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Mobile text alerts are an effective way of communicating emergency information to adolescents: Results from focus groups with 12 to 18 year olds.

Mr Daniel Wong Jinghe (daniel.wong.jinghe@gmail.com), King’s College London, Department of Psychological Medicine, Weston Education Centre, Cutcombe Road, London SE5 9RJ, UK.

Dr Emma Jones (Emma.Jones@phe.gov.uk) Emergency Response Department Science and Technology, Health Protection and Medical Directorate, Public Health England, Porton Down, Salisbury, Wiltshire, SP4 0JG, UK.

Dr G James Rubin (Gideon.rubin@kcl.ac.uk), King’s College London, Department of Psychological Medicine, Weston Education Centre, Cutcombe Road, London SE5 9RJ, UK, Telephone: 020 7848 5684. [Corresponding Author]

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Abstract

Mobile phone text messages can be used to disseminate information and advice to the public in disasters. We sought to identify factors influencing how adolescents would respond to receiving emergency text messages. Qualitative interviews were conducted with participants aged 12 to 18 years old. Participants discussed scenarios relating to flooding and the discovery of an unexploded World War Two bomb and were shown example alerts that might be sent out in these circumstances. Intended compliance with the alerts was high. Participants noted that compliance would be more likely if: they were familiar with the system; the messages were sent by a trusted source; messages were reserved for serious incidents; multiple messages were sent; messages were kept short and formal.
Introduction

In an emergency, effective public communication about the event and provision of advice on how to respond can lessen the negative impacts of a disaster and save lives (Rubin, Chowdhury, & Amlôt, 2012). The quicker this communication is disseminated, the better. Several technologies can be used to facilitate this, including television, radio, the internet and social media (Fakhruddin & Chivakidakarn, 2014). Mobile phone text messages have also been used to disseminate information rapidly in several recent emergencies (Jaeger et al., 2007; Lee, Chung, & Kim, 2013; Souza & Kushchu, 2005).

One attractive feature of mobile phone networks for emergency communication is the ability to target messages to all phones in a specific location. Such location-based messages can use the traditional Short Messaging Service (SMS) or cell broadcast capability. Cell broadcast allows text messages to be sent to all phones that are connected to a base station within a specific geographic area (Mahan, Melody, Samarajiva, & Waidyanatha, 2009). Cell broadcasting is reliable for use during emergencies as it operates on a separate frequency channel/network from the frequencies used for phone calls and radio communications (Mahan et al., 2009). Mobile phone networks often remain functional even in the aftermath of major natural disasters, as demonstrated during the 2004 Indian Ocean Tsunami and the 2010 Haiti earthquake (Eiselt & Marianov, 2012; Meier & Munro, 2010; Nelson, Sigal, & Zambrano, 2011).

Successful emergency communication is determined not just by how quickly or reliably a message can be disseminated, but also by how people respond to the information that they receive (Dash & Gladwin, 2007; Fakhruddin & Chivakidakarn, 2014; Lee et al., 2013). Within the UK, previous research has suggested that a system based on sending emergency
messages via mobile phone text message would be generally well-accepted by the public and likely to improve uptake of protective behaviour when combined with other approaches (Symons, Jones, Womersley-Smith, & Amlot, in prep). Studies indicate that people go through the sequential processes of perceiving (hearing or receiving the information), understanding (“attachment of meaning” to the information), believing (belief in the information and the accuracy of it) and personalising (perception of risk to themselves) emergency information which culminates in their response (Mileti & Peek, 2000). Although emergency information broadcasted via mobile phone networks tends to be highly perceptible due to its reach and reliability (Mahan et al., 2009), the extent to which it is easy to understand, believe and personalise is less clear. This study focuses on the factors that influence compliance with information received via text alerts, i.e. understanding, believing and personalising. These may include: degree of trust in the agency sending the alert (Alaszewski, 2005; Freimuth, Musa, Hilyard, Quinn, & Kim, 2014; Quinn et al., 2013; Rød, Botan, & Holen, 2012)(Popoola et al., 2013); desensitisation to messages that are sent too frequently for situations that are not relevant to the recipient or for situations that are not perceived as sufficiently serious (Baseman et al., 2013; Lee et al., 2013; Perry, Pulley, Paugh, Mignot, & MacGregor-Skinner, 2013); how other people respond to the message (Lee et al., 2013; Wu, Qu, & Preece, 2008); whether messages can be verified by checking with other sources (Hofinger, Zinke, & Künzer, 2014; Mileti & Peek, 2000) (McGinley, Turk, & Bennett, 2006; Shkolovski, Palen, & Sutton, 2008); and whether people perceive themselves or their loved ones to be at risk of harm (Dash & Gladwin, 2007; Rød et al., 2012).

