participants were given another distraction task, which lasted 10 minutes (word search and mathematical problems). Following this, participants were asked to provide a verbal free recall of the original event they had viewed in as much detail as possible. This report was audio recorded. After the free recall, participants completed the recognition test. Again, participants were instructed that their responses should be based on what they saw in the film event. After the recognition test, participants completed their demographic information and the cultural orientation scale. Afterward, they were debriefed and thanked for their participation. All instructions and questions were in English for participants, who were all proficient in the English language. Each test session lasted approximately 45 minutes. The study received ethics approval from institutional review boards in the respective countries.

Coding

Free recall responses were transcribed and coded. A coding template for central and background details based on the pilot data was developed. Using this template, the free recall reports were coded for central and background details, with each detail type additionally coded as correct,

incorrect, or as endorsing misinformation. Items that were in the event and rightly described as such were coded as correct (e.g., describing that the courier wore a black helmet). Items coded as incorrect were descriptions that were discrepant with the event (e.g., describing the colour of the courier's helmet as red when in fact it was black). Items that were suggested in the post-event narrative but which did not occur in the target event were coded as misinformation endorsement (e.g., when it was suggested in the narrative that the courier shook hands with the receptionist, and participants mentioned this suggested item in their free recall). Vague or ambiguous responses were not coded. Twenty percent (20%) of the transcripts were randomly selected and coded by a second coder. There was a high inter-coder agreement (intra-crass correlation coefficient) for correct central details (.88), and correct background details (.77).

RESULTS

Free recall

Analysis of free recall was conducted using an independent t-test, with correct details, incorrect details, and misleading details reported, as the dependent variables.

Correct. There was a significant difference in the number of correct central details reported in the free recall task between the cultural groups, $t(125) = 3.61$, $p < .001$, $d = .64$. Participants from UK ($M = 28.31$, $SD = 7.79$) reported more correct central details than did participants from Ghana ($M = 23.18$, $SD = 8.18$). There was also a significant difference between the cultural groups in the number of correct background details reported in free recall, $t(125) = 4.51$, $p < .001$, $d = .80$. Participants from UK ($M = 9.40$, $SD = 3.56$) reported more correct background details than did participants from Ghana ($M = 5.97$, $SD = 4.89$).

Incorrect. There was a significant difference between the cultural groups in the number of incorrect central details reported $t(125) = 3.17$, $p = .002$, $d = .56$. Participants from UK ($M = 1.11$, $SD = 1.12$) reported more incorrect central details than participants from Ghana ($M = .58$, $SD = .73$). However, there was no significant difference between the cultural groups in the number of incorrect background details reported (Ghana - $M = .46$, $SD = .90$; UK - $M = .53$, $SD = .72$), $t(125) = .49$, $p = .63$, $d = .09$.

Misinformation. Participants from the UK ($M = .16$, $SD = .41$) and Ghana ($M = .12$, $SD = .33$) did not significantly differ in the number of

misinformation details reported in the free recall task for central details, $t(125) = .58$, $p = .57$, $d = .10$. Similarly, there was no statistically significant difference between participants from the UK ($M = .06$, $SD = .25$) and Ghana ($M = .14$, $SD = .39$) with respect to the number of misinformation details reported for background details, $t(125) = 1.27$, $p = .21$, $d = .23$.

Misinformation effect in recognition task

Memory for original details. To examine the impact of misinformation on memory for original details for the recognition task, we compared the number of correct responses for control and experimental (misleading) items. A mixed factorial ANOVA was conducted with cultural group (Ghana, UK) as between-subject factor and misinformation (control items, experimental items) as a within-subject factor. The dependent variables were the total number of correct central details (memory for original central details) and the total number of correct background details (memory for original background details) selected in the recognition task. Memory for original central details after exposure to misinformation was similar across cultural groups, as there was no significant difference between participants from Ghana and the UK $F(1, 125) = 1.02$, $p = .315$, $\eta_p^2 = .01$ (see Table 4.3). There was, however, a significant main effect of misinformation on the number of correct central details selected, $F(1, 125) = 51.95$, $p < .001$, $\eta_p^2 = .29$. Misleading (experimental) items ($M = 1.18$, $SD = .75$) impaired participants' memory for original central details more than did control items ($M = 1.72$, $SD = .49$), in the recognition task. The interaction between cultural group and misinformation was significant $F(1, 125) = 4.75$, $p = .031$, $\eta_p^2 = .04$. A planned comparison revealed memories for original central details were impaired by misleading items more than control (non-misleading) items, for both participants from the UK ($p = .001$) and Ghana ($p < .001$). The magnitude of the simple main effect could account for this interaction, as the slopes of the simple main effect for both cultural groups had the same direction. See Table 4.2 for means of control and experimental items for the respective groups.

The cultural groups did not significantly differ in memory for original background details after exposure to misinformation, $F(1, 125) = 3.04$, $p = .084$, $\eta_p^2 = .02$ (see Table 4.3). There was, however, a significant main effect of misinformation on the number of correct background details selected $F(1, 125) = 38.36$, $p < .001$, $\eta_p^2 = .24$. Participants' memory for original background details was impaired more when they were misled (Experimental; $M = .72$, $SD = .69$) than when they were not misled

(Control; $M = 1.31$, $SD = .66$). The interaction between cultural group and misinformation was significant $F(1, 125) = 4.19$, $p = .043$, $\eta_p^2 = .023$. Both participants from Ghana ($p < .001$) and the UK ($p = .006$) reported more correct control items than misled items.

To assess whether the cultural groups are more susceptible to misinformation about a particular type of detail, we compared correct central and correct background details selected on the recognition test by participants from the respective cultural groups. On control items, both participants from Ghana [$F(1, 64) = 16.39$, $p < .001$, $\eta_p^2 = .20$] and UK [$F(1, 61) = 16.66$, $p < .001$, $\eta_p^2 = .21$] selected more correct central details than correct background details. For experimental items, participants from Ghana selected more correct central details than correct background details, $F(1, 64) = 19.30$, $p < .001$, $\eta_p^2 = .23$. Participants from the UK also selected more correct central details than correct background details for experimental items, $F(1, 61) = 17.93$, $p < .001$, $\eta_p^2 = .23$ (see Table 4.2).

Misinformation endorsement. Apart from the effect of misinformation on memory for original items, we also examined the effect of misinformation on the acceptance of misleading items (misinformation endorsement) in the recognition task. To that end, we conducted a mixed factorial ANOVA with cultural group (Ghana, UK) as a between-subject factor and misinformation condition (control items, misleading items) as a within-subject factor. The dependent variables were the total number of misleading items selected (endorsed) for central details and the total number of misleading items selected for background details. There was a significant main effect of cultural group on the endorsement of misleading items about central details $F(1, 125) = 4.77$, $p = .031$, $\eta_p^2 = .04$. Participants from Ghana endorsed more misleading items about the central event than did participants from the UK (See Table 4.3). There was also a significant main effect of misinformation on the endorsement of misleading items about central details $F(1, 25) = 41.87$, $p < .001$, $\eta_p^2 = .25$. Participants selected experimental (misleading) items ($M = .58$, $SD = .75$) more than control (non-misleading) items ($M = .11$, $SD = .34$), for central details. The interaction between cultural group and misinformation was not significant, $F(1, 125) = 3.24$, $p = .074$, $\eta_p^2 = .03$.

There was a significant difference between the cultural groups in the extent to which they endorsed misleading items about background details, $F(1, 125) = 5.50$, $p = .021$, $\eta_p^2 = .04$. Participants from Ghana selected misleading items about background details more than did participants from the UK (see Table 4.3). There was also a significant main effect of

misinformation on the endorsement of misleading items about background details, $F(1, 125) = 57.78, p < .00, \eta_p^2 = .32$. Participants selected more experimental (misleading) items ($M = .59, SD = .77$) than they did for control items ($M = .04, SD = .23$), for background details. The interaction between cultural group and misinformation on the endorsement of misleading items about background details was also significant $F(1, 125) = 8.34, p = .005, \eta_p^2 = .06$. A planned comparison revealed participants from Ghana selected more misleading items than control items for background details ($p < .001$). Participants from the UK also selected more misleading items than control items for background details ($p = .001$; See Table 4.2).

Table 4. 2

Means (standard deviations) of memory for original details and misinformation endorsement for misleading and control items by cultural groups on the recognition task

		Memory for original details		Misinformation endorsement	
		Control	Misleading	Control	Misleading
Central	Ghana	1.75(4.34)	1.06(.77)	.12(.33)	.72(.78)
	UK	1.68(.54)	1.31(.71)	.11(.35)	.44(.69)
Background	Ghana	1.34(.67)	.57(.66)	.02(.12)	.77(.82)
	UK	1.27(.66)	.89(.68)	.06(.31)	.40(.66)

Table 4. 3

Means (Standard deviations) of memory for original details and misinformation endorsement by cultural group on recognition task

		Memory for original details	Misinformation endorsement
Central	Ghana	1.41 (.47)	.42 (.40)
	UK	1.49 (.47)	.27 (.40)
Background	Ghana	.95 (.41)	.39 (.38)
	UK	1.08 (.41)	.23 (.38)

Self-reported cultural orientation

Analysis of self-reported cultural orientation revealed that the cultural groups did not significantly differ on horizontal, $t(125) = .15$, $p = .877$, $d = .08$, nor vertical, $t(125) = 1.70$, $p = .093$, $d = .30$, dimensions of individualism. However, they differed on both horizontal, $t(125) = 2.24$, $p = .027$, $d = .39$, and vertical, $t(125) = 2.16$, $p = .033$, $d = .38$, dimensions of collectivism. Specifically, participants from the UK ($M = 28.18$, $SD = 4.26$) gave higher ratings on horizontal collectivism than participants from Ghana ($M = 25.95$, $SD = 6.73$). Participants from Ghana ($M = 29.37$, $SD = 7.36$), however, gave higher ratings on vertical collectivism than participants from the UK ($M = 27.03$, $SD = 4.60$).

DISCUSSION

We examined the misinformation effect in eyewitness memory reports across two cultural groups. We found that misleading post-event information (PEI) impaired memory for original details to the same extent across cultural groups. Contrary to our hypotheses, the misinformation effect was more pronounced for background details than central details, irrespective of the cultural background of mock witnesses. We also found that mock witnesses from the collectivistic cultural group endorsed misleading details more than mock witnesses from the individualistic cultural group. However, this difference in the endorsement of misinformation was absent when free recall questions were asked.

Across cultural groups, memory for original details was impaired to the same extent after exposure to misleading information. Given previous accounts of the misinformation effect (e.g., Frenda et al., 2011; Loftus, 2005), it is possible that the misleading PEI interfered with the memory for original details, causing a similar degree of impairment in memory across cultural groups. This speculation is consistent with retroactive interference, a phenomenon where new information interferes with the retrieval of previously learned information resulting in decreased memory performance (Sosic-Vasic, Hille, Kröner, Spitzer, & Kornmeier, 2018). Thus, it is also possible that during retrieval, there was a competition between original and misleading details about a common critical item leading to impaired memory performance. This perspective is consistent with the argument that the misinformation effect is due to the weakening of the original memory trace by the misleading information (Loftus, 2005; 2019).

Mock witnesses, across cultures, resisted misinformation about central details more than they did for background details, suggesting that across cultures, mock witnesses attended more to central details than background details. This finding runs counter to our hypotheses which were based on previous work describing cultural differences in attention to central and contextual details, with people from collectivistic cultures attending more to contextual details, and vice versa (Masuda & Nisbett, 2006). However, it is worth bearing in mind that previous work on cross-cultural cognition has typically used neutral scenes (Masuda & Nisbett, 2006; Miyamoto et al., 2006). It might be argued that it makes sense that witnesses, regardless of their cultural background, may be inclined to attend more to central details at a crime scene, due to the arousing, threatening or otherwise attention-capturing nature of the crime event (Anakwah et al., 2020a). Thus, the use of forensically relevant stimulus in the current study may have prompted mock witnesses to attend more to the central event. Consequently, stronger memory for central details might have facilitated the detection of details that were inconsistent with what was originally witnessed, leading to resistance to misleading information about central details. Similarly, mock witnesses' susceptibility to misleading background details could be due to weaker memory for the background event, making mock witnesses more susceptible to misleading influences about the background event (Heath & Erickson, 1998; Wright & Stroud, 1998).

We expected mock witnesses from collectivistic cultures would endorse misleading PEI more than mock witnesses from individualistic cultures. We found support for this as the results showed mock witnesses from the collectivistic cultural group endorsed misleading details more than those from the individualistic cultural group. That finding is consistent with the argument that individuals with collectivistic cultural orientation are more sensitive to their social context (Markus & Kitayama, 1991, 2010), making them more susceptible to social influences. Due to that interdependent construal of the self, they may not depend on their own memory alone in their memory reports. That speculation is in line with the argument that in sub-Saharan African societies, the tendency to rely on social sources could be engrained in the socialisation process, culture, and belief system (Wiafe-Akenten, 2020). According to Wiafe-Akenten (2020), heavy reliance on social sources of information in such societies could contribute to misinformation acceptance. In the current study, 61.5% of mock witnesses with collectivistic orientation accepted

misinformation, whereas 41.9% of mock witnesses from individualistic cultures accepted misinformation.¹² Therefore, whereas misinformation acceptance permeates across cultures, the rate of acceptance seems to be higher among collectivistic cultures. During investigative interviews, it may be helpful to ask such witnesses to indicate which of the reported information was a recollection of what they witnessed themselves and which is from other sources.

The weakened endorsement of misinformation among individualistic culture mock witnesses could be due to the view of the self as separate from the social context (independent-self; Markus & Kitayama, 1991, 2010). Consequently, individuals socialised in such cultures would be less inclined to accept misinformation from social sources. Consistent with this speculation, previous work has shown the role of the independent self-construal in resisting misleading PEI in a co-witness paradigm (Pettersen & Paterson, 2012). In that study, however, the interdependent self was not found to be related to susceptibility to misleading influences. The finding of no relationship between the interdependent-self and misinformation susceptibility in that study may be due to the fact that participants in that study were sampled from an individualistic culture and measured on their level of self-construal. It can, therefore, be rightly argued that participants were not representative of individuals from collectivistic cultures, who subscribe to the interdependent construal of the self. In the current study, participants representing the interdependent self-construal were individuals living in their native collectivistic cultural environment since birth. It makes sense that they would have been socialised in the collectivistic culture to develop an interdependent self-construal, viewing the self as embedded in the social context. As a result, they may have become more prone to influences from other social sources such as the media.

It has also been proposed in the literature on cultural self-construal that individuals from individualistic cultures view the self more as possessing unique dispositions than individuals from collectivistic cultures (Coşkan, Phalet, Güngör, & Mesquita, 2016; Markus & Kitayama, 1991, 2010). That proposed cultural difference in the extent at which the self is viewed as possessing unique dispositions might have accounted for the differences in misinformation endorsement observed in the current study. Broadly, individuals who view themselves as not possessing

12 Overall misinformation acceptance across cultural groups was 52%.

sufficient internal attributes are less likely to rely on their own memories in the recount of events (Frenda et al., 2011). It is likely that because individuals from cultures with an independent self-construal view the self as more unique, they are more likely to rely on their own memory and discount information from other sources in their memory accounts. Conversely, because individuals from collectivistic cultures may not view the self more as unique compared with individuals from individualistic cultures (Markus & Kitayama, 2010), they may be less likely to rely solely on their memory in their account of events they have witnessed. They may not discount information from other sources in their memory accounts. Consequently, they may be more likely to yield to post-event information from other secondary sources, compared to individuals from individualistic cultures.

Related to the above, cultural differences in self-presentation could play a role in the extent of misinformation endorsement. Because individuals from individualistic cultures may be inclined to view the self as more unique (Coşkan et al., 2016), it could result in self-enhancement, the tendency to become less restrained and see oneself in a more positive light (Yamagishi et al., 2012). Individuals from collectivistic cultures, on the other hand, have been argued to engage more in self-effacement, the tendency to be modest and more restrained (Takata, 2003; Yamagishi et al., 2012). This difference in self-presentation across cultures may play a role in low-confidence memory reports among mock witnesses from collectivistic cultures (Anakwah et al., 2020a). Thus, it could be that individuals from collectivistic cultures were more likely to incorporate suggested details in their eyewitness memory reports because they were not certain about their memory of the witnessed event. This speculation is consistent with previous findings showing that witnesses with low confidence about their memories are more susceptible to misinformation (Van Bergen et al., 2010). Future research should explore the role of low-confidence memory reports in susceptibility to post-event information across cultures.

Although cross-cultural differences in misinformation endorsement were observed under the recognition test, such differences were not present in the free recall report. Overall, 18% of the sample reported at least one item of misinformation in the free recall (Ghana = 20%; UK = 16%). It is possible that during the free recall, mock witnesses from collectivistic culture engaged in more stringent memory regulation. Mock witnesses from collectivistic cultures might have withheld details that could contaminate their accounts to enhance the accuracy of reported details.

That may also explain why mock witnesses from collectivistic culture reported fewer incorrect details in free recall than mock witnesses from individualistic cultures. That finding is in line with previous research showing mock witnesses from collectivistic cultures reported less incorrect details than those from individualistic cultures (Anakwah et al., 2020a). Mock witnesses from collectivistic cultures should be encouraged to use memory regulation strategies to enhance their memory reports.

Finally, cultural differences were observed in the memory reports generated in the current study. Mock witnesses from individualistic cultures reported more details than those with a collectivistic cultural background. That finding is in line with previous research (Anakwah et al., 2020; Leal et al., 2018; Wang, 2004). Cultural differences in elaborate memory reports could be accounted for by socialisation practices and reporting norms in the respective cultures. Individualistic cultures engage in more explicit reporting, compared to individuals from collectivistic cultures where communication can be more implicit (Hall, 1976; Leal et al., 2018; Wang, 2004). This cultural difference may reflect in eyewitness memory reporting, where individuals from individualistic cultures in the attempt to be more explicit, provide more details in their memory reports (Anakwah et al., 2020a). Related to this is the self-enhancing tendency of individuals with individualistic cultural background, which may lead to more elaborate or enhanced memory report, compared to individuals from collectivistic cultures. Thus, it is more likely that individuals from collectivistic cultures may be more inclined to engage in modest responses, due to the self-presentation norm predominant in such cultures (self-effacement).

A potential limitation of the current study is that the time interval before asking participants to provide memory reports was quite short. In real-life situations, it sometimes takes days before witnesses are called on to give an account. Thus, in instances where eyewitnesses give accounts days after exposure to the post-event information, it is not clear whether the cultural difference in misinformation endorsement would persist or fade with time. Future cross-cultural research on the misinformation effect should ask participants to give memory reports days after receiving the post-event misinformation. There was also no manipulation check to assess whether participants did indeed read the PEI. However, because participants took part in the study individually and in-person (i.e., in the presence of the researcher), they were required to notify the researcher when they finished reading the PEI. Thus, even

though there was no manipulation check, it is less likely this might have affected the outcome of the research. It is also possible that the presence of the experimenter might have played a role in misinformation acceptance, especially for mock witnesses from the collectivistic cultural group. That is because individuals from collectivistic cultures are more sensitive to power differentials (Anakwah et al., 2020a; Piyush Sharma, 2010). Hence, the acceptance of the misinformation could be due to the mere presence of the experimenter. Future research should explore whether, in a situation where the experimenter is not present during testing, misinformation acceptance would still be found. It would also be interesting for future research to examine the role of authority in the acceptance of misinformation across cultures. Specifically, future research should examine whether mock witnesses across cultures would accept misinformation when it is directly coming from an authority figure (e.g., investigator).

CONCLUSION

We examined the misinformation effect across cultures. Our results show that misleading PEI impairs memory performance across cultures. Mock witnesses regardless of their cultural background are more susceptible to misleading information about peripheral details than central details. We also found that mock witnesses with a collectivistic cultural background endorse misleading information more than those with an individualistic cultural background. However, this difference in misinformation endorsement disappears during free recall tasks. These findings provide valuable insights for investigative interviews in cross-cultural contexts.



CHAPTER 5

The effect of authority on eyewitness memory reports across cultures

This chapter has been submitted for publication as:
Anakwah, N., Horselenberg, R., Hope, L., Amankwah-Poku, M., & Van
Koppen, P. J. (2021). *The effect of authority on eyewitness memory reports*.
Manuscript submitted for publication.

ABSTRACT

The culture in which individuals have been socialised can impact on both behaviour and psychological processes. Using the power distance cultural framework, we examined whether eyewitness memory reports provided by individuals from different cultural backgrounds are affected by whom those reports are provided to, in this case an authority figure or a peer. We sampled participants ($N = 115$) from high and low Power Distance (PD) cultures. In a 2 (Cultural orientation: high PD vs. low PD) X 2 (Reporting context: Police vs. Peer) design, participants viewed a mock crime event and later provided free and cued recalls. High PD culture mock witnesses reported similar amount of details when reporting to police and a peer. Low PD culture mock witnesses reported more details when reporting to police than when reporting to a peer. Mock witnesses from low PD cultures provided more details than high PD culture mock witnesses, irrespective of reporting context. Our findings provide insight into the extent to which reporting to an authority figure in an investigative context may affect the content of eyewitness memory reports.

Keywords: Eyewitness memory reports, power distance, culture, investigative interview

INTRODUCTION

Detailed eyewitness reports are crucial in police investigations as well as legal proceedings. In particular, detailed reports can provide valuable leads during investigations. As such, accounts that are sparse or lacking in detail can frustrate investigative efforts and have implications for judicial decisions in criminal prosecutions. Given the crucial role of eyewitness evidence in dispensing justice (Wells et al., 2020), researchers have investigated how best to elicit detailed accounts from eyewitnesses (e.g., Dando et al., 2018; Fisher, Geiselman, & Amador, 1989; Gabbert, Hope, & Fisher, 2009). Because interviewers are increasingly likely to encounter people from different cultures in the conduct of investigations, the need to improve understanding in eliciting details from eyewitnesses in cross-cultural contexts is clear (Anakwah et al., 2020a; de Bruïne et al., 2018; Hope & Gabbert, 2019). As individuals, eyewitnesses have been socialised into their respective cultures, hence, attendant cultural dynamics may play out in social situations, such as the investigative context. In eyewitness interviews, the audience for the account provided by the witness is typically an authority figure, such as a police investigator (McCallum, Brewer, & Weber, 2016). Different cultures have different norms regarding relating or interacting with authority figures (Hofstede, 2011). It is not clear whether or how such dynamics will impact on the nature or content of reports from memory in an investigative context. In the current research, we examined whether there is any preliminary evidence for an authority effect in the eyewitness memory reports provided by eyewitnesses from different cultures.

Authority and eyewitnesses

Authority is characterised by an influence that one social actor exerts over another (Morselli & Passini, 2011). It has been proposed to determine the outcome of social interactions (Cialdini, 2013; Milgram, 1963; Plazinić, Banjac, & Joksimović, 2019). According to Cialdini (2013), because individuals are socialised right from birth to obey authority figures, authority can exert a powerful influence on them. The influence by authority may be subtle or direct and permeates other aspects of society, including the legal system. Indeed, in law enforcement and other investigative contexts, interviews are conducted by investigators who are accorded an authority status. The perceived authority in investigative contexts may impact on the amount of information an interviewee is

willing to provide. Specifically, research shows that authority influences informational outcomes within an investigative interview context (Goodman-Delahunty & Howes, 2016). In one study, participants took part in a mock crime and later provided written statements and were interviewed in a high or low authority context (Matsumoto & Hwang, 2019). Authority in that study was manipulated by using indirect trappings of authority. Specifically, in the high authority condition, the interviewer was formally dressed in a suit, tie, and had a photo ID. There were also two certificates from the law enforcement agency that hung on the wall of the interview room. Both certificates bore a fictitious name of the interviewer and attested to the interviewer's competence. Also on the wall of that interview room was a photoshopped image of the interviewer with a well-known law enforcement official. In the low authority condition, the interviewer wore a plain white shirt and had no photo ID. The low authority condition also had a certificate on the wall but the inscriptions on it were unintelligible. Results revealed that the participants in the high authority condition provided more explicit details in both verbal and written statements.

The results of research examining the effects of authority on memory reports have been inconsistent. When asked to provide memory reports of a short story either to an experimenter or a co-participant, participants in both conditions did not differ in detail provision (Hyman, 1994). Similarly, McCallum et al. (2016) found mock witnesses did not differ in informativeness when providing their reports in either a high authority (police) or a low authority (an experimenter) condition. McCallum et al. (2016) noted, however, that the mock witnesses in their study might have perceived both the police and experimenter as experts. Indeed, in this example, both scenarios may be considered as involving an authority, hence the ensuing social dynamics when interviewing mock witnesses may have impacted information elicitation to a similar degree.

The social dynamics when individuals from different cultures are being interviewed by an authority figure may vary (Ghosh, 2011; Goodman-Delahunty & Howes, 2016). That could have implications for informational outcomes during investigative interviews in cross-cultural settings. That is because information elicited during investigative interviews of witnesses is not only determined by cognitive processes, such as memory, but also by the social dynamics between the interviewer and interviewee (Abbe & Brandon, 2013; Fisher, Milne, & Bull, 2011). Given that cultural norms in interacting with authority figures differ, the social dynamics present

when a police investigator is interviewing eyewitnesses from different cultures may not be the same across witnesses. It is, therefore, reasonable to argue that authority might impact information elicitation differently across witnesses with different cultural backgrounds.

Authority and memory reports across cultures

An individual's cultural background may impact social interactions with authority figures (Hofstede, 2011; Khatri, 2009). The cultural dimension of power distance sheds light on how the perceived inequality in society might affect social interactions (Hofstede, 1983). Power distance refers to the extent to which members of a society accept and perceive inequality in power, prestige, and wealth (Oyserman, 2006). Cultures with high power distance endorse hierarchy in social relationships, whereas that is not the case for cultures with low power distance. In high power distance cultures, there usually exists a communication gap between subordinates and authority figures (Ghosh, 2011; Khatri, 2009). This hierarchy in communication norms can make it difficult for subordinates to express their views to superiors (Gosh, 2011). Specifically, Ghosh (2011) notes that in cultures with high power distance, free and spontaneous communication may well be inhibited.

The cultural dimension of power distance is associated with the cultural dimension of individualism-collectivism (Minkov et al., 2017). The individualism-collectivism cultural dimension concerns the extent to which individual members of a cultural group are considered integrated in (or separate from) their social context (Hofstede, 2011). In individualistic cultures, the relationship between individual members is conceptualised as loose, whereas in collectivistic cultures a tighter relationship among individual members of the cultural group is predicted (Hofstede et al., 2010). It has been posited that individuals from individualistic cultures prioritise their own thoughts, opinions, and view the self as more unique (Markus & Kitayama, 2010; Wasti, Tan, Brower, & Önder, 2007). In contrast, it has been posited that individuals from collectivistic cultures subordinate their opinions and preferences to that of the social group, in an effort to maintain group harmony (Wasti et al., 2007). It has been proposed that this may result in cultural differences in self-presentation, where individuals socialised in collectivistic cultures show self-effacement (modesty), whereas those socialised in individualistic cultures show self-enhancement (self-expression; Takata, 2003). These self-presentational differences may have implications for cultural differences in confidence

in performance (Heine et al., 2000). For example, when asked about how well they performed on a test, Japanese (collectivist) participants were reluctant to accept they performed better than their average classmate, whereas Canadian (individualist) participants refused to conclude that they performed worse than their average classmate (Heine et al., 2000).

The individualism-collectivism cultural dimension may also shape the content of memory reports (Wang, 2006). Research has shown a consistent pattern of underreporting among individuals socialised in collectivistic cultures relative to counterparts from individualistic cultures (Anakwah et al., 2020a; Anakwah, Horselenberg, Hope, Amankwah-Poku, & van Koppen, 2020b; Wang, 2006). For example, in one study using a mock witness paradigm, participants sampled from Ghana (collectivistic culture) and the Netherlands (individualistic culture) provided a free recall account and answered questions about a crime event. Mock witnesses socialised in the collectivistic culture reported fewer details than those socialised in the individualistic culture, who provided more elaborate memory reports (Anakwah et al., 2020a). In another study examining the effects of acculturation using a similar paradigm, it was found that migrant mock witnesses with a collectivistic cultural background who now live in an individualistic culture provided more elaborate memory reports than mock witnesses still living in the native collectivistic culture (Anakwah et al., 2020b). In both of these studies, it may be that cross-cultural differences in relating with authority figures could account for the underreporting among witnesses living in their native collectivistic culture. Specifically, and as argued by Anakwah et al. (2020a), it may be that mock witnesses perceived the experimenter as an expert, hence, impeding spontaneous reporting for mock witnesses socialised in collectivistic cultures. In line with that argument, it was also found in that study that mock witnesses from the collectivistic cultural group scored higher on vertical collectivism (endorsement of hierarchy in social relationships) than mock witnesses from the individualistic cultural group. Thus, due to the perceived power status of the interviewer, interviewees with cultural backgrounds where hierarchy in social relationships is emphasised may not spontaneously provide detailed reports.

Differences in the effects of authority on reporting across cultures may emerge due to socialisation practices. In childrearing practices in most collectivistic cultures, it is normative to emphasise obedience, respect, and fear of authority figures in social relationships (Wang, 2006). In a study involving Chinese and American mothers interacting with their respective

children, Wang (2006) noted that the conversation between a Chinese mother and her child, focused on reinforcing the mother's position as an authority figure, with the mother directing the course of the conversation whereas this did not tend to be the pattern for North American mothers. Subsequently, American children provided more elaborate reports than Chinese children when sharing memory reports with their mothers. Burns and Radford (2008) made a similar observation with a sub-Saharan African sample. In that research exploring parent-child interaction among Nigerian families, parent-child dyads playing and talking in their home contexts were observed. The study showed conversations between the mothers and their respective children were instructional and often involve directive talk. The authors noted that the use of instructional talk by Nigerian mothers when conversing with their children was ingrained in cultural norms. Specifically, they indicate that such cultures specify the role of adults (authority figures) and children when engaging in conversations. For that reason, the authors emphasise the need to take cultural contexts into account when evaluating such interactions. Thus, sensitivity to authority status during social interactions with authority figures may differ across cultures in view of differences in socialisation practices.

The current study

Efforts at eliciting detailed eyewitness memory reports may be inhibited if there is a limited understanding of whether cultural differences in relating to authority figures (power distance) impacts reporting. To date, no research has been conducted on how the cultural dimension of power distance could impact the information reported by eyewitnesses from different cultures. In view of the increasing cross-cultural contacts within the criminal justice system, it is necessary to examine whether the cultural dimension of power distance could impact the details reported by witnesses.

Mock witnesses were sampled from Ghana and the Netherlands. On Hofstede's Power Distance Index, Ghana and the Netherlands score 80 and 38, respectively (where high scores indicate high power distance). Thus, these two countries represent high and low power distance cultures, respectively. Participants in the role of mock witnesses viewed a crime event and later provided free and cued recall reports. With respect to reporting context, we expected that mock witnesses from the high PD culture would report more correct details to a peer than to the police

on the grounds of the power distance cultural framework (Ghosh, 2011; Hofstede, 2011). Specifically, because individuals socialised in high PD cultures are more sensitive to hierarchy in social relationships, their memory reports to authority figures were expected to be impeded when reporting to a police detective (Ghosh, 2011). This was not expected for mock witnesses from low PD culture who, on the grounds of the power distance cultural framework, we predicted would report a similar amount of details to police and peer (Hofstede, 2011). Thus, because hierarchy in social relationships is less emphasised in low PD cultures, we expected that regardless of the reporting context, witnesses with low PD cultural background would report the same amount of details. Finally, based on research by Anakwah et al. (2020), we predicted that mock witnesses from low PD cultures would report more correct details than mock witnesses from high PD cultures, irrespective of reporting context.

