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The mode of use in social media communication -

Individual and/or cultural differences?

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Janika M. Sundström

ABSTRACT

The course of gaining a more in-depth understanding of the environment that surrounds us has changed throughout the years. Beginning with diverse studies of the physical world and slowly transferring towards not only the biological but also the social settings in which we function on a daily basis.In addition to the physical, biological, and societal settings, one major environment that has risenmore recently is called the symbolic environment(Gross, 1981).Gross (1981) defines this symbolic element as an entity consisting of some symbolic means, media, encryptions, and constructions that individuals use to interact with one another and eventually, on which cultures are built upon. Without undermining the importance in other fields of study, it is essential to acknowledge the significance of the symbolic environment. This study focused on the use of modes in a group-conversation between individuals with different cultural backgrounds. One of the focal points was also in discovering whether or not individual's cultural features could be apparent in the mode-use.

The modes concentrated on in the study included image-, audio-, and video- attachments.

An important factor that was revealed during the analysis, but not considered prior to the study, was the emergence of an additional use of mode – links. Initially, links were not part of the study,but as they were used by the participants, they were included as a fourth mode.Other key findings from the study were in relation to the understood reasons for individuals' use of modes. Modes were attached in relation toinformation sharing, humor use, conversation initiations and continuations, and alsowhen clarifying the mode by combining text with it. Modes were used the mostto initiate humor, second highest to share information, and lastly to obtain information. Regarding cultural characteristics according to cultural theory, no significant similarities could be noticed between mode-use and person's cultural background.

Keywords: Mode-use, audio, video, link, image, culture, mobile phone- application, content analysis.

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1.INTRODUCTION

1.1 Background

The internet plays a crucial role in all types of technological communicative paths as it allows people to engage in a multi-party conversation either synchronously, in real time, or asynchronously, in postponed time (Crystal, 2004). Emergence of the mobile phone Instant Messaging (IM) has changed the how, when, and where of interaction. The mobile phone-application used for the study has both synchronous as well as asynchronous functions: even though individuals have the opportunity to join in the conversation and interact with one another in real time, they can also access the chat- conversation later on and go through the entire conversation, as it is saved on the mobile phone chat- history. Thus, in comparison to other means of communication (for example computer-based chat-groups, etc.), mobile phone applications provide the user with the possibility of interacting with others regardless of the time and location and additionally, can offer more variety in modesfor individuals to express themselves and interact with one another. As Crystal (2004) states, the difference between synchronous and asynchronous chats is not absolute. The fact that mobile phone applications, among other communicative options, blur the line between synchronous and asynchronous communication, was relevant to the study. They enable users to interact more frequently than for example similar computer-based chat-rooms would thus, providing more data in a shorter period of time.

An application used for the study is called ‘WhatsApp’. This is a mobile phone application that is specifically created for individuals to be able to interact with each other privately or in group-chats, as done in the study. The application and its functions will be further explained later on in the paper. Theoretical aspects include Gert Hofstede’s cultural dimensions and Allwood’s Activity-based Communication Analysis (ACA).To bring about the cultural aspect to the research, the results will be reflected upon through Hofstede’s cultural dimensions in order to see similarities and/or differences with the results and Hofstede’s views on cultural values overall. It is essential to emphasize here the fact that the study was conducted with a small group (11 individuals) of people. Hofstede draws comparisons between entire cultures and their values. The results from a substantially small illustration of individuals cannot be directly related to an entire culture. However, Hofstede’s dimensions represent essential features, or values, that cultures possess and will be used as a guideline with the analysis part of the paper. Additionally, the ACA will provide a closer insight to the communicative acts that took place in the study.

1.2 Problem statement

According to Crystal (2004), different means of communication (email, chat-groups, virtual worlds, etc.) are better to be used with certain communication which makes choosing the best channel for a specific interactionessential for efficient communication. However, there has not been a significant amount of research done regarding individual use of modes (e.g. images, video, and audio)within those communication channels. The importance of choosing the right channel for interactions has been recognized, but there is a gap regarding the mode-use within

these interactions. A lot of emphasis has been placed on choosing the right 'tools' to communicate efficiently therefore; the importance of how the communication occurs should be recognized as well.

The study is significant for two fields of interest. First, it is relevant to the field of information technology in regards to designing applications and different features in them. Based merely on this study, it is not possible to identify specific causes, but the results will display the differences in individual mode-use among the participants. Secondly, the study recognizes the differences in participants' cultural backgroundswhich should be a factor to consider inall intercultural communicationas well as in communication technology regarding the designing of more user-friendly features for intercultural communication.Kress (2010) defines 'mode' as a socially formed semiotic resource in creating meaning and emphasizes its connection to culture (Kress, 2010),which adds to the reasons why mode-use should be researched more and also why this factor was looked upon in the study.

I would like to identify culture, as it isrelevant to the study. Culture can be defined as a learned set of collective interpretations regarding beliefs, norms, values, and different social practices (Lustig, 2010).Lustig (2010) explains these components togenerate the cultural patterns that all cultures possess in a unique form. More precisely from these components, valuesexplain what cultures regard as good or bad, valuable or worthless, appropriate or inappropriate, etc.(Rokeach, 1973).As values are the desired features of a culture, they do not necessarily coincide with a culture's actual behaviors and characteristics. Despite of this fact, values are often used for explaining the different ways in which people communicate (Crystal, 2004).Hofstede's taxonomy was used in the analysisfor two main reasons. First, majority of the emerged themes from the data regarding the individuals' mode-use had similar characteristics as the dimensions suggested by Hofstede. In comparison to for example Hall's taxonomy, which would have enabled the analysis to reflect upon merely on the level of context and content, Hofstede's dimensions were considered more versatile. The categories aid in describing the essential aspects of cultural features and, as a frame of reference, supply tools for understanding intercultural communication(Crystal, 2004).

1.3 Purpose and Research question

The purpose of the study was to identify and describe*how individuals from different cultures use modes,audio, video, image, and link,* in a mobile instant message-application. Messages are easily conveyed through merely using text as a medium but individuals often tend to add other modes to the interaction. I aim to analyse this within the modern culture and how it is apparent in the use of technology. Additionally, I will categorize the different ways individuals used the aforementioned modes.

2. THEORETICAL BACKGROUND

2.1 Hofstede's cultural dimensions

To provide with some knowledge in regards to the theoretical background, the main parts of Hofstede's six cultural dimensions are explained below(for a full explanation see Hofstede, 2010).The framework consisted originally of four dimension but two dimensions, long-term vs. short-term and indulgence vs. restraint, were eventually added as more research had been done about cultures.The dimensions considered for this study are: Individualism versus Collectivism (IDV), Uncertainty Avoidance (UAI), and Indulgence versus Restraint (IVR).

Power Distance (PDI)

According to Hofstede, power distance refers to how the less powerful individuals of a society consent to the unequal distribution of power and fundamentally how the society as a whole deals with inequalities among its members. Individuals in cultures that have a large degree of power distance approve a ranked order that determines everyone place in the society. In low power distance- societies, individuals aim to balance out any inequalities within the society.

Individualism versus Collectivism (IDV)

Individualism versus collectivism- dimension examines the degree to which individuals are more self-reliant or place focus on others.Hofstede defines the individualistic societies consisting mainly of people thriving independently and taking care of their immediate families only. On the other side, the collectivistic societies represent a tighter community-bond between individuals and importance is placed upon loyalty. The main thought behind this dimension lies in whether individuals' self-image consists mainly of 'I' or 'we'.

Masculinity versus Femininity (MAS)

In the third dimension, masculinity versus femininity, Hofstede depicts the high-masculinity-end as having preference for success, heroism, decisiveness, and different material rewards; societies overall are more competitive. On the other side of the scale, femininity emphasizes collaboration, caring, humility, and is focused on the quality of life.

Uncertainty Avoidance (UAI)

According to Hofstede, the dimension of uncertainty avoidance refers to the level to which individuals in a society feel uncomfortable with indistinctness and uncertainty. In other words, how societies respond and deal with the fact that future is unknown.

Long-term versus Short-term orientation (LTO)

The fifth dimension, long-term versus short-term orientation, mainly refers to a society's appreciated and desired values. Hofstede explains how in the short-term end societies wish to establish absolute truths and show appreciation towards traditions and aim to achieve results quickly whereas towards the long-term orientation-mind-set, no absolute truths are established; everything is dependent on the context and time. Long-term orientation societies

adapt their old traditions to the changing world and focus on investing for the future in the long run.

Indulgence versus Restraint (IVR)
The last dimension is indulgence versus restraint. Indulgence in this dimensional context is referring to societies that consent quite openly to natural driving human forces in regards to life, having fun, and enjoying one self. On the opposite end of the scale, are the societies that believe in firmness and social norms are highly valued. Needs, such as indulgence and having fun, are suppressed in this type of culture (Hofstede, 2010).

2.2 Allwood: Activity-based Communication Analysis

Hofstede's dimensions were used to reflect upon on the cultures from a macro-level. However, parts of the results wereconsidered on a micro-level as well. In pursuit of an altered approach, and giving attention to the actual interaction- processes that took place, Allwood's Activity-based Communication Analysis (ACA) was used in the analysis and in the discussion in order to shed some light to the artefacts, different modes, utilized in the conversations (Allwood, 2000). ACA can be applied in studying communication through examining four main components that can influence an activity:

purpose (different goals and procedures),
roles (participants, rights/obligations, competences),
artefacts (instruments involved), and
environment (physical and socio-cultural, setting, context) (Allwood, 2000).

For the purpose of the study, and to provide with a more specified analysis of the communicative acts, main focus with ACA will lie on examining the relation between thepurpose and artefacts, as the roles and environment in this case remained somewhat unchanged.

2.3 Literature Review

As mentioned earlier in the problem statement, the relevance of values within a culture is apparent. Bennett (1998) refers to Hofstede's work in this regard asmany modern-day studies of cultural values nowusethe Hofstede categories, or parts of it. (Bennett, 1998) For the purpose of the study and considering the analysis results, three of the above mentioned dimensions will be applied to the results from the data in order to reflect upon the media-use among the representatives from different cultures.