The sequential model of response to emergency information, in the context of mobile alerts was recently studied by Bean et al., (2016), investigating how “Wireless Emergency Alerts” (emergency alerts sent via text messages or Twitter) are understood, believed and
personalised (Bean et al., 2016). Understanding was influenced by the amount of information provided and the availability of additional sources for information verification, which could be constrained by the character-limited nature of mobile alerts. Belief and compliance was dependant on whether people knew about the alert system and recognised the sender. All of these tied in together to influence how people personalised information and perceived themselves to be at risk. An additional finding was that the lack of personalised messages and two-way communication between sender and recipient limited the efficacy of wireless emergency alerts. This finding is in line with recent developments in social media and emergency communication research, suggesting that having two-way communication (being “dialogic”) facilitates successful emergency communication (Cheng, 2016).

However previous research has been largely restricted to the adult population. If location-based alerts are sent, every mobile phone user in a specific location would receive the same message, including children and adolescents. Although there is high mobile phone use among adolescents, there is limited research on how this section of society would respond to a text message providing them with information about an unfolding emergency, and whether they would comply with the advice given (Lee et al., 2013). Several factors suggest that adolescents represent a distinct population in this regard. First, a lower reading age and different style of text message language may make messages designed for an adult audience appear too complex or unfamiliar for adolescents (Husband & Hellier, 2011). Second, the rise in cybercrime in recent years has led to adolescents being taught to be wary of information that they receive from unknown senders on their mobile phones (Jang-Jaccard & Nepal, 2014). Third, the ability of adolescents to adhere to the instructions contained in an emergency message may be affected by specific barriers or competing demands, such as a
perceived need to contact a parent before taking action (Sattler, Larpenteur, & Shipley, 2011).

In order to help inform the development of emergency plans, in this study, we assessed whether adolescents in the UK are likely to comply with emergency information sent to them via text message and what factors influence the likelihood of them complying.
Method

Design

We conducted seven qualitative focus groups between 30 April and 6 July 2015 with participants aged 12 to 18 years old.

Ethics

This study received ethical approval from the King’s College London Psychiatry, Nursing and Midwifery Research Ethics Subcommittee.

Participants

We recruited thirty-three 12-18 year old participants from two sources: a Church of England secondary school in London (n=25) and a volunteer Police Cadet group based in London (n=8). The school was girls-only up to the age of 16. The Cadet group was mixed sex. Participants were required to own and use a mobile phone. A breakdown of the gender and age of participants is given in Table 1. Our sample was predominantly female (87.8%), as expected given the predominantly female composition of the groups from which they were drawn.

Procedure

Invitation emails containing a description of the study were sent to a selection of schools in London and Salisbury. The Church of England secondary school and Police Cadet group expressed interest in participating. The relevant contact people in these groups were informed about the inclusion criteria for participants and acted as the primary recruiters for this study. Adolescents interested in participating were provided with our information sheet. All
participants were required to sign a consent form, with parental consent obtained for participants who were under 16 years of age.

During the focus groups, participants were first given a brief background about a recent trial of mobile alerting system in the UK (Symons et al., in prep) and an explanation of how the system operated. Participants were asked to share their experience with text messages on their mobile phones. They were asked whether they thought that a text message based alert system was a good idea and if they had any concerns about it. Participants were then shown two sets of sample text messages about two hypothetical emergency scenarios (an unexploded World War Two bomb and flooding) and asked to write down their thoughts, feelings and likely responses to the messages. Each message set consisted of four texts that were shown to participants one by one in order to simulate receiving them on their phones. The messages contained information about the incident and advice on how to respond (see appendix one).

After the participants were shown the messages, they were asked to share what they had written down. They were asked how dangerous or risky they felt the hypothetical scenarios were, how authentic they thought the messages were, whether they understood the messages and their likelihood of complying with the instructions. The full list of questions is available in appendix two.

Interviews were digitally recorded and transcribed for analysis.