METHOD

Participants and design

A total of 115 participants were sampled for the study. The participants were recruited from Ghana ($n = 66$, $M_{age} = 20.03$ years, $SD = 1.88$) and the Netherlands ($n = 49$, $M_{age} = 22.84$ years, $SD = 2.44$). All participants in both countries had a university-level education and were also proficient in the English language.¹³ Participants in Ghana were recruited through announcements in lecture halls. Participants in the Netherlands were recruited by advertisements on university campus. Participants who volunteered for compensation received a €5 shopping voucher for participants in the Netherlands and GH¢10 voucher for phone credit, for participants in Ghana. Some participants opted to participate without compensation.

The design was a 2 (Cultural orientation: High Power Distance, Low Power Distance) X 2 (Reporting context: Police, Peer) between-subjects design. The independent variables were cultural orientation and reporting context. The dependent variables were the number of correct details reported, the accuracy of details reported (proportion of correct details

13 Participants across cultures were proficient in English. The official language in Ghana is English, which is the medium of instruction from basic to tertiary level of education.

relative to the total number of details), unanswered questions, and confidence about the overall report in free and cued recall.

Materials

Stimulus event. Stimuli for the study was a recording of a mock crime about a theft in a travel agency. In the event, a courier wearing a motorcycle helmet and holding a parcel walks towards a travel agency. When the courier enters the office, she delivers the parcel to the receptionist, who signs for it. After signing for the parcel, the receptionist enters another room to fetch a glass of water while the courier is still present. As the receptionist enters the room, the courier quickly picks a laptop on the office desk and hurriedly leaves the office. Upon return with the glass of water, the receptionist realises the courier has left the office. As she sits down, she notices the laptop is no longer on the desk. The receptionist quickly rushes out of the office and sees the courier outside with the laptop. The receptionist raises an alarm by shouting. As the courier runs away, she bumps into a woman with shopping bags, making the shopping bags fall to the ground. The courier continues to run until she gets to a nearby garden where no one was present at scene. She removes her helmet, throws it into the garden, and leaves the scene. The duration of the event is approximately 1 minute 30 seconds.

Personal Cultural Orientation Scale (Piyush Sharma, 2010). This scale measures several dimensions of cultural orientation. For the purposes of our study, the Power and the Social Inequality sub-scales were used to measure self-reported power distance (Sharma, 2010). These two sub-scales comprise four items each. Sample items on the power sub-scale are ‘I find it hard to disagree with authority figures’ and ‘It is difficult for me to refuse a request if someone senior asks me’. Sample items on the social inequality sub-scale are ‘It is difficult to interact with people with different social status than mine’ and ‘A person’s social status reflects his/ her place in society’. Items on the scale are measured on a 7-point Likert scale (1 = strongly disagree; 7 = strongly agree). Reliability for the cultural dimensions (sub-scales) ranges from .72 to .85 (Sharma, 2010).

Procedure

Participants in the study were tested individually. After giving consent for participation, participants viewed the mock crime and then completed a filler task (visual illusion task) for 10 minutes. Participants were then asked to provide a written free recall report about the event they had witnessed.

Participants in the police condition were told to assume they were reporting what they had witnessed to a police investigator. Participants in the peer condition were told to assume they were reporting what they had witnessed to a friend. Participants in both conditions were instructed to be as accurate and detailed as possible in their reports. Participants had up to 10 minutes to give their written free recall report, in line with previous research (Karpicke & Roediger, 2007; Zaromb & Roediger, 2010). They were also informed that should they finish before the 10 minutes elapsed, any remaining time would still be available to them before moving to the next task. All participants across groups completed their reports before the 10 minutes elapsed. Following the free recall report, participants were asked to rate their level of confidence in their overall report on a scale of 1 (*not at all confident*) to 10 (*very confident*). Participants then completed a cued recall task in which they were asked six questions about the event (e.g., ‘What was the courier wearing?’ and ‘What items were on the employee’s desk?’). There was no time restriction on cued recall questions. At the outset, they were reminded again of the audience for these answers (police or peer) and they were instructed to be as accurate and detailed as possible in their answers and to avoid guessing. After responding to the cued recall questions, participants rated their level of confidence in their overall cued recall report, on a scale of 1 (*not at all confident*) to 10 (*very confident*). Participants then completed the cultural orientation scale (measures of Power and Inequality) and provided demographic information. All instructions and questions in the study were in English. Participants were debriefed and thanked for their participation after completion of the procedures. The study received ethical approval from institutional review boards in Ghana and the Netherlands.

Coding

A detailed coding template developed by the first author based on the target event which we used in a previous study was used in coding the transcripts. Items coded as correct were items that were present in the filmed event and rightly described as such by participants (e.g., describing a white desk in the office). Items were coded as incorrect if the description was discrepant with what was in the film event (e.g., describing the office desk as brown, when in fact it was white). Vague (e.g., she was average height) and subjective responses (e.g., the man was handsome) were not coded. ‘Don’t know’ or ‘Don’t remember’ responses were coded as unanswered questions. ‘Don’t know’ response type has also been

referred to as ‘Withheld details’ in the metacognition literature (Koriat & Goldsmith, 1994, 1996). In this study, we used the term ‘unanswered questions’ for the avoidance of confusion. A second coder coded 22% of the transcripts. We found high inter-coder reliability (ICC) for correct details both in free recall (.96) and cued recall (.89).

RESULTS

Free recall

There was a significant main effect of cultural group for the total number of correct details reported in free recall, $F(1, 113) = 52.78, p < .001, \eta_p^2 = .32$. Mock witnesses from the Netherlands ($M = 39.14, SD = 12.13$) reported significantly more details in their free recall reports than mock witnesses from Ghana ($M = 25.36, SD = 9.33$) despite both groups receiving exactly the same reporting instructions. The main effect of reporting context on the total number of correct details reported was not significant, $F(1, 113) = 3.36, p = .07, \eta_p^2 = .03$. There was, however, a significant interaction effect between cultural group and reporting context for the total number of correct details reported, albeit a small effect, $F(1, 113) = 5.87, p = .02, \eta_p^2 = .05$. Mock witnesses from the Netherlands reported more correct details when reporting to police than when reporting to a peer ($p = .02$). Reports provided by mock witnesses from Ghana did not differ in the number of correct details reported to either police or a peer ($p = .62$). See Table 5.1.

The main effect of culture on the accuracy rate of reported details was not significant, $F(1, 113) = .19, p = .67, \eta_p^2 = .002$. The accuracy rate for free recall was high for each group (Ghana – $M = .98, SD = .03$; the Netherlands – $M = .98, SD = .02$). The main effect of reporting context on the accuracy of reported details was also not significant $F(1, 113) = .07, p = .80, \eta_p^2 = .001$. The interaction between cultural groups and reporting context was also not significant $F(1, 113) = .54, p = .47, \eta_p^2 = .01$.

We conducted an exploratory analysis on the confidence in reported details in free recall. There was a significant main effect of cultural group on confidence in overall report for free recall reports, $F(1, 113) = 5.06, p = .03, \eta_p^2 = .04$. Mock witnesses from Ghana ($M = 8.61, SD = 1.16$) had more confidence in their free recall reports than mock witnesses from the Netherlands ($M = 8.16, SD = 1.01$). Reporting context did not have a significant effect on confidence in free recall reports, $F(1, 113) = 2.41,$

$p = .12$, $\eta_p^2 = .02$. The interaction between cultural group and interviewing condition was not significant, $F(1, 113) = .45$, $p = .50$, $\eta_p^2 = .004$.

Table 5.1

Mean (Standard Deviation) for correct details, accuracy rate, unanswered questions, and confidence ratings in the respective conditions by cultural group in free recall and cued recall

		Ghana		The Netherlands	
		Police	Peer	Police	Peer
Free Recall	Correct details	24.79 (7.88)	25.94 (10.67)	43.73 (12.58)	35.41 (10.57)
	Accuracy rate	.98 (.03)	.98 (.03)	.98 (.02)	.98 (.02)
	Confidence	8.51 (1.12)	8.70 (1.21)	7.91 (.97)	8.37 (1.01)
Cued Recall	Correct details	12.39 (4.12)	11.21 (4.46)	20.41 (6.67)	16.81 (4.46)
	Accuracy rate	.89 (.13)	.90 (.10)	.95 (.05)	.92 (.07)
	Confidence	8.06 (1.25)	8.12 (1.41)	7.18 (1.26)	7.33 (1.30)
	Unanswered questions	.39 (.79)	.45 (.71)	.77 (.61)	.70 (.82)

Cued recall

There was a significant main effect of cultural group on the total number of correct details reported in cued recall, $F(1, 113) = 54.64$, $p < .001$, $\eta_p^2 = .33$. Mock witnesses from the Netherlands ($M = 18.43$, $SD = 5.79$) reported significantly more correct details than mock witnesses from Ghana ($M = 11.80$, $SD = 4.30$). There was a significant main effect of reporting context for the total number of correct details reported $F(1, 113) = 6.72$, $p = .01$, $\eta_p^2 = .06$. Mock witnesses reported more correct details when reporting to a police investigator ($M = 16.40$, $SD = .497$) than when reporting to a peer ($M = 14.01$, $SD = 4.90$). The interaction effect between cultural group and reporting context was not significant $F(1, 113) = 1.72$, $p = .19$, $\eta_p^2 = .02$.

The main effect of cultural group on the accuracy of reported details was significant, $F(1, 113) = 6.19$, $p = .01$, $\eta_p^2 = .05$. Responses to cued recall questions provided by mock witnesses from the Netherlands ($M = .94$, $SD = .06$) were more accurate than responses provided by mock witnesses

from Ghana ($M = .89$, $SD = .11$). Both the main effect of reporting context, $F(1, 113) = .40$, $p = .53$, $\eta_p^2 = .004$, and the interaction between cultural group and reporting context on the accuracy of details were not significant, $F(1, 113) = .93$, $p = .34$, $\eta_p^2 = .01$.

The main effect of cultural group on unanswered questions was significant, $F(1, 113) = 4.97$, $p = .03$, $\eta_p^2 = .04$. Mock witnesses from the Netherlands ($M = .73$, $SD = .73$) left more questions unanswered than mock witnesses from Ghana ($M = .42$, $SD = .75$). However, it should be noted that the number of unanswered questions was very small, less than one on average. The main effect of reporting context on unanswered questions was not significant, $F(1, 113) = .001$, $p = .98$, $\eta_p^2 = .000$. The interaction between cultural group and reporting context was also not significant, $F(1, 113) = .21$, $p = .65$, $\eta_p^2 = .002$.

Finally, there was a significant main effect of cultural group on confidence in overall cued recall reports, $F(1, 113) = 11.30$, $p = .001$, $\eta_p^2 = .09$. Mock witnesses from Ghana ($M = 8.09$, $SD = 1.32$) were more confident in their cued recall reports than mock witnesses from the Netherlands ($M = 7.27$, $SD = 1.27$). The main effect of reporting context on confidence in cued recall reports was not significant, $F(1, 113) = .18$, $p = .67$, $\eta_p^2 = .002$. The interaction between cultural group and reporting context on confidence in cued recall reports was not significant, $F(1, 113) = .03$, $p = .86$, $\eta_p^2 = .000$.

Self-reported power distance

On the power dimension of the cultural orientation scale, participants from Ghana ($M = 16.12$; $SD = 5.35$) and the Netherlands ($M = 15.63$; $SD = 4.19$) did not significantly differ in their ratings, $t(113) = .53$, $p = .60$, $d = .10$. There was, however, a significant difference between participants from Ghana and the Netherlands on the social inequality dimension of the cultural orientation scale, $t(113) = 8.29$, $p < .001$, $d = 1.58$, with participants from Ghana ($M = 17.24$, $SD = 4.19$) perceiving more social inequality than participants from the Netherlands ($M = 10.98$, $SD = 3.74$).

DISCUSSION

We investigated whether there is what might be described as an authority effect in the eyewitness memory reports provided by witnesses from different cultural backgrounds. In our sample of participants drawn from high and low power distance (PD) cultures, the reports provided by mock witnesses from the high PD culture did not differ in terms of the amount

of information reported irrespective of the reporting context. However, mock witnesses from the low PD culture reported more details when told the audience for their report would be a police investigator than when told it would be a peer. Irrespective of reporting context, mock witnesses from the low PD culture reported more details in their eyewitness memory reports than mock witnesses from the high PD culture. We also found mock witnesses from the high PD culture were more confident in their memory reports than mock witnesses from the low PD culture.

Mock witnesses from the high PD culture reported the same amount of details irrespective of who they were reporting to. Although this is not consistent with our hypothesis that such witnesses would provide less information when reporting to an authority figure, it is an interesting outcome, particularly in light of the pattern observed for low PD mock witnesses. However, perhaps in the absence of relevant previous literature to draw on in this particular context, we failed to take account of the effect of another important factor. In a typical forensic setting involving a high-stakes situation, one would expect that a premium would be placed on detailed information provision, unlike any ordinary situation like reporting to a friend. That speculation is consistent with the finding that mock witnesses from the low PD culture reported more details when reporting to police than to a peer. As this was not the case for sub-Saharan African mock witnesses, we speculate the perceived authority might have impaired providing detailed reports to the police. This speculation is in line with the proposition that high PD could impede free and spontaneous communication (Ghosh, 2011). In fact, in a previous study where mock witnesses from a collectivistic culture provided less detailed memory reports, it was also observed that they endorsed hierarchy in social relationships, compared to mock witnesses from an individualistic culture, who reported more details (Anakwah et al., 2020a). Consistent with that study, we found in the present study that mock witnesses from the high PD (collectivistic) culture perceived more social inequality than mock witnesses from the low PD (individualistic) culture. Essentially, high PD mock witnesses were more likely to indicate the existence of hierarchy in social interactions. There is the need for investigative professionals to put in place measures to reduce interviewees' sensitivity to power dynamics that may impair reporting during investigative interviews. Future research should examine how the authority effect on information elicitation in forensic settings can be mitigated, especially for witnesses from high PD cultures.

The self-enhancing tendency, noted to be a predominant self-presentational norm among individualistic cultures (Yamagishi et al., 2012), may have accounted for the differences in memory reports provided to police and a peer, by mock witnesses from the low PD (individualistic) culture. Mock witnesses from individualistic culture reported more details when reporting to a police detective, a more formal context than when reporting to a friend, an informal context. These two scenarios (police and friend) involve different stakes and might have led individuals from the individualistic culture to optimise their reports consistent with the stake or scenario involved. Thus, with higher stakes involved (reporting to police), the individualistic culture mock witnesses were motivated to adjust their self-presentation accordingly, and thus, engaged more in self-enhancement. Hence, for individuals from individualistic cultures, the motivation to be self-expressive is likely to be high in a more formal context. That speculation is in line with previous research showing that in formal settings, individuals are more likely to provide more useful information than in informal settings (Martín-Luengo, Shtyrov, Luna, & Myachykov, 2018). Thus, because reporting to police assumes a formal setting, we speculate this may have facilitated detailed reporting more than an informal scenario such as reporting to a friend, for mock witnesses from the low PD (individualistic) cultural group.

The observed differences across cultures in optimising details provided to police may also reflect different experiences and attitudes towards the police in the respective countries. For example, excesses in policing such as police brutality, human rights abuses, and corruption may vary across countries. It has been noted such excesses tend to be higher in developing countries than developed countries (Tankebe, 2010), most of whom fall within the individualistic and collectivistic cultural dimensions, respectively (Hofstede et al., 2010). It could be that these variations in police experiences may lead to different levels of trust in police and institutions across cultures. Indeed it has been observed that in many high PD cultures, there is weak trust in institutions (Doney, Cannon, & Mullen, 1998). Consistent with that argument, it has been demonstrated that compared to America (low PD culture), confidence in police in South Korea (high PD) is low (Boateng, Lee, & Abess, 2016). Trust facilitates motivation and co-operation (Zanini & Migueles, 2018), therefore, a low level of trust in the police may have implications for unwillingness to cooperate as witnesses in investigative contexts (Papp, Smith, Wareham, & Wu, 2019; Tankebe, Reisig, & Wang, 2016). When cooperation is lacking

in investigative interviews, information disclosure may be minimal (De La Fuente Vilar et al., 2020). Thus, differences in experience and levels of trust in the police across cultures may account for the observed differences in optimising reports provided to the police. Future research should investigate whether police trust plays any role in the provision of eyewitness memory reports across cultures.

Mock witnesses from the low PD (individualistic) culture reported more details than mock witnesses from the high PD (collectivistic) culture, irrespective of the reporting context. This finding is in line with previous work showing mock witnesses from individualistic cultures report more elaborate memory reports than those from collectivistic cultures (Anakwah et al., 2020a). Communication in collectivistic cultures tends to be high in context, where many things are not explicitly communicated (Hall, 1976). According to Hall (1976), in high context (collectivistic) cultures where the relationship between individuals is tight, communication is not explicit and many things tend to be left unsaid, allowing the context to communicate what is implied. Thus, in their memory reports, mock witnesses from collectivistic cultures might not be spontaneously explicit and might assume their audience to have some prior knowledge or use some contextual cues to grasp the message. Conversely, as communication in low context (individualistic) cultures tends to be more explicit, mock witnesses from individualistic cultures might have spontaneously provided more elaborate memory reports. This is consistent with previous research showing individuals from collectivistic cultures provide generic responses, compared with those from individualistic cultures (Wang, 2004).

Mock witnesses from the high PD culture gave higher confidence ratings for their memory reports than mock witnesses from the low PD culture. It is possible that even though mock witnesses from the high PD cultural group underreported details, they were certain about the accuracy of their memory reports. In line with this speculation, we found that although mock witnesses from the high PD culture reported fewer details than low PD mock witnesses, the former did not differ from the latter in the accuracy of reported details for free recall. Nevertheless, during cued recall, mock witnesses from low PD cultures seemed to be more accurate. That difference in the cued recall may be because low PD mock witnesses may have engaged more in memory regulation during cued recall where they had the option to withhold (refrain from answering) or provide answers to questions. Consistent with that speculation we found

more questions were left unanswered by low PD mock witnesses than high PD mock witnesses.

There are some limitations associated with the current study. The instruction to mock witnesses to provide a written recall in the respective scenarios might not be strong enough to induce the hypothesised effect. Although we argue the similar amount of details reported by collectivistic cultural mock witnesses to police and peer could be another manifestation of authority effect (i.e., lack of enhanced memory report to police), a stronger manipulation such as a live interviewer might have yielded an authority effect in the hypothesised direction (i.e., impeding memory reports of high PD mock witnesses to police more than to a peer). Future research should use a live interviewer, playing the appropriate role, in the respective conditions. Having said that, our methodological approach is in line with previous research showing an authority effect even under subtle or implicit operationalisations of authority (Matsumoto & Hwang, 2019). The use of an urban (university) collectivistic sample might have also weakened the authority effect. Rural collectivistic cultures tend to be more collectivistic than urban collectivistic populations (Ma et al., 2015; Rooks et al., 2016). It makes sense, therefore, that among collectivistic cultures, power distance would be higher among rural populations than urban populations. Future studies should examine the authority effect further by including a rural sample. Another limitation is that the sample size on which our findings are based is relatively small. This limits the generalisability of our findings. Nevertheless, our findings provide some initial evidence on how authority status impacts witnesses with diverse cultural backgrounds differently. Future research should explore this further with a larger sample size.

CONCLUSION

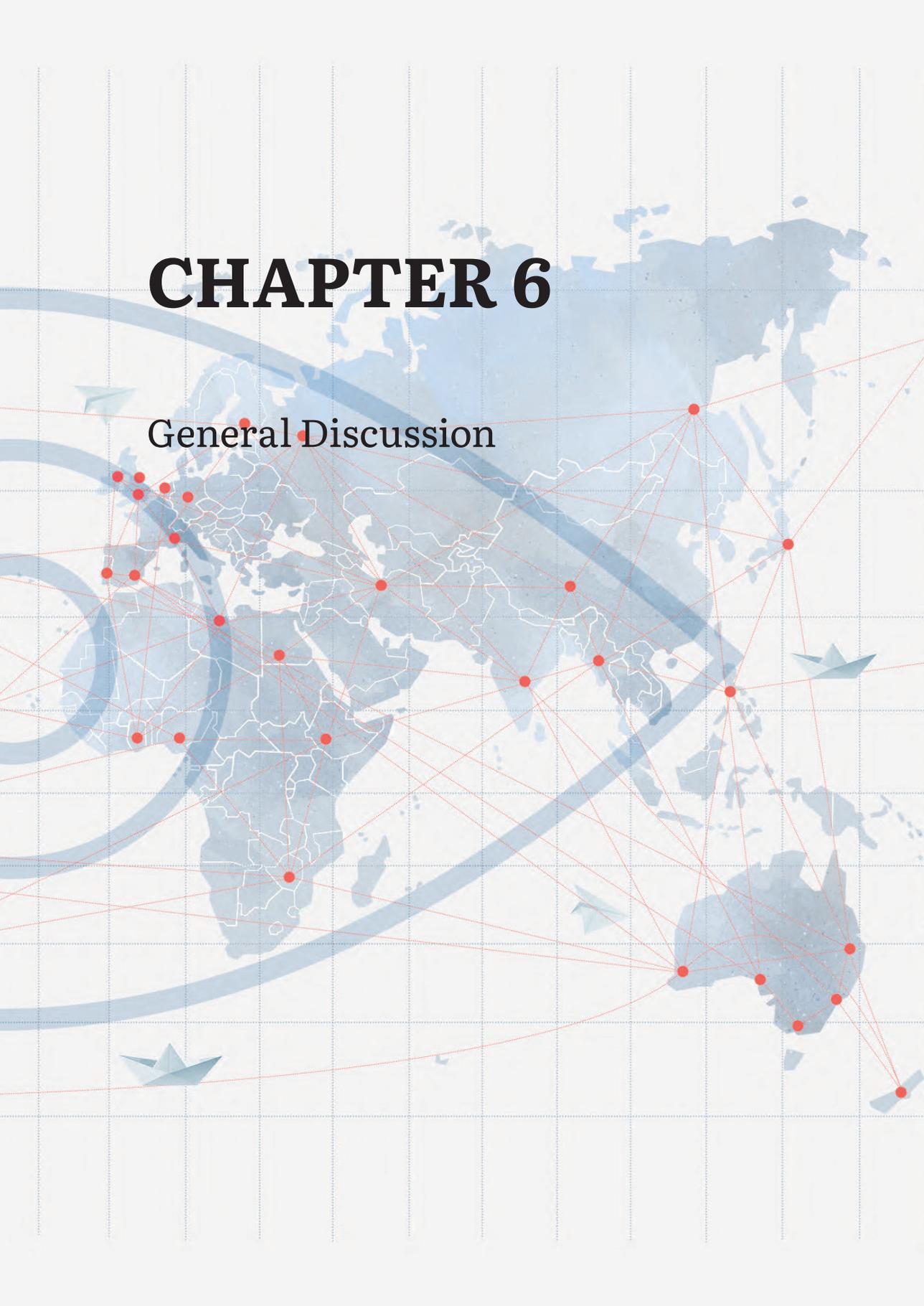
Our aim in this study was to examine whether reports from memory about crime events provided by witnesses from different cultural backgrounds would differ as a function of who they are reporting to. Specifically, we wanted to find out whether an authority reporting context would impact eyewitness memory reports differently than a non-authority context across cultures. We sampled mock witnesses from western Europe and sub-Saharan Africa, representing low PD and high PD cultures, respectively. Our results show authority may play a role in cultural differences in eyewitness memory reports. Specifically, the results show while reporting

to an investigator may facilitate elaborate memory reporting for witnesses with low PD cultural background, it may impede memory reporting for witnesses with a high PD cultural background. Findings from this research provide initial insight for investigative professionals eliciting memory reports in cross-cultural contexts, on how power dynamics may impact informational outcomes. Future research is needed on how best to minimise perceived power differentials in cross-cultural investigative interviews.



CHAPTER 6

General Discussion



INTRODUCTION

Information obtained from eyewitnesses is an important piece of evidence in criminal prosecutions (Wells et al., 2020). In an era of increased migration and globalisation, investigative and legal practitioners inevitably handle eyewitness memory reports obtained in cross-cultural contexts. Eliciting eyewitness memory reports in cross-cultural settings can be challenging if insight into culturally determined reporting norms is limited. In previous research, cultural influences in behaviour and cognitive processes have been documented (Boduroglu et al., 2009; Gutchess & Sekular, 2019). Given that the culture in which individuals are socialised may play a role in shaping their behaviour and cognition, research in eyewitness memory must examine whether there are variations in eyewitness memory reports across cultures. That is particularly important given that, to date, most of the conclusions drawn from research in eyewitness memory has been based on work with western samples. The programme of research conducted for this doctoral thesis makes a novel contribution to the field of eyewitness memory by going beyond examining eyewitness memory performance in western cultures in order to understand how individuals socialised in sub-Saharan African cultures formulate their eyewitness memory reports. Thus, the programme of research is the first in which cultural differences in the content and nature of eyewitness memory reports have been examined comprehensively.

The overarching aim of the programme of research reported for this thesis was, primarily, to find out whether there are cultural differences in eyewitness memory reports. Across four empirical studies, there was consistent evidence of underreporting of details among sub-Saharan African mock witnesses in comparison to Western European mock witnesses. Overall, the research provides evidence that eyewitness memory reports may be shaped by culturally determined reporting norms of the witness. In this chapter, a summary and consolidation of the findings from this programme of research are presented. This is followed by a discussion on the scope and generalisability of the findings. Afterwards, theoretical considerations, as well as methodological considerations and future research directions, are presented. Following that is a discussion about the implications of the findings. Finally, challenges involved in conducting cross-cultural research will be explored.

SUMMARY OF FINDINGS

Cultural differences in eyewitness memory reports. The goal of the first experiment reported in Chapter 2 of the thesis was to provide some initial insights into whether the eyewitness memory accounts provided by people from different cultures differ in terms of content or other aspects. Previous research on cross-cultural cognition demonstrated that individuals may be prone to prioritise either central or contextual details in their memory reports, depending on their cultural orientation (Boduroglu et al., 2009; Gutchess & Indeck, 2009). Based on work on cultural differences in holistic-analytic cognition, it was expected that mock witnesses with a collectivistic cultural background would report more contextual details than mock witnesses with an individualistic cultural background, who were expected to report more central details than mock witnesses with collectivistic orientation. The results indicated that irrespective of their cultural background, witnesses report central details more than contextual details in their eyewitness memory reports.

Although mock witnesses across cultures did not differ in reporting specific types of details, the results described in Chapter 2 showed cultural differences in elaborate memory reporting. Mock witnesses with a collectivistic cultural orientation reported fewer details in their eyewitness memory reports than mock witnesses with an individualistic cultural orientation, in both free and cued recall. That observed cultural difference in eyewitness memory reporting can be attributed to culturally determined reporting norms. For instance, it has been asserted that communication in collectivistic cultures tends to be more implicit, where many things are left unsaid, unlike individualistic cultures where explicitness is valued more (Hall, 1976). Hence, it is perhaps unsurprising that the eyewitness memory reports provided by individuals with an individualistic cultural background contained more explicit descriptions of event details than descriptions provided by individuals with a collectivistic cultural background.

Free recall is more likely to be affected by reporting norms, as it allows for an unlimited free narrative from interviewees (Hope & Gabbert, 2019). Thus, free recall made it possible to assess cultural differences in elaborate reporting. However, because cued recall has to do with specific responses, it is more likely to reflect what interviewees might be able to report. Nevertheless, mock witnesses might also be able to elaborate their response to cued recall questions (e.g., what was the man doing?). In

response to such a question, for example, mock witnesses might be more explicit and provide elaborate details. Thus, whereas cued recall may test what mock witnesses might be able to report, it may not necessarily assess group differences in encoded details.

The cultural differences in eyewitness memory reports could also be accounted for by self-presentational differences across cultures, with individualistic cultures emphasising self-expression more than collectivistic cultures, where modesty in self-presentation tends to be the norm (Heine et al., 2000; Yamagishi et al., 2012a). The modest reporting norm is also demonstrated by the fact that mock witnesses from the collectivistic cultural group withheld more details than those from the individualistic cultural group. It could be that mock witnesses from collectivistic cultures withheld details they were unsure about, accounting for underreporting of details. It has been proposed in a framework on the strategic regulation of memory that individuals opt not to report details they are uncertain about to enhance the accuracy of reported details (Koriat & Goldsmith, 1996). That memory regulation strategy was effective in minimising the reporting of incorrect details among the sub-Saharan African mock witnesses, as the results also show that they reported fewer incorrect details than mock witnesses from the individualistic cultural group. Hence, while details were underreported by mock witnesses from collectivistic cultures, they were more successful in avoiding reporting incorrect details in their eyewitness accounts than mock witnesses from individualistic cultures. That finding suggests that the threshold for reporting correct details by witnesses from collectivistic cultures seems to be relatively strict in comparison to witnesses from individualistic cultures.

The findings presented in Chapter 2 also showed the tendency for an own-cultural-setting effect in the reporting of crime scene information. Mock witnesses with collectivistic cultural orientation were likely to report more correct central details in their free recall for crimes witnessed in their own cultural setting than those witnessed in a different cultural setting. However, the own-cultural-setting effect for witnesses with collectivistic cultural background seems to disappear in a cued recall, as they report the same amount of correct central details, regardless of the setting, in response to cued recall questions. Interestingly, in the cued recall, witnesses with the individualistic cultural background reported more details for crimes witnessed in their own-native setting than a non-native setting, but not for free recall. In free recall, individualistic mock

witnesses did not differ in the reporting of correct central details for their own-native setting and a non-native setting.

Acculturation effect. Given that socialisation in a cultural context impacts the content of eyewitness memory reports, the focus of Chapter 3 was on examining whether migrating and adapting to a culture different from one's native culture shapes eyewitness memory reporting. The results showed that migrant witnesses with collectivistic cultural backgrounds living in individualistic cultures provided more elaborate memory reports than those living in their native culture. In fact, migrants were more likely to provide detailed reports the longer their duration of residence in the host culture. The finding that adapting in a cultural environment has an impact on the content of memory reports is consistent with findings presented in Chapter 2 showing that socialisation in individualistic cultures leads to more elaborate memory reporting. Thus, the results presented in Chapter 3 demonstrate that migrants adapt to the reporting norms of their host culture over time. As in Chapter 2, the results presented in Chapter 3 also demonstrate that regardless of the culture a witness is socialised in, central details are reported more than contextual details in their eyewitness memory reports.

The misinformation effect. The aim of the research presented in Chapter 4 was to examine whether witnesses socialised in different cultures are susceptible to misinformation about particular types of detail (i.e., central versus contextual detail). Based on work showing cross-cultural differences in holistic-analytic cognition, I sought to specifically find out whether individuals socialised in individualistic cultures are more susceptible to misinformation about contextual details, whereas those socialised in collectivistic cultures are more susceptible to misinformation about focal details. The results showed memory was impaired to the same extent for mock witnesses irrespective of culture, following exposure to misleading post-event information. I also found that irrespective of cultural background, memory impairment after exposure to misleading post-event information was more pronounced for contextual details than central details. Nevertheless, the results showed that while misinformation acceptance permeates across cultures, witnesses from collectivistic cultures are more likely to accept suggested details, compared with witnesses from individualistic cultures. That tendency may be attributed to the cultural construal of the self in collectivistic cultures, where the self is viewed as integrated with the social context (Markus & Kitayama, 1991, 2010). An interdependent view of the self

could increase the likelihood that witnesses socialised in such cultures will prioritise information from other social sources in their eyewitness accounts. Hence, in their account of witnessed events, they may become more susceptible to incorporating information from social sources such as co-witnesses.

Although the results of the experiment presented in Chapter 4 showed cultural differences in the acceptance of misinformation in a recognition task, the results also showed that differences in misinformation endorsement disappear in free recall. Witnesses from collectivistic cultures appear to engage more in memory regulation by sieving out details that may compromise accuracy in their free recall (Koriat & Goldsmith, 1996). In line with this, the results in Chapter 4 also showed that witnesses from collectivistic cultures report fewer incorrect details in free recall than witnesses from individualistic cultures. However, the results showed again in Chapter 4 that witnesses with individualistic cultural backgrounds provide more elaborated memory reports in their eyewitness accounts. That finding replicates the results presented in Chapters 2 and 3.