Bennett (1998) also discusses the assertion of positive and negative stereotyping and their appearance in regards to the topic of cultural differences. Stereotypes are problematic in intercultural communication for many reasons. Primarily, during interactions they offer individuals a false sense in comprehending one another. They also can turn into self-fulfilling prophecies, as individuals perceive others in a selective way to confirm their initial thoughts.

Regardless of the stereotype being negative or positive, it most often is only partially correct. (Bennett)

Despite these obvious issues with stereotypes, Bennett (1998) emphasizes the necessity in making culturalgeneralizations in intercultural communication. Without any hypothesis about the cultural differences, people are likely toconsider situations with naive individualism, where the assumption is that everyone is acting in their own unique way. These cultural generalizations can be made while avoiding stereotypes throughthe preservation of preponderanceof belief: almost all beliefs arerepresented in all cultures at all times, but each culture prefers certain beliefs over others. (Bennett, 1998; Kluckhohn et al.1961)Bennett (1998) states how deriving from a large-group research, cultural generalization refers to the description of this preference. (Bennett, 1998) With regards to the study, Hofstede's research done with cultures was seen appropriate for the analysis; not to generalize all cultures considered, but to display the possible preferences of individuals from different cultures.

Research reported by Kayan et al. (2006) states the results regarding a preliminary study as well as a larger follow-up study that focused on the use of instant messaging (IM) in North-America and Asia. Information technologies can enable cross-cultural interactions but a hindering factor for this blooming potential is seen in the varying styles of IT use in different cultures. Based on the studies, the authors conclude cultural differences to be a significant factor to consider in the designing of tools for cross-cultural communication(Kayan et al, 2006).Rosen et al. (2010) recognize that there are differences in how people with different cultural backgrounds manage their interactive behaviors in regards to social network sites. In order for individuals from different cultures to interact efficiently with each other, the global communication competence must be recognized and enhanced (Chen & Starosta, 2005).

Additionally, Wang et al. (2009) conducted a laboratory study (Americans versus Chinese) where the main focus was in examining the influences of individual cultural background, group cultural composition, and communication medium on group brainstorming conversations. The authors pointed out two key findings from the study: first, the Chinese participants were less talkative in general but interacted more in a text-only chat-room (versus video-enabled chat-room), and secondly, regarding cultural adaptation, Americans were more responsive whereas Chinese responsiveness was significantly lower. However, when working in mixed culture groups, the Chinese participants adapted and increased their responsiveness to the level of the Americans.The findings portray how cultural factors and medium togethercan shapegroup brainstorming conversations. (Wang et al, 2009).The matter of adapting, or mirroring as it became evident from the data regarding this study, will be mentioned and explained later in the paper.

To further emphasize the importance of doing research in the area of social media and culture, Yang et al. (2011) recognize this need concerning computer-mediated communication (CMC) as well. Culture does play a significant role in communication (Yang et al, 2011) and the

authors present a large-scale empirical study of cultural differences in computer mediated social interactions (email and IM- conversations) in a global company among employees working in seven countries. Yang et al. (2011) explain the results to consist of many differences among cultures as well as the patterns showing coherence with the inherent cultural features suggested by cultural theories (e.g. Hofstede, Hall, etc.). Additionally, the authors discuss the complexity regarding the way culture interacts with preference and use of different communication mediums. The fact that there are ubiquitous cultural differences indicates that there is a need to comprehend them and take them into consideration in designing cross-cultural collective systems (Yang et al, 2011). As previous study from Wang et al. (2009) indicates, individuals can display different social communication patterns in different contexts. Referring to this factor, the authors depict that cultural factors may differ and interact with specific modes of communication (Yang et al, 2011). The study indicates that individuals display different preferences and styles in using CMC –tools in communication which can reflect their cultural characteristics. (Yang et al, 2011).

Through the cultural dimensions, Hofstede found that there are interesting and complicated variances among the general (Western versus East Asian) cultural groups (Yang et al, 2011; Hofstede, 1983). The inconsistency among the different dimension demands thorough examination of cultural differences on a national level and additionally, will speed up the understanding of how these cultural features can impact computer mediated social interactions (Yang et al, 2011).

Previously mentioned studies focus on cultural differences and social media. However, there is a lack in research focusing mainly on the mode-use in intercultural communication. As individual's cultural background is evident in the use of social media, it deserves to be further studied and recognized.

3. METHOD

The method used in this quantitative research was content analysis (Punch, 2005). Content analysis consists of systematic procedures that convert non-structural data into a format that enables analysis of the information (Berelson, 1952). The data was gathered from a mobile phone group-chat conversation and later on easily accessed after transferring the chat-history (including all media files) through email to a computer for a thorough content analysis. The reason content analysis was specifically chosen as the research method is because the primary reason for the study was to identify communicative acts and frequencies in the selection of modes and content analysis allows the researcher to do exactly that. Through a selection of units of analysis and finding the emerging categories for the coding (see Appendix I.), all that is required with content analysis is the actual coding of the data naturally followed by the interpretation and analysis of the results (Berelson, 1952).

Berelson depicts the importance of clearly formulated categories for the coding process and emphasizes the relevance of creating easily adaptable categories in regards to the data content.

The group-chat conversation was mostly conducted in English which was identified as a second or third language for approximately half of the participants. All mentioned participating nationalities were further explained and examined in order to find patterns and connections with a specific culture and medium use in the conversation.

3.1 WhatsApp?

The application is a registered cross-platform mobile instant-messaging (IM) application (retrieved from website). WhatsApp Messenger is currently available for Android, Windows Phone, iPhone, Blackberry, and Nokia (retrieved from website). The difference from other IM – applications, for example Facebook – app is that WhatsApp is strictly created for the purpose of having mobile chat-conversations individually or in groups. The mobile phone alerts individuals once they receive an IM - similar to regular text-message notification – and individuals are able to contact each other at all times. The application has other common features of an instant-messaging app but the relevant feature in regards to the study is the option of 'group chats'. Users have the possibility to create group-conversations with specifically selected participants, as done with the research study. This particular application worked well for the study in question due to its ability to provide continuous availability for the user and the group-chat conversation can be regarded as both synchronous as well as asynchronous (Crystal, 2004)as stated above. The individual in the group-conversation has the option to send an IM with text and emoticons, audio-, video-, link-, and image-attachments (retrieved from website).

3.2 Data Gathering

The data was gathered during a three-month-period followed by an analysis. The study was conducted in Gothenburg, Sweden and there were 11 participants in the group-chat conversation between ages 19-28 years-old. The chat-group was initially created by/for a group of individuals that interact with one another generally on a daily-basis in a casual setting/manner. Hence, conversation styles and topics were relatively free and covered mainly social topics, contrary to for example a professional work setting. This was a factor in the data results and will be mentioned later on in the paper.Three months was considered an appropriate amount of time to ensure a sufficient amount of activity and data. The representation of variety in the participants' cultural backgrounds consisted of Australia (2), Finland (3), Sweden (3), and the United States of America (3).

With regards to ethical considerations, the subjects were not contacted, manipulated, or influenced in any way during the gathering of data (Punch, 2005) and in order to assure confidentiality for participants, no information to identify the subjects will be released (Treadwell, 2011). After the data collection period had ended, no debriefing of the subjects was necessary as the individuals were not deceived or misled during this period (Treadwell, 2011). However, all individuals were approached after the data collection and requested for a permission to analyse and use the information gathered.

4.RESULTS

In the data,'*one contribution*' refers to any single utterance made by a participant in the conversation, through text, emoticon, or a specific mode. As text and emoticons were not included in the study, apart from counting the total contributions (see Fig. 1 below) and when applying ACA to the data, contributions mainly refer to the mode-uses from participants. The content analysis revealed following information from the 3-month-period the study was focusing on. The overall contributions to the conversation between all cultures ranged from nearly 600 up to almost 740 times per culture. The overall results for the input, i.e. how many times participants from different cultures contributed to the conversation *with text, emoticon, or with a mode,* were the following: Australians communicated 650 times, Finnish subjects 598 times, Swedish participants interacted in total 730 times, and Americans represented with most contributions, 738 times. Thus, the overall presentation of contributions added up to 2716 times (see Fig. 1, numbers displayed in percentages).

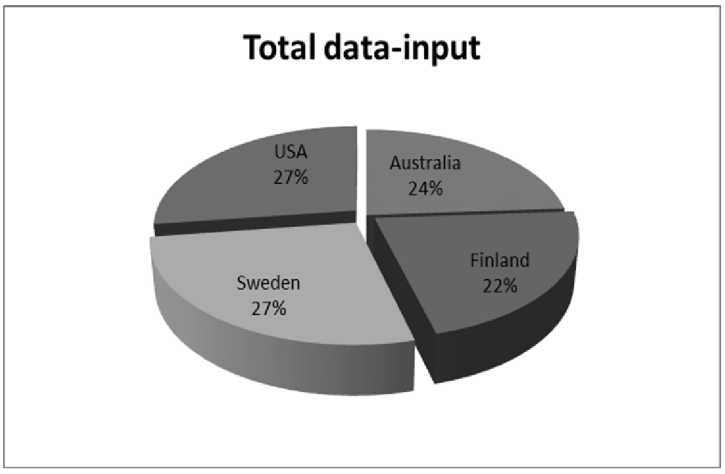

Fig. 1: Overall cultural division in data-inputdisplayed in percentages including text, emoticons, and media.

From the total amount of contributions, different modes (including image, video, audio, and link) were used 186 times. (For a more specific division in mode-use, see Appendix II.) The cultural division within the 186 times participants used modes splits into Australia being represented 49 times, Finnish subjects contributing the least 24 times, Swedish participants having 81 contributions, and finally Americans communicating with modes 32 times (see Fig. 2).