Analysis
The transcripts were analysed using thematic analysis techniques adapted from Braun and Clarke (2006). We examined the transcripts for quotes that were relevant to the topic of our
research. We then grouped quotes together which appeared to relate to similar ‘themes’ and provided a label for these themes that seemed to explain the underlying topic. For example, a series of quotes relating to the importance of how much danger the participant felt they were in as a reason for complying or not complying with emergency advice was labelled as “risk perception.” This process was iterative: we revised our themes and their headings as data from additional transcripts was analysed.
Results

We identified 7 themes and 29 sub-themes. These are summarised in Table 2 and described below, together with illustrative quotes where appropriate.

Intention to Comply

Most participants reported that they would generally be willing to comply with the advice given.

“I would follow what the message says because I know what is going on and I know the reason why the message was sent”

However some participants indicated that they would not take the message seriously if they were with their friends.

“I think it depends what kind of people you are with and how seriously they take things like that.”

Participants also said that their willingness to comply with the advice would depend on how much danger they felt they were in. Immediate compliance would be less likely for situations that they felt were not risky or relevant to them, but more likely for situations that they perceived would affect them directly.

“It depends on the disaster, like those unexploded bombs, I’ve heard them so many times and I feel like none of them ever go off so I’d just carry on with my day.”

While participants reported that the type of incident largely influenced how much risk they felt they were in, they held differing opinions about which scenario was more risky.

“No, for me I actually took the bombing one more seriously than the flooding one. I don’t know, maybe it’s just because a flood is like water and a bomb is like you’ll go up into pieces.”
“The flood would be more scary for me because it’s like the River Thames and everything is overflowing into the whole of London”

Trust and Authenticity

The general consensus amongst participants was that the system should be run by a government agency to promote trust and compliance. They suggested that information about the system should be disseminated in advance so that they would know that messages from the system were genuine.

“...because I haven’t really heard of UK Alerts, I would think it was just like a pretend and a joke.”

Participants indicated that they would have greater trust in the system if it was only used for serious emergencies instead of normal everyday occurrences. Sending out alerts too frequently was highlighted as an issue that would hinder participants’ compliance with the advice and information in the alerts. One participant noted:

“I know that if you get quite a few message from them constantly, like a message here this is happening, this is happening, you would start ignoring them because you get them so often.”

Information Needs

Although the sample messages contained brief information about what the incident was, most participants said that they wanted more information such as specific locations and details about its nature. Participants also wanted more information about the impact, such as other routes and areas that were affected and if there were travel delays, and what the authorities were doing to handle the incident.
“I would like to know what the incident was, flood, fire etc. and also if there are any travel delays....This is good as it tells me what is being done to resolve the incident. It would be better if we knew where exactly the incident was occurring and what routes were affected. It does not specify where the flood is spreading and would be better if it provided details of where the flood is affecting and spreading”

Participants requested information and clear instructions about how they should respond to the incident and what actions they should take, with detailed instructions being requested in some instances.

“I thought the thing about the higher ground wasn’t very good because as a 12 year old girl I don’t really know where I could go in time for higher ground. If they gave an example or something like that then I would probably go, because I’m not sure of anywhere with higher ground”

Almost all the participants said that they would check additional sources of information in order to verify the information and advice sent in the alerts, including other people, the internet, radio, television and social media.

“I’d ask people if they got the same text and if they did I would take it really seriously”

“I would probably confirm what’s going on with a parent or check the news”

“I would check other forms of social media to see if this was true and then leave if it is”
Some participants suggested that the emergency alerts and information should be sent out across multiple channels to ensure that people who did not have their mobile phones on them would still get the information. Some participants also expected to have an ‘official person’ or their schools inform them about the emergency and tell them what to do.

“I wouldn’t wait but I’d assume that there would be instructions from somewhere else. An official man to tell me what to do, or woman”

Style of Message

Participants made several comments about the design of the text message such as specific key words that caught their attention, the type of language used, length of message and whether participants preferred having one message or a series of messages. The most common words that participants reported that caught their attention were “emergency” and “all clear”.

“The word "emergency" is useful as I will immediately read the message if I saw it on my phone. The words "all clear" is clear and would get my attention.”

The perceived legitimacy of the messages was influenced by the formality of language used. Participants’ felt that the more formal language used in our bomb messages made the alert feel more official making it more likely that they would follow the advice given. Conversely, participants were less inclined to believe the flooding sample messages that incorporated slightly less formal language and a slogan (“Go in, stay in, tune in”).