The authority effect. The experiments reported in Chapters 2, 3, and 4 show that individuals socialised in collectivistic cultures tend to underreport details in their eyewitness memory reports in comparison to individuals socialised in individualistic cultures. One factor that might account for the cultural differences in elaborate memory reporting is cultural differences in relating with authority figures. It has been proposed that cross-cultural differences in interacting with authority figures could have implications for cultural differences in spontaneous and elaborate memory reporting (Ghosh, 2011; Wang, 2006). Accordingly, in Chapter 5, I sought to find out whether the mere fact of reporting to an authority figure (interviewer) might account for variations in eyewitness memory reports across cultures. Based on the power distance (PD) cultural framework (Hofstede, 1983, 2011), I sampled mock witnesses from cultures representing high PD and low PD cultures. They were asked to provide memory reports of a mock crime to either a peer or a police officer. The results showed that witnesses from individualistic (low PD) cultures provide more elaborate memory reports when reporting to a police detective than when reporting to a friend. However, witnesses from collectivistic (high PD) cultures report the same amount of details, regardless of whether they are reporting to a peer or a police detective. The elaborate memory report when reporting to police may be grounded in self-

presentational norms in individualistic culture (Yamagishi et al., 2012a). It has been observed that individuals from individualistic cultures are more responsive to the social environment and look for avenues to assert their unique dispositions (Markus & Kitayama, 1991, 2003). When reporting in a formal context such as a forensic setting, witnesses from individualistic cultures may be more likely to adjust their self-presentation, engaging more in self-enhancement, than when reporting in an informal context.

As with experiments reported in Chapters 2 - 4, the findings reported in Chapter 5 indicate that witnesses from collectivistic cultures report fewer details than witnesses from individualistic cultures. However, the results in Chapter 5 also showed accuracy rates across cultures did not differ in free recall. That finding supports the earlier argument that although mock witnesses from collectivistic cultures underreport details, they may have engaged in memory regulation to enhance the accuracy of reported details. Nevertheless, the accuracy rate was higher for mock witnesses from individualistic cultures than those from collectivistic cultures, in cued recall. Mock witnesses from individualistic cultures left more questions unanswered in cued recall than mock witnesses from collectivistic cultures. The results described in Chapter 5 show that the PD cultural dimension may account for cultural differences in elaborate memory reporting.

Theoretical considerations

Analytic-holistic cognition. Findings from this programme of research challenge one of the dominant frameworks in cross-cultural cognition. According to proponents of the framework on cultural differences in holistic-analytic cognition, individuals from cultures that emphasise the independent self-construal develop analytic cognition, whereas individuals from cultures that emphasise the interdependent self-construal develop a holistic cognition (Markus & Kitayama, 1991, 2010; Masuda & Nisbett, 2001). Consequently, they posit that individuals with the individualistic cultural background are more likely to encode and recall more focal details, whereas those with a collectivistic background are more likely to encode and recall more contextual details. The holistic-analytic cognition proposal has been a dominant framework in the study of culture and memory (Gutchess & Sekuler, 2019). Indeed previous research has provided evidence consistent with the holistic-analytic cognitive styles in the respective cultures (Huang & Park, 2013; Kitayama et al., 2003; Masuda & Nisbett, 2006).

Interestingly, findings from this programme of research show that individuals are most likely to recall more focal details, regardless of their cultural orientation. That demonstrates that the proposed framework on the cultural difference in holistic-analytic cognitive style may have limited applicability across contexts. For example, it could be that the framework may not be applicable within the forensic context as demonstrated in Chapters 2, 3, and 4. That is because, in any crime event, witnesses are more likely to focus on the actual event instead of other events in the background. Further development of the framework is needed to specify the scope of applicability and under what conditions or contexts the cultural differences in holistic-analytic cognition may be generalisable.

Self-presentation. The results showing cultural differences in elaborate memory reporting seem to support cultural differences in self-presentation, as posited in the self-construal theory. According to the independent-interdependent self-construal, self-presentational patterns across individualistic and collectivistic cultures differ, as the respective cultures predispose individuals to self-enhance and self-efface, respectively (Markus & Kitayama, 1991; Takata, 2003). For example, individuals socialised in individualistic cultures have been proposed to view the self as unique (Markus & Kitayama, 2003). As a consequence, they become more responsive to the social environment in which they find themselves, as they look for avenues to assert that uniqueness (Markus & Kitayama, 1991). That predisposition may make individuals from individualistic cultures more self-expressive, what has been referred to as self-enhancement (Yamagishi et al., 2012). In this programme of research, mock witnesses with an individualistic cultural background provided more enhanced memory reports, compared to mock witnesses with a collectivistic orientation, who underreported observed details. Indeed, further evidence from this programme of research shows that more details were withheld by mock witnesses from a collectivistic cultural background, who refrained from reporting details they were uncertain about than mock witnesses with an individualistic cultural background. That modest reporting pattern seems to be in line with the proposed self-effacing self-presentational style of collectivistic cultures. Future research should examine the extent at which cultural differences in the presentation of the self shape the content of memory reports.

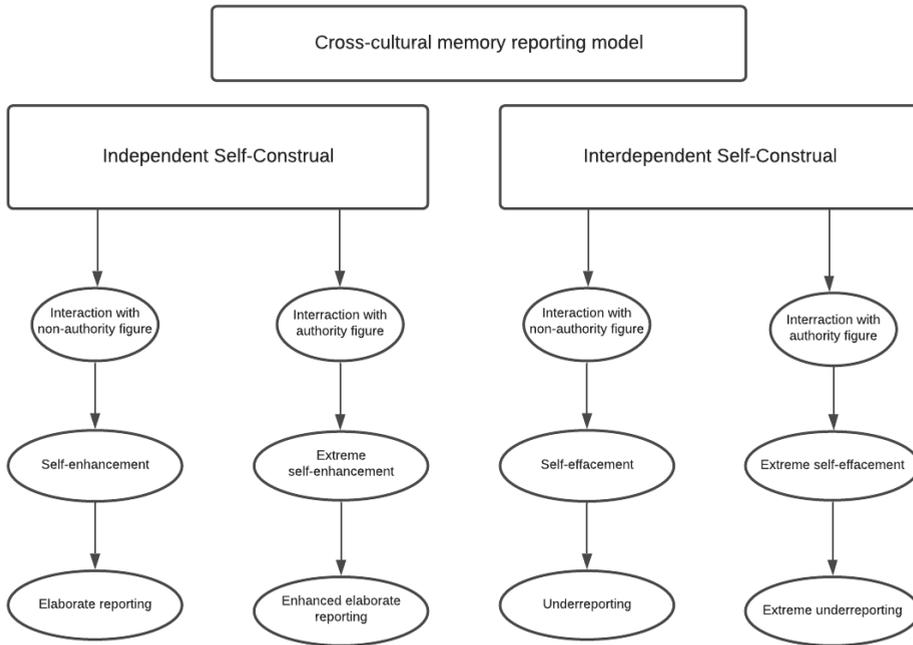
Power distance framework. The results observed in this programme of research aligned with the power distance cultural framework, which predicts cultural differences in relating with authority figures.

Specifically, whereas high PD cultures emphasise hierarchy in social relationships, in low PD cultures hierarchy is less emphasised (Hofstede, 2011). That difference has been proposed to play a role in spontaneous and elaborate detail provision when interacting with authority figures (Wang, 2006). The findings from this programme of research show that whereas individuals from low PD cultures provided more elaborate reports to a police detective than they did to a peer, those in high PD cultures did not differ in detail provision to police detective and peer. I argued that the differences could be accounted for by an authority effect, in line with the PD framework. Indeed the results also showed individuals in high PD cultures perceive more inequality (Chapter 5) and also endorse hierarchy in social relationships (Chapter 2) than individuals in low PD cultures.

The observed differences in the authority effect on eyewitness memory reports across cultures may also be linked to self-presentation. It could be that interacting with an authority figure may enhance or impede self-presentation across the respective cultures. Thus, it is possible these two concepts (power distance and self-presentation) may be linked in explaining cultural differences in memory reporting. Specifically, while individuals with an independent self-construal are likely to see the self as unique, that uniqueness is likely to be most asserted in a formal setting such as interacting with or reporting to an authority figure than it is to be asserted when interacting with a peer. It is, therefore, proposed that even in cultures that emphasise the independent self-construal, the extent of self-enhancement may vary across situations and could be a function of who individuals are interacting with. Specifically, there is the possibility of extreme/ enhanced self-effacement when individuals from such cultures are interacting with authority figures than when interacting with a peer. Similarly, in cultures where the interdependent self-construal is emphasised, the extent of self-effacement may vary and could be a function of who individuals from such cultures are interacting with. Based on previous work and findings from the current programme of research, I propose a cross-cultural memory reporting model (Figure 6.1).

Figure 6.1

Cross-cultural reporting model



Note. The proposed model shows differences in memory reporting across cultures. For each culture, the degree of self-presentation and content of memory reports further vary depending on who an individual is reporting to.

In the proposed model, when individuals from cultures that emphasise the independent self-construal are interacting with or reporting to a non-authority figure (e.g., a peer), the self-presentational pattern they are likely to engage in is the normal self-enhancement, consistent with the self-presentational style of that culture. Eventually, that self-enhancement may lead to the normal elaborate memory reporting, consistent with the general reporting model of that culture. However, when reporting to an authority figure, (e.g., police detective), they are likely to adjust their self-presentation and engage in an extreme form of the self-presentational pattern consistent with that culture (extreme self-enhancement). It is proposed that, that extreme form of self-enhancement may also lead to an enhanced form of elaborate reporting. For individuals socialised in cultures that emphasise the interdependent self-construal, the model proposes a pattern of memory reporting that is different from individuals

socialised in cultures where the independent self is emphasised. Specifically, it is proposed that when reporting to a non-authority figure (e.g., a peer) the normal self-presentational pattern consistent with that culture would be shown (i.e., self-effacement), which would then lead to underreporting of detail, the general reporting model of that culture. It is further proposed that when reporting to an authority figure, individuals with an interdependent self-construal will engage in an extreme form of the self-presentational pattern consistent with that culture (i.e., extreme self-effacement). That extreme form of self-effacement may impede memory reporting, thus, leading to an extreme form of underreporting. Future research should test this proposed model and, indeed, explore the boundaries of this proposed model, across individualistic and collectivistic cultures.

Misinformation acceptance and self-construal. The research on the misinformation effect across cultures also seems to provide support for the self-construal theory. The theory posits that whereas individuals socialised in individualistic cultures view the self as separate from the social context, those socialised in collectivistic cultures view the self as integrated with the social context (Markus & Kitayama, 1991). Findings from this programme of research show that compared to individuals from individualistic cultures, individuals from collectivistic cultures were more susceptible to accepting misleading post-event information from a social source (i.e., media). According to the self-construal theory, individuals socialised in collectivistic cultures are more likely to prioritise the opinions of others than those socialised in individualistic cultures (Hofstede, 2001; Markus & Kitayama, 1991; Triandis et al., 1988). It might be argued that the view of the self as less embedded within the social context may also account for misinformation resistance among mock witnesses from individualistic cultures, compared with collectivistic cultural mock witnesses.

It is clear from the above that findings from this programme of research may have important theoretical implications. While the findings provide general support for the self-construal theory, there is the need for work in cross-cultural cognition to expand and revise propositions on how culture shapes memory and the context of applicability specified.

Scope and generalisability of the current programme of research

The current thesis fills an important gap in eyewitness memory literature. The vast majority of experiments on eyewitness memory have largely been conducted with mock witnesses from Western cultures. Generalising findings conducted with western samples to other non-western contexts can be problematic, as previous research has shown that cognitive processes may not be universal (Huang & Park, 2013; Kitayama et al., 2003). The scope of the current thesis, thus, differs from previous research in eyewitness memory, by going beyond western cultures and taking a cross-cultural perspective. Specifically, the programme of research takes an important step by comparing eyewitness memory reports provided by mock witness participants drawn from both western and sub-Saharan African cultures to examine how the cultural background of witnesses may shape eyewitness memory accounts. The experiments reported in this dissertation also differ from previous research on cross-cultural cognition in that, research on cross-cultural cognition has largely focused on drawing comparisons between East Asian and North American samples (Duffy, Toriyama, Itakura, & Kitayama, 2009; Huang & Park, 2013; Nisbett & Masuda, 2003; Nisbett & Miyamoto, 2005; Wang, Song, & Kim Koh, 2017). Thus, in the current research, the focus lay on comparing samples drawn from sub-Saharan Africa and Northern Europe.

Of course, it could be argued that findings reported in this thesis only apply to sub-Saharan Africans and Western Europeans, as that was the focus of comparison. Indeed, this is a limitation of the current programme of work. Nevertheless, these regions represent the collectivistic and individualistic cultural orientations. For example, on Hofstede's Individualism Index, which is on a continuum of 0 to 100, African countries such as Ghana, Kenya, Tanzania, Malawi, and Nigeria have an individualism index ranging between 15 – 30; whereas Western European countries such as Germany, The Netherlands, Sweden, and United Kingdom have index scores ranging between 80 to 91 (Hofstede, 1983; Hofstede et al., 2010). In a recent study by Minkov et al. (2017) examining 56 countries, the UK, The Netherlands, and other European countries featured among the top 10 individualistic countries, while sub-Saharan African countries featured in that study (e.g., Nigeria, Kenya, and South Africa) were among the 10 most collectivistic. Hence, even though the focus of this programme of research was sub-Saharan Africa and Western European comparison,

these cultures are predominantly collectivistic and individualistic in orientation, respectively.

While replication of the experiments reported in this programme of research in other collectivistic cultures is encouraged, the findings may still be generalizable to cultures falling on the same cultural dimension. For example, the finding showing that individuals from sub-Saharan Africa underreport details in their eyewitness memory reports is consistent with previous studies on autobiographical memory conducted with East Asian and North American samples, representing collectivistic and individualistic cultures, respectively (e.g., Ross & Wang, 2010; Wang, 2004). Specifically, these studies also show that individuals from East Asia report fewer details in their autobiographical memory reports than individuals from North America. In view of the consistency in findings of the current study with studies in autobiographical memory conducted with Asian and North American samples, I argue that findings from the current study may be generalizable to other collectivistic and individualistic cultures.

The current findings also highlight the possibility of within-cultural differences in eyewitness memory reporting. In the results described in Chapter 2, mock witnesses from the urban collectivistic cultural group reported more details than those from the rural collectivistic cultural group. A similar pattern has been reported in research on autobiographical memory reports, where children from rural collectivistic cultures report fewer details than children from urban collectivistic cultures (Göz, Çeven, & Tekcan, 2017). With the exception of the experiment reported in Chapter 2, all the collectivistic samples in this programme of research were urban collectivistic samples. Hence, it could be argued that findings reported in Chapters 3 through 5 may be more generalizable in terms of urban collectivistic cultures. However, considering that in those experiments, differences were still observed between individualistic and the urban collectivistic sample, it seems plausible to argue that the difference may have been more pronounced between rural collectivistic and individualistic sample, should those experiments have included rural collectivistic samples. For example, it is likely the authority effect may be more pronounced for rural collectivistic samples than an urban collectivistic sample. Similarly, the tendency for misinformation acceptance may be higher for rural collectivistic samples than an urban collectivistic sample. This is because previous work shows within collectivistic cultures, rural areas tend to be more collectivistic than

urban areas (Göz, Çeven, & Tekcan, 2017; Ma et al., 2015), where hierarchy is emphasised and the interdependent self is predominant (Babes & Ros, 2005; Markus & Kitayama, 1991; Minkov et al., 2017). Consequently, hierarchy and reliance on social sources of information may be more pronounced in rural collectivistic cultures than urban collectivistic cultures.

Migrating and adapting in a new cultural environment may impact behaviour and cognition (Berry et al., 2006; Hsu, 2010; Wang, 2008). For that reason, findings reported in Chapter 2, as well as Chapters 4 and 5, should be generalised with caution to witnesses with a collectivistic cultural background who have lived in an individualistic culture for an extended period of time. Indeed, the results presented in Chapter 3 show that as migrants adapt in their host culture, their eyewitness memory reports may differ from those of individuals in their home culture. In particular, it is worth noting that these initial results show that migrants with longer durations of residence in an individualistic culture provided more elaborate memory reports. Thus, the results described in Chapter 3 on the misinformation effect, and Chapter 4 on the authority effect might have limited generalisability to migrants with longer durations of residence in the host culture. However, it is possible that the content of eyewitness memory reports of migrants who have lived in the host culture for a relatively short period might be more similar to those of individuals living in their home culture, as the former have not spent a significant amount of time adapting in the host culture. The level of migrants' adaptation may also depend on the extent to which they engage with the host culture (Chioneso, 2008). During investigative interviews, it may be helpful to assess migrants' adaptation to the host culture, using a cultural adaptation inventory, to determine the extent of acculturation.

The current programme of research concerns applied memory performance and is located within the forensic context. Previous research on cross-cultural cognition has been conducted outside the forensic context. Specifically, in previous research, scenes used included animated vignettes of underwater scenes (Masuda & Nisbett, 2001; Senzaki et al., 2014), layouts of coloured blocks (Boduroglu et al., 2009), artistic representations (Istomin et al., 2014; Masuda, Gonzalez, et al., 2008), pictures of streets (Miyamoto et al., 2006), and Facebook profile photographs (Huang & Park, 2013). Thus, the majority of previous research typically used neutral scenes as stimuli, and results generally show cultural differences in holistic-analytic cognition. Specifically, it has been shown in those studies that individuals from individualistic cultures

attend and report more focal details than individuals from collectivistic cultures, who attend to and report more contextual details than those from individualistic cultures (Gutchess & Indeck, 2009; Istomin et al., 2014). In the current programme of research, crime scenes and incidents constituted the experimental stimuli. Interestingly, and in contrast to research using neutral stimuli, the results reported in Chapters 2 to 4 showed that compared to contextual details, central details for crime scenes and events are reported the most, irrespective of a witness' cultural background. The unusual, negative and perhaps threatening nature of crime scenarios makes it more likely that memory reports about such events should consist of central details. Hence, from what we have learned from studies in a forensic context and what studies involving non-forensic scenarios show us, it would be safe to conclude that previous research using neutral scenes does not generalise well to the forensic context and vice versa.

Methodological considerations and future research

In this programme of research, I undertook an important step to examine whether there are cultural differences in eyewitness memory reports. Four experiments were conducted to address the overarching research question. It is important to mention that these experiments are not without limitations. In this section, I discuss limitations associated with the current programme of research and also make recommendations for future research.

Sample. It is important to note that some of the experiments reported consisted only of student samples. For instance, the experiments reported in Chapters 4 (misinformation effect) and 5 (authority) were conducted with university students in Ghana, the Netherlands, and the United Kingdom. While it was important to ensure that the sampled population in the three different countries were matched in terms of educational level, it could be argued that the student sample may not be representative of the general population (Hanel & Vione, 2016). Nevertheless, the finding for the experiments conducted solely with student samples was consistent with findings for experiments where participants were sampled from the general population (e.g., Chapters 2 and 3). It would still be necessary for future research to examine the misinformation effect as well as the authority effect across cultures, with samples drawn from the general population.

Ecological validity. The stimuli used in the current programme of research involved static stimuli and video recordings. The dynamics of real-life events may not necessarily be the same as a mock witness situation. For example, it is possible that a mock crime paradigm may not have the same emotional impact as in a real-crime situation (Christianson, 1992). It should be noted, however, that previous research mimicking real-life scenarios has shown the possibility of cultural differences within the forensic setting. For example, in research examining the forensic accounts of Native American (Navajo) children and mainstream-culture American children, researchers enacted a staged event with the children (Lindstedt, 2000). The findings from that research show that the content of forensic narratives of native American children differ from that of mainline American children. Nevertheless, it would be necessary for future research to extend the experiments reported in this programme of research to field settings. Future work should also include archival research involving witness statements to examine cultural differences in the content of eyewitness memory reports across cultures.

Also inherent in mock witness scenarios is a short retention interval which may not mimic real-life situations. Participants in this programme of research provided memory reports of witnessed incidents a few minutes after exposure to the stimuli. In real-world scenarios, eyewitnesses may be interviewed about the witnessed event after an extended period of time. However, in research on autobiographical memory reports that involved recounting personally experienced childhood events, cultural differences were observed (Wang & Ross, 2001; 2005). Retention interval in such autobiographical memory studies span from the time of the childhood personal life experience to the period those studies were conducted (adulthood). Hence, individuals from different cultures may still differ in their memory reports even after longer retention intervals. In fact in the research by Lindstedt (2000), differences in the children's forensic narratives were still observed, even after months of experiencing the staged event. Thus, even though the mock witness paradigm used in the current programme of research may not mimick real-life scenarios in view of the short retention interval, findings from this programme of research replicate findings of previous research with longer retention intervals. Future research examining eyewitness memory reports across cultural groups should use longer retention intervals.

It is also important to mention that the use of a mock witness paradigm helped in achieving control that would not have otherwise been attained

in a field setting. Using an experimental design in this programme of research helped hold constant variables that could have confounded results, across cultural groups. Also, the use of the same procedure and instructions across cultural groups helped to achieve experimental control. Nevertheless, it is important for findings from this programme of research to be replicated in field settings.

Comparing groups. The experiment on acculturation compared migrants from eight sub-Saharan African countries with migrants from a specific sub-Saharan African country (i.e., Ghana). Because those migrant participants were from different sub-Saharan African countries, it could be argued that it is problematic comparing them with participants from a specific sub-Saharan African country. However, the cultural dimension of focus was the individualism-collectivism cultural dimension (Hofstede, 2011; Hofstede, Hofstede, & Minkov, 2010; Kim & Kim, 2016). Countries in Western Europe, North America, and Australia have been shown to be more individualistic in character, whereas countries in Asia, sub-Saharan Africa, and Latin America have a more collectivistic orientation (Hofstede et al., 2010; Markus & Kitayama, 1991; Matsumoto, 1999; Matsumoto et al., 2008). Thus, although migrant participants sampled from Western Europe were from different sub-Saharan African countries, the countries they originated from fall within the same cultural orientation.

Previous research on acculturation and cross-cultural psychology focusing on the individualism-collectivism cultural dimension has examined countries with similar cultural orientation under the same cultural classification (e.g., Amer, Ngo, & Hasher, 2017; Jobson, 2009; Millar, Serbun, Vadalía, & Gutchess, 2013; Mok & Morris, 2009; Norenzayan, Smith, Kim, & Nisbett, 2002; Taylor, Larner, Conchie, & Menacere, 2017; Wang, 2009). For example, in research on cultural differences in autobiographical memory reports, participants falling under the collectivistic classification originated from Asia, Africa, Middle East, and Latin America, whereas those with individualistic classification were from Australia, Western Europe, and North America (Jobson, 2009). Thus, the sub-Saharan African sample in this programme of research falls within the cultural dimension of interest, as participants had a collectivistic cultural background. Future research comparing migrants from a specific country with those living in their home country would also shed more light.

Longitudinal design. Longitudinal design may have been more methodologically robust for tracking how culture shapes the content of

eyewitness memory reports of migrants overtime. It is worth noting, however, that in the absence of longitudinal data, previous studies have used either duration of residence in the host culture, age of migrating to the host culture, or group differences as a proxy for acculturation (e.g., Berry, Phinney, Sam, & Vedder, 2006; Cheung, Chudek, & Heine, 2011; Chudek, Cheung, & Heine, 2015; Wang, 2013; Wang & Ross, 2005). For example, in their study examining the acculturation of immigrants in 13 countries, Berry et al. (2006) used migrants' duration of residence in the new culture as a means of examining differences in adaptation over time. In this dissertation, besides group differences, the duration of residence in the individualistic cultural environment was used as a proxy for examining acculturation. It will be important, nonetheless, for future research to use a longitudinal design to track migrants' acculturation and eyewitness memory reports over a time period, from the time of arrival in the host culture.

Within cultural variations. It is also possible that there might be within-country differences in the level of the predominant cultural orientation. For instance, it has been shown in research that although Cameroon, West Africa, is collectivistic in cultural orientation, Northern Cameroon tends to be more collectivistic than Western and Central Cameroon (Pirttilä-Backman, Kassea, & Ikonen, 2004). Some have attributed such within-cultural variation to differences in dominant ecocultural practices in different regions of a country (Istomin, Panáková, & Heady, 2014). For example, individuals socialised in sedentary agricultural settings have been observed to be likely to resort to more interdependence, as they require harmonious group collaboration and cooperation for survival (Uskul, Kitayama, & Nisbett, 2008). Hence, dominant practices within particular regions in a country might lead to within cultural variations in the degree of predominant cultural orientation. The experiments reported in this programme of research mostly did not focus on within-group comparisons. Hence, it could be argued that the generalisability of the findings may be limited. However, in Experiment 1, eyewitness memory reports provided by both mock witnesses from rural (farming) and urban centers of the collectivistic cultural group were compared. That experiment showed witnesses from urban collectivistic cultures report more details than witnesses from rural collectivistic cultures. As the experiments on acculturation, misinformation, and the authority effect did not include a rural collectivistic sample, it would be interesting for future research

to sample from rural collectivistic cultures. It is worth noting that even for the experiment in this dissertation where mock witnesses from the collectivistic cultural group were sampled from only urban areas, some differences between the urban collectivistic sample and the individualistic culture were observed.

Individual-level differences. Aside from the possibility of different regions of a country varying in the degree of the predominant cultural orientation, there could also be variations at the individual level in the intensity of cultural variables. Research in cross-cultural psychology has done little to examine the degree of intensity of cultural variables at the individual level. It may be the case that although there are cultural differences in behaviour and psychological functioning, the intensity of specific constructs may further vary across individuals. For example, the degree of underreporting within the same cultural group may vary from person to person. As such, while being sensitive to an interviewee's cultural background, it may also be helpful for investigators not to lose sight of possible differences at the individual level and work within groups to identify optimal ways of eliciting memory. However, more research is needed to test these propositions. Hence, future research should examine the extent to which there are individual variations in the content of memory reports within cultural groups.

Implications of the current research

In an increasingly globalised world, it is inevitable that eyewitness memory reports will be obtained in cross-cultural contexts (De Bruïne, Vredeveldt, & Van Koppen, 2018; Hope & Gabbert, 2019). Yet, there is limited knowledge about how culture shapes report from memory about witnessed events. The experiments reported in this programme of research provide a novel contribution in the eyewitness memory literature and show consistent evidence that cultures differ in the nature of their eyewitness memory reports. In this subsection, I discuss the potential implications of the findings from this programme of research for the wider forensic context. Specifically, I discuss the implications these findings may have for applied settings including law enforcement contexts, counter-terrorism contexts, and asylum seeker contexts.

Deception detection. Investigators often have to determine whether an interviewee is lying or telling the truth. Research on deception detection has shown that amount of details is one of the cues in identifying truth-tellers from liars in law enforcement contexts (Vrij, Mann, Kristen,

& Fisher, 2007). However, findings reported in this dissertation show that using the amount of details reported as a diagnostic cue in detecting deception may be weakened in cross-cultural settings. Across four studies in the current thesis, mock witnesses from collectivistic cultures provided fewer details than mock witnesses from individualistic cultures. In fact, Leal et al. (2018) observed that cultural differences in detail provision could lead to incorrectly interpreting such differences as cues to deception. They also found in that study that although truth-tellers generally provided more details than lie-tellers did, participants from the individualistic cultural group provided more details than those from the collectivistic cultural group. Leal et al. (2018) argued that while detailed information could help in distinguishing truth-tellers from lie-tellers, caution should be exercised when making such determination in cross-cultural contexts. Similarly, it has been noted that cues to deception deteriorate when made cross-culturally (Taylor, Larner, Conchie, & Menacere, 2017). Taylor et al. (2017) provided evidence that linguistic cues to deception are not consistent across cultures. Law enforcement officials would need to be culturally sensitive when using the amount of details reported as credibility indicators during cross-cultural investigative interviews.

True and false intentions. Besides law enforcement contexts, findings from this programme of research may have implications for diagnosing true and false intentions in counter-terrorism contexts. Results from previous research show that suspects with true intentions also provide more details than those with false intentions (Granhag, Mac Giolla, Sooniste, Strömwall, & Liu-Jonsson, 2016; Mac Giolla & Granhag, 2015). It has been reasoned that because truth-tellers have experienced the event, they are able to elaborate more on details they provide, making them different from lie-tellers, who rehearse ahead about what to say. However, findings from this programme of research demonstrate that the provision of fewer details is not always an indicator that an individual has not witnessed or experienced the event in question. Detail elaboration may vary depending on the cultural background of an interviewee. As shown in the current thesis as well as in research on autobiographical memory reports (Ross & Wang, 2010; Wang, 2001; Wang & Ross, 2005), individuals from individualistic cultures spontaneously provide more detailed and elaborate information than individuals from collectivistic cultures. Hence, there is a need for cultural sensitivity in counter-terrorism contexts in the use of detail provision as a marker of true or false intentions.

Fabricated rape allegations. It has also been shown that one of the indicators of fabricated rape allegations is the simplicity of the story and the lack of explicit details (De Zutter, Horselenberg, & Van Koppen, 2017). False complainants of rape have been noted to adopt a strategy of constructing a story that is concise and general (Marshall & Alison, 2006). While that might generally be the case, that diagnosticity may be weakened when made in cross-cultural settings. Across the experiments in this programme of research, mock witnesses with a collectivistic cultural background provided less elaborate memory reports than mock witnesses with individualistic cultural background. A rape victim with a collectivistic cultural orientation may not spontaneously provide elaborate details when recounting their experience. Their story about the abusive incident might be less elaborate, concise, and lacking in detail, due to reporting norms in such cultures. Each culture creates a model of what life history or personal storytelling should look like, leading to response bias (Wang & Ross, 2005). Consequently, distinguishing true from false allegations of rape in a cross-cultural context might be challenging. Using detail to assess the credibility of a rape victim's account in cross-cultural settings may lead to overlooking allegations of true abuse and wrongly accusing them of false allegations. Thus, findings from this programme of research provide valuable insight for the investigation of rape allegations in cross-cultural contexts. It would be necessary for future research to explore the evaluation of true and false rape claims in cross-cultural settings.

Assessing credibility in asylum seeker contexts. The accounts provided by asylum seekers are an important piece of evidence in asylum decision making (Jobson, 2009; Van Veldhuizen, Horselenberg, Landström, Granhag, & Van Koppen, 2017). Individuals fleeing persecution and seeking asylum are interviewed about many aspects of their lives and previous experiences, and decisions on their asylum claims may be made on the basis of these interviews (Herlihy, Jobson, & Turner, 2012). Among the evidence gathered in such interviews are their memory reports pertaining to descriptions about certain landmarks in the village or country of origin (Van Veldhuizen et al., 2018). One of the markers of credibility in such interviews is the level of detail of the information provided. When an applicant's account lacks sufficient detail, he or she may be deemed uncredible (Jobson, 2009). As most migrants are from collectivistic cultures such as Africa and Asia (Birman & Simon, 2013; United Nations Population Division, 2019), many migrants may not be spontaneously

explicit in their reports about their experience. As a result, genuine asylum seekers are at risk of being denied asylum on the basis that they do not meet the (culturally insensitive) credibility indicator.

Findings reported in this thesis provide evidence of the need to reconsider detail provision as an indicator in assessing credibility in asylum seeker contexts. At the very least, it would be necessary to develop effective interviewing strategies that facilitate detailed information provision in asylum seeker contexts. It has been suggested that immigration officials should adopt interviewing strategies that would enable asylum seekers to provide elaborate details (Jobson, 2009; Van Veldhuizen, Horselenberg, Landström, Granhag, & Van Koppen, 2017). Indeed, strategies to enhance elaborate memory reports in asylum seeker and other cross-cultural settings are needed. Future research should examine culturally sensitive techniques for eliciting information in cross-cultural contexts.