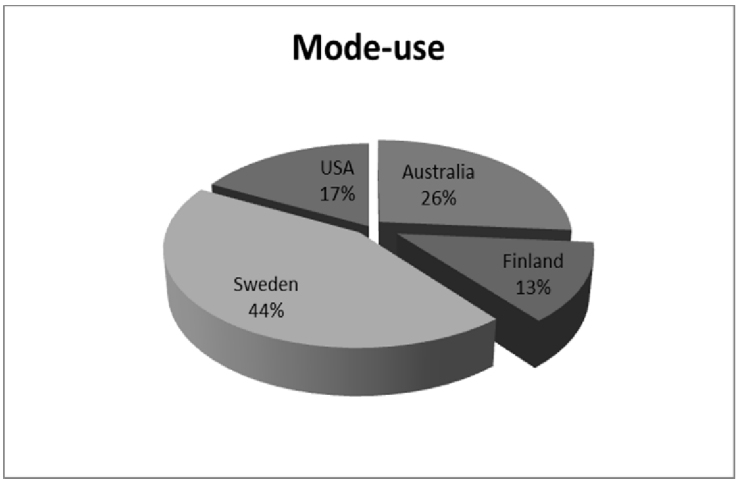

Fig. 2: Division inoverall mode-use between cultures displayed in percentages.

Below here is a more specified division of modes including image, audio, video, and link – categories. The table displays the amounts of contributions from each culture according to the mode and also shows the totals according to the mode and culture (see Table 1). In addition to using different modes in the conversation, the participants used these modes in different ways. (For a more detailed division and description of the mode-uses between the cultures, see Appendix III.)

Table 1: Division in contribution of modes between cultures and total amounts according to each mode and culture.

	Australia	Finland	Sweden	USA	Total:
Image	39	23	68	27	157
Video	6	0	12	4	22
Audio	0	1	0	0	1
Link	4	0	1	1	6
Total:	49	24	81	32	186

Mode 1.

Communicative act: Image

Participants interacted during the three-month-period by using images in the conversation in total 157 times. Individuals from Australia communicated in the chat-group in total the second highest 39 times and Finns contributed to the conversation the least, 23 times. Swedish participants had the highest 68 communicative acts involving images whereas Americans participated with 27 contributions overall (see Fig. 3).

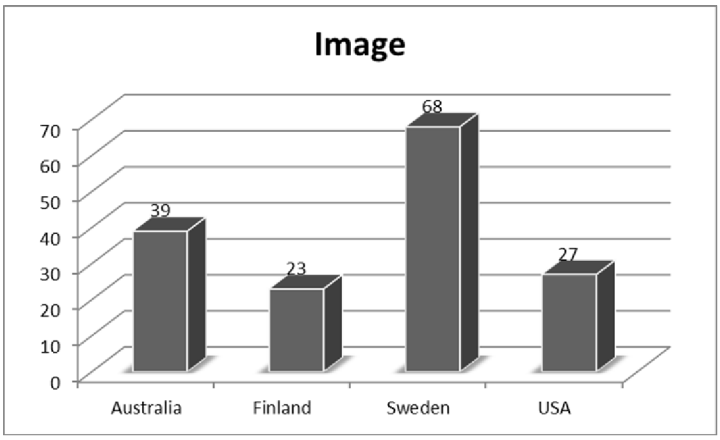

Fig. 3: Cultural division in contribution of images.

The image-use was categorized into three groups based on participant usage:
(1) Images taken by participant with phone / camera (see Fig. 4)
(2) Images from internet (see Fig. 6)
(3) Screenshots (see Fig. 8)

During the conversation, there were in total 91 **images that were taken by the participant with a phone / camera**. In the first (1) category, Swedes used images taken by phone / camera the most 31 times whereas Americans contributed only 14 times. Finns used category (1) images 19 times and Australians communicated with 27 images. (See Fig. 5)

Fig. 4: Attached image in the conversation taken by a participant with a phone/camera to inform others.

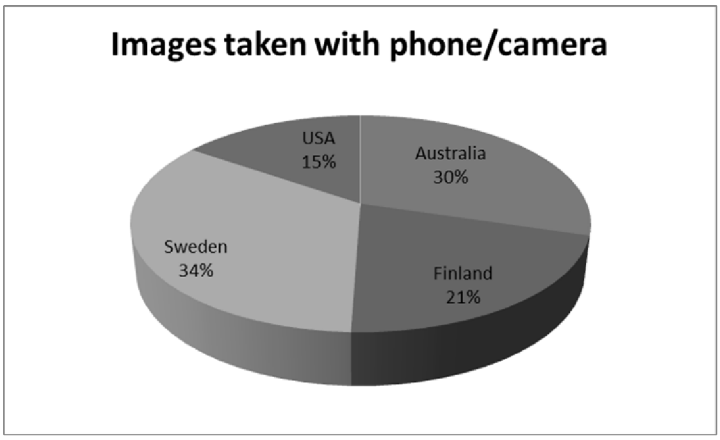

Fig. 5: Cultural division in overall contribution of images taken with a phone/camera.

Images from the internet (see Fig. 6) were used 52 times from which Swedes contributed the most, 31 times. Australians used category (2) images in total 9 times during the conversation and Americans followed close by with 8 contributions. Finns used the images from the internet 4 times during the whole three-month-period. (See Fig. 7)

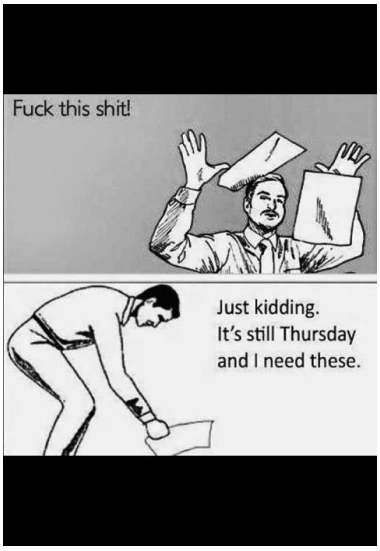

Fig. 6: Image attachedin the conversation from the internet by a participant to initiate humor.

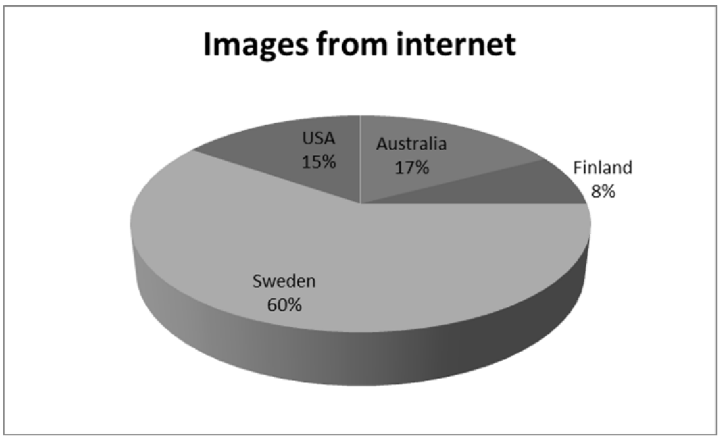

Fig. 7: Cultural division in overall contribution of images attached from the internet.

Screenshots(see Fig. 8) contributed into the overall amount of images 14 times. Again, Swedes had the highest amount of contributions, 6, Americans used screenshots 5 times, and Australians were active in the category 3 times in the group-chat. Finns did not contribute to the conversation with screenshots at all. (See Fig. 9)

Fig. 8: Image attached as a screenshot in the conversation by a participant to initiate humor.

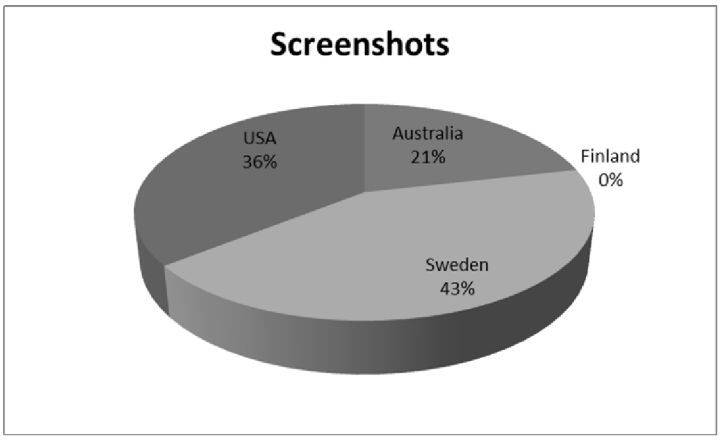

Fig. 9: Cultural division in overall contribution of images attached as screenshots.

Mode 2.

Communicative act: Video

Participants communicated through video-use in total 22 times during the observation-period. All of the videos were self-recorded by the participants (i.e. no videos were attached from external sources recorded by people outside the group-chat). 15 of the overall 22 videos were taken/attached to the conversation within an 8-hour-period and were all related to each other. 20 of the videos were used in order to initiate humor and 2 were used for informative reasons. The Swedes contributed to the video-use the most with 12 attachments, followed by Australians with 6 videos. Americans used videos 4 times and participants from Finland did not contribute to the conversation with videos. (See Fig. 10)

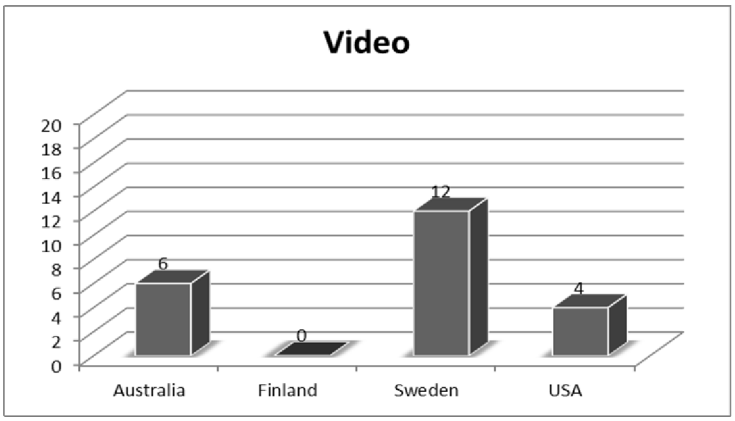

Fig. 10: Cultural division in overall contribution of video attachments.

Mode 3.

Communicative act: Audio

Out of the all the modes, the audio-attachments were used the least times. Only contribution to the chat was from a Finnish participant and it was used in order to initiate humor.

Mode 4.