“The first set [formal] seemed more official than the second set with the "stay tuned" [informal]”
“If I received this [informal] message I would immediately think it’s a spam or some sort of advert as it does not sound professional.”

Some participants added that the messages should be short and simple, to prevent confusion and encourage them to read it in full.

“You should use simple language in the text I think, because otherwise, not everyone’s going to know everything. I get confused if it says loads of words.”

Other participants expressed a preference for longer messages.

“I think I would prefer the longer paragraph mainly because it would look more professional and it would actually look more legitimate rather than if I got a small message without the website in the first message then I wouldn’t actually think it was that important”

Participants reported being more inclined to believe a series of messages than a single message.

“I agree, if I got one text I would probably be like what if this is just someone messing around. If I got a few more like telling me what I should do to stay safe and what actually was happening I think I would be a bit more like ok well then I need to read this and actually do something about it.”

Emotional Reactions
Participants reported being likely to feel fear and worry if they received the alerts in a real-world setting.

“I would do as the message says but in a panic”

“I’d be really scared. I’d probably either run back to school and call my mum or I’d run somewhere else away from the incident area”

“A bit worrying as the message seems urgent but it is useful as it tells you the seriousness of it.”

However, participants indicated that they felt reassured and at ease upon receiving the ‘all clear’ message.

Typical text message behaviours

Most participants indicated that they would immediately read a message from ‘UK Alerts’ regardless of where they were if they knew that UK Alerts was an official emergency alert system. Conversely, some participants said that they would immediately delete a message from UK Alerts if they did not know that it was an official system.

Some participants said they would usually ignore a text message regardless of who it was from if they were busy or were in school. Others said that they would check who the sender was before deciding whether or not to read the text message, especially if they were in school and not allowed to use their phones during lessons.

Access to their mobile phone varied depending on where the participant was. Participants from the school said that their school rules did not allow phones to be brought to school. However the same participants said they still brought their phones to school despite the rules,
but that it would be on silent mode or switched off and in their bags. If they were at home, most participants said that they would usually leave their mobile phones in their rooms or somewhere in their homes and only check it occasionally. However some participants said that they usually kept their phones close to them or at least on a loud setting so they could hear it ring. All participants said that they would take their phones with them when they went out alone or with their friends. However there was a difference between how frequently they would check their phones if they got a text alert, depending on whether they were alone or with friends. Participants said they would check their phones regularly if they were alone, but not if they were with their friends.

Criticisms, Concerns and Compliments

Participants highlighted some limitations and concerns about the alert system. First, they highlighted that technological issues such as having a bad phone and poor reception might prevent them receiving the text alerts.

“The only problem is that my phone, it doesn’t always pick up texts straight... So if you do it over a text message, everyone usually has fast phones but mine isn't. It won’t always work because some people won’t get it that day”

“Say if you’re not in the area, so if you are underground in a tube you often get cut out because of the tunnels, there is no signal, so if you’ve got a really long journey on the tube you won’t get it, no-one else will get it.”

Second, a few participants expressed concerns about the alert system being hacked and used for malicious purposes.
“The only thing would be that because I get a lot of spam, sometimes when I open it, it’s a phishing kind of technique people use, or you reply to it and you instantly get messages for some reason, so that’s my only kind of concern, if it was to be taken over."

Third, some participants were concerned that no one would believe them if they told other people about the text alerts because they were teenagers.

“Because we are young as well they might think we are a bit, being stupid and it’s like a prank text or something.”

Fourth, participants noted that they could miss the text alert if they either did not have their phones with them or did not hear or feel the notification from their phones.

“Well, if you didn’t have your phone with you, or anyone didn’t have your phone with you. I mean it is unlikely but, then, if that was the only way it (emergency alert) was sent out I would be worried that, if I go out without my phone, I might miss something big”

Nevertheless, participants generally expressed positive feedback about an alert system, saying that it was a good way to disseminate a message widely.