Memory elicitation and power distance. It may be necessary to give considerations to an interviewee's perceived power distance when eliciting memory reports in cross-cultural settings. The current findings show that perceived authority may impede eyewitness memory reports of witnesses with collectivistic cultural background. Mock witnesses with collectivistic orientation seemed to perceive high PD in social relationships than mock witnesses with individualistic cultural orientation. Unsurprisingly, the results also showed whereas reporting to police detectives enhances information provision among witnesses from individualistic cultures, reporting to authority seems to impede information provision among witnesses from collectivistic cultures. Hence, interviewing strategies to enhance detailed provision in cross-cultural settings may need to take the cultural factor of power distance into account. In fact, it has been argued that best practices in police interviews may be compromised when that cultural factor (power distance) is not taken into consideration (Sumampouw, Otgaar, La Rooy, & De Ruiter, 2020).

When interviewing witnesses from high PD cultures, it may be necessary for interviewers to use techniques that seek to minimise any power imbalance to enhance information elicitation. Effective rapport building may help minimise the impact of authority in eliciting eyewitness memory reports. When an effective rapport is developed, an atmosphere may be created where free and spontaneous communication is facilitated. This calls for an understanding of the best ways of building a friendly and effective rapport with interviewees with high PD cultural backgrounds. It has been argued that investigators need to be sensitive

to cultural differences in establishing effective rapport (Evans, Meissner, Brandon, Russano, & Kleinman, 2010). Insight into culturally specific rapport building strategies may prove valuable in eliciting information in law enforcement and counter-terrorism contexts. It has been noted that in cross-cultural contexts, establishing an effective rapport may yield substantial response from the interviewee (Van Veldhuizen, 2018). Accordingly, it has been recommended for interrogators to be trained in building effective rapport with interviewees from different cultures (Kleinman, 2006). However, there is a paucity of research on effective ways of establishing rapport with interviewees with a high PD cultural background. Therefore, future research examining how rapport building impacts information elicitation across cultures would be a step in the right direction.

Adapting current best practices for a wider cultural audience. To enhance information retrieval in cross-cultural contexts, it may be helpful to pilot retrieval enhancing techniques in other cultures, particularly as many so-called ‘best practice’ interviewing protocols were developed in western contexts (Fisher, Geiselman, & Amador, 1989; Geiselman, 2012). As cognitive processes are not universal, piloting the interviewing protocols in other cultures would be beneficial. Recent research has already begun examining the effectiveness of the Cognitive Interview (CI) in collectivistic samples. For example, the CI was piloted to examine its utility among Arab children (El Asam & Samara, 2015). It was found that the CI (compared with the Standard Interview) is effective in enhancing correct recall and reducing suggestive influences among the Arab sample. The authors indicate that although the Arab children provided generic reports when asked to report everything (free recall), they were able to provide elaborate and more specific details when they were carefully prompted and questioned. Thus, interview prompts that encourage witnesses to report as many details as possible may enhance detailed provision, especially for witnesses with a collectivistic cultural background. For example, the report everything phase of the CI asks witnesses to report every detail they remember, no matter how insignificant that might seem. With such prompt, a tendency to underreport details can be minimized. Specifically, and consistent with the notion of ‘transfer of control’ within the CI, it would also be beneficial for the interviewer to emphasise to the interviewee, right from the onset of the interview, that he or she (interviewer) was not there when the incident occurred so the interviewee should provide an elaborate report as possible.

It may also be helpful for interviewing techniques in cross-cultural contexts to set expectations for the level of completeness. This tactic may be helpful because the underreporting of details by collectivistic culture mock witnesses seems to indicate different expectations of detail completeness across cultures. Indeed, previous work has shown that the model for memory reporting across cultures may differ (Wang & Ross, 2005). It is likely that in the investigative interview context, an interviewer's instruction for a witness to 'report everything' would yield a response consistent with the witness's expectation of the level of completeness. In that vein, it would be helpful for investigators to be explicit on the level of detail that is expected from witnesses, especially for witnesses with collectivistic cultural background. That is to enable the interviewees to have a fair idea of what level of detail is expected of them. Future research on interviewing techniques in cross-cultural contexts should examine whether setting the level of detail completeness would enhance elaborate memory reporting.

Future work adapting or developing techniques for a wider cultural context should also consider how best to minimise the effect of suggestive or misleading information. While leading questions should always be avoided in investigative interviews, it is especially important in the context of cross-cultural interviews. The findings from this programme of research show reporting of misleading post-event information may be more pronounced for individuals with a collectivistic cultural orientation. Hence, investigative interviews in cross-cultural contexts may take into account the need to ask witnesses about the source of their reports. Also, it may be helpful to instruct witnesses from the onset of an interview that the details they report should only be about what they witnessed themselves. Suggestive influences when interviewing witnesses from collectivistic cultures may also be reduced when efforts are made to reduce interviewees' sensitivity to power dynamics during investigative interviews. In Chapters 2 and 5, mock witnesses with collectivistic cultural backgrounds perceived more power distance, where they endorsed hierarchy in social relationships than mock witnesses with an individualistic orientation. This sensitivity may make witnesses with a collectivistic cultural orientation more susceptible to suggestive influence from the investigator. Future research should explore further on cultural differences in susceptibility to suggestive influences from authority figures.

Methodological challenges in conducting cross-cultural research

Conducting cross-cultural research comes with its own peculiar challenges. In the current programme of research, participants were sampled from cultures in Western Europe and sub-Saharan Africa to examine cultural differences in eyewitness memory reports. In this section, I share some learning points about challenges involved in conducting cross-cultural research. I also propose solutions for consideration in mitigating some of these challenges inherent in cross-cultural research. As these challenges seem inevitable in research in cross-cultural psychology, sharing these insights and proposed solutions may help improve cross-cultural research in legal psychology.

Response bias in cross-cultural survey instruments. One of the methodological challenges in conducting cross-cultural research has to do with the issue of measurement in cross-cultural surveys. Such surveys usually involve asking participants to provide self-reports about a psychological or attitudinal construct (e.g., individualism, self-construal). Patterns of responding across cultures, might differ, hence, the possibility of culturally biased response styles. Response styles that have been identified to compromise the validity of cross-cultural surveys include Acquiescence Response Style (ARS), Extreme Response Style (ERS), and Social Desirability Responding (SDR) (Baumgartner & Steenkamp, 2001; Johnson, Kulesa, Cho, & Shavitt, 2005; Krautz & Hoffmann, 2019). Acquiescence response style is the tendency of survey respondents to give upper limit responses when responding to a questionnaire (Kemmelmeier, 2016). ARS, thus, reflects a tendency to mostly agree to items on a questionnaire, rather than a response that reflects a true personally held opinion. Quite similar to ARS, ERS is the tendency to use middle ratings less and overuse either ends of a Likert scale (e.g., *totally agree* or *totally disagree*; Morren, Gelissen, & Vermunt, 2012). Besides ARS and ERS, Social Desirability Responding (SDR) can bias responses on cross-cultural surveys. SDR is the tendency for survey responders to create a particular impression of themselves that may not necessarily be consistent with reality (Kemmelmeier, 2016).

These biases in responding have been shown to be culturally grounded and may confound cross-cultural comparisons in research (Bou Malham & Saucier, 2016; Middleton & Jones, 2000). For example, it has been shown that ERS, ARS, and SDR mostly tend to be stronger among a collectivistic than among an individualistic sample (Johnson et al., 2005). (Hofstede,

2011; Hofstede et al., 2010; Minkov et al., 2017). It has been recommended that one way of keeping ARS and ERS in check is using both reverse coded and positively coded items when constructing the survey instrument (Baumgartner & Steenkamp, 2001). It has also been proposed that SDR may be fixed by using measures that specifically access SDR in order to control for it in subsequent analysis (Domínguez Espinosa & Van De Vijver, 2014; Kimmelmeier, 2016). In hindsight, these measures to minimise culturally biased responding could have been factored into the survey for the current programme of research. Thus, to mitigate the challenge of culturally grounded responding patterns, future cross-cultural surveys should consider some of the recommended approaches.

Normative sample of scale. Another major challenge in conducting cross-cultural research is that some of the scales developed for cross-cultural surveys were developed with samples different from the population for the research. As a result, there could be differences in characteristics between the normative sample used in developing the scale and the study sample of interest. In fact, others have expressed concern about the use of measures of cultural orientation developed in non-African contexts for research in Africa, arguing such measures may have low psychometric properties (Pirttilä-Backman et al., 2004). The normative sample used in developing the cultural orientation scale by Triandis and Gelfand (1998), for example, were East Asian and American samples. While there may be similarities to a large extent between East Asian and sub-Saharan African collectivism, there may be peculiarities to the respective collectivistic cultures. Indeed, others have argued the possibility for different versions of collectivism to exist in the respective contexts (Adams & Dzokoto, 2003; Triandis, 2001; Triandis & Gelfand, 1998). Hence, items on measures of cultural orientation and other attitudinal measures might be context-sensitive. For instance, it has been argued that while the inter-correlations of the cultural orientation sub-scale are theoretically and conceptually sensible when used with an African sample, the items might not cover other topics or content domains needed to tap into African collectivism (Pirttilä-Backman et al., 2004). Because such scales were developed in different contexts, it could also be that when used in other contexts, participants may not comprehend some of the items or expressions used on the scale.

It is also worth noting that previous work shows the cultural orientation scale (Triandis & Gelfand, 1998) sometimes yields unexpected ratings, inconsistent with the country scores. For example, research on

national cultures shows Switzerland is high on individualism (Country score of +105), whereas South Africa is low (Country score of -105; Minkov et al., 2017). However, in a study validating Triandis and Gelfand's (1998) cultural orientation scale in those two countries, participants from South Africa gave higher ratings on both individualism and collectivism than participants from Switzerland (Györkös et al., 2013).¹⁴ Even though that study only sought to validate the scale in the respective countries without necessarily making cross-cultural comparisons, the observed differences in mean individualism and collectivism when making cross-cultural comparisons show possible shortcomings in the use of the scale for cross-cultural surveys (Fiske, 2002). In the current programme of research, I found a pattern similar to the data reported by Györkös et al. (2013), as sub-Saharan Africans in this programme of research gave higher ratings for both individualism and collectivism compared to western Europeans. The higher ratings by the African participants on self-reported individualism and collectivism may also reflect response bias, as argued above. I recommend future studies use other scales on cultural orientation validated for making cross-cultural comparisons. It would also be necessary for future work to develop a scale for a particular context tapping into the cultural orientation of that context. That would help make such measures context-sensitive and cover content domains relevant for tapping into the cultural orientation of interest. It may also help address the potential problem of comprehending items on the scale.

Language and meaning. Language is another methodological challenge in the conduct of cross-cultural research. That is especially so if the comparison groups are not proficient in a common language, for which reason the study has to be conducted in different languages. In such situations, translation into a common language may lead to a loss of intended meaning or relevant details. It could even be that coding details in the respective languages might lead to disparities across groups and results might be confounded. In the experiments reported in this thesis, mock witnesses across cultures were proficient in English, which was the mode of instruction in the study. The official language in Ghana is English

14 The two countries significantly differed in their mean scores on individualism (Switzerland - $n = 585$, $M = 45.50$, $SD = 9.49$; South Africa - $n = 818$, $M = 48.53$, $SD = 10.37$) and collectivism (Switzerland - $n = 585$, $M = 55.97$, $SD = 7.20$; South Africa - $n = 818$, $M = 57.15$, $SD = 9.87$). An independent t-test analysis based on these means showed participants from South Africa scored significantly higher on individualism than participants from Switzerland, $t(1401) = 5.59$, $p < .001$, $d = .30$. South Africa also scored significantly higher on collectivism than Switzerland, $t(1501) = 2.46$, $p = .01$, $d = .14$.

and is the medium of instruction and communication, from primary to tertiary level. Nevertheless, in Experiment 1 where a few of the rural Ghanaian sample had limited comprehension of English, I engaged the service of a linguist who is a doctoral-level student and an expert in the local language to help with translation. Also, a bilingual research assistant who is indigenous to the locality translated the responses of those rural participants into English for coding. While these approaches may not be entirely adequate in ruling out language confounds, they are very important steps adopted in this programme of research in addressing language challenges. Future cross-cultural research might use such an approach in handling language challenges.

Another approach to mitigating language challenges that future cross-cultural research might consider is cross-translations. An example of such an approach was used in research that examined the context-sensitivity of Japanese and Americans (Masuda & Nisbett, 2001). Responses in that research were in the English language for American participants and Japanese language for Japanese participants. Two bilinguals translated the American (English language) data into the Japanese language, and then the Japanese (Japanese language) data were also translated into the English language. A bilingual Japanese and American then independently checked for the correspondence of these translations to the original languages. With regards to coding, two English coders coded the Japanese data that were translated into English language and the American (English) data. Two Japanese coders also coded the English data that were translated into Japanese and the Japanese data. Thus, for each language, coding is done in both the original language and for the translated version by different coders proficient in the respective languages. In that way, the researchers can assess the level of agreement not just across coders but across language versions.

Demographic differences in rural and urban samples. Due to rural-urban migration in collectivistic cultures, the population in rural areas tends to be relatively older than in the urban areas. That means in cross-cultural comparisons involving a rural sample, there is the likelihood that the sample would be relatively older and less educated than the urban collectivistic as well as individualistic cultural sample. Indeed, that is one of the limitations discussed in Chapter 2, which involved a comparison between rural collectivistic and urban collectivistic samples. That challenge may be most likely when the research involves a student sample, as they tend to be relatively younger. Hence, cross-cultural research

focusing on the general population may be one of the ways of mitigating this challenge. Another approach could also be carefully matching samples across rural and urban populations in such research.

CONCLUSION

In this programme of research, I examined whether there are cultural differences in the content of eyewitness memory reports. Based on the self-construal theory, I sampled mock witnesses from collectivistic (sub-Saharan Africa) and individualistic (Western Europe) cultures and compared their memory reports, after exposure to mock crime events. Across experiments, I found evidence that the cultural background of witnesses may shape the content of their eyewitness memory reports. For example, in all four experiments, the results show that witnesses with a collectivistic cultural orientation are more prone to underreport details in their reports from memory about witnessed events than witnesses with an individualistic cultural orientation. This consistent finding provides a direction for future research on how best to elicit eyewitness memory reports in cross-cultural contexts. Overall, the programme of research reveals marked cultural differences in eyewitness memory reports and highlights some important implications for investigative interviews in law enforcement and other cross-cultural settings. This contribution to the literature is important in light of the increasing likelihood that investigative and legal professionals will interview witnesses with a cultural background different from theirs. Hence, the findings provide valuable insights into investigative interviewing of witnesses in cross-cultural contexts. It is, therefore, crucial that practitioners are trained to be sensitive to cultural issues in the elicitation of memory reports. Without sufficient training, interviewees may be misunderstood or efforts at eliciting memory reports may be impeded. Cultural issues must be incorporated into training modules for investigators and legal professionals working in cross-cultural contexts. Meanwhile future research must adapt interviewing protocols for a wider cultural context.



REFERENCES



REFERENCES

- Abbe, A., & Brandon, S. (2013). The role of rapport in investigative interviewing: A review. *Journal of Investigative Psychology and Offender Profiling*, 10, 237–249. <https://doi.org/10.1002/jip.1386>
- Adair, W. L., & Xiong, T. X. (2018). How Chinese and caucasian Canadians conceptualize creativity: The mediating role of uncertainty avoidance. *Journal of Cross-Cultural Psychology*, 49(2), 223–238. <https://doi.org/10.1177/0022022117713153>
- Adams, G., & Dzokoto, V. A. (2003). Self and identity in African studies. *Self and Identity*, 2, 345–359. <https://doi.org/10.1080/714050252>
- Albright, T. D. (2017). Why eyewitnesses fail. *Proceedings of the National Academy of Sciences of the United States of America*, 114(30), 7758–7764. <https://doi.org/10.1073/pnas.1706891114>
- Altarriba, J. (1993). The influence of culture on cognitive processes. *Advances in Psychology*, 103, 379–384. [https://doi.org/10.1016/S0166-4115\(08\)61673-8](https://doi.org/10.1016/S0166-4115(08)61673-8)
- Amer, T., Ngo, K. W. J., & Hasher, L. (2017). Cultural differences in visual attention: Implications for distraction processing. *British Journal of Psychology*, 108(2), 244–258. <https://doi.org/10.1111/bjop.12194>
- Amos, P. M. (2013). Parenting and culture – Evidence from some African communities. In M. L. Seidl-de-Moura (Ed.), *Parenting in South America and African contexts* (pp. 65–77). Rijeka: InTech. <https://doi.org/10.5772/56967>
- Anakwah, N., Horselenberg, R., Hope, L., Amankwah-Poku, M., & van Koppen, P. J. (2020a). Cross-cultural differences in eyewitness memory reports. *Applied Cognitive Psychology*, 34(2), 504–515. <https://doi.org/10.1002/acp.3637>
- Anakwah, N., Horselenberg, R., Hope, L., Amankwah-Poku, M., & van Koppen, P. J. (2020b). The acculturation effect and eyewitness memory reports among migrants. *Legal and Criminological Psychology*, 25(2), 237–256. <https://doi.org/10.1111/lcrp.12179>
- Arends-Tóth, J., & van de Vijver, F. J. R. (2009). Cultural differences in family, marital, and gender-role values among immigrants and majority members in the Netherlands. *International Journal of Psychology*, 44, 161–169. <https://doi.org/10.1080/00207590701545676>
- Ayers, M. S., & Reder, L. M. (1998). A theoretical review of the misinformation effect: Predictions from an activation-based memory model. *Psychonomic Bulletin and Review*, 5(1), 1–21. <https://doi.org/10.3758/BF03209454>
- Basabe, N., & Ros, M. (2005). Cultural dimensions and social behavior correlates: Individualism-Collectivism and Power Distance. *Revue Internationale de Psychologie Sociale*, 18(1), 189–225.

- Belli, R. F., Lindsay, D. S., Gales, M. S., & McCarthy, T. T. (1994). Memory impairment and source misattribution in postevent misinformation experiments with short retention intervals. *Memory & Cognition*, *22*(1), 40–54. <https://doi.org/10.3758/BF03202760>
- Berry, J. W. (2003). Conceptual approaches to acculturation. In K. M. Chun, P. B. Organista, & G. Marin (Eds.), *Acculturation: Advances in theory, measurement, and applied research*. (pp. 17–37). Washington, DC: American Psychological Association. <https://doi.org/10.1037/10472-004>
- Berry, J. W., Phinney, J. S., Sam, D. L., & Vedder, P. (2006). Immigrant youth: Acculturation, identity and adaptation. *Applied Psychology: An International Review*, *55*(3), 303–332. <https://doi.org/10.1111/j.1464-0597.2006.00256.x>
- Beune, K., Giebels, E., & Taylor, P. J. (2010). Patterns of interaction in police interviews. *Criminal Justice and Behavior*, *37*, 904–925. <https://doi.org/10.1177/0093854810369623>
- Bhugra, D. (2004). Migration, distress and cultural identity. *British Medical Bulletin*, *69*, 129–141. <https://doi.org/10.1093/bmb/ldh007>
- Białas, S. (2009). Power distance as a determinant of relations between managers and employees in the enterprises with foreign capital. *Journal of Intercultural Management*, *1*(2), 105–115. <https://doi.org/https://dx.doi.org/10.1891/0886-6708.VV-D-14-00154>
- Birman, D., & Simon, C. D. (2013). Acculturation research: Challenges, complexities, and possibilities. *APA Handbook of Multicultural Psychology, Vol. 1: Theory and Research.*, *1*, 207–230. <https://doi.org/10.1037/14189-011>
- Blank, H. (1998). Memory states and memory tasks: An integrative framework for eyewitness memory and suggestibility. *Memory*, *6*, 481–529. <https://doi.org/10.1080/741943086>
- Blank, H., Ost, J., Davies, J., Jones, G., Lambert, K., & Salmon, K. (2013). Comparing the influence of directly vs. indirectly encountered post-event misinformation on eyewitness remembering. *Acta Psychologica*, *144*(3), 635–641. <https://doi.org/10.1016/j.actpsy.2013.10.006>
- Boakyewaa, A. (2008). *Educational value of Manhyia palace museum artefacts (Unpublished master's thesis)*. Kwame Nkrumah University of Science and Technology, Kumasi, Ghana.
- Boateng, F. D., Lee, H. D., & Abess, G. (2016). Analyzing citizens' reported levels of confidence in the police : A Cross-national study of public attitudes toward the police in the United States and South Korea. *Asian Journal of Criminology*, *11*, 289–308. <https://doi.org/10.1007/s11417-016-9231-8>

References

- Boduroglu, A., Priti, S., & Nisbett, R. E. (2009). Cultural differences in allocation of attention in visual information processing. *Journal of Cross-Cultural Psychology*, 40(3), 349–360. <https://doi.org/10.1177/0022022108331005>
- Bou Malham, P., & Saucier, G. (2016). The conceptual link between social desirability and cultural normativity. *International Journal of Psychology*, 51, 474–480. <https://doi.org/10.1002/ijop.12261>
- Brady, L. M., Fryberg, S. A., & Shoda, Y. (2018). Expanding the interpretive power of psychological science by attending to culture. *Proceedings of the National Academy of Sciences of the United States of America*, 115(45), 11406–11413. <https://doi.org/10.1073/pnas.1803526115>
- Brown, J. D., & Gallagher, F. M. (1992). Coming to terms with failure: Private self-enhancement and public self-effacement. *Journal of Experimental Social Psychology*, 28, 3–22. [https://doi.org/https://doi.org/10.1016/0022-1031\(92\)90029-J](https://doi.org/https://doi.org/10.1016/0022-1031(92)90029-J)
- Buil, I., De Chernatony, L., & Martínez, E. (2012). Methodological issues in cross-cultural research: An overview and recommendations. *Journal of Targeting, Measurement and Analysis for Marketing*, 20, 223–234. <https://doi.org/10.1057/jt.2012.18>
- Burke, A., Heuer, F., & Reisberg, D. (1992). Remembering emotional events. *Memory & Cognition*, 20(3), 277–290. <https://doi.org/10.3758/BF03199665>
- Burns, A., & Radford, J. (2008). Parent-child interaction in Nigerian families: Conversation analysis, context and culture. *Child Language Teaching and Therapy*, 24, 193–209. <https://doi.org/10.1177/0265659008090294>
- Cai, H., Brown, J. D., Deng, C., & Oakes, M. A. (2007). Self-esteem and culture: Differences in cognitive self-evaluations or affective self-regard? *Asian Journal of Social Psychology*, 10, 162–170. <https://doi.org/10.1111/j.1467-839X.2007.00222.x>
- Callister, L. C. (2003). Cultural Influences on Pain Perceptions and Behaviors. *Home Health Care Management & Practice*, 15(3), 207–211. <https://doi.org/10.1177/1084822302250687>
- Candel, I., Merckelbach, H., Jelicic, M., Limpens, M., & Widdershoven, K. (2004). Children's suggestibility for peripheral and central details. *The Journal of Credibility Assessment and Witness Psychology*, 5(1), 9–18.
- Chasiotis, A., Bender, M., Kiessling, F., & Hofer, J. (2010). The emergence of the independent self: Autobiographical memory as a mediator of false belief understanding and sociocultural motive orientation in cameroonian and german preschoolers. *Journal of Cross-Cultural Psychology*, 41, 368–390. <https://doi.org/10.1177/0022022110361705>

- Cheung, B. Y., Chudek, M., & Heine, S. J. (2011). Evidence for a sensitive period for acculturation: Younger immigrants report acculturating at a faster rate. *Psychological Science*, 22(2), 147–152. <https://doi.org/10.1177/0956797610394661>
- Chioneso, N. A. (2008). (Re)Expressions of African/ Caribbean cultural roots in Canada. *Journal of Black Studies*, 39, 69–84. <https://doi.org/10.1177/0021934706295411>
- Christianson, L. A., & Loftus, E. F. (1991). Remembering Emotional Events: The Fate of Detailed Information. *Cognition and Emotion*, 5(2), 81–108. <https://doi.org/10.1080/02699939108411027>
- Christianson, S. Å. (1992). Emotional stress and eyewitness memory: A critical review. *Psychological Bulletin*, 112(2), 284–309. <https://doi.org/10.1037/0033-2909.112.2.284>
- Chua, H. F., Boland, J. E., & Nisbett, R. E. (2005). Cultural variation in eye movements during scene perception. *Pnas*, 102(35), 12629–12633. <https://doi.org/10.1073/pnas.0506162102>
- Chudek, M., Cheung, B. Y., & Heine, S. J. (2015). US immigrants' patterns of acculturation are sensitive to their age, language, and cultural contact but show no evidence of a sensitive window for acculturation. *Journal of Cognition and Culture*, 15(1–2), 174–190. <https://doi.org/10.1163/15685373-12342145>
- Cialdini, R. (2013). *Influence: Science and practice* (5th ed.). Harlow: Pearson Education Limited.
- Coşkan, C., Phalet, K., Güngör, D., & Mesquita, B. (2016). Relationship context matters: Cultural differences in self-construals revisited. *Cross-Cultural Research*, 50(1), 63–84. <https://doi.org/10.1177/1069397115622179>
- Cross, S. E., Hardin, E. E., & Gercek-Swing, B. (2011). The what, how, why, and where of self-construal. *Personality and Social Psychology Review*, 15(2), 142–179. <https://doi.org/10.1177/1088868310373752>
- Dando, C. J., Ormerod, T. C., Cooper, P., Marchant, R., Mattison, M., Milne, R., & Bull, R. (2018). No evidence against sketch reinstatement of context, verbal labels or the use of registered intermediaries for children with autism spectrum disorder: Response to Henry et al. (2017). *Journal of Autism and Developmental Disorders*, 48, 2593–2596. <https://doi.org/10.1007/s10803-018-3479-z>
- Davidson, D., & Vanegas, S. B. (2015). The role of emotion on the recall of central and peripheral information from script-based text. *Cognition and Emotion*, 29(1), 76–94. <https://doi.org/10.1080/02699931.2014.896319>
- de Bruïne, G., Vredeveltd, A., & van Koppen, P. J. (2018). Cross-cultural differences in object recognition: Comparing asylum seekers from Sub-Saharan Africa and a matched Western European control group. *Applied Cognitive Psychology*, 32, 463–473. <https://doi.org/10.1002/acp.3419>

References

- De La Fuente Vilar, A., Horselenberg, R., Strömwall, L. A., Landström, S., Hope, L., & van Koppen, P. J. (2020). Effects of cooperation on information disclosure in mock-witness interviews. *Legal and Criminological Psychology, 25*(2), 133–149. <https://doi.org/10.1111/lcrp.12167>
- Doney, P. M., Cannon, J. P., & Mullen, M. R. (1998). Understanding the influence of national culture on the development of trust. *Academy of Management Review, 23*(3), 601–620.
- Duffy, S., Toriyama, R., Itakura, S., & Kitayama, S. (2009). Development of cultural strategies of attention in North American and Japanese children. *Journal of Experimental Child Psychology, 102*, 351–359. <https://doi.org/10.1016/j.jecp.2008.06.006>
- Eaton, L., & Louw, J. (2000). Culture and self in South Africa: Individualism-collectivism predictions. *The Journal of Social Psychology, 140*(2), 210–217. <https://doi.org/http://dx.doi.org/10.1080/00224540009600461>
- Ecker, U. K. H., Lewandowsky, S., Cheung, C. S. C., & Maybery, M. T. (2015). He did it! She did it! No, she did not! Multiple causal explanations and the continued influence of misinformation. *Journal of Memory and Language, 85*, 101–115. <https://doi.org/10.1016/j.jml.2015.09.002>
- Epstein, R. A., Higgins, J. S., Jablonski, K., & Feiler, A. M. (2007). Visual scene processing in familiar and unfamiliar environments. *Journal of Neurophysiology, 97*, 3670–3683. <https://doi.org/10.1152/jn.00003.2007>
- Fisher, R. P. (2010). Interviewing cooperative witnesses. *Legal and Criminological Psychology, 15*, 25–38. <https://doi.org/https://doi.org/10.1348/135532509x441891>
- Fisher, Ronald P, Geiselman, R. E., & Amador, M. (1989). Field test of the cognitive interview: Enhancing the recollection of actual victims and witnesses of crime. *Psychological Methods in Criminal Investigation and Evidence., 74*, 191–215. <https://doi.org/10.1037/0021-9010.74.5.722>
- Fisher, Ronald P, Milne, R., & Bull, R. (2011). Interviewing cooperative witnesses. *Current Directions in Psychological Science, 20*, 16–19. <https://doi.org/10.1177/0963721410396826>
- Frenda, S. J., Nichols, R. M., & Loftus, E. F. (2011). Current issues and advances in misinformation research. *Current Directions in Psychological Science, 20*(1), 20–23. <https://doi.org/10.1177/0963721410396620>
- Gabbert, F., Hope, L., & Fisher, R. P. (2009). Protecting eyewitness evidence: Examining the efficacy of a self-administered interview tool. *Law and Human Behavior, 33*, 298–307. <https://doi.org/10.1007/s10979-008-9146-8>
- Gabbert, F., Hope, L., Fisher, R. P., & Jamieson, K. (2012). Protecting against misleading post-event information with a Self-Administered Interview. *Applied Cognitive Psychology, 26*(4), 568–575. <https://doi.org/10.1002/acp.2828>

- Garry, M., French, L., Kinzett, T., & Mori, K. (2008). Eyewitness memory following discussion: Using the MORI technique with a Western sample. *Applied Cognitive Psychology*, 22, 431–439. <https://doi.org/10.1002/acp>
- Gelfand, M. J., Harrington, J. R., & Jackson, J. C. (2017). The strength of social norms across human groups. *Perspectives on Psychological Science*, 12, 800–809. <https://doi.org/10.1177/1745691617708631>
- Gelfand, M. J., & Realo, A. (1999). Individualism-collectivism and accountability in intergroup negotiations. *Journal of Applied Psychology*, 84(5), 721–736. <https://doi.org/doi:10.1037/0021-9010.84.5.721>
- Ghosh, A. (2011). Power distance in organizational contexts-A Review of collectivist cultures. *Indian Journal of Industrial Relations*, 47(1), 89–101. Retrieved from <http://0-search.ebscohost.com.library.regent.edu/login.aspx?direct=true&db=bth&AN=69815239&site=eds-live>
- Giebels, E., Oostinga, M. S. D., Taylor, P. J., & Curtis, J. L. (2017). The cultural dimension of uncertainty avoidance impacts police–civilian interaction. *Law and Human Behavior*, 41, 93–102. <https://doi.org/10.1037/lhb0000227>
- Goldstone, R. (2019). Acquittals by the International Criminal Court. *European Journal of International Law*, 1–4. Retrieved from <https://www.ejiltalk.org/acquittals-by-the-international-criminal-court/>
- Goodman-Delahunty, J., & Howes, L. M. (2016). Social persuasion to develop rapport in high-stakes interviews: qualitative analyses of Asian-Pacific practices. *Policing and Society*, 26, 270–290. <https://doi.org/10.1080/10439463.2014.942848>
- Göz, İ., Çeven, Z. İ., & Tekcan, A. (2017). Urban–rural differences in children’s earliest memories. *Memory*, 25(2), 214–219. <https://doi.org/10.1080/09658211.2016.1150490>
- Green, E. G. T., Deschamps, J. C., & Páez, D. (2005). Variation of individualism and collectivism within and between 20 countries: A typological analysis. *Journal of Cross-Cultural Psychology*, 36(3), 321–339. <https://doi.org/10.1177/0022022104273654>
- Gutchess, A., & Boduroglu, A. (2019). Cultural differences in categorical memory errors persist with age. *Aging and Mental Health*, 23(7), 851–854. <https://doi.org/10.1080/13607863.2017.1421616>
- Gutchess, A. H., & Indeck, A. (2009). Cultural influences on memory. *Progress in Brain Research*, 178, 137–150. [https://doi.org/10.1016/S0079-6123\(09\)17809-3](https://doi.org/10.1016/S0079-6123(09)17809-3)
- Gutchess, A., & Sekuler, R. (2019). Perceptual and mnemonic differences across cultures. *Psychology of Learning and Motivation - Advances in Research and Theory*, 71, 131–174. <https://doi.org/10.1016/bs.plm.2019.06.001>