Communicative act: Link

The fourth mode that emerged during data analysis, and was then taken into consideration for the study from then on, was the use of links. Links appeared in the group-chat conversation in total 6 times, from which 4 were used to initiate humor and remaining 2 links were attached to inform other participants (see Fig. 11). 4 of the attached links were referrals to articles (online news, webpages, etc.) where participants accessing the link were mainly required to read the information. Additionally, 2 of the links were YouTube-links where the intended communication was to be viewed as a video. For clarity purposes, these 2 video-links were not however included in the video-category for communicative acts but merely as links. Australians contributed to the chat 4 times with a link whereas Swedish and American participants used links 1 time each. Individuals with a Finnish background did not participate in the conversation through links.

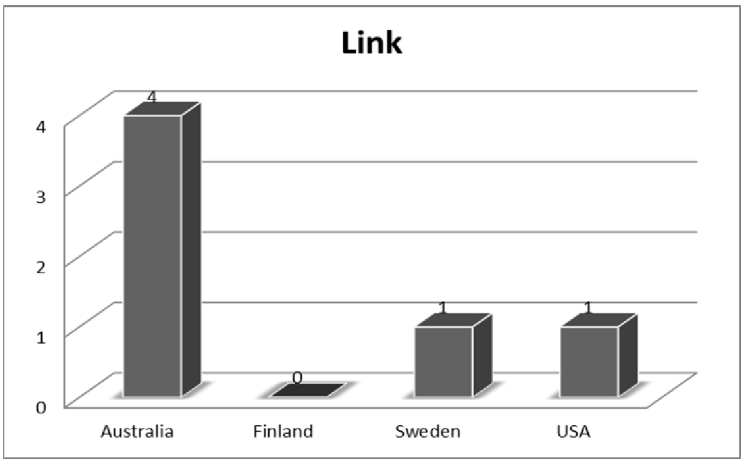

Fig. 11: Cultural division in overall contribution of links in the conversation.

Based on the specified cultural division in the mode-use during the 3-month-period, the following themes were identified as the understood purposes for communication.

(1) Sharing information,
(2) Humor use,
(3) Initiating conversation,
(4) Continuing conversation and,
(5) Text combined with mode.

Here below are presented the emerged categories and the cultural frequencies in the use of each theme.

Theme 1. Humor use

Humor was initiated in the chat-conversation in total 128 times and distributed between the cultures as follows: Sweden contributed the most, 52 times, Australia followed with 34 contributions, USA had the second least contributions, 24, and Finland contributed 18 times in total.

Table 2: Division in contribution of modes regarding humor use between the cultures.

	Australia	Finland	Sweden	USA
Image	25	17	42	19
Video	6	0	10	4
Audio	0	1	0	0
Link	3	0	0	1

Theme 2. Sharing information

Information was shared all in all 58 times with different modes. Sweden had the highest amount of contributions again, 29, and Australia was second with 15 contributions. USA had two contributions more, 8, than Finland's total amount, 6.

Table 3: Division in contribution of modes regarding sharing information between the cultures.

	Australia	Finland	Sweden	USA
Image	14	6	26	8
Video	0	0	2	0
Audio	0	0	0	0
Link	1	0	1	0

Theme 3. Initiating a conversation

Conversation initiations occurred in total 109 times during the whole conversation. Sweden held again the highest contribution, 43, and Australia was placed second with 27 initiations. USA contributed 21 times, leaving Finland behind by three contributions, adding to a total of 18.

Table 4: Division in contribution of modes regarding conversation initiations between the cultures.

	Australia	Finland	Sweden	USA
Image	23	17	42	19
Video	0	0	1	1
Audio	0	1	0	0
Link	4	0	0	1

Theme 4. Continuing a conversation

Overall sum of conversation continuations for the group was 73: as in previous categories, Sweden had the highest amount of contributions with a total of 33, Australia had 22 contributions, USA contributed 11 times, and Finland 7 times.

Table 5: Division in contribution of modes regarding conversation continuations between the cultures.

	Australia	Finland	Sweden	USA
Image	16	6	21	8
Video	6	0	11	3
Audio	0	1	0	0
Link	0	0	1	0

Theme 5. Text combined with mode

Often, the chosen mode was combined together with text to assist in conveying the message. All in all, there were 74 contributions from which Australia contributed the most, 22 times, USA came second with 20 contributions, Sweden had 17 contributions, and Finland 15.

Table 6: Division in contribution of modes combined with a text-reference between the cultures.

	Australia	Finland	Sweden	USA
Image	18	14	15	18
Video	0	0	1	1
Audio	0	1	0	0
Link	4	0	1	1

5. ANALYSIS

5.1 Hofstede's dimensions

Hofstede's cultural dimensions display some dominant features societies possess as a whole. For the purpose of the study, only three (IDV, UAI, and IVR) will be used for the analysis as they are relatable to the data gathered. Through this approach, the goal is to display the similarities and/or differencesin mode-use from different cultures and reflecting them upon Hofstede's dimensions in relation to each culture. As stated in Hofstede (2010), the dimensions only exist and are usable if there is a comparison drawn with other culturesthus, I will present all the cultures within the IDV, shortly followed by a presentation in the UAI- and IVR- categories. The dimension-scores for each culture are based on the 1995-2004 World Value Survey (Hofstede, 2010).

5.1.2 Conversation initiations/continuations - IDV

Within the data analysis, one of the emerged themes under the lens became conversation continuations and conversation initiations, in other words how often individuals from different cultures either contributed to an on-going topic or how often they took initiative and started a new subject in the chat-group. According to the Hofstede's second cultural dimension (IDV), the main idea within this dimension is to display the level of interdependence a society withholds among its members, in other words, whether individuals identify themselves in terms of 'I' or 'we' (Hofstede, 2010). The higher the score in the dimension, the more individualistic a culture is considered (see Fig. 12).Referring to the data results, this dimension will be reflected upon the third and fourth themes from the results, *conversation continuations and initiations* (see Table 4 and 5). The focus is on how often participants from a specific culture initiated their own topic (considered more individualistic, taking initiative, concerned in principal of their own topics in the conversation) and how many times participants joined or continued a current topic (paying more attention to others and discussions, taking part in and contributing to conversations initiated by other members).

The individualism - collectivism- dimension reflects cultural tendencies in regards to communicating as an individualversus interacting as a member of a group.Kayan et al. (2006) state that several dimensions have been distinguished through which cultures differ and which might influence IM use. The authors also point out the individualism-collectivism dimension (Hofstede, 1983, Hofstede, 2010) and describe the individualistic cultures to emphasize "individual initiative and independence" (Kayan et al. 2006, pp.525). As initiations were among the results from the data analysis, theywere reflected upon the aforementioned dimension.

According to Hofstede (2010), Australia is considered as a highly individualistic culture. Within the dimension-scale, Australia scores 90 in the IDV-dimension which translates as individuals mainly take care of themselves and their closest family. Also, individuals are expected to have a certain level of independency and willingness to take initiative (Hofstede, 2010). The data results showed that Australian participants initiated conversations through

images, the second highest, in total 23 times. Australians did not initiate any conversations by using audio or video- modes however; they did contribute to the conversation by initiating through links the highest out of all cultures 4 times.Australians initiated conversation during the 3-month-period 27 times by using any of the four modes in question. As far as continuing conversation and reacting to other members' topics with media, Australians contributed overall 22 times (16 images and 6 videos) and from both categories Australians had the second highest total amount. In comparison to Hofstede's interpretation through the IDV about Australia as a culture, it could be assumed that Australians would have a higher amount of conversation initiations than topic continuations overall and according to the results, the data can be considered similar with Hofstede's views. However, the difference is quite small taken into consideration Australia's exceptionally high score, 90, according to Hofstede's research dimension.

Finland's score in IDV-dimension is 63 and it is also considered an individualistic culture even though score is much lower compared to Australia (Hofstede, 2010). According to the data results, Finnish participants initiated conversations with modes in total 17 times. All the contributions were done through image-use and Finns participated the least times out of all the cultures. Finnish participants also contributed the least in order to continue a conversation, 7 times, from which 6 were through images and 1 with an audio clip. In comparison to Hofstede's IDV-dimension which recognizes Finland mostly as an individualistic culture, the data results indicate similar references.

In initiating conversations, Swedes had the highest amount with 43 contributions: 42 initiated with images and 1 with a video. This amount is notably higher than any of the other cultures contributions which were all closer to each other. Swedish participants were also the most active in continuing conversations: the data showed that Swedes contributed to other topics with different modes all in all 33 times. Images were used 21 times whereas videos, that previously had had a lower amount in use, were attached 11 times by the Swedish individuals. Also, links were used 1 time to continue a previous topic in the conversation. From a mode-point-of-view, Swedes had the highest number of contributions when continuing conversation in these three categories. According to Hofstede (2010), Sweden ranks also quite high in the IDV-dimension, as the culture scores 71 and, like both Australia and Finland, is also considered an individualistic society (Hofstede, 2010). Again, the results are similar regarding Hofstedes views and taken into consideration the difference with for example the Finns' contribution compared to the actual IDV-score, the numbers appear to agree with Hofstede's cultural analysis.

The last culture under the scope is the United States of America. The American participants were quite even with the Australians and Finns when it came to initiating conversations with media: Americans used images 19 times in order to initiate a topic, attached a video 1 time, and used a link 1 time as well, summing up to 21 initiations during the entire conversation. Conversation continuations occurred notably, nearly half, less times. Individuals used images

in order to contribute to on-going topics only 8 times and videos 3 times, adding up to 11 times in total. In IDV-dimension, America is considered to be a highly individualistic culture, with the highest score out of all the cultures compared here; 91. Thus, taken into consideration only the U.S, the results would go somewhat in-line with Hofstede's views as Americans were more active in initiating conversations than contributing to others' topics. However, if we look at Hofstede's IDV-dimension only, it could be assumed that Australians (IDV 90) and Americans (IDV 91) would be the top two cultures with most initiatives during the conversation and Finns (IDV 63) and Swedes (IDV 71) would be most likely to have the highest amounts in conversation continuations. According to the data, Australians and Swedes had the highest amounts of contributions in both initiating and continuing conversation thus, not complying with Hofstede's IDV-dimension of the cultures. As stated earlier, the dimensions are only valid and work through a comparison to other cultures(Hofstede, 2010). Therefore, even though individually the cultures did coincide with the IDV-scores in regards to whether a culture is on the higher or the lower end on IDV-scale, when comparing the cultures to each other, the results were not relatable.