“It’s something we all have. I mean apart from mobile phones, there’s not a lot that we all have. Obviously we all have televisions but we can’t always be in to watch the television. We’ve got our phones on us then we can always see it.”
Discussion

Our findings suggest that adolescents are likely to accept a text message-based alert system and to comply with alerts, although their compliance is influenced by several key factors relating to attributes of the system and the recipient. In terms of attributes of the system, its familiarity was identified as a critical factor influencing likely compliance with an alert. Most participants said that they would not automatically trust an alert received via text message unless the system had already been widely advertised and they knew that it was official. Many participants would immediately open a text message from “UK Alerts” under such circumstances, but would delete it if they had not previously heard about the system. These findings are in line with previous research showing that a text alert system needs to be well-known and trusted in order to increase the likelihood of compliance amongst adolescents (Sattler et al., 2011).

Receiving too many alerts about ‘minor’ incidents was also cited as factor likely to degrade the system’s impact on behaviour. Similar findings have been reported in previous studies (Baseman et al., 2013; Lee et al., 2013; Wu et al., 2008). Limiting use of a text alert system to incidents which involve a large-scale public health threat should be considered to prevent recipients from becoming desensitised to it. Once the system has been activated for a given emergency, however, receipt of multiple messages was perceived as beneficial by our participants, reinforcing the serious of the situation and increasing their trust in the information contained in the messages.

In terms of message style, participants generally preferred short, simple messages, noting that they would not read messages properly if they were long or confusing. Participants reported that they would expect to experience emotions such as fear, worry and anxiety after receiving
an emergency alert. Given that information processing can be poor when emotional arousal is high (Glik, 2007), this makes it even more important to keep messages simple. At the same time, however, some participants expressed a desire for additional details to be provided in our example messages. A tension therefore exists between the need to keep messages short and the need to provide sufficient information. One solution may be to keep messages short, but provide a link to a website where additional information can be found by those who want it (McGinley et al., 2006).

The style of message also influenced its perceived trustworthiness. Participants said that they would be more inclined to believe that an alert was official and would therefore be more likely to follow its advice if it was written in formal language.

With regard to recipient-level factors, other people’s behaviours may be particularly important, with an adolescent’s compliance being linked to how family members or close friends react to the same message. This corresponds well with existing models of acceptance of new technologies (Lee et al., 2013; Wu et al., 2008). Our participants also noted that contact with an adult would be important in helping them verify a message, along with checking other sources such as television, radio, the internet or social media sources. As well as supporting previous findings on the tendency of people to seek verification of emergency messages, these findings lend support to the idea that adolescents tend to rely on adults or official spokespeople to tell them what to do during an emergency (Gow, McGee, Townsend, Anderson, & Varnhagen, 2009; McGinley et al., 2006; Shklovski et al., 2008).

Risk perception was also important in influencing intentions to comply with an alert. Many participants reported that they would follow advice immediately if they thought they were in
danger, but would ignore it if they thought the situation would not affect them. This is in line with previous research which shows that greater risk perception is associated with greater compliance with emergency alerts (Rød et al., 2012). Particularly for situations where it may not be obvious, highlighting the potential risk posed by an incident may help to improve the impact of alerts on a recipient’s behaviour.

The findings in this study also indicate that the process by which adolescents respond to emergency information fall in line with the general sequential process (perceiving, understanding, belief and personalising) described in previous research (Milet & Peek, 2000). Short text alerts written in formal language helps adolescents understand the information, while knowing about the system and having other sources to verify the information facilitates belief in the alerts. The level to which adolescents perceive themselves to be at risk (personalising) also influences how likely they are to comply with the information.

While this study focused mainly on key factors for successful one-way emergency communication to adolescents, recent findings in the field of social media research show that allowing two way communication between sender and recipient facilitates successful emergency communication (Cheng, 2016). The nature and pervasiveness of social media makes it an effective tool for quick and almost immediate dissemination of emergency information (Gilpin, 2010). Using social media positively as a channel for the public, including adolescents, to ask questions or verify information about a crisis and the necessary actions to take encourages compliance with emergency information (Cheng, 2016). Text-based alerts can be used in combination with social media where adolescents can seek further information and verify the contents of the text alert online. Future research should consider
the impact of social media on emergency communication as it is especially popular amongst this population (Vossen & Valkenburg, 2016).

Limitations

Three key limitations should be borne in mind for this study. First, the sample emergency scenarios that were used during the interviews were hypothetical. How participants think that they will behave when discussing scenarios in the comfort of a focus group may not reflect their actual behaviour during a real incident.

Second, only two example scenarios were used. As risk perceptions are an important factor influencing compliance with emergency advice, participants’ responses could have been different if different example scenarios were used.