References

- Gyekye, K. (2002). Persons and community in African thought. In *The struggle for reason in Africa, from Philosophy from Africa: A Text with Readings* (2nd ed., pp. 297–312). Oxford University Press.
- Hall, E. T. (1976). *Beyond culture*. Garden City, NY: Anchor Press.
- Hanel, P. H. P., & Vione, K. C. (2016). Do student samples provide an accurate estimate of the general public? *PLoS ONE*, 11(12), 1–10. <https://doi.org/10.1371/journal.pone.0168354>
- Harzing, A. W. (2006). Response styles in cross-national survey research: A 26-country study. *International Journal of Cross Cultural Management*, 6, 243–266. <https://doi.org/10.1177/1470595806066332>
- He, J., & Van de Vijver, F. J. R. (2016). Response styles in factual items: Personal, contextual and cultural correlates. *International Journal of Psychology*, 51, 445–452. <https://doi.org/10.1002/ijop.12263>
- Heath, W. P., & Erickson, J. R. (1998). Memory for central and peripheral actions and props after varied post-event presentation. *Legal and Criminological Psychology*, 3(2), 321–346. <https://doi.org/10.1111/j.2044-8333.1998.tb00369.x>
- Hedden, T., Ketay, S., Aron, A., Markus, H. R., & Gabrieli, J. D. E. (2008). Cultural influences on neural substrates of attentional control. *Psychological Science*, 19, 12–17. <https://doi.org/10.1111/j.1467-9280.2008.02038.x>
- Heine, S. J., Lehman, D. R., & Takata, T. (2000). Beyond self-presentation: Evidence for self-criticism among Japanese. *Personality and Social Psychology Bulletin*, 26, 71–78. <https://doi.org/10.1177/0146167200261007>
- Henrich, J., Heine, S. J., & Norenzayan, A. (2010). The weirdest people in the world? *Behavioral and Brain Sciences*, 33, 61–83. <https://doi.org/10.1017/S0140525X0999152X>
- Herlihy, J., Jobson, L., & Turner, S. (2012). Just tell us what happened to you: Autobiographical memory and seeking asylum. *Applied Cognitive Psychology*, 26(5), 661–676. <https://doi.org/10.1002/acp.2852>
- Hess, J. B. (2003). Imagining architecture II: “Treasure storehouses” and constructions of Asante regional hegemony. *Africa Today*, 50(1), 27–48. <https://doi.org/10.1353/at.2003.0058>
- Hofstede, G. (1983). Dimensions of national cultures in fifty countries and three region. In J. Derogowski, S. Dzuirawiec, & R. Annis (Eds.), *Explorations in cross-cultural psychology* (pp. 335–355). Lisse: Swets and Zeitlinger.
- Hofstede, G. (2001). *Culture’s consequences: Comparing values, behaviors, institutions and organisations* (2nd ed.). Thousand Oaks, CA: Sage.
- Hofstede, G. (2011). Dimensionalizing cultures: The Hofstede model in context. *Online Readings in Psychology and Culture*, 2(1), 1–26. <https://doi.org/10.9707/2307-0919.1014>

- Hofstede, G., & Bond, M. H. (1988). The Confucius connection: From cultural roots to economic growth. *Organizational Dynamics*, 16(4), 5–21. [https://doi.org/10.1016/0090-2616\(88\)90009-5](https://doi.org/10.1016/0090-2616(88)90009-5)
- Hofstede, G., Hofstede, G., & Minkov, M. (2010). *Cultures and organizations: Software of the mind*. *Cultures and Organizations* (3rd ed.). New York: Mc Graw Hill. <https://doi.org/10.1007/s11569-007-0005-8>
- Holtgraves, T. (1997). Styles of language use: Individual and cultural variability in conversational indirectness. *Journal of Personality and Social Psychology*, 73, 624–637. <https://doi.org/10.1037/0022-3514.73.3.624>
- Hope, L., & Gabbert, F. (2019). Interviewing witnesses and victims. In N. Brewer & A. B. Douglass (Eds.), *Psychological Science and the Law* (pp. 56–74). New York: The Guildford Press.
- Hsu, C. F. (2010). Acculturation and communication traits: A study of cross-cultural adaptation among Chinese in America. *Communication Monographs*, 77, 414–425. <https://doi.org/10.1080/03637751.2010.499367>
- Huang, C. M., & Park, D. (2013). Cultural influences on Facebook photographs. *International Journal of Psychology*, 48(3), 334–343. <https://doi.org/10.1080/00207594.2011.649285>
- Huff, M. J., & Umanath, S. (2018). Evaluating suggestibility to additive and contradictory misinformation following explicit error detection in younger and older adults. *Journal of Experimental Psychology: Applied*, 24(2), 180–195. <https://doi.org/10.1037/xap0000138>
- Hyman, I. E. (1994). Conversational remembering: Story recall with a peer versus for an experimenter. *Applied Cognitive Psychology*, 8, 49–66.
- Ibabe, I., & Sporer, S. L. (2004). How you ask is what you get: On the influence of question form on accuracy and confidence. *Applied Cognitive Psychology*, 18, 711–726. <https://doi.org/10.1002/acp.1025>
- Istomin, K. V., Panáková, J., & Heady, P. (2014). Culture, perception, and artistic visualization: A comparative study of children's drawings in three siberian cultural groups. *Cognitive Science*, 38, 76–100. <https://doi.org/10.1111/cogs.12051>
- Ji, L.-J., Peng, K., & Nisbett, R. E. (2000). Culture, control, and perception of relationships in the environment. *Journal of Personality and Social Psychology*, 78(5), 943–955. <https://doi.org/10.1037/0022-3514.78.5.943>
- Ji, L. J., & Yap, S. (2016). Culture and cognition. *Current Opinion in Psychology*, 8, 105–111. <https://doi.org/10.1016/j.copsyc.2015.10.004>
- Jobson, L. (2009). Cultural differences in specificity of autobiographical memories: Implications for asylum decisions. *Psychiatry, Psychology and Law*, 16(3), 453–457. <https://doi.org/10.1080/13218710902930259>

References

- Kalule-sabiti, I., Palamuleni, M., Makiwane, M., & Amoateng, A. (2007). Family formation and dissolution patterns. In A. Amoateng & T. Heaton (Eds.), *Families and households in post-apartied South Africa: Socio-demographic perspectives* (pp. 89–112). Pretoria: HSRC Press.
- Karpicke, J. D., & Roediger, H. L. (2007). Repeated retrieval during learning is the key to long-term retention. *Journal of Memory and Language*, 57(2), 151–162. <https://doi.org/10.1016/j.jml.2006.09.004>
- Kastanakis, M. N., & Voyer, B. G. (2014a). The effect of culture on perception and cognition: A conceptual framework. *Journal of Business Research*, 67, 425–433. <https://doi.org/10.1016/j.jbusres.2013.03.028>
- Kastanakis, M. N., & Voyer, B. G. (2014b). The effect of culture on perception and cognition: A conceptual framework. *Journal of Business Research*, 67(4), 425–433. <https://doi.org/10.1016/j.jbusres.2013.03.028>
- Keith, K. (2012). Blood diamonds and war crimes: The case against Charles Taylor. *Southern Cross University Law Review*, 15, 99–110. Retrieved from <http://classic.austlii.edu.au/au/journals/SCULawRw/2012/7.pdf>
- Kemmelmeier, M. (2016). Cultural differences in survey responding: Issues and insights in the study of response biases. *International Journal of Psychology*, 51, 439–444. <https://doi.org/10.1002/ijop.12386>
- Khatri, N. (2009). Consequences of Power Distance. *Vision*, 13(1), 1–9. <https://doi.org/10.1177/097226290901300101>
- Kim, J. H. (2013). Information and culture: Cultural differences in the perception and recall of information. *Library and Information Science Research*, 35(3), 241–250. <https://doi.org/10.1016/j.lisr.2013.04.001>
- Kim, S. H., & Kim, S. (2016). National culture and social desirability bias in measuring public service motivation. *Administration and Society*, 48, 444–476. <https://doi.org/10.1177/0095399713498749>
- Kim, Y. Y. (2001). *Becoming intercultural. An integrative theory of communication and cross-cultural adaptation*. Thousand Oaks, CA: Sage Publications Inc.
- Kitayama, S., Duffy, S., Kawamura, T., & Larsen, J. T. (2003). Perceiving and object and its context in different cultures: A Culture Look at New Look. *Psychological Science*, 14(3), 201–206. <https://doi.org/10.1111/1467-9280.02432>
- Kleinman, S. M. (2006). KUBARK counterintelligence interrogation review: Observations of an interrogator - Lessons learned and avenues for further research. In R. Swenson (Ed.), *Educing Information: Interrogation: Science and Art. Foundations for the Future* (pp. 95–139). Washington, DC: National Intelligence Academy.

- Koc, E. (2013). Power distance and its implications for upward communication and empowerment: Crisis management and recovery in hospitality services. *International Journal of Human Resource Management*. Taylor & Francis. <https://doi.org/10.1080/09585192.2013.778319>
- Köhnken, G., Milne, R., Memon, A., & Bull, R. (1999). The cognitive interview: A meta-analysis. *Psychology, Crime and Law*, 5, 3–27. <https://doi.org/10.1080/10683169908414991>
- Koriat, A., & Goldsmith, M. (1994). Memory in Naturalistic and Laboratory Contexts: Distinguishing the Accuracy-Oriented and Quantity-Oriented Approaches to Memory Assessment. *Journal of Experimental Psychology: General*, 123(3), 297–315. <https://doi.org/10.1037/0096-3445.123.3.297>
- Koriat, A., & Goldsmith, M. (1996). Monitoring and control processes in the strategic regulation of memory accuracy. *Psychological Review*, 103(3), 490–517. <https://doi.org/10.1037/0033-295X.103.3.490>
- Kurman, J. (2010). Good , Better , Best : Between Culture and. *Social and Personality Psychology Compass*, 6, 379–392. <https://doi.org/10.1111/j.1751-9004.2010.00269.x>
- Kuwornu-Adjaottor, J. E. T., Appiah, G., & Nartey, M. (2016). The philosophy behind some Adinkra symbols and their communicative values in Akan. *Philosophical Papers and Review*, 7(3), 22–33. <https://doi.org/10.5897/ppr2015.0117>
- Lalwani, A. K., Shavitt, S., & Johnson, T. (2006). What is the relation between cultural orientation and socially desirable responding? *Journal of Personality and Social Psychology*, 90(1), 165–178. <https://doi.org/10.1037/0022-3514.90.1.165>
- LaPaglia, J. A., & Chan, J. C. K. (2019). Telling a good story: The effects of memory retrieval and context processing on eyewitness suggestibility. *PLoS ONE*, 14(2), 1–20. <https://doi.org/10.1371/journal.pone.0212592>
- Leal, S., Vrij, A., Vernham, Z., Dalton, G., Jupe, L., Harvey, A., & Nahari, G. (2018). Cross-cultural verbal deception. *Legal and Criminological Psychology*, 23, 192–213. <https://doi.org/10.1111/lcrp.12131>
- Lee, S., & Lee, D. K. (2018). What is the proper way to apply the multiple comparison test? *Korean Journal of Anesthesiology*, 71, 353–360. <https://doi.org/doi.org/10.4097%2Fkja.d.18.00242>
- Lee, Y. S., & Chen, K. N. (2013). Post-event information presented in a question form eliminates the misinformation effect. *British Journal of Psychology*, 104(1), 119–129. <https://doi.org/10.1111/j.2044-8295.2012.02109.x>
- Levy-Gigi, E., & Vakil, E. (2014). The counterintuitive relationship between conceptual and perceptual similarities and eyewitness suggestibility. *Applied Cognitive Psychology*, 28(5), 799–804. <https://doi.org/10.1002/acp.3066>

References

- Liao, K., Henceroth, M., Lu, Q., & LeRoy, A. (2016). Cultural differences in pain experience among four ethnic groups: A qualitative pilot study. *Journal of Behavioral Health, 5*(2), 75. <https://doi.org/10.5455/jbh.20160204094059>
- Lindstedt, D. E. (2000). Eyewitness Reporting by Navajo and Mainstream-Culture Children. *Communication Disorders Quarterly, 21*(3), 166–175. <https://doi.org/10.1177/152574010002100305>
- Loftus, E. F. (1979). Reactions to blatantly contradictory information. *Memory & Cognition, 7*(5), 368–374. <https://doi.org/10.3758/BF03196941>
- Loftus, E. F. (2005). Planting misinformation in the human mind: A 30-year investigation of the malleability of memory. *Learning & Memory, 12*(4), 361–366. <https://doi.org/10.1101/lm.94705>
- Loftus, E. F., Loftus, G., & Messo, J. (1987). Some facts about “weapon focus.” *Law and Human Behavior, 11*(1), 55–62.
- Loftus, Elizabeth F., & Palmer, J. C. (1974). Reconstruction of automobile destruction: An example of the interaction between language and memory. *Journal of Verbal Learning and Verbal Behavior, 13*(5), 585–589. [https://doi.org/10.1016/S0022-5371\(74\)80011-3](https://doi.org/10.1016/S0022-5371(74)80011-3)
- Loftus, Elizabeth F. (2019). Eyewitness testimony. *Applied Cognitive Psychology, 33*(4), 498–503. <https://doi.org/10.1002/acp.3542>
- Loftus, G. R., & Mackworth, N. H. (1978). Cognitive determinants of fixation location during picture viewing. *Journal of Experimental Psychology: Human Perception and Performance, 4*, 565–572. <https://doi.org/doi/10.1037/0096-1523.4.4.565>
- Luna, K., & Migueles, M. (2009). Acceptance and confidence of central and peripheral misinformation. *Spanish Journal of Psychology, 12*(2), 405–413. <https://doi.org/10.1017/S1138741600001797>
- Ma, Q., Pei, G., Jin, J., & De Wit, H. De. (2015). What makes you generous? The influence of rural and urban rearing on social discounting in China. *PLoS ONE, 10*, 1–11. <https://doi.org/10.1371/journal.pone.0133078>
- Madlock, P. E. (2012). The influence of power distance and communication on Mexican workers. *Journal of Business Communication, 49*(2), 169–184. <https://doi.org/10.1177/0021943612436973>
- Mahé, A., Corson, Y., Verrier, N., & Payoux, M. (2015). Misinformation effect and centrality. *Revue Européenne de Psychologie Appliquée, 65*, 155–162. <https://doi.org/10.1016/j.erap.2015.03.001>
- Markus, H. R., & Kitayama, S. (1991). Culture and the self: Implications for cognition, emotion, and motivation. *Psychological Review, 98*(2), 224–253. <https://doi.org/10.1037/0033-295X.98.2.224>

- Markus, H. R., & Kitayama, S. (2003). Culture, self, and the reality of the social. *Psychological Inquiry*, 14, 277–283. <https://doi.org/10.1080/1047840X.2003.9682893>
- Markus, H. R., & Kitayama, S. (2010). Culture and selves: A cycle of mutual constitution. *Perspectives on Psychological Science*, 5(4), 420–430. <https://doi.org/10.1177/1745691610375557>
- Marshall, B. C., & Alison, L. J. (2006). Structural behavioural analysis as a basis for discriminating between genuine and simulated rape allegations. *Journal of Investigative Psychology and Offender Profiling*, 3(1), 21–34. <https://doi.org/10.1002/jip.42>
- Martin-Luengo, B., Shtyrov, Y., Luna, K., & Myachykov, A. (2018). Different answers to different audiences: effects of social context on the accuracy-informativeness trade-off. *Memory*, 26(7), 993–1007. <https://doi.org/10.1080/09658211.2017.1420196>
- Masuda, T., Ellsworth, P. C., Mesquita, B., Leu, J., Tanida, S., & Van de Veerdonk, E. (2008). Placing the face in context: Cultural differences in the perception of facial emotion. *Journal of Personality and Social Psychology*, 94, 365–381. <https://doi.org/10.1037/0022-3514.94.3.365>
- Masuda, T., Gonzalez, R., Kwan, L., & Nisbett, R. E. (2008). Culture and aesthetic preference: Comparing the attention to context of East Asians and Americans. *Personality and Social Psychology Bulletin*, 34(9), 1260–1275. <https://doi.org/10.1177/0146167208320555>
- Masuda, T., & Nisbett, R. E. (2001). Attending holistically versus analytically: Comparing the context sensitivity of Japanese and Americans. *Journal of Personality and Social Psychology*, 81, 922–934. <https://doi.org/10.1037/0022-3514.81.5.922>
- Masuda, T., & Nisbett, R. E. (2006). Culture and change blindness. *Cognitive Science*, 30, 381–399. https://doi.org/10.1207/s15516709cog0000_63
- Matsumoto, D., & Hwang, H. C. (2019). Social influence in investigative interviews: The effects of authority on informational elements produced in interviews and written statements. *Applied Cognitive Psychology*, 33(4), 516–526. <https://doi.org/10.1002/acp.3488>
- McCallum, N. A., Brewer, N., & Weber, N. (2016). Memorial monitoring and control: How confidence and social and financial consequences affect eyewitnesses' reporting of fine-grain information. *Applied Cognitive Psychology*, 30(3), 375–386. <https://doi.org/10.1002/acp.3212>

References

- McCloskey, M., & Zaragoza, M. (1985). Misleading Postevent Information and Memory for Events. Arguments and Evidence Against Memory Impairment Hypotheses. *Journal of Experimental Psychology: General*, 114(1), 1–16. <https://doi.org/10.1037/0096-3445.114.1.1>
- Megreya, A. M., Memon, A., & Havard, C. (2012). The headscarf effect : Direct evidence from the eyewitness identification paradigm. *Applied Cognitive Psychology*, 26, 308–315.
- Menkiti, I. A. (1984). Person and community in African traditional thought. In R. Wright (Ed.), *African philosophy: An introduction* (pp. 170–180). New York: University Press of America.
- Mesoudi, A. (2018). Migration, acculturation, and the maintenance of between-group cultural variation. *PLoS ONE*, 13, 1–23. <https://doi.org/10.1371/journal.pone.0205573>
- Mesoudi, A., Magid, K., & Hussain, D. (2016). How do people become W.E.I.R.D.? Migration reveals the cultural transmission mechanisms underlying variation in psychological processes. *PLoS ONE*, 11, 1–17. <https://doi.org/10.1371/journal.pone.0147162>
- Milgram, S. (1963). Behavioral study of obedience. *Journal of Abnormal and Social Psychology*, 67(4), 371–378. <https://doi.org/10.1037/h0040525>
- Millar, P. R., Serbun, S. J., Vadalía, A., & Gutchess, A. H. (2013). Cross-cultural differences in memory specificity. *Culture and Brain*, 1(2–4), 138–157. <https://doi.org/10.1007/s40167-013-0011-3>
- Minkov, M., Dutt, P., Schachner, M., Morales, O., Sanchez, C., Jandosova, J., ... Mudd, B. (2017). A revision of Hofstede's individualism-collectivism dimension. *Cross Cultural & Strategic Management*, 24, 386–404. <https://doi.org/10.1108/CCSM-11-2016-0197>
- Miyamoto, Y., Nisbett, R., & Masuda, T. (2006). Culture and the physical environment. *Psychological Science*, 17(2), 113–119. <https://doi.org/10.1111/j.1467-9280.2006.01673.x>
- Mok, A., & Morris, M. W. (2009). Cultural chameleons and iconoclasts: Assimilation and reactance to cultural cues in biculturals' expressed personalities as a function of identity conflict. *Journal of Experimental Social Psychology*, 45, 884–889. <https://doi.org/10.1016/j.jesp.2009.04.004>
- Mok, A., & Morris, M. W. (2012). Managing two cultural identities: The malleability of bicultural identity integration as a function of induced global or local processing. *Personality and Social Psychology Bulletin*, 38(2), 233–246. <https://doi.org/10.1177/0146167211426438>

- Morselli, D., & Passini, S. (2011). New perspectives on the study of the authority relationship: Integrating individual and societal level research. *Journal for the Theory of Social Behaviour*, 41(3), 291–307. <https://doi.org/10.1111/j.1468-5914.2011.00459.x>
- Nisbett, R. E., & Masuda, T. (2003). Culture and point of view. *Proceedings of the National Academy of Sciences*, 100, 11163–11170. <https://doi.org/10.1073/pnas.1934527100>
- Nisbett, Richard E., Choi, I., Peng, K., & Norenzayan, A. (2001). Culture and systems of thought: Holistic versus analytic cognition. *Psychological Review*, 108(2), 291–310. <https://doi.org/10.1037/0033-295X.108.2.291>
- Nisbett, Richard E., & Miyamoto, Y. (2005). The influence of culture: Holistic versus analytic perception. *Trends in Cognitive Sciences*, 9, 467–473. <https://doi.org/10.1016/j.tics.2005.08.004>
- Norenzayan, A., & Nisbett, R. E. (2000). Culture and causal cognition. *Current Directions in Psychological Science*, 9(4), 132–135. <https://doi.org/10.1111/1467-8721.00077>
- Oeberst, A., & Blank, H. (2012). Undoing suggestive influence on memory: The reversibility of the eyewitness misinformation effect. *Cognition*, 125(2), 141–159. <https://doi.org/10.1016/j.cognition.2012.07.009>
- Orton, A. (2012). *Building migrants' belonging through positive interactions*. Strasbourg: Council of Europe.
- Oyserman, D. (2006). High power, low power, and equality: Culture beyond individualism and collectivism. *Journal of Consumer Psychology*, 16, 352–356. https://doi.org/10.1207/s15327663jcpl1604_6
- Oyserman, D., Coon, H. M., & Kimmelmeier, M. (2002). Rethinking individualism and collectivism: Evaluation of theoretical assumptions and meta-analyses. *Psychological Bulletin*, 128(1), 3–52. <https://doi.org/10.1037//0033-2909.128.1.3>
- Pansky, A., Tenenboim, E., & Bar, S. K. (2011). The misinformation effect revisited: Interactions between spontaneous memory processes and misleading suggestions. *Journal of Memory and Language*, 64(3), 270–287. <https://doi.org/10.1016/j.jml.2010.12.003>
- Papp, J., Smith, B., Wareham, J., & Wu, Y. (2019). Fear of retaliation and citizen willingness to cooperate with police. *Policing and Society*, 29(6), 623–639. <https://doi.org/10.1080/10439463.2017.1307368>
- Park, D. C., & Huang, C.-M. (2010). Culture wires the brain. *Perspectives on Psychological Science*, 5, 391–400. <https://doi.org/10.1177/1745691610374591>
- Paz-Alonso, P. M., Goodman, G. S., & Ibabe, I. (2013). Adult eyewitness memory and compliance: Effects of post-event misinformation on memory for a negative event. *Behavioral Sciences & the Law*, 31, 541–558. <https://doi.org/10.1002/bsl>

References

- Peng, K., & Knowles, E. D. (2003). Culture, education, and the attribution of physical causality. *Personality and Social Psychology Bulletin*, 29, 1272–1284. <https://doi.org/10.1177/0146167203254601>
- Peterson, C., Sales, J. M., Rees, M., & Fivush, R. (2007). Parent-child talk and children's memory for stressful events. *Applied Cognitive Psychology*, 21, 1057–1075. <https://doi.org/10.1002/acp>
- Petterson, B., & Paterson, H. M. (2012). Culture and Conformity: The Effects of Independent and Interdependent Self-Construal on Witness Memory. *Psychiatry, Psychology and Law*, 19(5), 735–744. <https://doi.org/10.1080/13218719.2011.615821>
- Pilarska, A. (2014). Self-construal as a mediator between identity structure and subjective well-being. *Current Psychology*, 33(2), 130–154. <https://doi.org/10.1007/s12144-013-9202-5>
- Plazinić, L., Banjac, S., & Joksimović, J. (2019). Adolescent conformist behaviour in making aesthetic judgments under pressure of authority figures and peer pressure. *Teaching Innovations*, 32(3), 24–38. <https://doi.org/10.5937/inovacije1903024p>
- Prull, M. W., & Yockelson, M. B. (2013). Adult age-related differences in the misinformation effect for context-consistent and context-inconsistent objects. *Applied Cognitive Psychology*, 27(3), 384–395. <https://doi.org/10.1002/acp.2916>
- Quaynor, L. (2018). Remembering West African indigenous knowledges and practices in citizenship education research. *Compare: A Journal of Comparative and International Education*, 48(3), 362–378. <https://doi.org/10.1080/03057925.2018.1444468>
- Rad, M. S., Martingano, A. J., & Ginges, J. (2018). Toward a psychology of Homo sapiens: Making psychological science more representative of the human population. *Proceedings of the National Academy of Sciences of the United States of America*, 115(45), 11401–11405. <https://doi.org/10.1073/pnas.1721165115>
- Raftery, A. E. (1995). Bayesian model selection in social research. *Sociological Methodology*, 25, 111–163. <https://doi.org/10.2307/271063>
- Rhee, J., Dedahanov, A., & Lee, D. (2014). Relationships among power distance, collectivism, punishment, and acquiescent, defensive, or prosocial silence. *Social Behavior and Personality*, 42(5), 705–720. <https://doi.org/10.2224/sbp.2014.42.5.705>
- Roebbers, C. M., & McConkey, K. M. (2003). Mental reinstatement of the misinformation context and the misinformation effect in children and adults. *Applied Cognitive Psychology*, 17(4), 477–493. <https://doi.org/10.1002/acp.886>

- Rooks, G., Klyver, K., & Sserwanga, A. (2016). The context of social capital: A comparison of rural and urban entrepreneurs in Uganda. *Entrepreneurship: Theory and Practice*, 40, 111–130. <https://doi.org/10.1111/etap.12107>
- Rosenberg, S. T. (2017). The international criminal Court in Côte d’Ivoire: Impartiality at stake? *Journal of International Criminal Justice*, 15(3), 471–490. <https://doi.org/10.1093/jicj/mqx030>
- Rosenthal, D. A., Ranieri, N., & Klimidis, S. (1996). Vietnamese adolescents in Australia: Relationships between perceptions of self and parental values, intergenerational conflict, and gender dissatisfaction. *International Journal of Psychology*, 31, 81–91. <https://doi.org/https://doi.org/10.1080/002075996401106>
- Ross, M., & Wang, Q. (2010). Why we remember and what we remember: Culture and autobiographical memory. *Perspectives on Psychological Science*, 5, 401–409. <https://doi.org/10.1177/1745691610375555>
- Sam, D. L., & Berry, J. W. (2010). Acculturation: When individuals and groups of different cultural backgrounds meet. *Perspectives on Psychological Science*, 5, 472–481. <https://doi.org/10.1177/1745691610373075>
- Sanchez-Burks, J., Lee, F., Choi, I., Nisbett, R., Zhao, S., & Koo, J. (2003). Conversing across cultures: East-West communication styles in work and nonwork contexts. *Journal of Personality and Social Psychology*, 85(2), 363–372. <https://doi.org/10.1037/0022-3514.85.2.363>
- Schimmack, U., Oishi, S., & Diener, E. (2005). Individualism: A valid and important dimension of cultural differences between nations. *Personality and Social Psychology Review*, 9(1), 17–31. https://doi.org/10.1207/s15327957pspr0901_2
- Schwartz, A. J., Boduroglu, A., & Gutchess, A. H. (2014). Cross-cultural differences in categorical memory errors. *Cognitive Science*, 38(5), 997–1007. <https://doi.org/10.1111/cogs.12109>
- Schwarz, N., Oyserman, D., & Peytcheva, E. (2010). Cognition, communication, and culture: Implications for the survey response process. In A. Harkness, M. Braun, B. Edwards, T. P. Johnson, L. Lyberg, P. P. Mohler, ... T. W. Smith (Eds.), *Survey methods in multicultural, multinational, and multiregional contexts* (pp. 175–190). John Wiley & Sons, Inc. <https://doi.org/10.1002/9780470609927.ch10>
- Scoboria, A., Mazzoni, G., Kirsch, I., & Relyea, M. (2004). Plausibility and belief in autobiographical memory, 807, 791–807. <https://doi.org/10.1002/acp.1062>
- Senzaki, S., Masuda, T., & Ishii, K. (2014). When is perception top-down and when is it not? Culture, narrative, and attention. *Cognitive Science*, 38(7), 1493–1506. <https://doi.org/10.1111/cogs.12118>

References

- Seymour, S. C. (2013). "It takes a village to raise a child": Attachment theory and multiple child care in Alor, Indonesia, and in North India. In N. Quinn & J. M. Mageo (Eds.), *Attachment reconsidered: Cultural perspectives on a western theory (Culture, mind and society)* (pp. 115–139). New York: Palgrave MacMillan. https://doi.org/10.1057/9781137386724_5
- Sharma, P, Zhan, W., & Su, Y. (2016). The role of personal cultural orientations in intercultural service encounters. *Journal of Services Marketing*, 30, 223–237.
- Sharma, Piyush. (2010). Measuring personal cultural orientations: Scale development and validation. *Journal of the Academy of Marketing Science*, 38, 787–806. <https://doi.org/10.1007/s11747-009-0184-7>
- Soh, S., & Leong, F. T. L. (2002). Validity of vertical and horizontal individualism and collectivism in Singapore. *Journal of Cross-Cultural Psychology*, 33, 3–15. <https://doi.org/https://doi.org/10.1177/0022022102033001001>
- Sosic-Vasic, Z., Hille, K., Kröner, J., Spitzer, M., & Kornmeier, J. (2018). When learning disturbs memory - Temporal profile of retroactive interference of learning on memory formation. *Frontiers in Psychology*, 9(82), 1–9. <https://doi.org/10.3389/fpsyg.2018.00082>
- Sowattanagoon, N., Kotchabhakdi, N., & Petrie, K. J. (2009). The influence of Thai culture on diabetes perceptions and management. *Diabetes Research and Clinical Practice*, 84(3), 245–251. <https://doi.org/10.1016/j.diabres.2009.02.011>
- Stark, C. E. L., Okado, Y., & Loftus, E. F. (2010). Imaging the reconstruction of true and false memories using sensory reactivation and the misinformation paradigms. *Learning & Memory*, 17(10), 485–488. <https://doi.org/10.1101/lm.1845710>
- Suzuki, K. L., Davis, M. H., & Greenfield, M. P. (2008). Self-enhancement and self-effacement in reaction to praise and criticism: The case of multiethnic youth. *Ethos*, 36, 78–97. <https://doi.org/10.1111/j.1548-1352.2008.00005.x>
- Takata, T. (2003). Self-enhancement and self-criticism in Japanese culture. *Journal of Cross-Cultural Psychology*, 34(5), 542–551. <https://doi.org/10.1177/0022022103256477>
- Tankebe, J. (2010). Public confidence in the police: Testing the effects of public experiences of police corruption in Ghana. *British Journal of Criminology*, 50(2), 296–319. <https://doi.org/10.1093/bjc/azq001>
- Tankebe, J., Reisig, M. D., & Wang, X. (2016). A multidimensional model of police legitimacy: A cross-cultural assessment. *Law and Human Behavior*, 40(1), 11–22. <https://doi.org/10.1037/lhb0000153>
- Tassell, N. A., Flett, R. A., & Gavala, J. R. (2010). Individualism/collectivism and academic self-enhancement in New Zealand māori university students. *Journal of Pacific Rim Psychology*, 4(2), 138–151. <https://doi.org/10.1375/prp.4.2.138>