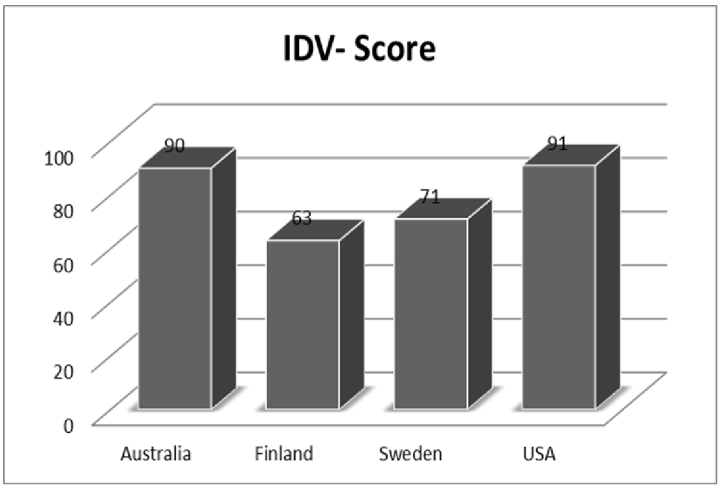

Fig. 12: Hofstede's scores for each culture in the Individualism vs collectivism- dimension retrieved from the 1995-2004 World Value Survey(Hofstede, 2010).

5.1.3 Text combined with media - UAI

Hofstedes's uncertainty avoidance dimension (UAI), examines culture's tolerance for uncertainty, that is should individuals try to control the future or merely wait and see what happens (Hofstede, 2010). If a culture has a high score in the UAI-dimension, it is seen as a culture that tries to control events and does not appreciate uncertainty in general (see Fig. 13). This dimension will be reflected upon the data results collected regarding participants' contributions with the fifth theme, *textcombined with media* (see Table 6). These totals would include all contributions that consisted of a media and text (written clarifications or questions immediately before and after media) together. The results and the UAI-dimension are reflected upon each other as text combined with media-use is seen as a way to clarify communication and enhance interaction thus, with text removing any possible uncertainties.

From the analyzed data, Australians used media combined with text in total 22 times. From this amount, participants used images with text 18 times and links 4 times. Together with Americans, Australians had the highest amount of contributions through images in this category. Australia is considered as a very practical culture when it comes to uncertainty avoidance and scores 51 in the UAI-dimension (Hofstede, 2010). This score places Australia in the midst of the dimension leaving plenty of space for interpretations and not offering much possible comparison to the data. However, as Australia does have overall the highest total with text combined with media- use it seems most accurate to claim that there is no real similarity with the UAI because the score would have needed to be higher in the scale.

Finland had in total 14 uses of text combined with media and they were all contributed as text combined with images. Finland had the lowest amount of contributions in this category and had also the least contributions when considering merely image-use. According to Hofstede (2010), Finland's score in the UAI-dimension is 59. This would indicate Finland to have a medium high preference for uncertainty avoidance which in a society would show as a need for rules and regulations and strong emphasis on individual security (Hofstede, 2010). As Finns did have the lowest total in contributions, even though with a small marginal, it is regarded as not having much coherence with the UAI-dimension.

The Swedish participants' contributions involving text combined with media were the second lowest out of the four cultures. Swedes participated within this category 17 times in total (with a small difference to the Finns 14 and Americans 20) from which images were used 15 times, video 1 time, and link 1 time as well. According to the UAI-dimension, Sweden has a low score of 29 which directly accumulates as Swedes having a low preference for avoiding certainty (Hofstede, 2010). Societies with low UAI-score generally appreciate practice more than principles, the mind-set of individuals is more flexible, and any unconventionality is more accepted than in a high-scoring UAI-society. Sweden does fall into the lower end of the scale when comparing the four cultures to each other however, taken into consideration for example Finland's marginal, with a score of 29 the amount of contributions would have to be considerably lower for Sweden in order to comply with Hofstede's dimension.

Finally, with 20 overall contributions, the United States had the second highest total for text combined with media. 18 out of the 20 were contributions with image combined with text, 1 video with text, and also 1 link combined with text. On the UAI-scale, U.S. has a middling score of 46 which Hofstede describes as 'uncertainty accepting': generally people are more tolerant for freedom of expression and Americans do not place strong emphasis on rules(Hofstede, 2010). Comparing the score to the data results, coherence is not immediately evident as the dimension would place Americans on the lower end of the scale whereas the data implicates that the U.S. would fall into the higher end. Again, marginal is very small but for the purpose of the study this is not as relevant and will be discussed more in the limitations section.

According to Hofstede's views, the contributions from all the cultures would have been the following: Finns would have had the highest amount of contributions as they have the highest score (59) in the UAI-dimension, Australia would follow second with a score of 51, the U.S. would be placed on the lower end of the scale with a score of 46, and Sweden would be the most tolerant with uncertainty with a score of 29 (Hofstede, 2010). However, quite opposing to the data and also the most contradictive outcome from the numbers, Finland appears to be most comfortable with uncertainty by contributing additional information with a mode the least times (15).

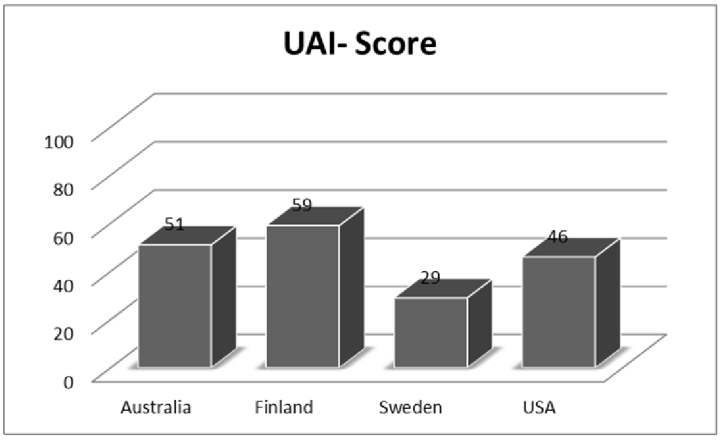

Fig. 13: Hofstede's scores for each culture in the Uncertainty Avoidance- dimension retrieved from the 1995-2004 World Value Survey(Hofstede, 2010).

5.1.4 Humor-use - IVR

This sixth, and last dimension that is used in order to analyze the data results, is the indulgence versus restraint-dimension. According to Hofstede (2010), the indulgence end, cultures with a high score, represents societies with a looser mind-set for pleasure and having fun, and also places emphasis on the natural human drives that direct individuals. In this dimension,restraint on the other hand exemplifies a culture that does not value gratification of needs and sees great importance in strict social norms (see Fig 14).Happiness, life control, and importance of leisure are the three key factors that carry this dimension and are focused on (Hofstede, 2010).This last dimension is fairly new and does require some further research in comparison to the other dimensions. This final dimension will be reflected upon and discussed in detail by looking at the first theme from the data analysis, *humor use* (see Table 2).

According to the data, the Australian participants contributed to the chat-conversation with different modes using humor in total 34 times which was the second highest total in this category. The individuals used images to convey humor all in all 25 times whereas videos were attached only 6 times and links 3 times. According to the indulgence versus restraint national index score, out of the 93 studied countries, Australia is ranked 11th in the dimension with a score of 71 (Hofstede, 2010).

Finland's contributions to humor-use were relatively low: Finland represented itself in a humorous manner in the conversation with modes altogether 18 times, from which 17 were done through image-use and 1 with an audio clip.Even though it appears Finns were contributing the least times in the conversation, they were the only culture to use an audio attachment during the three-month period. According to the World Value Survey (WVS) Finland has a score of 57 which correlates to a ranking of 27-29(Hofstede, 2010).This slightly above average -score in the dimension was also the lowest out of all the cultures in the study. Going from lowest to the highest, Swedish participants in the group had the most contributions in this category; 42 images were attached in order to convey humor and additional 10 videos for the same purpose, summing up to an overall 52 contributions throughout the study-period. According to the WVS index score, Sweden is nationally ranked 8th with a high-score of 78(Hofstede, 2010).Americans contributed to the conversation with images in order to convey humor 19 times. Videos were attached 4 times with the same goal and additionally, 1 link as well, adding up to a total of 24 contributions. Out of the 93 countries ranked, the U.S. is currently with a ranking of 15-17 according to the WVS and with a score of 68.

When comparing the data results for humor-use to the IVR-dimension scores for each country, in this category the numbers did match Hofstede's view. In relation to each other and to the IVR scores, all cultures can be recognized from the data results. Sweden, having the highest (out of the four cultures) score in IVR-dimension, 78, also had the most contributions in the category. Second, with a score of 71, Australia had 34 contributions which correlates with the data as well. However, the marginal between Sweden and Australia was not as accurate when considering the difference between the two cultures: Sweden's 52 contributions compared to Australia's 34 should have had to be slightly smaller in order for them to correlate with the IVR marginal. The U.S. was the second lowest with contributions, 24, which was also accurate according to Hofstede (2010) with a score of 68. Lastly, with 18 contributions in total, the Finns placed themselves last in the humor-use and fittingly; so did the WVS with a score of 57 (Hofstede, 2010).

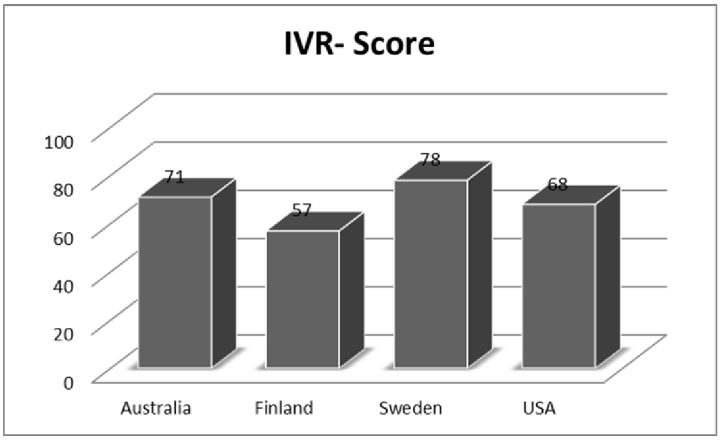

Fig. 14:Hofstede's scores for each culture in the Indulgence vs restraint- dimension retrieved from the 1995-2004 World Value Survey(Hofstede, 2010).