- Taylor, P. J., Larner, S., Conchie, S. M., & Menacere, T. (2017). Culture moderates changes in linguistic self-presentation and detail provision when deceiving others. *Royal Society Open Science*, 4, 170128. <https://doi.org/10.1098/rsos.170128>
- Triandis, H. C. (2001). Individualism-collectivism and personality. *Journal of Personality*, 69, 907–924. <https://doi.org/10.1111/1467-6494.696169>
- Triandis, H. C., Bontempo, R., Villareal, M. J., Asai, M., & Lucca, N. (1988). Individualism and collectivism: Cross-cultural perspectives on self-in-group relations. *Journal of Personality and Social Psychology*, 54, 323–338. <https://doi.org/10.1037/0022-3514.54.2.323>
- Triandis, Harry C., & Gelfand, M. J. (1998). Converging measurement of horizontal and vertical individualism and collectivism. *Journal of Personality and Social Psychology*, 74, 118–128. <https://doi.org/10.1037/0022-3514.74.1.118>
- Tsai, J. L., Ying, Y. W., & Lee, P. A. (2000). The meaning of “being Chinese” and “being American”: Variation among Chinese American young adults. *Journal of Cross-Cultural Psychology*, 31(3), 302–332. <https://doi.org/10.1177/0022022100031003002>
- Uchendu, V. C. (2007). Ezi Na Ulo: The extended family in Igbo civilization. *Dialectical Anthropology*, 31(1–3), 167–219. <https://doi.org/10.1007/s10624-007-9019-4>
- United Nations Population Division. (2019). *International migration 2019*. New York: United Nations. <https://doi.org/10.4324/9781315634227>
- Uskul, A. K., Nisbett, R. E., & Kitayama, S. (2008). Ecoculture, social interdependence, and holistic cognition. *Communicative & Integrative Biology*, 1(1), 40–41. <https://doi.org/10.4161/cib.1.1.6649>
- Van Bergen, S., Horselenberg, R., Jelicic, M., & Beckers, R. (2010). Memory distrust and acceptance of misinformation. *Applied Cognitive Psychology*, 24, 885–896. <https://doi.org/10.1002/acp>
- van Veldhuizen, T. S. (2018). *Where I come from and how I got here: Assessing credibility in asylum cases*. Enschede: Gildeprint.
- van Veldhuizen, T. S., Horselenberg, R., Landström, S., Granhag, P. A., & van Koppen, P. J. (2017). Interviewing asylum seekers: A vignette study on the questions asked to assess credibility of claims about origin and persecution. *Journal of Investigative Psychology and Offender Profiling*, 14(1), 3–22. <https://doi.org/10.1002/jip.1472>
- van Veldhuizen, T. S., Maas, R. P. A. E., Horselenberg, R., & van Koppen, P. J. (2018). Establishing origin: Analysing the questions asked in asylum interviews. *Psychiatry, Psychology and Law*, 25, 283–302. <https://doi.org/10.1080/13218719.2017.1376607>

References

- Vrij, A., Mann, S., Kristen, S., & Fisher, R. P. (2007). Cues to deception and ability to detect lies as a function of police interview styles. *Law and Human Behavior*, 31(5), 499–518. <https://doi.org/10.1007/s10979-006-9066-4>
- Vrij, A., Leal, S., Mann, S., Vernham, Z., Dalton, G., Serok-jeppa, O., ... Vernham, Z. (2020). 'Please tell me all you remember': A comparison between British and Arab interviewees' free narrative performance and its implications for lie detection. *Psychiatry, Psychology and Law*, 0(0), 1–14. <https://doi.org/10.1080/13218719.2020.1805812>
- Wagenmakers, E.-J. (2007). A practical solution to the pervasive problems of p values. *Psychonomic Bulletin & Review*, 14, 779–804. <https://doi.org/https://doi.org/10.3758/BF03194105>
- Wagenmakers, E. J., Marsman, M., Jamil, T., Ly, A., Verhagen, J., Love, J., ... Morey, R. D. (2018). Bayesian inference for psychology. Part I: Theoretical advantages and practical ramifications. *Psychonomic Bulletin and Review*, 25(1), 35–57. <https://doi.org/10.3758/s13423-017-1343-3>
- Wang, H., & Pomplun, M. (2012). The attraction of visual attention to texts in real-world scenes, 12, 1–17. <https://doi.org/10.1167/12.6.26>
- Wang, Q. (2001). Culture effects on adults' earliest childhood recollection and self-description: Implications for the relation between memory and self. *J Pers Soc Psychol*, 81(2), 220–233. <https://doi.org/10.1037//OO22-3514.81.2.220>
- Wang, Q. (2004). The emergence of cultural self-constructs: Autobiographical memory and self-description in European American and Chinese children. *Developmental Psychology*, 40(1), 3–15. <https://doi.org/10.1037/0012-1649.40.1.3>
- Wang, Q. (2006). Relations of maternal style and child self-concept to autobiographical memories in Chinese, Chinese immigrant, and European American 3-year-olds. *Child Development*, 77, 1794–1809. <https://doi.org/10.1111/j.1467-8624.2006.00974.x>
- Wang, Q. (2008). Being American, being Asian: The bicultural self and autobiographical memory in Asian Americans. *Cognition*, 107, 743–751. <https://doi.org/10.1016/j.cognition.2007.08.005>
- Wang, Q. (2009). Are Asians forgetful? Perception, retention, and recall in episodic remembering. *Cognition*, 111, 123–131. <https://doi.org/10.1016/j.cognition.2009.01.004>
- Wang, Q. (2011). Autobiographical memory and culture. *Online Readings in Psychology and Culture*, 5(2), 1–12. <https://doi.org/10.9707/2307-0919.1047>
- Wang, Q. (2013). Gender and emotion in everyday event memory. *Memory*, 21(4), 503–511. <https://doi.org/10.1080/09658211.2012.743568>
- Wang, Q. (2021). The cultural foundation of human memory. *Annual Review of Psychology*, 72(1), 151–179. <https://doi.org/10.1146/annurev-psych-070920-023638>

- Wang, Q., & Ross, M. (2005). What we remember and what we tell: The effects of culture and self-priming on memory representations and narratives. *Memory*, 13(6), 594–606. <https://doi.org/10.1080/09658210444000223>
- Wang, Q., Song, Q., & Kim Koh, J. B. (2017). Culture, memory, and narrative self-making. *Imagination, Cognition and Personality*, 37, 199–223. <https://doi.org/10.1177/0276236617733827>
- Wasti, S. A., Tan, H. H., Brower, H. H., & Önder, Ç. (2007). Cross-cultural measurement of supervisor trustworthiness: An assessment of measurement invariance across three cultures. *Leadership Quarterly*, 18(5), 477–489. <https://doi.org/10.1016/j.leaqua.2007.07.004>
- Weingardt, K. R., Loftus, E. F., & Lindsay, D. S. (1995). Misinformation revisited: New evidence on the suggestibility of memory. *Memory & Cognition*, 23(1), 72–82. <https://doi.org/10.3758/BF03210558>
- Wells, G. L., Kovera, M. B., Douglass, A. B., Brewer, N., Meissner, C. A., & Wixted, J. T. (2020). Policy and procedure recommendations for the collection and preservation of eyewitness identification evidence. *Law and Human Behavior*, 44(1), 3–36. <https://doi.org/10.1037/lhb0000359>
- Wiafe-Akenten, C. B. (2020). COVID-19 fight; Misinformation and unfounded beliefs (part 1). Citi Newsroom. Retrieved from <https://citinewsroom.com/2020/05/wiafe-akenten-writes-covid-19-fight-misinformation-and-unfounded-beliefs-part-1/>
- Wise, R. A., Gong, X., Safer, M. A., & Lee, Y. T. (2010). A comparison of Chinese judges' and US judges' knowledge and beliefs about eyewitness testimony. *Psychology, Crime and Law*, 16, 695–713. <https://doi.org/10.1080/10683160903153893>
- Wong, B. I., Yin, S., Yang, L., Li, J., & Spaniol, J. (2017). Cultural differences in memory for objects and backgrounds in pictures. *Journal of Cross-Cultural Psychology*, 49(3), 404–417. <https://doi.org/10.1177/0022022117748763>
- Wright, A. M., & Holliday, R. E. (2007). Enhancing the recall of young, young-old and old-old adults with cognitive interviews. *Applied Cognitive Psychology*, 21, 19–43. <https://doi.org/10.1002/acp.1260>
- Wright, D. B., & Loftus, E. F. (1998). How misinformation alters memories. *Journal of Experimental Child Psychology*, 71(2), 155–164. <https://doi.org/10.1006/jecp.1998.2467>
- Wright, D. B., & Stroud, J. N. (1998). Memory quality and misinformation for peripheral and central objects. *Legal and Criminological Psychology*, 3, 273–286. <https://doi.org/10.1111/j.2044-8333.1998.tb00366.x>
- Wyler, H., & Oswald, M. E. (2016). Why misinformation is reported: evidence from a warning and a source-monitoring task. *Memory*, 24(10), 1419–1434. <https://doi.org/10.1080/09658211.2015.1117641>

References

- Yamagishi, T., Hashimoto, H., Cook, K. S., Kiyonari, T., Shinada, M., Mifune, N., ... Li, Y. (2012a). Modesty in self-presentation: A comparison between the USA and Japan. *Asian Journal of Social Psychology*, 15, 60–68. <https://doi.org/10.1111/j.1467-839x.2011.01362.x>
- Yamagishi, T., Hashimoto, H., Cook, K. S., Kiyonari, T., Shinada, M., Mifune, N., ... Li, Y. (2012b). Modesty in self-presentation: A comparison between the USA and Japan. *Asian Journal of Social Psychology*, 15, 60–68. <https://doi.org/10.1111/j.1467-839X.2011.01362.x>
- Yamagishi, T., Hashimoto, H., & Schug, J. (2008). Preferences versus strategies as explanations for culture-specific behavior. *Psychological Science*, 19, 579–584.
- Yegiyani, N. S., & Lang, A. (2010). Processing central and peripheral detail: How content arousal and emotional tone influence encoding. *Media Psychology*, 13(1), 77–99. <https://doi.org/10.1080/15213260903563014>
- Zanini, M. T., & Migueles, C. (2018). Building trust in a high power distance context: The role of the perception of integrity in shared leadership. *SSRN Electronic Journal*, (August). <https://doi.org/10.2139/ssrn.3258413>
- Zaragoza, M. S., Belli, R. F., & Payment, K. E. (2007). Misinformation effects and the suggestibility of eyewitness memory. In Maryann Garry & H. Hayne (Eds.), *Do Justice and Let the Sky Fall: Elizabeth F. Loftus and her Contributions to Science, Law, and Academic Freedom* (pp. 35–63). New Jersey: Lawrence Erlbaum Associates. <https://doi.org/10.4324/9780203774861>
- Zaromb, F. M., & Roediger, H. L. (2010). The testing effect in free recall is associated with enhanced organizational processes. *Memory and Cognition*, 38(8), 995–1008. <https://doi.org/10.3758/MC.38.8.995>
- Zhu, B., Chen, C., Loftus, E. F., Lin, C., & Dong, Q. (2013). The relationship between DRM and misinformation false memories. *Memory and Cognition*, 41(6), 832–838. <https://doi.org/10.3758/s13421-013-0300-2>



IMPACT STATEMENT



IMPACT PARAGRAPH

Relevance

Eyewitness account constitutes a major piece of evidence in criminal prosecutions. Information obtained from witnesses can provide valuable leads to investigators and contributes to criminal resolutions. The findings presented in this thesis provide some insight that may help enhance informational outcomes in cross-cultural contexts. For example, the results presented show the possibility of an investigator's authority to impede the accounts provided by witnesses with a collectivistic cultural background. This finding would help investigators to minimise any perceived power imbalance when interviewing in cross-cultural settings. The findings also provide insight into questioning techniques that investigators could employ to enhance the quality of information elicited in cross-cultural settings. Interviewing techniques devoid of suggestive questioning and that enable witnesses to engage in free recall would help enhance informational outcomes. Thus, the knowledge from this thesis would help investigators in their preparations for interviews in cross-cultural settings.

Determinations of witness credibility form an important part of adjudicating criminal cases. Among the criteria for determining eyewitness credibility is the amount of detail provided (Vrij, 2005). Results presented in the thesis show that elaborate memory reporting might differ across cultures. Without cultural sensitivity to such indicators, statements from credible witnesses or victims may be overlooked because of lack of detail. The findings are also relevant for asylum decisions where the credibility of asylum seekers comes to the fore. As part of the asylum decision process, applicants for asylum have to be interviewed about the veracity of their claims (Van Veldhuizen, Horselenberg, Landström, Granhag, & Van Koppen, 2017). For example, the policy instructions of migration bodies of European countries emphasis level of detail as an important consideration a decision-maker should take into account when assessing the credibility of an asylum seeker (Home Office, 2015; UNHCR, 2013). Given the cultural differences in elaborate memory reporting as shown in this programme of research, individuals genuinely seeking asylum from fear of persecution may be denied asylum if their account

is lacking in detail. Hence, the findings presented in this thesis would be relevant for immigration bodies and asylum decision-makers.

The research is also relevant for the adjudication of international criminal cases. The International Criminal Court (ICC) is mandated by the Roman Statute to investigate and adjudicate serious crimes of international concern. Thus, the mandate of the ICC requires day-to-day contact with individuals from different regions across the world. Although witnesses that appear at the ICC are from non-western cultures, the role of culture in shaping their eyewitness accounts has received little consideration (Chlevickaitė, Holá, & Bijleveld, 2020). The cultural difference between international criminal justice professionals and witnesses can complicate adjudicatory efforts (Chea, 2020). That is why findings from this research are relevant for investigators eliciting accounts of atrocities in international criminal justice settings, where cross-cultural interactions are a common occurrence.

The findings would help in training legal and investigative professionals who elicit memory reports in cross-cultural settings. When training of investigators is not culturally sensitive, it may lead to assumptions about eyewitness accounts based on what is known from research with western samples. The findings would be helpful for curriculum development by incorporating cultural aspects of investigative interviewing. A culturally sensitive curriculum would help in training professionals who would take into account the cultural differences, thus enhancing the effectiveness of investigative professionals.

Target groups

Considering the relevance of the thesis, there are some target groups that would benefit from the results presented. One of such target groups is police investigators. Because society has increasingly become multi-cultural, police investigators are likely to encounter interviewees of a different cultural backgrounds. The cross-cultural context in which such interviews are conducted makes it important that they possess knowledge about the role of culture on eyewitness accounts. The results presented in this programme of research would be useful for such investigators in preparing for such cross-cultural interviews.

Besides individual investigators, police academies and institutions mandated with training investigators would be interested in the thesis. This target group may want to make their curriculum more culturally sensitive but lack evidence-based knowledge on the role of culture in

eyewitness accounts. This thesis provides evidence-based knowledge for this target group that could inform curriculum development and training of police investigators. Making such training modules culturally sensitive would boost the cultural competence of trainees.

Practitioners working in international criminal settings may also be interested in the results presented in the thesis. International criminal courts and tribunals investigate and adjudicate crimes committed in armed conflicts that are of concern to the international community. In such instances, the Office of the Prosecutor of the ICC conducts a preliminary investigation for a determination whether there is enough evidence to warrant an investigation. To accomplish this, investigators from the ICC visit the country of the crime and conduct interviews with individuals from that cultural context to gather initial evidence. If sufficient evidence is obtained to warrant prosecution and suspects identified, further evidence is gathered. A majority of evidence obtained is the accounts of witnesses and victims. Thus, throughout the evidence gathering, ICC investigators interview witnesses and victims from the cultural context in which the alleged atrocities and war crimes occurred. Knowledge about how the cultural background of such witnesses could impact their eyewitness memory reports would be helpful to such investigators and enhance their efficiency. Therefore, the results of this thesis would be useful for investigators at international criminal courts.

Another group of international criminal court practitioners who would find the results presented in this thesis relevant is judges. It has been documented that one of the key challenges confronting judges at international courts is traversing cultural barriers in judicial fact-finding (Chlevickaitė et al., 2020). Judges at ICCs conduct judicial assessments of the statements provided by witnesses to ascertain credibility. This research provides insight into how culture shapes eyewitness accounts, hence would be of interest to judges working in international criminal settings.

Practitioners working in Asylum seeker contexts is another target group that would also be interested in the research results. Asylum officials conduct interviews with migrants who have different cultural backgrounds than theirs. Officials conduct interviews where they ask migrants questions bothering on their origins and certain landmarks about their place of origin. Insight into how culture shapes reporting from memory would be helpful for asylum officials conducting such

interviews. Therefore, interviewers eliciting memory reports in asylum seeker contexts would find the results presented in this thesis helpful.

Another target group is investigators eliciting human intelligence in counter-terrorism settings. Interactions in such settings are usually situated in a cross-cultural context and investigators not armed with cultural knowledge may not be successful in obtaining relevant information. The sources from whom investigators have to elicit information may be from a different cultural background. Intelligence bodies across the world would find the results in this thesis useful.

Practitioners eliciting memory reports in non-western (collectivistic) cultural contexts would also find the results helpful. That is in view of the fact that what is known about eyewitness memory is based on conclusions from research with western populations. Consequently, investigative interviewing in non-western contexts have adopted approaches used in western contexts to non-western contexts. Thus, investigative interviews in non-western contexts may lack cultural sensitivity to their own cultural context. Hence, findings presented in this programme of research provide some insight into memory reports by witnesses in non-western (collectivistic) cultures that could also benefit practitioners in such contexts.

Activities/ Products

At the commencement of the programme of research, I paid an educational visit to a cross-cultural setting that adjudicates criminal cases. Specifically, I visited the ICC to acquaint myself with work at the court. The trip offered me a first-hand experience of the work of the ICC and offered me the opportunity to ask questions about the work of the court. It provided me insight into the ICC, the type of cases the court handles as well as various units and structure of the court. From this trip, it became clear that the court thrives on the ability to navigate cultural barriers, as the work of the court constantly involves cross-cultural interactions. Thus, to function effectively, the court cannot do without relevant cultural knowledge. Thus, I seek to give a talk where I can present the results from this research to practitioners working in such cross-cultural settings. This includes ICC investigators, police investigators, as well as asylum officers.

Because police working in sub-Saharan Africa would benefit from the results from this research, I would also arrange for a talk at the Ghana Police Academy or investigative interview practitioners in Ghana. I plan to get in touch with a contact person at the academy to facilitate arranging

for that presentation. In 2018, while in Ghana for data collection, I had the opportunity to give a guest lecture at the academy, where I hinted about my research. I hope to get another platform in the academy where I can present findings from this research, emphasising the need for cultural considerations in witness interviews.

I have also actively played a key role in spreading the field of legal psychology in Ghana. For example, in 2019, I was in Ghana together with two of my supervisors, where we delivered public lectures. These public lectures were delivered at the Faculty of Law, University of Ghana; Department of Forensic Science, University of Cape Coast; Department of Psychology, University of Ghana; and the Methodist University College. I had the privilege to speak alongside my supervisors on the role of legal psychology in the criminal justice system. The trip offered an opportunity to spread the field of legal psychology among students and scholars and also provide sensitisation for the inclusion of legal psychology in the academic curriculum. Recently, I have received an invitation from the Department of Forensic Science of the University of Cape Coast, Ghana to speak at a seminar, where I will focus on the role of culture in investigative interviews.

Research Innovation

The research results highlight the need for cultural sensitivity in the investigative interview of witnesses. As discussed at the beginning of the thesis, previous research on eyewitness memory has heavily relied on western samples. Consequently, conclusions about what we know about eyewitness memory reports are based on research with western samples. This research takes an innovative approach by going beyond western populations to examine comparatively, eyewitness memory reports of non-western culture.

Besides its innovativeness in going beyond western culture, the research presented in this dissertation is unique in that it explores within-cultural variations. Previous work on cross-cultural cognition has mostly compared national cultures and not much effort has been made to explore within cultural variations, particularly for an eyewitness paradigm. The findings presented show within-cultural differences between rural and urban collectivistic cultures in their eyewitness memory reports (Chapter 2). This approach highlights that while cultures may differ in their eyewitness memory reports, there is the need to also pay attention to variations within cultures when eliciting memory reports.

The consideration of the cultural setting of the witnessed crime is another novel approach in this thesis. Witnesses interviewed in international criminal settings have usually observed alleged atrocities in their own cultural setting. However, existing work has not explored how the cultural setting can play a role in eyewitness accounts. The results presented in the thesis highlights the need for investigators to consider the cultural setting of the witnessed crime during investigative interviews.

The research presented in the thesis demonstrates the role of culture in shaping eyewitness memory reports. Another innovative approach that was taken to provide further evidence about the role of culture is whether the adaptation of migrants in their new cultural environment shapes their eyewitness accounts (Chapter 3). This unique approach bolstered evidence provided in this thesis on the role of culture in eyewitness accounts. The longer migrants adapted to their new cultural environment, the more they incorporated the reporting norms of the new culture.

Planning and implementation

The experiments presented in the thesis have been published in leading journals in the field. The published papers have been made open-access for researchers and practitioners across the world. I have also presented the research findings at international conferences. These include conferences of the European Association of Psychology, which is a gathering of both researchers and practitioners in the field. I have also participated in virtual conferences and symposiums on investigative interviewing where I have shared results from this research.

The insights gleaned from conducting this research have been shared in a forthcoming edited book in legal psychology targeted for both researchers and practitioners. The chapter is on the investigative interview of witnesses in cross-cultural settings. The chapter highlights the need for investigative interviewers in cross-cultural settings to take cultural considerations into account in the investigative interview of witnesses and other interviewees in cross-cultural settings.

Media attention will be generated for the research ahead of the public defense. The media will also be engaged on the role of culture in the criminal justice system. This will be done in two ways. First, a press release will be sent out the week before the defense as well as an invitation to media houses to attend the defense. Second, there would be an avenue to grant an interview to the media.

REFERENCES

Chea, W. L. (2020). International criminal law and culture. In Heller, K., Mégret, F., Nouwen, S., Ohlin, J., & Robinson, D. (eds). *Oxford Handbook of International Criminal Law*. Oxford University Press

Chlevickaitė, G., Holá, B., & Bijleveld, C. (2020). Judicial witness assessments at the ICTY, ICTR and ICC. *Journal of International Criminal Justice*, 18(1), 185–210. <https://doi.org/10.1093/jicj/mqaa002>

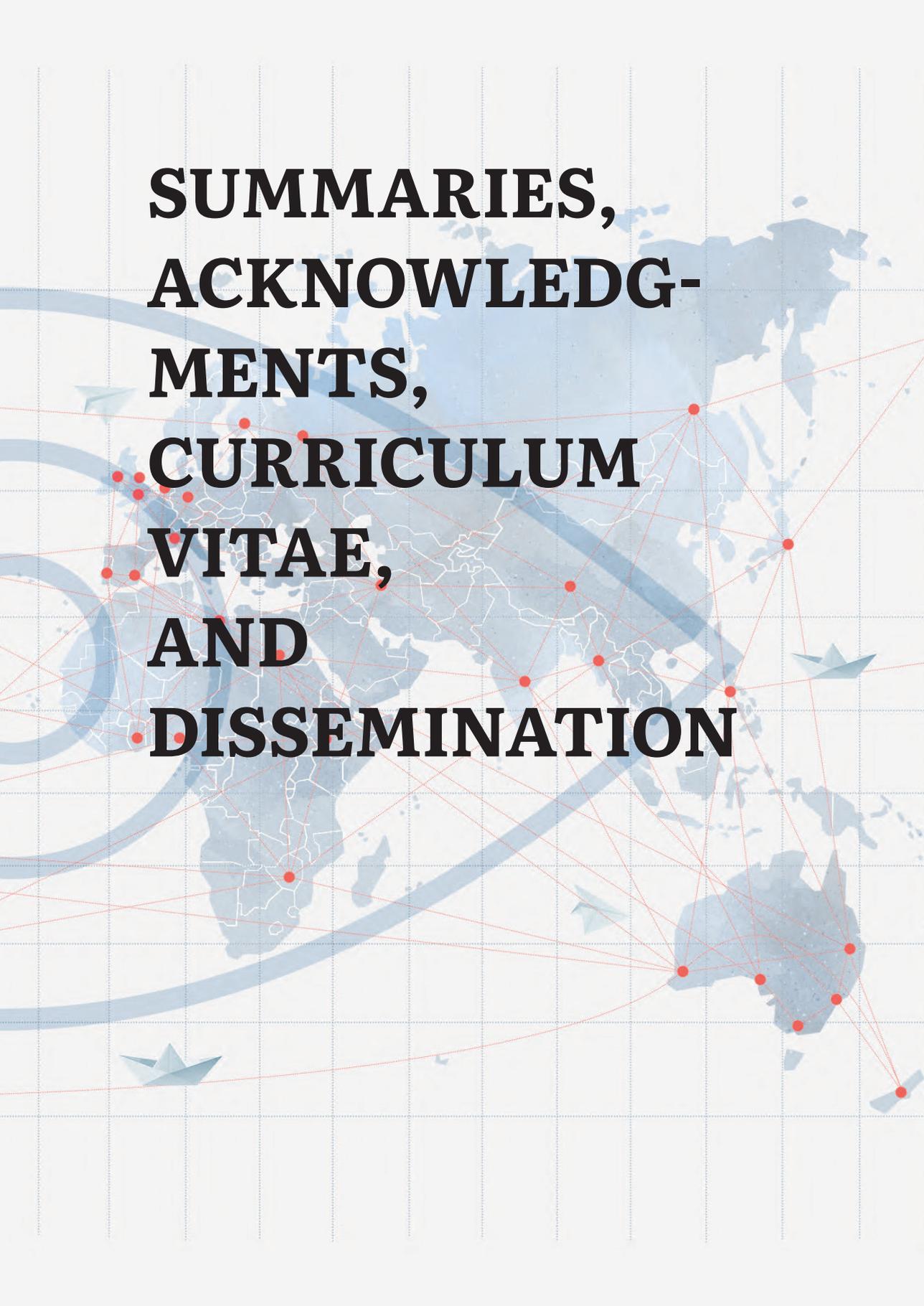
Home Office (2015). Asylum policy instruction: Assessing credibility and refugee status. Retrieved from https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/397778/ASSESSING_CREDIBILITY_AND_REFUGEE_STATUS_V9_0.pdf

UNHCR (2013). Beyond Proof: Credibility assessment in EU asylum systems. Retrieved from <https://www.unhcr.org/51a8a08a9.pdf>

Van Veldhuizen, T. S., Horselenberg, R., Landström, S., Granhag, P. A., & van Koppen, P. J. (2016). Interviewing asylum seekers: A vignette study on the questions asked to assess credibility of claims about origin and persecution. *Journal of Investigative Psychology and Offender Profiling*, 14(1), 3–22. doi:10.1002/jip.1472

Vrij, A. (2005). Criteria-Based Content Analysis: A Qualitative Review of the First 37 Studies. *Psychology, Public Policy, and Law*, 11(1), 3–41. doi:10.1037/1076-8971.11.1.3



A world map in light blue tones is overlaid with a network of red lines connecting various points across the continents. Several paper airplane icons are scattered across the map, suggesting global communication or dissemination. The background has a light grid pattern.

**SUMMARIES,
ACKNOWLEDG-
MENTS,
CURRICULUM
VITAE,
AND
DISSEMINATION**

SUMMARY

Investigators will inevitably interview eyewitnesses from different cultures. Because eyewitnesses are not immune to the influences of their respective cultures, they may bring culturally determined reporting norms into the forensic setting. The culture in which individuals have been socialised can shape their behaviour and cognition (Chapter 1). However, research in eyewitness memory has rarely explored whether cultures differ in their eyewitness memory reports. This thesis set out to determine whether there are cultural differences in eyewitness memory reports. Four experiments were conducted to examine this overarching aim. Based on the individualistic-collectivistic cultural framework, mock witnesses were sampled from cultures representing the individualistic-collectivistic cultural orientations. In Experiment 1 (Chapter 2), cultural differences in the content and nature of eyewitness memory reports was examined. Mock witnesses ($N = 200$) were sampled from Ghana and The Netherlands, representing collectivist and individualist cultures respectively, and provided memory reports about a stimuli event. Experiment 1 provided initial evidence of cultural differences in eyewitness memory reports such that individualistic mock witnesses reported more details about the event than did collectivistic culture mock witnesses. Experiment 2 (Chapter 3) examined whether migrating and adapting in a new cultural environment shapes the content and nature of eyewitness memory reports. Again, using a mock witness paradigm, participants ($N = 107$) were sub-Saharan African migrants in Western Europe and sub-Saharan Africans living in Africa. The results of Experiment 2 provided further evidence in support of the role of culture in shaping eyewitness memory reports, with sub-Saharan African migrants in Western Europe providing more elaborate details than did sub-Saharan Africans living in Africa. In Experiment 3 (Chapter 4), the role of culture in the susceptibility to misinformation effect was examined. Using a misinformation paradigm, participants ($N = 127$) from Ghana and the United Kingdom provided memory reports about a witnessed event. The results show that culture plays a role in the extent of the misinformation effect such that mock-witnesses with collectivistic cultural background endorsed misleading details more than mock witnesses with an individualistic cultural background. The final experiment conducted for this programme of research, Experiment 4 (Chapter 5), examined whether cultural differences in relating with authority figures play any role in the reports provided by eyewitnesses.

Participants ($N = 115$) sampled from Ghana and the Netherlands provided memory reports either in an authority or a non-authority witness reporting context. The results of Experiment 4 show that interviewer authority impacts eyewitness memory reports differently across different cultures, such that eyewitness memory reports of mock witnesses with individualistic cultural background was enhanced when reporting in an authority context, whereas eyewitness memory reports of mock witnesses with collectivistic cultural background was impeded when reporting in an authority context. In consolidating the findings across experiments, the methodological challenges in conducting cross-cultural applied research were examined along with the implications of the findings for the conduct of investigative interviews in cross-cultural settings.

SAMENVATTING (DUTCH SUMMARY)

Verhoorders zullen onvermijdelijk ooggetuigen van verschillende culturen verhoren. Omdat ooggetuigen niet immuun zijn voor invloeden van hun eigen cultuur, is het mogelijk dat zij bepaalde culturele normen in hun verklaringen in de forensische setting brengen. De cultuur waarin individuen gesocialiseerd zijn, kan hun gedrag en denkwijze vormgeven (hoofdstuk 1). Onderzoek naar het geheugen van ooggetuigen heeft zelden bezig gehouden met óf er culturele verschillen zijn in ooggetuigenverslagen. In dit proefschrift is onderzocht of er sprake is van culturele verschillen in ooggetuigenverslagen. Om dit overkoepelende doel te onderzoeken, werden er vier experimenten uitgevoerd. Gebaseerd op een individualistisch-collectivistisch raamwerk, werden deelnemers (zogenaamde mock-getuigen) geselecteerd uit culturen die individualistische en collectivistische culturele oriëntaties vertegenwoordigen. In Experiment 1 (hoofdstuk 2) werden culturele verschillen met betrekking tot de aard en inhoud van ooggetuigenverslagen onderzocht. Deelnemers (N=200) werden geselecteerd uit Ghana en Nederland, die respectievelijk collectivistische en individualistische culturen vertegenwoordigen en aan hen werd gevraagd om een getuigenverklaring te geven over een gestimuleerde gebeurtenis. Experiment 1 leverde het eerste bewijs dat er culturele verschillen zijn in ooggetuigenverslagen, namelijk dat individualistische deelnemers meer details rapporteerden over de gebeurtenis dan collectivistische deelnemers. Experiment 2 (hoofdstuk 3) onderzocht of migreren en aanpassen aan een nieuwe culturele omgeving van invloed is op de aard en de aard van ooggetuigenverslagen. Ook hier werd gebruik gemaakt van mock-getuigen. De deelnemers (N=107) waren sub-Sahara Afrikaanse migranten die in West-Europa wonen en sub-Sahara Afrikanen die in Afrika wonen. Uit de resultaten van experiment 2 blijkt ook dat cultuur een rol speelt bij ooggetuigenverslagen, waarbij sub-Sahara Afrikaanse migranten uitgebreidere details gaven dan sub-Sahara Afrikanen die in Afrika wonen. In Experiment 3 (hoofdstuk 4) werd de rol van cultuur met betrekking tot de gevoeligheid voor misinformatie effecten onderzocht. Met behulp van een misinformatie paradigma gaven deelnemers (N=127) uit Ghana en het Verenigd Koninkrijk een ooggetuigenverklaring over een gebeurtenis waarvan zij getuigen waren. De resultaten tonen aan dat cultuur een rol speelt in de mate van het misinformatie effect, waarbij deelnemers met een collectivistische culturele achtergrond meer misleidende details beschreven dan deelnemers met een individualistische

culturele achtergrond. Het laatste experiment dat voor dit proefschrift werd uitgevoerd, Experiment 4 (hoofdstuk 5), onderzocht of culturele verschillen in het omgaan met autoriteit en gezagsdragers een rol spelen in de ooggetuigenverklaringen. Deelnemers (N=115) uit Ghana en Nederland hebben ooggetuigenverklaringen afgelegd, hetzij in de context met aanwezigheid van een autoriteit, hetzij in de context zonder aanwezigheid van een autoriteit. De resultaten van experiment 4 laten zien dat de autoriteit van de verhoorder de getuigenverklaringen van ooggetuigen van verschillende culturen verschillend beïnvloedt. Ooggetuigenverklaringen van deelnemers met een individualistische culturele achtergrond werden versterkt als ze worden verhoord door een autoriteitsfiguur, terwijl ooggetuigenverklaringen van deelnemers met een collectivistische culturele achtergrond juist werden belemmerd in zo'n situatie. Bij het consolideren van de bevindingen van de experimenten, werden de methodologische uitdagingen van het doen van intercultureel onderzoek onderzocht, samen met de implicaties van de bevindingen voor het uitvoeren van verhoren in interculturele omstandigheden.

ACKNOWLEDGMENTS

A Ph.D. journey is challenging and completing it in a pandemic is even more herculean. I could not have completed this journey without the support I received from several people. As has been expressed in an Akan proverb, a person is not a palm tree that he should be self-complete. I would like to express my heartfelt gratitude to these people who have been of immense help in diverse ways.

Foremost, I would like to express my deepest gratitude to my amazing supervisory team – Prof. **Peter van Koppen**, Dr. **Robert Horselenberg**, and Prof. **Lorraine Hope**. It's been such a privilege to learn from your wealth of knowledge in the field. I am very thankful for your profound belief in me and for investing in mentoring me into an independent researcher. I have been very fortunate to have you as my supervisors.

Peter, the first time my mum saw your picture, she remarked 'he is like your father', and she was right! You've been an academic father guiding me through this journey. I appreciate your interest in my professional development. I also gratefully acknowledge your key role, together with the team from the House, in securing funding for this great programme. I'm also very thankful for the prompt feedback and practical suggestions. It was an honour and exciting to travel with you and Robert to Ghana, delivering public lectures, and meeting some key stakeholders in the criminal justice system. I also appreciate the kind visit you and Robert paid to my family. Dank je wel!

Robert, Thank you very much for your guidance and invaluable suggestions. I appreciate the flexibility and autonomy you allowed me throughout the journey. I am also very thankful for your encouragement which has always been in due season. Our meetings hardly ended without a dose of your inspiration. I enjoyed the flexibility of sometimes having our meetings in the Tribunal, on the city wall, and walks through the city. Thank you also for the side chats during those moments, including chats on the history behind the forts, the city walls, and other monuments in the city. It was also an honour to join you and your family for dinner.

Lorraine, Thank you for the opportunities you introduced me to and for the papers you sent my way. I am grateful for your guidance and meticulous feedback that shaped my writing. I appreciate all the other resources and workshops you recommended. Thank you also for your kind support while on mobility in Portsmouth. As soon as I arrived in Portsmouth, you sent a list of wonderful places to make time to visit. I still

have fond memories of Portsmouth. Our meetings hardly ended without finding out how my family back home was doing. Thank you very much! I am also thankful to Dr. **James Ost** for his inspiration and helpful feedback on part of the project.

I would also like to express my deepest appreciation to my assessment committee and reviewers for critically assessing the work that constitutes this thesis. My profound thanks to Professor **Suzan van der Aa**, Dr. **Alistair Harvey**, Professor **Schneider Hildegard**, Professor **Corine de Ruiter**, Professor **Brent Snook**, and Professor **Renate Volbert**. I would also like to extend my deepest gratitude to Dr. **Lucy Akehurst** who was part of my University of Portsmouth examiners. I am very grateful also to anonymous reviewers for the helpful feedback on the articles that constitute this Ph.D.

The work presented in this thesis could not have been possible without the efforts of individuals who provided support during data collection. Specifically, I am highly appreciative of the research assistants (some of whom I had the honour of supervising their masters thesis in Maastricht) I worked with in Ghana, the Netherlands, and the United Kingdom for their diligence and support – **Benjamin, Gemma, George, Ileen, Isaac, Manouk, Melody, Michael, Nicole, Ruben, Rosemary, and Wendy**. I would also like to thank Dr. **Margaret Amankwah-Poku**, who graciously offered to help facilitate ethics applications at the University of Ghana (UG). Thank you very much, Dr. Amankwah-Poku for the immense support over the years. I would also like to thank Rev. **Emmanuel Oppong Peprah**, his family, and the entire community of Akyem Aduasa for welcoming me into the community and for the kind hospitality shown during my stay and data collection in the community. Of specific mention is **Augustine** and **Prince**, who kindly volunteered to assist with recruitment and whose knowledge of the locality helped immensely during my period of work in the locality. I would also like to thank all participants who volunteered to take part in the research reported in this thesis. This research would not have been possible without your kind participation.

It's been an honour to be part of the House of Legal Psychology and meet great colleagues. I am thankful to previous cohorts from the House for their inspiration, encouragement, and support. **Ale, Aleks, Bri, David, Irena, Katty, Meghana, Nikky, Nina, Renan, Sergii, Shiri, Tammy**, and all previous cohorts, you've been a great inspiration. A special thanks to **Nikky** for her kind and immense support when I first moved to Maastricht. You were instrumental in helping me transition to the Netherlands. You

graciously gave your apartment in Maastricht (while you were away in Canada) for me to temporarily stay, as I searched for a place to rent in Maastricht. **Ale**, thank you for all the chats, tips, and motivation. I also want to say thank you to my cohort, with whom I had the privilege of traveling this journey – **Bruna, Carrey, Enide, Jennifer, and Min**. I very much appreciate your friendship and cherish every moment we shared. **Chantal**, thank you so much for such tremendous support. When I first arrived in Maastricht, you were the first person I met, waiting at the train station to welcome me. You were always available throughout the journey to offer support including booking flights and hotels for conferences and summer and winter schools. You were available for chats, asking to know how the project is going, how my family in Ghana is doing, and whether I'm settling in well. I am also indebted to the entire team of academics of the House of Legal Psychology for the interesting and rich workshops, lectures, and training they provided during the various summer and winter schools in Portsmouth, Maastricht, and Gothenburg.

My appreciation also goes to great colleagues and academics/ staff at Maastricht University and the University of Portsmouth for the inspiring and supportive environment that enabled me to thrive and successfully complete this work. I owe a debt of gratitude to Prof. **Andre Klippe**, Head of the Criminal Law and Criminology Department of Maastricht for his support throughout the journey. I also gratefully acknowledge the administrative and technical crew of both Maastricht University and University of Portsmouth for their support. I thank members of the vibrant HAC Lab, Portsmouth for the inspirational lab sessions. I am grateful to Dr. **Anna Segana**, Prof. **Henry Otgaar**, and Dr. **Maartje Schreuder** for their interest in my work, stimulating conversations, and encouragement. My appreciation also goes to my officemates, **Enide** (again), **Peggy**, and **Renata** for their companionship, encouragement, and support. It was a great pleasure sharing office with you. I'm also grateful and honoured that you agreed to be my paranymphs. Thanks, Peggy for your kind help with the translation of the Dutch version of the summary of the thesis. **Naël**, thank you for your support and friendship. I appreciate all the time we shared, the cycling to Belgium, the walks, the talks. **Elvira** and **Robin**, thank you for the warm welcome to your home and the walks. I also want to thank other colleagues at the law faculty for the time shared and enjoyable moments of chats over lunch/ coffee – **Anna, Clair, Edith, Joshua**. I would also like to extend my sincere gratitude to the Ph.D. community at the Law

faculty for the great activities, not forgetting the inspirational writing camp.

I am also privileged to have received support and motivation from many friends. **Michael**, thank you for your encouragement and your kind help in translating part of the study instruction into Twi. I am also grateful to you for your help in proofreading part of the thesis. **Collins, Sandra, Siegfried**, and **Putri**, thank you for your kind hospitality, and the fun games. **Ayman**, I appreciate the outings during my mobility in Portsmouth. **Benjamin, Daniel, Davina, Godsway, Onalia, Solomon**, and **Victor**, I am grateful I had the privilege of sharing great moments with you. **Buabeng, Harriet, Humphrey, Mabel, Michael** (again), **Nana**, and **Sarah** thank you for the weekend catch-up, prayers, and encouragement via Skype. **Charlotte, Daniel, Dorcas, Emmanuel, Francis, Gabi, Jacob, May, Mercy, Obed, Ophelia, Paapa, Reuben**, and **Sitso**, thank you for the inspiration and emails, phone/video calls to check up and to offer words of encouragement. **Mercy**, I appreciate the kind visit you and your hubby paid me in Maastricht when you were in the Netherlands. I am also thankful to the pastorate/ leadership and friends from the Damascus Road International Church, Maastricht; City Life Church, Portsmouth; Christ Apostolic Church, Maastricht; and the Presbyterian International Worship Center, Accra for their support. Pastor **Matt**, Pastor **Benjamin**, Pastor **Daniel, Anneke, Becky, Christine, Dayo, Jonathan, Josh, Judith, Innocent, Leisha, Lucile, Michelle, Nilo, Patrick, Praveen, Renske, Rita, Sam, Skye, Sonaily, Tandai, Willem**, and so many others, I am very thankful for all the support and the great time shared in fellowship.

I am very fortunate to have a family that has always believed in me. To my mum and late dad, I am grateful for your unconditional love and sacrifice. Thank you for the foundation you laid for me, your nurturing and support. I dedicate this Ph.D. work to my mum and my late date, who always encouraged me to maximise my potential. My appreciation also goes to my siblings – **Ohemeng, Maud, and Nana** – as well as my entire family for their understanding. Although many miles away, you were unrelenting with your support. **Kwabena**, I am glad moving to Europe also offered the opportunity to spend some time together. Visiting you in Frankfurt was among the highlights of the journey. I enjoyed our biking through the city and visit to other interesting places in the city. Thank you, big bro! I also appreciate your kind visit to me in Maastricht and our trip to Rotterdam. I also gratefully acknowledge my cousin **Evans**, who I had the pleasure of visiting in Leeds while on mobility in the UK. I owe

you a debt of gratitude to you, Rev. **Erasmus Laryea**, for always believing in me, your support, and your interest in my career.

There are many people I've had the privilege of working with or meeting in the past who believed in me and played a crucial role in inspiring me into pursuing this doctorate, to whom I am grateful. My appreciation goes to Prof. **Kweku Osam**, former pro-vice-chancellor of the University of Ghana (UG), and Prof. **Cephas Omenyo**, former provost of College of Education, UG. I was privileged to have undertaken my national service with you both, after my bachelors degree (when you then served as Dean and Vice Dean, respectively, of the Faculty of Arts, UG). Thank you for the inspiration and support. Even after I had finished my period of service, you were still available to offer advice and support. I am also thankful to Prof. **Charity Sylvia Akotia** and Dr. **Robert Akuamoh Boateng**, for their guidance and support. I am grateful to Prof. **Charles Mate-Kole** who also encouraged me when I was working as a Teaching Assistant at UG and always urged me to pursue a Ph.D. I would also like to thank Dr. **Charles Wiafe-Akenten** and Prof. **Joseph Osafo**, for their support and encouragement. Their lectures (Psychology and the law; Psychology in Society) during my masters degree inspired me to pursue a career in legal psychology. Dr. **Margaret Amankwah-Poku** (again), I cannot thank you enough for your unflinching support and belief in me. I am very grateful! I am thankful to Dr. **Anabella Osei-Tutu**, who also believed in me and offered me opportunity to work on a research project. I am thankful to Dr. **Francis Annor** for his guidance. Thank you Dr. **Kofi Boakye** for your support and encouragement when I first shared my interest in pursuing a Ph.D. in legal psychology. It was also great spending some time with you in Cambridge during my mobility in Portsmouth.

Without the generous funding from the European Commission and the House of Legal Psychology, this project would not have been a success. I am eternally grateful!

Acknowledgments

DISSEMINATION

Publications:

Anakwah, N., Horselenberg, R., Hope, L., Amankwah-Poku, M & Van Koppen, P. J. (2020b). The acculturation effect and eyewitness memory reports. *Legal and Criminological Psychology*, 25 (2), 237 – 256. <https://doi.org/10.1111/lcrp.12179>

Anakwah, N., Horselenberg, R., Hope, L., Amankwah-Poku, M & Van Koppen, P. J. (2020a). Cross-cultural differences in eyewitness memory reports. *Applied Cognitive Psychology*, 34 (2), 505 – 515. <https://doi.org/10.1002/acp.3637>

Anakwah, N. (in press). Cross-cultural differences: Implications for legal psychology. In R. Horselenberg, V. van Koppen, & J. de Keijser (Eds.), *Bakens in de Rechtspsychologie [Beacons in Legal Psychology]: Liber Amicorum Peter van Koppen*. Boomuitgevers.

Anakwah, N., Horselenberg, R., Hope, L., Amankwah-Poku, M & Van Koppen, P. J. The effect of authority on eyewitness memory reports across cultures. Manuscript in preparation.

Anakwah, N., Horselenberg, R., Hope, L., Amankwah-Poku, M & Van Koppen, P. J. The misinformation effect and eyewitness memory reports: A cross-cultural investigation. Manuscript in preparation.

Conference presentations:

Anakwah, N., Horselenberg, R., Hope, L. & Van Koppen, P. J (2020, November). *The effect of authority on eyewitness memory reports*. Paper presented at the virtual symposium, Psychology from a cross-cultural perspective.

Anakwah, N., Horselenberg, R., Hope, L., Amankwah-Poku, M & Van Koppen, P. J. (2020, November). *Culture matters for eyewitness memory reports*. Poster paper presented at the virtual Culture and Cognition preconference of the Psychonomic Society.

Anakwah, N. (2020, May). *Eyewitness memory reports across cultures*. Paper presented at the Zoom-Psychology and Law Symposium.

Anakwah, N., Horselenberg, R., Hope, L. & van Koppen, P (2019, July). *The acculturation effect and eyewitness testimony among sub-Saharan African migrants*. Paper presented at the European Association of Psychology and Law conference, Santiago de Compostela, Spain.

Anakwah, N., Horselenberg, R., Hope, L. & van Koppen, P. J (2019, June). *Where I come from and what I report: Cultural influences on eyewitness memory*. Paper presented at the conference of the Society for Applied Research in Memory and Cognition, Cape Cod, Massachusetts, USA.

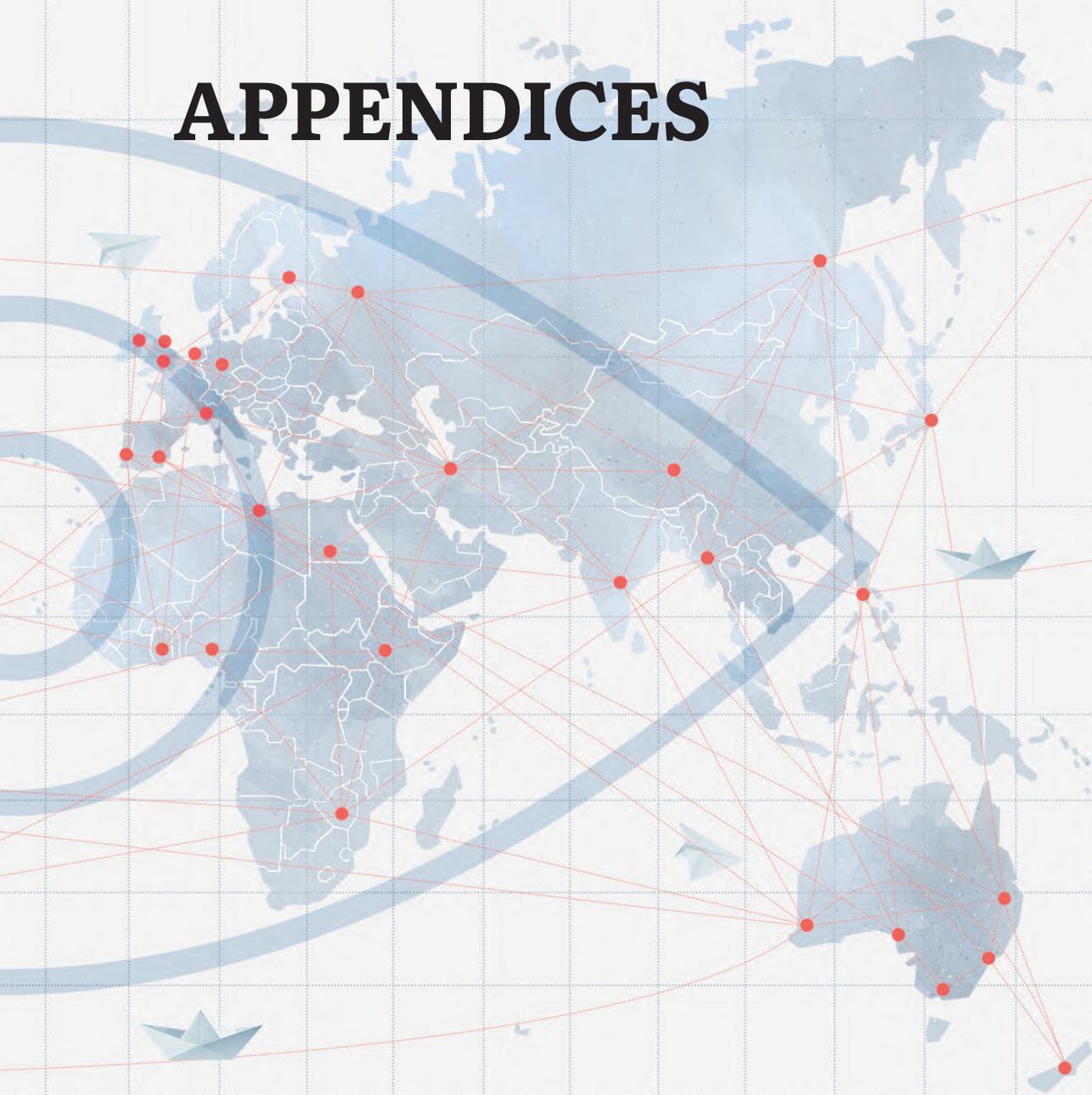
Anakwah, N., Horselenberg, R., Hope, L. & van Koppen, P (2018, June). *Cultural influences on eyewitness testimony*. Poster session presented at the European Association of Psychology and Law conference, Turku, Finland.

CURRICULUM VITAE

Nkansah Anakwah was born on 17th February 1986 at Akim Oda in the Eastern Region of Ghana. He had his secondary education at the Ghana Secondary School, Koforidua, also in the Eastern Region of Ghana between 2002 - 2005. While in secondary school, Nkansah served as the library prefect and was also the organiser for the creative writers and debaters club. Right after his secondary school education, he served one year as a pupil-teacher at a basic school in his place of birth, Akim Oda, Ghana. In 2006, Nkansah gained admission to the University of Ghana where he studied Political Science, Psychology, and Study of Religions. In his final year, he completed his dissertation on the attitudes of Ghanaians towards mental illness. During his bachelors degree programme, Nkansah was also actively involved in student organisations and served as the National General Secretary of the National Union of Presbyterian Students, Ghana. After his bachelor's degree, Nkansah did a one-year national service at the Office of Dean of Arts, University of Ghana, where he offered administrative support. In 2013, he gained admission to pursue a 2-year Master of Philosophy degree in Social Psychology at the University of Ghana. Nkansah's masters thesis examined the effect of fear of prosecution and fear arousing messages, research that was awarded a student grant from the National Road Safety Commission, Ghana. While in his second year of his masters degree, Nkansah served as a Graduate Assistant at the Department of Psychology, University of Ghana, where he tutored undergraduate psychology courses. After successfully completing his masters degree, he continued to work as a Teaching Assistant, tutoring undergraduate psychology courses and working on projects. He was later appointed as an adjunct lecturer at the Methodist University College, Ghana. In 2017, Nkansah was awarded the Erasmus Mundus Fellowship to pursue a dual Ph.D. in Legal Psychology at Maastricht University and the University of Portsmouth.



APPENDICES



APPENDIX 1: SUPPLEMENTARY MATERIALS

(CHAPTERS 2 AND 3)

Description of stimulus used in experiment

Stimuli	Type of incident	Description
A	Robbery	This is a Dutch scene where a man appears to be snatching a backpack from a woman. The incident occurs inside a building with shops. In the background of the scene, people are walking and some are standing beside a shop.
B	Theft	This is a Ghanaian scene where a man is seen standing beside a car in a car park, attempting to break in. Other cars are parked in the background. Also present in the background are trees, parked cars, people standing, and buildings.
C	Accident	A Dutch scene where a woman is lying on the street beside a car. In the background are buildings and individuals walking and cycling.
D	Assault	This is a Ghanaian scene where a man is attempting to hit a woman with his fist. The woman is sitting while the man is standing. The setting is a pub and there is a counter, chair, and drinks in the background.
E	Theft	A Dutch scene where a man is seen standing beside a car in a car park, attempting to break in. In the background of the scene are other parked cars, buildings, bicycle sheds, and trees.
F	Robbery	This is a Ghanaian scene where a man is seen attempting to snatch a bag from a woman. This is in a building with shops where other people are seen walking in the background while others are standing in front of one of the shops.
G	Assault	A Dutch scene where a man is seen attempting to hit a woman with his fist. The woman is sitting while the man is standing. The setting is a pub and in the background is the counter, tables, chairs, etc.
H	Accident	A Ghanaian scene where a woman appears to be lying on the street behind a black car. In the background of the scene are a building and trees.

STIMULUS

Stimuli A (Dutch scene)



Stimuli E (Dutch scene)



Stimuli B (Ghanaian scene)



Stimuli F (Ghanaian scene)



Stimuli C (Dutch scene)



Stimuli G (Dutch scene)



Stimuli D (Ghanaian scene)



Stimuli H (Ghanaian scene)



Interview Questions

Free and cued recall questions about Stimulus A

Free Recall

Your task is to describe what you saw in the photograph. Imagine that you are being asked to report about the scene to the police and that any details you give about the scene you saw is important.

Provide as much information as you can in your own words. Try to be as accurate and detailed as possible.

You have 6 minutes to complete this task. If you finish your report before 6 minutes have elapsed, you still can use the time to remember and report about what you saw.

Cued Recall

1. What clothes was the man wearing?
2. Who was visible at the scene apart from the man and the woman (victim)?
3. What was the man doing?
4. Who was looking at the direction of the man and woman (victim)?
5. Where was the man looking?
6. Can you describe the colour of the building where the incident occurred?
7. What was the woman holding?
8. What numbers did you notice written inside the building?
9. Which part/ side of the item was she (victim) holding?
10. What was the man in the wheelchair holding?
11. With which hand was the woman victim holding the item?
12. What clothes was the man in the wheelchair wearing?
13. Describe the woman's (victim) hair?
14. What did you notice behind the man in the wheelchair?
15. What colour earring was the woman victim wearing?
16. What was written at the top of the board behind the woman (victim)?
17. What footwear was the woman (victim) wearing?
18. Where was the tree inside the building located?
19. What clothes was the woman victim wearing?
20. How many people were on the billboard or pull-up flier that stood at the left side of the scene?

Free and cued recall questions about stimulus B

Free Recall

Your task is to describe what you saw in the photograph. Imagine that you are being asked to report about the scene to the police and that any details you give about the scene you saw is important.

Provide as much information as you can in your own words. Try to be as accurate and detailed as possible.

You have 6 minutes to complete this task. If you finish your report before 6 minutes have elapsed, you still can use the time to remember and report about what you saw.

Cued Recall

1. How many cars in all did you notice at the car park?
2. What was the colour of the car the man was standing by?
3. What was the colour of the roof of the building by the trees?
4. What was the man doing?
5. What colour was the car next to the one the man was standing by?
6. Which of his hands had held the door of the car?
7. On which side of the scene were the people at the background located?
8. Describe the footwear the man was wearing?
9. What were the people at the background doing?
10. What did the man wear on his hand?
11. What colour(s) were the writings on the small boards at the car park?
12. On which side of the car was the man standing?
13. What colour was the building on the left side?
14. Which side of the car did you notice some dirt?
15. What colour was the building on the right side?
16. Describe the clothes the man was wearing?
17. Where was the dustbin located?
18. Describe any facial feature of the man.
19. Where was the bird at the scene standing?
20. What colour was the side mirror of the car the man was standing by?

Free and cued recall questions about stimulus C

Free Recall

Your task is to describe what you saw in the photograph. Imagine that you are being asked to report about the scene to the police and that any details you give about the scene you saw is important.

Provide as much information as you can in your own words. Try to be as accurate and detailed as possible.

You have 6 minutes to complete this task. If you finish your report before 6 minutes have elapsed, you still can use the time to remember and report about what you saw.

Cued Recall

1. Describe the footwear the woman was wearing?
2. Where was the plant (weed/ hedge) on the background located?
3. How many stripes did you see on the woman's right footwear?
4. How many people were on the background (apart from the woman)?
5. What clothes was the woman (victim) wearing?
6. What colour was the motorcycle?
7. Describe the woman's (victim) position on the floor?
8. What clothes was the man walking on the right side of the street wearing?
9. What was written (text) on the rear/ back window of the car?
10. What colour was the window frames of the second building on the right?
11. What was the number of the car next to the victim?
12. What image(s)/ sign was on the traffic/ road sign on the right?
13. With what colour was the number of the car written?
14. How many cars were on the background (apart from the car by the victim)?
15. What colour was the car by the woman victim?
16. Where were the bicycles parked?
17. What was written under the left red light of the car?
18. What was the colour of the pole located beside the victim?
19. Describe the woman's (victim) hair.
20. What colour was the first building on your right?

Free and cued recall questions about stimulus D

Free Recall

Your task is to describe what you saw in the photograph. Imagine that you are being asked to report about the scene (anything you saw on the picture) to the police and that any details you give about the scene you saw is important.

Provide as much information as you can in your own words. Try to be as accurate and detailed as possible.

You have 6 minutes to complete this task. If you finish your report before 6 minutes have elapsed, you still can use the time to remember and report about what you saw.

Cued Recall

1. What was on the window at the scene?
2. What was the man wearing on his hands?
3. What did you see beneath/ below the window?
4. Describe the footwear the man was wearing?
5. What was on the door behind the woman?
6. What was the man doing?
7. Where was the fridge located?
8. What clothes was the man wearing?
9. What was the colour of the fridge?
10. What was the woman doing with her hands?
11. What was written on the fridge?
12. Describe the footwear the woman was wearing?
13. What did you see behind the man?
14. Describe the woman's hair?
15. On which side of the scene was the TV located?
16. What colour was the writing (text) on the woman's clothe?
17. What was on the TV screen?
18. On which part of the man's body was the woman holding?
19. Describe what the woman was seated on?
20. What was the colour of the TV stand?

Free and cued recall questions about stimulus E

Free Recall

Your task is to describe what you saw in the photograph. Imagine that you are being asked to report about the scene to the police and that any details you give about the scene you saw is important.

Provide as much information as you can in your own words. Try to be as accurate and detailed as possible.

You have 6 minutes to complete this task. If you finish your report before 6 minutes have elapsed, you still can use the time to remember and report about what you saw.

Cued Recall

1. What clothes was the man wearing?
2. What colour was the car next to the one the man was standing beside?
3. Describe the footwear the man was wearing?
4. What was in front of the car the man was standing beside?
5. What was the colour of the car the man was standing by?
6. How many cars were at the carpark?
7. What was the car number of the car the man was standing by?
8. Where was the lamp stand located?
9. What colours were on the number plate of the car (the one the man was standing beside)?
10. What colour was the pole of the lamp (stand)?
11. What was the man doing?
12. What colour was the building at the scene?
13. Describe the hair of the man.
14. What colour was the window frame of the building at the scene?
15. What was written on the car, apart from the car number?
16. What was the colour of the third car?
17. On which side of the car was the man standing?
18. What colour was the poles of the bicycle shed?
19. What was the man wearing on his left hand?
20. Describe the roof of the bicycle shed.

Free and cued recall questions about stimulus F

Free Recall

Your task is to describe what you saw in the photograph. Imagine that you are being asked to report about the scene to the police and that any details you give about the scene you saw is important.

Provide as much information as you can in your own words. Try to be as accurate and detailed as possible.

You have 6 minutes to complete this task. If you finish your report before 6 minutes have elapsed, you still can use the time to remember and report about what you saw.

Cued Recall

1. What was the name of the shop the nun was facing?
2. What was the woman (victim) seated on?
3. Who stood in front of the shop the nun was headed?
4. Describe the footwear the woman (victim) was wearing?
5. What was the colour of the shirt of the little boy at the scene?
6. Which of the legs of the woman (victim) had been raised?
7. What was the little boy doing?
8. What was the woman (victim) holding?
9. What was the colour of the little boy's footwear?
10. Describe the footwear the man (suspect) was wearing?
11. Who was beside the little boy?
12. What clothes was the woman (victim) wearing?
13. How many people were in front of the shop behind the woman (victim)?
14. What was the man doing?
15. What is the name of the shop behind the woman (victim)?
16. What clothes was the man wearing?
17. What did you see on the platform beside the little boy?
18. Which side of the woman's (victim) item had the man held?
19. How many people were in front of the second shop on your left?
20. What jewellery was the woman (victim) wearing?

Free and cued recall questions about stimulus G

Free Recall

Your task is to describe what you saw in the photograph. Imagine that you are being asked to report about the scene to the police and that any details you give about the scene you saw is important.

Provide as much information as you can in your own words. Try to be as accurate and detailed as possible.

You have 6 minutes to complete this task. If you finish your report before 6 minutes have elapsed, you still can use the time to remember and report about what you saw.

Cued Recall

1. What was the man who was standing next to the woman doing?
2. What was written (text) above the door on the right?
3. What clothes was he (suspect) wearing?
4. What musical instrument(s) did you see?
5. What colour was his (suspect) belt?
6. How many people were at the scene (apart from the suspect and the victim)?
7. What colour was his (suspect) watch?
8. Where were the people at the scene standing?
9. What clothes was the woman (victim) wearing?
10. What were the people at the background doing?
11. What was the colour of the woman (victim's) footwear?
12. Where was the telephone on the background located?
13. Where was the woman's (victim) right hand placed/positioned?
14. What colour was the telephone on the background?
15. Where was the woman's (victim) left hand placed/ positioned?
16. How many doors did you notice at the scene?
17. Describe what the woman was seated on.
18. What colours did the chairs have?
19. Describe the woman's hair.
20. How were the people on the background dressed?

Free and cued recall questions about stimulus H

Free Recall

Your task is to describe what you saw in the photograph. Imagine that you are being asked to report about the scene to the police and that any details you give about the scene you saw is important.

Provide as much information as you can in your own words. Try to be as accurate and detailed as possible.

You have 6 minutes to complete this task. If you finish your report before 6 minutes have elapsed, you still can use the time to remember and report about what you saw.

Cued Recall

1. Where was the street light located?
2. Describe how the woman (victim) was lying on the floor?
3. Where was the wall located?
4. On which side of the car was the woman lying?
5. What was the colour of the wall of the building?
6. What was the woman (victim) wearing on her hand?
7. What was the colour of the building?
8. What colour was the item on her hand?
9. How many windows of the building did you see?
10. On which of her hands was she wearing the item?
11. What colour was the window frame of the building?
12. What clothes did she wear?
13. Where was the building located at the scene?
14. Describe the footwear the woman (victim) was wearing?
15. On which side of the building was the window located?
16. What was the colour of the car?
17. How many trees were at the right side of the car?
18. What was the number of the car?
19. Describe the trees on the left side of the car.
20. What colours did you notice on the number plate of the car?