5.2Mode-use through ACA

With Allwood's Activity-based Communication Analysis (ACA), it is possible analyze the emerged themes and also go more in-depth to the actual interactions (compared to Hofstede's more general views). By looking at through which mode (instruments, artifacts) participants were interacting (the purpose), it is possible to compare all four cultures to each other and find similarities and/or differences between them. As the roles (participants, rights/obligations) and the environment (setting, context) remained the same, the focus will be placed on the purpose and instruments in the interactions. There were mostly changes in the artefacts-column regarding the use of text in the conversations thus, for clarity reasons, here are explanations with examples from the data for the artefacts – category.

Text to clarify afterwards - the communicative act where a participant combined a mode (image, audio, video, or link) with text by using the text after the mode in order to clarify or further explain the mode.
Example.
2012-12-08 11:56:16: Shannon: <attached media>

2012-12-08 11:56:17: Shannon: My morning

Referral to previous text – the communicative act where a participant combined a mode (image, audio, video, or link) with text by first commenting in the conversation then followed by the chosen mode.
Example.
2012-12-12 20:54:51: Shannon: I hope 2nd group improved from first groups epic fail

2012-12-12 20:55:05: Shannon: <attached media>

Text followed by mode as clarifying question - the communicative act where a participant combined a mode (image, audio, video, or link) with text by first attaching the media followed by a question regarding the media.
Example.
2012-11-30 16:30:43: Britt: <attached media>

2012-11-30 16:30:53: Britt: Kim kardashian or bsmart??

Text preceding mode as clarifying question - the communicative act where a participant combined a mode (image, audio, video, or link) with text by first asking a question regarding the mode and then attaching it.
Example.
2012-11-22 12:37:37: Shannon: What is wrong with you swedes??

2012-11-22 12:37:42: Shannon: http://au.news.yahoo.com/thewest/a/-/offbeat/15440248/swedish-woman-charged-for-sexual-activities-with-skeleton/

According to Allwood (2000), there are four main parameters that can influence an activity. The roles – category was the only one to remain constant throughout the conversation as all participants shared the equal rights to participate/ not participate in the conversation according to their own will and naturally held a freedom of expression. Also, all individuals in the group conversation had the same responsibility to ensure the clarity of their messages. Another category that did mainly remain constant was the environment as the conversation took place through a social platform. However, this would refer only to the social-setting of the conversation but as far as the physical environment, all individuals had the availability and freedom that a mobile phone can offer to choose their physical setting. This freedom is great in regards to the study and data collection but unfortunately limits the analysis in this part as it would be impossible to find out the location for all individuals during when each contribution was made. Therefore, the environment, or the roles, will not be further analyzed. The most interesting variables in this analysis are the purpose of the communication and the artifacts used to convey the message. Naturally, the constant artifact in all interactions had to be the use of a mobile phone but the mode chosen to convey the message varied between image, audio, video, and link (see Appendix IV). Also, this analysis focused on the combining of artifacts in the communicative acts between the different cultures. Therefore, in addition to all *main artifacts* (modes) considered, *text* and its different useswill be looked as the fifth mode/artifact and will be referred to as a *secondary artifact.*

The purposes of the communicative act, the three understood motivations for individuals to interact that emerged from the data, were categorized as follows:

1) *To inform*
2) *To initiate humor*
3) *To inquire*

These three type of interactions from the participants will act as guidelines through the analysis. Whether a participant was contributing to a previous conversation or initiating a new topic for discussion, is not considered relevant here as the fundamental aspect of this part of the analysis is related to the person's reason for the act (initiate humor, inquire, or inform) as well as to the artifact (mode) they chose appropriate for this specific act.

5.2.1Initiating humor

The first category for the purpose of an activity is initiating humor. In total, during the 3-month-period, humor was initiated by all the participants using media as an artifact 128 times. Australians had in total 12 contributions where the chosen artifact for the communication was merely an image. When the artifact was combined with an additional instrument, text (image followed by clarifying text), Australians contributed 5 times. Australians were slightly more active, 7 contributions, in participating when the artifact was combined with text but the individual was referring to her own textual contribution that preceded the artifact (image and referral to previous text). One contribution derived from the Australians where the instruments consisted of the image followed by a question from the participant. Videos alone as artifacts were attached to initiate humor during 6 incidents and links were attached 3 times.

These links, however, were combined with another artifact, text-referral to own comment before the chosen main artifact. (see Appendix IV.)

Finnish individuals initiated humor an equal amount with one main artifact, image, as well as two artifacts combined, image and text clarification after the main artifact. In both categories, Finns contributed 7 times stating that there was no real difference whether the artifact was used alone or combined with a clarifying artifact. As the last combination of artifacts with humor-use, the Finns first used text to clarify or pre-explain the soon-to-follow image-attachment 3 times in total. The only audio attachment that occurred in the conversation during the 3-month-period was contributed by a Finn with the purpose of initiating humor. (see Appendix IV.) The artifact was used merely on its own with no additional artifacts combined.

Sweden contributed the most with mere images as artifacts. All in all, 34 times the individuals used images for initiating humor and considered the artifact clear enough to be conveyed alone. Sweden also contributed with multiple artifacts 8 times: text was inserted prior to the main artifact, image, 6 times whereas an image was combined with text following the main artifact in a form of question 2 times. Sweden also had the highest amount of contributions when the artifact was mere video: in total 10 attachments with videos alone was higher than in any other culture throughout the study. No additional artifacts were combined with the videos. (see Appendix IV.)

In comparison to the Swedes' contributions to image as artifact, Americans used only image as main artifact 6 times. The total amount of contributions where image was the main artifact was 13: Americans combined the two artifacts, image and text, in a variety of different ways. 7 times the image was prior to the text, 2 times the image was after the text, and on 1 occasion a participant combined three artifacts by contributing with two text-references; before and after the main artifact. Also, 3 contributions were made by an American participant by combining the main artifact with text following the image as a clarifying question. Americans had fewer contributions than Swedes did using videos as artifacts. However, they did have slightly more variety in the actual artifacts. For the purpose of initiating humor, the U.S. contributed with mere videos 3 times. Additionally, 1 contribution was made using video as the main artifact but combining it with a text-reference following the video. Americans were the only ones to combine video with other artifacts when initiating humor. The last artifact from American participants, link, was contributedonce in the humor-use category and it was combinedwith another artifact. In this occasion, the secondary artifact was text following the link and used for a clarifying question regarding the main artifact.

5.2.2Sharing information

The second collective purpose for the participants was information sharing. Overall, there were 58 information sharing - contributions made through different modes. Australians used only images as artifacts 9 times in total. Combining artifacts was not as popular among this culture-group and the overall number for using several artifacts was 5: image was attached after a comment referring to the main artifact 2 times and 3 times the clarifying comment was placed after the main artifact. Images were the only main artifact Australians used to share information with.

The Finns were not as informative through artifacts, leaving the total at 6 contributions, all done using images as main artifacts. Two out of these contributions were done through image-use, 3 times the main artifact was combined with text prior to the image, and on 1 occasion the secondary artifact was added after the image.

Swedes were a high-contributor for the purpose of information sharing. Using mere images as artifacts, Swedes made 19 contributions to the conversation in order to share information with other participants. Swedes used multiple artifacts 6 times in total: 5 of the contributions were done by combining the main artifact, image, with a clarifying secondary artifact, text, afterwards and 1 contribution was done by similar combination but attaching the main artifact after the text. Swedes were the only ones to utilize other main artifacts with the purpose of sharing information. Mere videos were contributed on 1 occasion and 2 times video was combined with a secondary artifact, attaching the video after the initial comment. Americans were not too active with the purpose of sharing information: 3 contributions were made with only a main artifact, image, and 4 times Americans used a combination of image and a clarifying text afterwards.

5.2.3 Inquiries

The third and final purpose for a communicative activity emerged from the data was inquiring. These activities include all communicative acts in which media was used for the purpose of asking a question, in other words, inquiring information, excluding the ones that were categorized for humor-use. This category consisted of combined artifacts due to its main purpose being inquiries which all need a secondary artifact to create the question. One contribution came from an Australian participant who used link as a main artifact for an activity but combined it with a secondary artifact prior to the link. Finns had no contributions for the purpose of making inquiries but Swedes did contribute one time using image as the main artifact followed by a secondary one in the form of a question. Finally, Americans also contributed once with the purpose of inquiring by using an image as the main artifact and similarly to the Swedes, text was added after the image.

All cultures present in the conversation placed more emphasis on initiating humor through mere image-use than sharing information or making inquiries through the same mode. Using main artifacts only was contribution-wise more popular than combining artifacts to convey

humor in a communicative act. Considering all modes, Australia used only one artifact at a time for the purpose to initiate humor 18 times, whereas the Finns contributed for the same purpose 8 times. Sweden contributed 44 times in total and the Americans had the least out of all, 6 contributions. The purpose being information sharing, Australians used one main artifact 9 times which was the second highest in the category, following again Swedes' highest 20 contributions. Finns and Americans were the lowest in this activity as well, Finnish participants contributing only 2 times and Americans following closely with 3 contributions. As stated earlier, all activities that were conducted for the purpose of inquiry were activities that involved at least two or more artifacts combined. As far as artifact use goes, the majority of artifacts was used for the purpose of initiating humor. All participants used links, videos, and audio only for this purpose with the exception of Australians making one inquiry using a link as the main artifact and Swedes sharing information on three occasions using video as the main artifact for the activity. All information sharing, excluding these three videos from the Swedes, was conducted through images as artifacts.

6. DISCUSSION AND CONCLUSION

The main purpose of this research paper was to display the results of a content analysis conducted from a mobile application group-conversation. The fundamental motive was to study individuals with different cultural backgrounds and how they use media (image, audio, video, and link) to communicate with each other. In addition, the study data was reflected upon Hofstede and Allwood's work with a pursuit of shedding light to the individual use of modes and possible cultural features visible in them, and also to discover more specifically the varying ways of communicating through modes.

6.1 Main Findings

From the study, five main themes emerged when analysing mode-use among the cultures: information sharing,humor use,text combined with media, conversation continuations, and conversation initiations. These themes represent the different ways individuals chose to use a specific mode (i.e. image, video, audio, and link) to interact with one another. In order to see possible cultural features in an individual's media-use, the results were explained and reflected upon three of Hofstede's cultural dimensions to see if there were any similarities or distinctive differences with the data. The cultural features reflected upon in the analysis were individualism versus collectivism, uncertainty avoidance, and indulgence versus restraint, and they were discussed in regards to the emerged themes from the data, including initiating and continuing conversations, text combined with media, and humor-use.

Regarding individuals initiating or contributing to an existing topic, no significant relation could be noticed between mode-use and person's cultural background. Hofstede (2010) ranks Australia and USA to be highly individualistic cultures whereas the data displayed these cultures in the midst of the IDV-dimension. According to the data, the Finnish participants used modes in a highly individualistic manner but Hofstede ranks Finland as the most collectivist culture out of the four cultures represented. Respectfully, the amount of

contributions can have an effect on the numbers but was not considered a factor here as all cultures had the same opportunity to contribute and the overall amounts of input,including any kind of contribution to the conversation, were within a small range.

According to Hofstede, the uncertainty avoidance for the cultures represented would place Australia and Finland on the higher end of the scale meaning that these cultures exhibit more strict codes for belief and behaviour and would not tolerate unconventional ideas as much(Hofstede, 2010).The study-data would place the Finns nearly to the opposite end with a weak UAI-score. According to Hofstede (2010), Sweden is ranked the lowest in the UAI-dimension but within the data the Finns appeared to be more comfortable with uncertainty than the Swedish participants.

Humor-use by the participants was reflected upon the indulgence versus restraint- dimension. Hofstede ranks Sweden with the highest score in the IVR-dimension, Australia following second, the U.S. third with a small marginal to the Australians, and Finland with the lowest score. Participants initiated humor the most to interact with each other through mode-use and this happened to be along the lines of Hofstede's scores for the dimension.

To provide a slightly different perspective and to analyse the communicative acts that took place, Allwood's ACA was applied to the data. ACA was chosen due to the fact that it allows a more in-depth look at the data and displays the communicative activities that took place in the data.More specifically, it shows how individuals used modes alone or combined them with other artefacts and what was the relation between the meaning of the interaction and the mode-use. Additionally, with ACA it was possible to include all five emerged themes to the analysis (see Tables 2-6).

From the data, three reasons were identified for the participants to communicate through modes: humor-use, information sharing, and inquiries. For humor-use, the Swedish individuals were the most active using image and video as a mode.Swedish participants had the highest amount of video attachments alone than any other culture throughout the study.Also, no other artifacts (text) were combined with the video attachments which could very likely be due to the strength of video as a mode: combination of auditory and visual message enhances the interaction and provides the other participants with more information. For the reason of efficiency of videos, it was surprising that the amount of video contributions was relatively low throughout the study. Another interesting factor that came about was that more than half of the videos were attached on one occasion during a short (8 hour) period of time and the videos were all related to each other. This kind of social effect, 'mirroring' (Knapp, 1984) occurred only a few times in the conversation through image-use but not to this extend. Knapp (1984) explains mirroring, or imitation, is somewhat related to reciprocity but the defining difference here is that mirroring is in general less conscious (Knapp, 1984). The use of videos without any text-clarifications was understandable as they appear to be more self-explanatory in most cases. This thought would have been the same for link-use as

well however;individuals with an Australian background did not utilize links alone but felt the need to clarify the use by adding a clarifying statement or question. The Finns had the least amount of contributions in all mode-use but they were the only ones to contribute to the conversation with an audio attachment. In the humor-use category, the participants from the States showed the most variety in combining modes with text different ways.

Taken all participants into consideration, it was apparent that images were used substantially more than any other mode and image-use in order to initiate humor was mainly done by using the mode alone (see Appendix IV). If the mode was combined with additional text, it was due to a participant's want; not for a communicative explanatory need. Regarding image-use, images taken by the participants were attached the most. The group consisted of a relatively small amount of individuals and participants' more personal images add to the familiarity within the group. Images attached from the internet had the second highest total and screenshots were used the least times. Sharing information through different modes occurred fewer times than initiating humor and Swedish participants were the highest contributors as informers. Excluding one link from an Australian participant, Swedish individuals were the only ones to share information through other modes besides images. As far as inquiries go, all were made through using images as the chosen mode. In all three image-categories (screenshots, images from online, and images taken by the participant), Swedes were the most active during the three-month-period.

Among all participants, using modes was mostly done for the purpose of initiating humor, secondly to share information with other participants, and lastly, in order to ask questions. Taken into consideration the casual-nature of the group-chat, it could be assumed, had it been a more formal setting, profession-related group-conversation, the order of the three reasons to communicate with modes could have been reversed. Thus, also the relevance of indulgence and restraint- dimension had decreased and uncertainty avoidance had increased. This most likely would have been evident through an increase in combining text with modes.
When participants were combining modes with text, there appeared to be no significance whether the text was placed before or after the chosen mode. Additionally, it was not relevant whether the mode required a clarifying contribution or not. Regardless of the individual's cultural background, all participants at certain points during the conversation contributed with 'unnecessary' additional text, meaning the text did not have any significant value regarding the mode.

All in all, Swedish participants contributed the most including all modes and individuals from Australia came in second. American participants contributed the second least out of the represented cultures and Finnish participants had the lowest total in contributions. It was taken into consideration that possibly the amount of overall input for each culture (including utterances with text and emoticons) could have had a shifting impact on the results. Nevertheless, all represented cultures contributed within a small marginal (for example

participants from America and Sweden having the same percentage) and the real differences were in the amounts of mode-use; not in the total data input.

6.2 Limitations

Explaining the results of the study by referring to cultural differences is tempting. However, the limitations for the study must be addressed as they may have affected the outcome. As stated in the introduction chapter, the most significant limitation for the study was mainly the size of the group. Also, the age-range for the participants of the study could have influenced the overall outcome. In order to make generalizations regarding entire cultures or even individuals within a culture, the extent of a study would need to be much broader. This study should be considered a preliminary study for others with a broader scope and depth. Thirdly, availability of the application (perhaps due to poor internet access) could have restricted individuals at times in the use of the application. Furthermore, the study considered mainly four modes; attention was not given as much to text as a mode and emoticons. Adding the aspect of text-use and emoticons to the study and considering them with the same length as other modes, it could reveal more valuable factors regarding interactions and relation to the culture. Another limitation, and also a partial motivation for the study, was the fact that there has not been a lot of research done regarding cultures and the use of different modes.

6.3 Recommendations for further research

The results suggest that individualswith a different cultural background place different levels of importance intoelective IM-features such as image, audio, video, and link. In regards to communication technology, application designers could take these preferences into consideration when building new features for applications. Within the application, users could be asked to identify their preferences for different optional features (for example audio and video) andthese inclinations could be portrayedto other individualswishing to IM them. Considering a more advanced feature, an application could automatically learn the users' personal preferences throughobserving the user's behavior within the application and informing new IM partners about these preferences beforehand. These preferences are of course individual but if people from different cultural backgrounds learn more about each other's preferences in regards to interaction, the facilitation of intercultural communication can be achieved.

For further research, it could be interesting to study the mode-use among different cultures on a larger scale, i.e. having more participating individuals as well as participating cultures. As this empirical study was relatively small and generated obvious limitations for that reason, it would be interesting to see the significance in connection between mode-use and individual's cultural background on a larger scale including more cultures considered. A more in-depth look could be taken towards cultures that are ranked with most opposite scores (see studies from Kayan et al. 2006, Wang et al. 2009) in different dimensions according to Hofstede's work.

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8. APPENDIX

8.1 Appendix I. Emerged categories to define mode-use

Image
Referring to previous conversation, informing
Referring to previous conversation, informing others, followed by clarifying text
Referring to previous conversation, informing others, followed by a question regarding the image
Referring to previous conversation, initiating humor
Referring to previous conversation, initiating humor, followed by clarifying text
Referring to previous conversation, initiating humor, image following own text reference
Referring to previous conversation, initiating humor, followed by clarifying text and image following own text reference
Starting a conversation, informing
Starting a conversation, informing, referring to previous own comment
Starting a conversation, informing, followed by a question regarding the image
Starting a conversation, informing, followed by clarifying text
Starting a conversation, initiating humor
Starting a conversation, initiating humor, referring to previous own comment
Starting a conversation, initiating humor, followed by clarifying text
Starting a conversation, initiating humor, followed by a question regarding the image
Attached by request, informing
Video
Referring to previous conversation, initiating humor
Starting a conversation, initiating humor, followed by clarifying text
Link
Referring to previous conversation, informing others, link following own comment
Starting conversation, link following own question regarding the link, informing
Starting conversation, link following own comment regarding the link, initiating humor
Starting a conversation, link following own question regarding the link, initiating humor
Audio
Referring to previous conversation, initiating humor

8.2 Appendix II. The division in overall use of media including all cultures

Image: 157
20 Referring to previous conversation, informing
1 Referring to previous conversation, informing others, followed by clarifying text
1 Referring to previous conversation, informing others, followed by a question regarding the image
21 Referring to previous conversation, initiating humor
4 Referring to previous conversation, initiating humor, followed by clarifying text
3 Referring to previous conversation, initiating humor, image following own text reference
1 Referring to previous conversation, initiating humor, followed by clarifying text and image following own text reference
8 Starting a conversation, informing
6 Starting a conversation, informing, referring to previous own comment
12 Starting a conversation, informing, followed by clarifying text
1 Starting a conversation, informing, followed by a question regarding the image
38 Starting a conversation, initiating humor
15 Starting a conversation, initiating humor, referring to previous own comment
16 Starting a conversation, initiating humor, followed by clarifying text
5 Starting a conversation, initiating humor, followed by a question regarding the image
5 Attached by request, informing
Videos: 22
1 Referring to previous conversation, informing secretly
17 Referring to previous conversation, initiating humor
2 Referring to previous conversation, initiating humor secretly
2 Starting a conversation, initiating humor, followed by clarifying text
Links: 6
1 Referring to previous conversation, informing, link following own comment
1 Starting conversation, informing, link following own question regarding the link
4 Starting conversation, initiating humor, link following own comment regarding the link
Audio: 1
1 Referring to previous conversation, initiating humor