The Cultural Orientation Scale (Triandis & Gelfand, 1998)

For each of the statements below, indicate the extent to which each is true about yourself or the view you uphold. Your response should range between 1 (Never or definitely no) to 9 (Always or definitely yes)

- ___ 1. I'd rather depend on myself than others.
- ___ 2. I rely on myself most of the time; I rarely rely on others.
- ___ 3. I often do "my own thing."
- ___ 4. My personal identity, independent of others, is very important to me.
- ___ 5. It is important that I do my job better than others.
- ___ 6. Winning is everything.
- ___ 7. Competition is the law of nature.
- ___ 8. When another person does better than I do, I get tense and aroused.
- ___ 9. If a coworker gets a prize, I would feel proud.
- ___ 10. The well-being of my co-workers is important to me.
- ___ 11. To me, pleasure is spending time with others.
- ___ 12. I feel good when I cooperate with others.
- ___ 13. Parents and children must stay together as much as possible.
- ___ 14. It is my duty to take care of my family, even when I have to sacrifice what I want.
- ___ 15. Family members should stick together, no matter what sacrifices are required.
- ___ 16. It is important to me that I respect the decisions made by my groups.

Twi translation of interview questions

Ahwɛdeɛ A

Kae na ka

Nea yɛɛhwehwɛ afiri wo hɔ ne sɛ kyere nea wohui wɔ mfonin no so no. Fa no sɛ yɛɛbisa wo sɛ kyere nea wohui kyereɛ apoliisifoɔ na nea wobɛka bɛa afa nea wohui no ho hia yie paa.

Bɔ mmɔden sɛ wobɛka nɛm a ɛho hia nyinaa wɔ sɛnea wuhuu no faaye. Yere wo ho ka no sɛnea esii pɛpɛpɛ na kyere mu fann.

Wowɔ sima nsia sɛ wode bedi saa dwuma yi. Sɛ wowie ansa na sima nsia a yɛde ama wo no bi aka, wobetumi akɔso akaakae na ɔaka nea wohuue no.

Nsɛmmisa ahorɔɔ

1. Ataadeɛ bɛn na na papa no (dea yɛse ɔadi bɔne no) hyɛ?
2. Whan biom na wohuu no wɔ baabi aɛm no sii no ka papa no ɛne maame (dea aɛm ato no no)
3. Dɛn na na papa no (dea yɛse ɔadi bɔne no) ɛɛyɛ?

4. Whana na na ɔɔhwɛ baabi a na papa no ne maame no (dea asem ato no no) wɔ no?
5. Ehefa na na papa no (dea yese ɔadi bɔne no) εεhwɛ?
6. So wobɛtumi akyerɛ edan a asem no sii mu/ho no ahosu?
7. Dɛn na na maame no kura?
8. Nɔmɛse bɛn na wohuu sɛ yeatwerɛ wɔ edan no mu?
9. Nnoɔma (baage) no hefa na na maame no (dea asem ato no no) kura?
10. Dɛn na na papa no a ɔte abubuafoɔ kaa/akonwa no mu no kura?
11. Nsa bɛn/dea εwɔ he na na maame no (dea asem ato no no) de kura nnoɔma no?
12. Ntaadeɛ bɛn na na papa no a ɔte abubuafoɔ kaa/akonwa no mu no hyɛ?
13. Kyerɛ sɛdea na maame no (dea asem ato no no) tiri nwi tɛɛ.
14. Deɛn na wohuuyɛ wɔ papa no a ɔte abubuafoɔ kaa/akonwa no mu no akyi hɔ?
15. Asomdeɛ a na εhyɛ maame no (dea asem ato no no) ahosu ne deɛn?
16. Deɛ bɛn na na wɔatwerɛ wɔ dua a εwɔ baabi na maame no (dea asem ato no no) gyina no akyi hɔ no ho no?
17. Mpaboa bɛn nan a εhyɛ maame no (dea asem ato no no)?
18. Ehefa na na dua a na εfie/ɛdan no mu hɔ no si?
19. Ntaadeɛ bɛn na na maame no hyɛ?
20. Nnipa dodoɔ ahe na na wɔwɔ beebɔdo a na esi benkum so hɔ no so?

Ahwɛdeɛ B

Kae na ka

Nea yeɛhwɛhwɛ afiri wo hɔ ne sɛ kyere nea wohui wɔ mfonin no so no.. Fa no sɛ yeɛbisa wo sɛ kyere nea wohui kyereɛ apoliisifoɔ na nea wobɛka biao afa nea wohui no ho hia yie paa.

Bɔ mmɔden sɛ wobɛka nsem a εho hia nyinaa wɔ sɛnea wuhuu no faayɛ. Yere wo ho ka no sɛnea esii pɛpɛpɛ na kyere mu fann.

Wowɔ sima nsia sɛ wode bedi saa dwuma yi. Sɛ wowie ansa na sima nsia a yeɛde ama wo no bi aka, wobɛtumi akɔso akaakae na ɔaka nea wohuuyɛ no.

Nsemmisa ahorɔɔ

1. Albɔre/kaa dodoɔ ahe na wohuuyɛ wɔ baabi yɛpaake kaa no?
2. Kaa no a na papa no gyina ho no ahosu te sɛn?
3. Edan a na yeabɔso no a na dua no si ho no nkyɛnsen no ahosu te sɛn?
4. Deɛn na na papa no (dea yese ɔadi bɔne no) εεyɛ?
5. Kaa no a na esi dea na papa no gyina ho no ahosu te sɛn?

Appendices

6. Ne nsa mu dea ehe nan a aso kaa no geeti no mu no?
7. Ehefa nan nipa a na wogyinagyina hɔ no wɔ no?
8. Kyere mpaboa ko a na papa no (dea yese ɔadi bɔne no) hye no.
9. Deen nan a nnipa a wogyinagyina hɔ no eeye?
10. Deen na na ebɔ papa no (dea yese ɔadi bɔne no) nsa no?
11. Ntwereye a na ewɔ nnua nketewa no ho no ahosu/kɔla te sen?
12. Kaa no hefa na na papa no (dea yese ɔadi bɔne no) no gyina no?
13. Edan a na ewɔ benkum so hɔ no ahosu/kɔla te sen?
14. Kaa no ho hefa na wohuuye se efi wɔ hɔ?
15. Edan a na ewɔ nifa so hɔ no ahosu/kɔla te sen?
16. Kyere ntaade ko a na papa no (dea yese ɔadi bɔne no) hye.
17. Ehefa nan a bɔla kyensen no si no?
18. Kyere nea wokae wɔ papa no anim.
19. Ehefa na na anomaa a ɔwɔ hɔ no si?
20. Ahwehwe a na papa no gyina ho no ahosu/kɔla te sen?

Ahwede D

Kae na ka

Nea yeehwehwe afiri wo hɔ ne se kyere nea wohui wɔ mfonin no so no. Fa no se yeebisa wo se kyere nea wohui kyere apoliisifoɔ na nea wobeka biao afa nea wohui no ho hia yie paa.

Bɔ mmɔden se wobeka nsem a eho hia nyinaa wɔ senea wuhuu no faaye. Yere wo ho ka no senea esii pɛpɛpɛ na kyere mu fann.

Wowɔ sima nsia se wode bedi saa dwuma yi. Se wowie ansa na sima nsia a yede ama wo no bi aka, wobetumi akɔso akaakae na ɔaka nea wohuuye no.

Nsemmisa ahoroɔ

1. Kyere mpaboa ko a na maame no hye no.
2. Ehefa na na nwura/mfrawese a na ewɔ akyiri hɔ no wɔ?
3. Nsensanye dodoɔ ahe na wohuuye wɔ maame no nan nifa mpaboa no so no?
4. Se woyi maame no firi mu a, nnipa dodoɔ ahe na wohuuye wɔ akyiri hɔ no?
5. Ntaadee ben na na maame no (dea asem ato no no) hye?
6. Na motosaekere no ahosu te sen?
7. Kyere baabi a na maame no (dea asem ato no no) wɔ fam hɔ.
8. Ntaadee ben na na papa no a na ɔnam nifa so wɔ ɔkwan no mu hɔ no hye?
9. Deen na na wɔatwere wɔ kaa no ahwehwe a ewɔ akyiri hɔ no so no?

10. Edan a na eto so mmieniu wo nifa so ho no mpoma no ahosu/kola te sen?
11. Kaa no a na ewo dea asem ato no nkyen no noma ye deen?
12. Nfonin anaa ahyensode ben na ewo ekwan no nifa no so ho no?
13. Na wode kola ben na atweree kaa no noma no?
14. Se woyi dea asem ato no no kaa no firi mu a, alore dodo ahe na na ewo akhiri ho no?
15. Kaa no a na ewo dea asem ato no no nkyen no ahosu/kola te sen?
16. Ehefa na na wopaaake adadempoko/abaasekere no?
17. Deen na na watweree wo kaa no a na ewo benkum so ho no kanea kokoko no ase no?
18. Poolu a na ewo na ewo dea asem ato no no nkyen ho no ahosu/kola te sen?
19. Kyere sodea na maame no (dea asem ato no no) tiri nwi tee?
20. Edan a na edi kan wo nifa so ho no ahosu/kola te sen?

Ahwede E

Kae na ka

Nea yehwehwe afiri wo ho ne se kyere nea wohui wo mfonin no so no. Fa no se yebisa wo se kyere nea wohuuye (wo dea esiye no mu no) kyere apoliisifo na nea wobeka biao afa nea wohui no ho hia yie paa.

Bo mmoden se wobeka nsem a eho hia nyinaa wo senea wuhuu no faaye. Yere wo ho ka no senea esii perepere na kyere mu fann.

Wowo sima nsia se wode bedi saa dwuma yi. Se wowie ansa na sima nsia a yede ama wo no bi aka, wobetumi akoso akaakae na aka nea wohuuye no.

Nsemisa ahoro

1. Den na na ewo mpoma no ano wo adesuae no mu no?
2. Edeen nan a ebo papa no nsa no?
3. Edeen na wohuuye wo mpoma no ase no?
4. Kyere senea na mpaboa na papa no hye no tee.
5. Edeen na na ewo epono/geeti a na ewo maame no akyi no so no?
6. Edeen na na papa no eeye?
7. Na asukotwea adaka/friigi no si no?
8. Ntaadee ben na na papa no hye?
9. Na friigi no ahosu/kola te sen?
10. Edeen na na maame no de ne nsa eeye?
11. Edeen na na watweree wo friigi no ho no?
12. Kyere mpaboa a na ehye maame no.

Appendices

13. Edeen ade na wohuuye wɔ papa no akyi no?
14. Kyere sedea na maame no (dea asem ato no no) tiri nwi tee.
15. Ehefa na na TV no si wɔ dea wohweeyɛ/wohuuye no mu no?
16. Na wɔde kɔla ben na atwere ntwerɛye a na ewɔ maame no ataadeɛ/ntoma no mu no?
17. Edeen na na wɔyi wɔ TV no so no soɔ no?
18. Papa no hefa na na maame no aso no?
19. Kyere nea na maame no te soɔ no?
20. Na adeɛ a yede TV no si so no kɔla te sen?

Ahwɛdeɛ ɛ

Kae na ka

Nea yɛehwehwe afiri wo hɔ ne sɛ kyere nea wohui wɔ mfonin no so no. Fa no sɛ yɛebisa wo sɛ kyere nea wohuuye kyereɛ apoliisifoɔ na nea wobɛka biala afa nea wohui no ho hia yie paa.

Bɔ mmɔden sɛ wobɛka nsem a eho hia nyinaa wɔ sɛnea wuhuu no faaye. Yere wo ho ka no sɛnea esii pɛpɛpɛ na kyere mu fann.

Wowɔ sima nsia sɛ wode bedi saa dwuma yi. Sɛ wowie ansa na sima nsia a yede ama wo no bi aka, wobetumi akɔso akaakae na ɔaka nea wohuuye no.

Nsemmisa ahorɔɔ

1. Ntaadeɛ ben na na papa no hyɛ?
2. Kaa no a na ewɔ papa no nkyɛn no ahosu/kɔla te sen?
3. Kyere mpaboa a na ehyɛ papa no.
4. Deen na na ewɔ kaa a papa no gyina ho no anim no?
5. Kaa no a na papa no gyina ho no ahosu/kɔla te sen?
6. Alɔre/kaa dodɔɔ ahe na wohuuye wɔ baabi a yɛpaake kaa no?
7. Kaa no a na ewɔ papa no nkyɛn no nɔma yɛ deen?
8. Ehefa na na kanea no dua no si?
9. Kɔla ben na na kaa no nɔma pleti no so no?
10. Na kanea dua no yɛ kɔla ben?
11. Edeen na na papa no eeyɛ?
12. Na edan a na ewɔ hɔ no kɔla te sen?
13. Kyere sedea a na papa no tiri nwi tee.
14. Na edan no mpoma no dua no yɛ kɔla ben wɔ dea wohweeyɛ no mu no?
15. Sɛ woyi kaa no nɔma a wɔatwere wɔ ho no, edeen biom na na wɔatwere wɔ kaa no ho?
16. Na kaa a etɔ so mmiɛnsa no yɛ kɔla ben?

17. Kaa no fa ben na na papa no gyina no?
18. Baasekere no dan/hyεεde no nan no ye kola ben?
19. Edeen na na εbo papa no nsa no?
20. Kyere sεdea nea wode akuru baasekere no dan no so no tee

Ahwεdeε F

Kae na ka

Nea yeεhwehwe afiri wo ho ne se kyere nea wohui wo mfonin no so no. Fa no se yeεbisa wo se kyere nea wohuuye wo dea esiiye no mu no) kyereε apoliisifoɔ na nea wobeka biao afa nea wohui no ho hia yie paa.

Bɔ mmɔden se wobeka nsem a εho hia nyinaa wo senea wuhuu no faaye. Yere wo ho ka no senea esii pεpεεpe na kyere mu fann.

Wowɔ sima nsia se wode bedi saa dwuma yi. Se wowie ansa na sima nsia a ye de ama wo no bi aka, wobetumi akɔso akaakae na ɔaka nea wohuuye no.

Nsemmisa ahorɔɔ

1. Sotɔɔ a na Roman sista no anim kyere no din de sen?
2. Deε ben so na na maame no (dea asem at no no) tee no?
3. Whan na na ogyina sotɔɔ a na Roman sista no eekɔ mu no?
4. Kyere mpaboa a na maame no (dea asem at no no) hye no.
5. Ataadeε a na εhye akwadaa ketewaa no wo dea wohweeyε no mu no kola ye deen?
6. Maame no (dea asem at no no) nan mu dea εwo he nan a yeama soo no?
7. Na akwadaa no eeyε deen?
8. Edeen na na maame (dea asem at no no) no kura no?
9. Na mpaboa a εhye akwadaa ketewaa no kola ye deen?
10. Sen na na mpaboa a na papa no (dea yeεe ɔaye bɔne no) hye no tee?
11. Whan na na ogyina abofra ketewa no nkyen?
12. Ntaadeε ben na na maame no (dea asem ato no no) hye?
13. Nnipa dodoɔ ahe na na wo gyina sotɔɔ no ano wo maame no (dea asem ato no no) akyi no?
14. Deen nan a papa no (dea yeεe ɔaye bɔne no) no eeyε?
15. Sotɔɔ no a εwo maame no (dea asem ato no no) akyi no din de sen?
16. Ntaadeε ben na na papa no (dea yeεe ɔaye bɔne no) hye no?
17. Edeen na εwo akwadaa ketewaa no nkyen wo ho no?
18. Maame no (dea asem ato no no) nnoɔma no hefa na na papa no aso no?
19. Nnipa dodoɔ ahe na na wo wo sotɔɔ no anim wo wo benkum so no?

20. Agudeε βεν na na εhyε maame no?

Ahwεdeε G

Kae na ka

Nea yeεhwehwε afiri wo hɔ ne se kyere nea wohui wɔ mfonin no so no. Fa no se yeεbisa wo se kyere nea wohuuyε (wɔ dea esiiyε no mu no) kyereε apoliisifoɔ na nea wobεka biaa afa nea wohui no ho hia yie paa.

Bɔ mmɔden se wobεka nsem a εho hia nyinaa wɔ senea wuhuu no faayε. Yere wo ho ka no senea esii pεpεpε na kyere mu fann.

Wowɔ sima nsia se wode bedi saa dwuma yi. Se wowie ansa na sima nsia a yeεde ama wo no bi aka, wobetumi akɔso akaakae na ɔaka nea wohuuyε no.

Nsemmisa ahorɔɔ

1. Na papa no a ɔgyina maame no nkyen no reyε den?
2. Eδen nan a wɔatwere agu epon no atifi wɔ ninfa fam no?
3. Eδen ataadeε na na papa (a yeεka ne ho asem no) hyε?
4. Nsenku βεν na wohuuyε no?
5. Na papa (a yeεka ne ho asem no) no belete no ye kɔla βεν?
6. Nnipa ahe na na wɔwɔ faako a bɔne no kɔɔso no (se woyi nea odii bɔne no ne nea yeεε no bɔne no firi hɔ aa)?
7. Na papa a ɔdii bɔne no bɔ wɔɔkye kɔla βεν?
8. Ehe na na nipa a wɔhuu nea εkɔɔso no gyina?
9. Eδen ataadeε na na maame (a wɔdii no bɔne no) no hyε?
10. Eδen nan a nnipa a wɔwɔ hɔ no εεyε?
11. Na maame (a yeεka n'asem no) hyε mpaboa kɔla βεν?
12. Na ahatorofoɔ no a εwɔ baabi a asem no siiyε no wɔ he pɔtee?
13. Ehe na na maame (a w'adi no bɔne no) nsa ninfa da?
14. Na ahatorofoɔ a εwɔ hɔ no kɔla ye den?
15. Ehe nan a maame (a yeεka n'asem no) nsa benkum da?
16. Epon ahe na wohuuyε wɔ faako a asem no siiyε?
17. Kyerekyere adeε a na maame no te so no.
18. Na akongua no kɔla ye den?
19. Kyerekyere se deε na maame no ntiri nwi tee?
20. Nnipa a na wɔwɔ faako a asem no siiyε no, na ntaadeε βεν nan a wɔhyε?

Ahwεdeε H

Kae na ka

Wo dwumadie ne se wobekyerekyerε nea wo hu wɔ mfonin no mu. Susu se woobɔ w'amanee wɔ nea wohuuyε no ho akyerε poliisini enti nkyerεkyerεmu biara a wode ka ho a εbeboa no, bɔ mmɔden fa ka ho.

Nsem dodoɔ biara a εhohia se wodebeka ho no, fa ka ho. Bɔ mmɔden se wobεbɔ w'amanee wɔ pεpεpεyε ene nsenhia so.

Wode sima nsia na εbedi wodwuma no. Se wotumi wie ansa na wo mmerε no aso a, wobetumi de sima a aka no akaekae na w'aka nea wohuuyε no nyinaa.

Nsemmisa ahorɔɔ

1. Ehe na kanea a εwɔ kwan no so no wɔ?
2. Kyerε kwan a na maame (no a asem ato no) no nam so da fam hɔ?
3. Na mfesene no wɔ he pɔtee?
4. Na kaa no afa he na na maame no da?
5. Na εdan no (mfensene no)yε kɔla bεn?
6. ɔbaa/Maame (a wɔwea no) no na εden nan a εda ne nsa?
7. Na εdan no ahosuo/kɔla yε den?
8. Na adeε a εda ne nsa no yε kɔla bεn?
9. εdan no mpoma ahe na wohuuyε?
10. Na ne nsa bεn nan a adeε no hyε?
11. Na εdan no mpoma no dadeε no yε kɔla bεn?
12. Ataadeε bεn na ɔhyeyε?
13. Ehe pɔtee na na εdan no si wɔ faako a asem no sii no?
14. Kyerεkyerε mpaboa ko a na maame no (a wɔyεε no bɔne no) hyε?
15. Na εdan ne fa he na na mpoma no wɔ?
16. Na kaa no kɔla yε den?
17. Nnua ahe na na esi kaa no ninfa soɔ?
18. Na kaa no nɔma yε sεn?
19. Kyerεkyerε dua no a esi kaa no bεnkum so no bɔbere/bɔbea.
20. Kɔla bεn na wo hu wɔ kaa no nɔma pereti no so?

Twi translation of Cultural Orientation Scale (Triandis & Gelfand, 1998)

Wo nsem a yeatimtim wɔ asee hɔ no, kyere sɛdeε esi fa wo ho anaa εse wo nsusuyε. εwɔ se wo nsusuyε efi baako (Daabida) εkɔsi nkron (Daa anaa nokware torodoo).

- ___ 1.. Ebeyε paa se me de me ho bεto me so sen se me de bεto afoforɔ so.
- ___ 2. Me taa de me ho to me ho so mpεn dodoɔ no aa; εyε den paa se mede me ho bεto afoforɔ so.

Appendices

- ___ 3. Me taa yε me aa m'adeε.
- ___ 4. Edin a mεpε ama me ho aa, εbεma me ada nson wɔ afoforɔ mu hia me paa anaa yε me adehiadeε anaa som me bo paa.
- ___ 5. Ehohia sε meadi me dwuma yiye akyeη memfεfoɔ/afoforɔ.
- ___ 6. Nkunimdie εne/yε biibiaa.
- ___ 7. Akansie yε Ɖbɔɔadeε nhyehyεyε anaa abrabɔ mu adeε.
- ___ 8. Sε me yɔnko/obi bɔ mmɔden sen me a, me yε basaa.
- ___ 9. Se ye bɔ me yɔnko odwumayεfoɔ aba so a, m'ani begye ama no.
- ___ 10. Me yɔnko adwumayεfoɔ mpuntuo yε me adehiadeε paa.
- ___ 11. Me deε, me nteaseε wɔ anigye ho/mu ne sε, me ne afoforɔ εshwe abɔmu
- ___ 12. Sε mene afoforɔ ntεm yε aa, me koma tɔ me yam anaa me ho tɔ me/m'ani gye.
- ___ 13. Sε εbetumi aa, εwɔ sɔ awofɔɔ ne wɔn mm aka wɔn ho bɔ mu.
- ___ 14. Eyε m'asode sεmεhwε m'abusuafoɔ yiye, sε mpo ekɔba no sε me yε atuhoakye koraa.
- ___ 15. εwɔ sε abusua mu nnipa nyinaa kabɔmu a εnfa ho ne atuhoakye a εbehia.
- ___ 16. Eyε adehiadeε ma me sε mεbu adwen a me kuo mu nnipa afa.

Number of participants that viewed each stimulus (In relation to counterbalancing)

STIMULUS	GROUP		
	Rural Ghana	Urban Ghana	The Netherlands
Stimulus 1	38	35	25
Stimulus 2	38	35	25
Stimulus 3	38	35	25
Stimulus 4	38	35	25
Stimulus 5	37	35	30
Stimulus 6	37	35	30
Stimulus 7	37	35	30
Stimulus 8	37	35	30

Supplementary analysis on education level (Study 2)

To determine whether the education level of the migrant sampled had an effect on our key dependent variable, we conducted an additional analysis comparing migrants with bachelor's education and those with post-graduate education with respect to the amount of details provided. Although, sub-Saharan African migrants with bachelors education level ($n = 27$, $M = 29.33$, $SD = 17.76$) reported more correct central details than those with postgraduate education level ($n = 20$, $M = 20.60$, $SD = 9.94$), this difference did not reach the threshold for significance, $t(45) = 1.98$, $p = .054$, $d = .61$. Among participants from Ghana, those with bachelor's education level ($n = 54$, $M = 19.20$) did not significantly differ from those with postgraduate education level ($n = 5$, $M = 28$) in the number of correct central details reported, $t(57) = 1.95$, $p = .056$, $d = .84$. This exploratory analysis show it is less likely the education level of participants could have accounted for the difference between Africans in Africa and Africans in Europe.

APPENDIX 2: SUPPLEMENTARY MATERIALS

(CHAPTER 3)

Free recall

Your task is to provide information about what you saw in the video event, in your own words. Please be as accurate and detailed as possible and avoid guessing. You have five minutes to provide your account. When you finish before time has elapsed you can still use the remaining time to report what you saw.

Recognition test

Please provide the answer to the following. Your response to all questions should be based on what you saw in the video you just watched.

1. The courier stole a from the office
 - a. Yellow-coloured laptop
 - b. Blue-coloured laptop
 - c. Grey-coloured laptop
 - d. I don't know
2. The courier was wearing a
 - a. Brown jacket
 - b. Black jacket
 - c. Blue jacket
 - d. I don't Know
3. When the courier entered the office
 - a. She shook hands with the office employee
 - b. She removed her helmet
 - c. She did not shake hands with the office employee
 - d. I don't know
4. As the office employee signed for the parcel
 - a. The courier brought out her mobile phone
 - b. The courier removed her helmet
 - c. The courier looked on
 - d. I don't know
5. What was the colour of the desk in the office?
 - a. Black
 - b. White

- c. Brown
 - d. I don't know
6. The woman the courier crashed into was holding
- a. Green shopping bag
 - b. Yellow shopping bag
 - c. Blue shopping bag
 - d. I don't know
7. When the courier was running away she first run pass...
- a. A man wearing a cap
 - b. A woman wearing black cloth
 - c. Two school children
 - d. I don't know
8. What was beside the entrance to the travel agency
- a. Cat
 - b. Bicycle
 - c. Dog
 - d. I don't know
9. The name of the travel agency was
- a. RKT Travel
 - b. AKT Travel
 - c. ATR Travel
 - d. I Don't Know
10. The courier was wearing a
- a. Green helmet
 - b. Red helmet
 - c. Black helmet
 - d. I don't know
11. When the courier got out of the office, standing across the street were who were looking towards the office.
- a. 2 men
 - b. A man and a woman
 - c. 2 women
 - d. I Don't Know
12. The courier threw the helmet
- a. In a dustbin
 - b. In a garden
 - c. On the pavement of the street
 - d. I Don't Know

Post-event narrative 1

Police investigation into Theft at Travel Centre

Police have begun investigations into a theft that occurred at AKT Travel. CCTV footage released on Monday shows a courier walking towards the travel agency, AKT Travel, at about 3:00pm last Friday afternoon. She was wearing a brown jacket and a black helmet. Upon arriving at the entrance, she pressed the doorbell and waited for a response. Just beside the entrance was a bicycle. After a few moments, the office door was opened and the courier entered the building.

The travel agency secretary was seated at a black desk near the door when the courier entered the office. The courier delivered a parcel to the secretary. As the secretary signed for the parcel, the courier was seen pulling out her mobile phone. After signing for the parcel, the secretary went to fetch a glass of water for the courier in another room. While she was gone, the courier took a grey-coloured laptop off the desk and quickly left the office.

When she returned with the glass of water, the secretary realised the courier had stolen the laptop. She quickly sounded an alarm as she followed the courier out of the building. When she realised that the secretary was chasing her, the courier started running. She first ran past two school children. As she continued to run, she bumped into a woman who was carrying two yellow shopping bags. When the courier bumped into her, the shopping bags fell on the ground. Her identity remains unknown as she was wearing a helmet.

The stolen laptop contained the personal information, including financial and passport details, of thousands of previous customers of AKT Travel and is the latest in a series of serious data security breaches in the city.

Police have appealed to the public to volunteer any information that could lead to the arrest of the perpetrator.

Related Topics

Daventry

Share this story About sharing



Related Internet links

LIVE BBC Northamptonshire:
Latest updates

Top Stories

Trump ally Stone arrested on seven charges

17 minutes ago

Greece vote settles 27-year Macedonia row

22 minutes ago

Queen makes 'common ground' Brexit hint

2 hours ago

Features



'Killed by injustice': The hanging of a British Somali



The one thing that makes you 30 times more likely to laugh



Post-event narrative 2

Police investigation into Theft at Travel Centre

Police has begun investigations into a theft that occurred at AKT Travel. CCTV footage released on Monday shows a courier walking towards the travel agency, AKT travel, at about 3:00pm last Friday afternoon. She was wearing a black jacket and black helmet. Upon arriving at the entrance, she pressed the doorbell and waited for a response. Just beside the entrance was a dog. After a few moments, the office door was opened and the courier entered the building.

The secretary was seated at a white desk near the door when the courier entered the office. When she entered, the courier shook hands with the office employee and delivered the parcel to her. The courier looked on as the secretary signed for the parcel. After signing for the parcel, the secretary went to fetch a glass of water for the courier in another room. While she was gone, the courier took a blue-coloured laptop on the desk and quickly left the office.

When she returned with the glass of water, the secretary realised the courier had stolen the laptop. She quickly sounded an alarm as she followed the courier out of the building. When she realised that the secretary was chasing her, the courier started running. She first ran past a woman wearing black clothes. As she continued to run, she bumped into a woman who was carrying two green shopping bags. When the courier bumped into her, the shopping bags fell on the ground but she kept running until she could not be traced. Her identity remains unknown as she was wearing a helmet.

The stolen laptop contained the personal information, including financial and passport details, of thousands of previous customers of AKT Travel and is the latest in a series of serious data security breaches in the city.

Police have appealed to the general public to volunteer any information that could facilitate the arrest of the perpetrator.

Related Topics

Deventry

Share this story About sharing

Related Internet links

LIVE BBC Northamptonshire: Latest updates

Top Stories

Trump ally Stone arrested on seven charges
 17 minutes ago

Greece vote settles 27-year Macedonia row
 22 minutes ago

Queen makes 'common ground' Brexit hint
 2 hours ago

Features



'Killed by injustice': The hanging of a British Somali



The one thing that makes you 30 times more likely to laugh



Cued Recall (Police Condition)

After reporting the incident you just recounted, **THE DETECTIVE FROM THE LOCAL POLICE** has some specific questions to ask you about the incident. Again, you should provide as many details as you can. Try to be as accurate and detailed as possible in your responses to each question. Please do not guess. If you do not know the answer to a question, kindly indicate as such.

1. What was the courier wearing?

2. What items were on the employee's desk?

3. What was across the street as the courier exited the office?

4. Who bypassed the courier when she exited the office?

5. What was the office employee (receptionist) wearing?

6. What did the office employee (receptionist) do when she realized she could not apprehend the courier?

Peer condition (Cued Recall)

After reporting the incident you just recounted, **YOUR FRIEND** has some specific questions to ask you about the incident. Again, you should provide as many details as you can. Try to be as accurate and detailed as possible in your responses to each question. Please do not guess. If you do not know the answer to a question, kindly indicate as such.

1. What was the courier wearing?

2. What items were on the employee's desk?

3. What was across the street as the courier exited the office?

4. Who bypassed the courier when she exited the office?

5. What was the office employee (receptionist) wearing?

6. What did the office employee (receptionist) do when she realized she could not apprehend the courier?

Confidence rating – Free Recall

On a scale of 1 – 10, how confident are you about your answer? [1 = Very unsure; 10 = Very sure]

Very unsure									Very sure
1	2	3	4	5	6	7	8	9	10

Confidence rating – Cued Recall

On a scale of 1 – 10, how confident are you about your answer? [1 = Very unsure; 10 = Very sure]

Very unsure									Very sure
1	2	3	4	5	6	7	8	9	10

Power and inequality dimensions

For each of the statements below, indicate with an X the extent to which each statement is true about yourself or the view you uphold. Your response should range between 1 (strongly disagree) to 7 (Strongly agree).

	Strongly disagree						Strongly agree
	1	2	3	4	5	6	7
1. I find it hard to disagree with authority figures.							
2. It is difficult for me to refuse a request if someone senior asks me.							
3. I easily conform to the wishes of someone in a higher position than mine.							
4. I tend to follow orders without asking any questions.							
5. A person's social status reflects his or her place in the society.							
6. It is important for everyone to know their rightful place in the society.							
7. It is difficult to interact with people from different social status than mine.							
8. Unequal treatment for different people is an acceptable way of life for me.							