8.3 Appendix III. Specified cultural division in mode-use

Australia
Image 39
6 referring to previous conversation, informing
8 referring to previous conversation, initiating humor
2 referring to previous conversation, initiating humor, followed by clarifying text
3 Starting a conversation, informing
2 Starting a conversation, informing, referring to own previous comment
3 Starting a conversation, informing, followed by clarifying text
4 Starting a conversation, initiating humor
7 Starting a conversation, initiating humor, referring to previous own comment
3 Starting a conversation, initiating humor, followed by clarifying text
1 Starting a conversation, initiating humor, followed by a question regarding the image
Video 6
6 referring to previous conversation, initiating humor
Link 4
1 Starting conversation, informing, link following own question regarding the link
3 Starting conversation, initiating humor, link following own comment regarding the link
Finland
Image 23
1 referring to previous conversation, informing others
4 referring to previous conversation, initiating humor
1 referring to previous conversation, initiating humor, followed by clarifying text
1 Starting a conversation, informing others
3 Starting a conversation, informing others, referring to own previous comment
1 Starting a conversation, informing others, followed by clarifying text
3 Starting a conversation, initiating humor
3 Starting a conversation, initiating humor, referring to own previous comment
6 Starting a conversation, initiating humor, followed by clarifying text
Audio 1
1 referring to previous conversation, initiating humor
Sweden
Image 68
12 Referring to previous conversation, informing
1 Referring to previous conversation, informing others, followed by clarifying text
6 referring to previous conversation, initiating humor

2 referring to previous conversation, initiating humor, image following own text reference
2 starting a conversation, informing
1 starting a conversation, informing, referring to previous own comment
4 starting a conversation, informing, followed by clarifying text
1 starting a conversation, informing, followed by a question regarding the image
28 Starting a conversation, initiating humor
4 starting a conversation, initiating humor, referring to previous own comment
2 Starting a conversation, initiating humor, followed by a question regarding the image
5 attached by request, informing
Video 12
1 referring to previous conversation, informing secretly
1 starting a conversation, informing, followed by clarifying text
8 referring to previous conversation, initiating humor
2 referring to previous conversation, initiating humor, secretly
Link 1
1 referring to previous conversation, informing others, link following own comment regarding the link
United States of America
Image 27
1 referring to previous conversation, informing others
1 referring to previous conversation, informing others, followed by a question regarding the image
3 referring to previous conversation, initiating humor
1 referring to previous conversation, initiating humor, followed by clarifying text
1 referring to previous conversation, initiating humor, followed by clarifying text and image following own text reference
1 referring to previous a conversation, initiating humor, image following own text reference
2 Starting a conversation, informing others
4 Starting a conversation, informing others, followed by clarifying text
3 Starting a conversation, initiating humor
1 Starting a conversation, initiating humor, referring to own previous comment
6 Starting a conversation, initiating humor, followed by clarifying text
3 Starting a conversation, initiating humor, followed by a question regarding the image
Video 4
3 starting a conversation, initiating humor
1 starting a conversation, initiating humor, followed by clarifying text
Link 1

1 Starting a conversation, link following own question regarding the link, initiating humor

8.4 Appendix IV. Activity-based Communication Analysis: Cultural division according to an activity (purpose, roles, artifacts, and environment).

Australia

Purpose	Roles	Artifacts	Environment
9 Inform	Group participant, responsible for clarity of message, right to contribute	Mobile phone, Image	Physical; unknown, social; mobile phone group-chat conversation
12 Humor	Group participant, responsible for clarity of message, right to contribute	Mobile phone, Image	Physical; unknown, social; mobile phone group-chat conversation
5 Humor	Group participant, responsible for clarity of message, right to contribute	Mobile phone, Image, text to clarify afterwards	Physical; unknown, social; mobile phone group-chat conversation
2 Inform	Group participant, responsible for clarity of message, right to contribute	Mobile phone, Image, referral to previous text	Physical; unknown, social; mobile phone group-chat conversation
3 Inform	Group participant, responsible for clarity of message, right to contribute	Mobile phone, Image, text to clarify afterwards	Physical; unknown, social; mobile phone group-chat conversation
7 Humor	Group participant, responsible for clarity of message, right to contribute	Mobile phone, Image, referral to previous text	Physical; unknown, social; mobile phone group-chat conversation
1 Humor	Group participant, responsible for clarity of message, right to contribute	Mobile phone, Image, text followed by mode as clarifying question	Physical; unknown, social; mobile phone group-chat conversation
6 Humor	Group participant, responsible for clarity of message, right to contribute	Mobile phone, Video	Physical; unknown, social; mobile phone group-chat conversation
1 Inquiry	Group participant, responsible for clarity of message, right to contribute	Mobile phone, Link, text preceding mode as clarifying question	Physical; unknown, social; mobile phone group-chat conversation

3 Humor	Group participant, responsible for clarity of message, right to contribute	Mobile phone, Link, referral to previous text	Physical; unknown, social; mobile phone group-chat conversation

Finland

Purpose	Roles	Artifacts	Environment
2 Inform	Group participant, responsible for clarity of message, right to contribute	Mobile phone, Image	Physical; unknown, social; mobile phone group-chat conversation
7 Humor	Group participant, responsible for clarity of message, right to contribute	Mobile phone, Image	Physical; unknown, social; mobile phone group-chat conversation
7 Humor	Group participant, responsible for clarity of message, right to contribute	Mobile phone, Image, text to clarify afterwards	Physical; unknown, social; mobile phone group-chat conversation
3 Inform	Group participant, responsible for clarity of message, right to contribute	Mobile phone, Image, referral to previous text	Physical; unknown, social; mobile phone group-chat conversation
1 Inform	Group participant, responsible for clarity of message, right to contribute	Mobile phone, Image, text to clarify afterwards	Physical; unknown, social; mobile phone group-chat conversation
3 Humor	Group participant, responsible for clarity of message, right to contribute	Mobile phone, Image, referral to text	Physical; unknown, social; mobile phone group-chat conversation
1 Humor	Group participant, responsible for clarity of message, right to contribute	Mobile phone, Audio	Physical; unknown, social; mobile phone group-chat conversation

Sweden

Purpose	Roles	Artifacts	Environment

19 Inform	Group participant, responsible for clarity of message, right to contribute	Mobile phone, Image	Physical; unknown, social; mobile phone group-chat conversation
5 Inform	Group participant, responsible for clarity of message, right to contribute	Mobile phone, Image, text to clarify afterwards	Physical; unknown, social; mobile phone group-chat conversation
34 Humor	Group participant, responsible for clarity of message, right to contribute	Mobile phone, Image	Physical; unknown, social; mobile phone group-chat conversation
1 Inform	Group participant, responsible for clarity of message, right to contribute	Mobile phone, Image, referral to previous text	Physical; unknown, social; mobile phone group-chat conversation
1 Inquiry	Group participant, responsible for clarity of message, right to contribute	Mobile phone, Image, text followed by mode as clarifying question	Physical; unknown, social; mobile phone group-chat conversation
6 Humor	Group participant, responsible for clarity of message, right to contribute	Mobile phone, Image, referral to previous text	Physical; unknown, social; mobile phone group-chat conversation
2 Humor	Group participant, responsible for clarity of message, right to contribute	Mobile phone, Image, text followed by mode as clarifying question	Physical; unknown, social; mobile phone group-chat conversation
1 Inform	Group participant, responsible for clarity of message, right to contribute	Mobile phone, Video	Physical; unknown, social; mobile phone group-chat conversation
2 Inform	Group participant, responsible for clarity of message, right to contribute	Mobile phone, Video, referral to previous text	Physical; unknown, social; mobile phone group-chat conversation
10 Humor	Group participant, responsible for clarity of message, right to contribute	Mobile phone, Video	Physical; unknown, social; mobile phone group-chat conversation

United States of America

Purpose	Roles	Artifacts	Environment
3 Inform	Group participant, responsible for clarity of message, right to contribute	Mobile phone, Image	Physical; unknown, social; mobile phone group-chat conversation
1 Inquiry	Group participant, responsible for clarity of message, right to contribute	Mobile phone, Image, text followed by mode as clarifying question	Physical; unknown, social; mobile phone group-chat conversation
6 Humor	Group participant, responsible for clarity of message, right to contribute	Mobile phone, Image	Physical; unknown, social; mobile phone group-chat conversation
7 Humor	Group participant, responsible for clarity of message, right to contribute	Mobile phone, Image, text to clarify afterwards	Physical; unknown, social; mobile phone group-chat conversation
1 Humor	Group participant, responsible for clarity of message, right to contribute	Mobile phone, Image, referral to previous text, text to clarify afterwards	Physical; unknown, social; mobile phone group-chat conversation
2 Humor	Group participant, responsible for clarity of message, right to contribute	Mobile phone, Image, referral to previous text	Physical; unknown, social; mobile phone group-chat conversation
4 Inform	Group participant, responsible for clarity of message, right to contribute	Mobile phone, Image, text to clarify afterwards	Physical; unknown, social; mobile phone group-chat conversation
3 Humor	Group participant, responsible for clarity of message, right to contribute	Mobile phone, Image, text followed by mode as clarifying question	Physical; unknown, social; mobile phone group-chat conversation
3 Humor	Group participant, responsible for clarity of message, right to contribute	Mobile phone, Video,	Physical; unknown, social; mobile phone group-chat conversation
1 Humor	Group participant, responsible for clarity of message, right to contribute	Mobile phone, Video, text to clarify afterwards	Physical; unknown, social; mobile phone group-chat conversation

1 Humor	Group participant, responsible for clarity of message, right to contribute	Mobile phone, Link, text followed by mode as clarifying question	Physical; unknown, social; mobile phone group-chat conversation