Third, our sample of adolescents consisted of children from one school in London and one Police Cadet group. The cadets may have been more willing to accept and respond to emergency alerts than other adolescents since they are exposed to concepts of emergency preparedness through their Cadet activities. The sample also mainly consisted of girls which may have biased the findings: there is evidence that females tend to perceive greater risk and are more likely to comply with emergency information than males (Dash & Gladwin, 2007; Park & Reisinger, 2010).

Conclusion

A mobile phone text alert system is not a complete answer to the problem of disseminating emergency messages quickly during a crisis. Among our participants, for example, several expressed concern that they could miss an alert entirely, depending on contextual factors such
as whether they were at school where phones may be banned, at home with their phone left in their bedroom, or out of range of a mobile phone signal. A text alert system should be only used in conjunction with other methods of communication to ensure that messages reach as many people as possible (Stephens, Barrett, & Mahometa, 2013). Despite this, the widespread uptake of mobile phones among adolescents (Ofcom, 2015) suggests that text alerts may be a particularly effective way of disseminating emergency messages to this group.
Acknowledgments

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References


Table 1: Demographic information for participants

<table>
<thead>
<tr>
<th>Source of Participants</th>
<th>Age (Years)</th>
<th>No. of Male Participants (n=4)</th>
<th>No. of Female Participants (n=29)</th>
</tr>
</thead>
<tbody>
<tr>
<td>School</td>
<td>12</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td>School</td>
<td>13</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td>Police Cadets</td>
<td>14</td>
<td>1</td>
<td>3</td>
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<tr>
<td>Police Cadets</td>
<td>15</td>
<td>0</td>
<td>1</td>
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<tr>
<td>Police Cadets</td>
<td>16</td>
<td>2</td>
<td>1</td>
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<tr>
<td>School</td>
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<td>0</td>
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</tr>
<tr>
<td>School</td>
<td>18</td>
<td>1</td>
<td>5</td>
</tr>
</tbody>
</table>
Table 2: Summary of themes and subthemes derived from focus group transcripts

<table>
<thead>
<tr>
<th>Themes</th>
<th>Sub-themes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Intentions to comply</td>
<td>a.) Compliance</td>
</tr>
<tr>
<td></td>
<td>b.) Non-compliance</td>
</tr>
<tr>
<td></td>
<td>c.) Risk perception</td>
</tr>
<tr>
<td>2. Trust and Authenticity</td>
<td>a.) Made official and advertised</td>
</tr>
<tr>
<td></td>
<td>b.) Would not believe the message immediately</td>
</tr>
<tr>
<td></td>
<td>c.) Frequency of messages</td>
</tr>
<tr>
<td></td>
<td>d.) Used only for serious situations</td>
</tr>
<tr>
<td>3. Information Needs</td>
<td>a.) Information about the incident</td>
</tr>
<tr>
<td></td>
<td>b.) Information about actions to take</td>
</tr>
<tr>
<td></td>
<td>c.) Additional sources of information: Other people</td>
</tr>
<tr>
<td></td>
<td>d.) Additional Sources of Information: Other communication channels</td>
</tr>
<tr>
<td>4. Style of Message</td>
<td>a.) Specific key words</td>
</tr>
<tr>
<td></td>
<td>b.) Type of language</td>
</tr>
<tr>
<td></td>
<td>c.) Series of messages vs. single message</td>
</tr>
<tr>
<td></td>
<td>d.) Simplicity and length</td>
</tr>
<tr>
<td>5. Emotional Reactions</td>
<td>a.) Panic</td>
</tr>
<tr>
<td></td>
<td>b.) Worry</td>
</tr>
<tr>
<td></td>
<td>c.) Fear</td>
</tr>
<tr>
<td></td>
<td>d.) Reassurance / Feel at ease</td>
</tr>
<tr>
<td>6. Typical text Message Behaviours</td>
<td>a.) Read immediately</td>
</tr>
<tr>
<td></td>
<td>b.) Ignore and read later</td>
</tr>
<tr>
<td></td>
<td>c.) Delete</td>
</tr>
<tr>
<td></td>
<td>d.) Depends on who the sender is</td>
</tr>
<tr>
<td></td>
<td>e.) Usual locations of their phones</td>
</tr>
<tr>
<td>7. Criticisms, Concerns and compliments</td>
<td>a.) Technological difficulties</td>
</tr>
<tr>
<td></td>
<td>b.) System getting hacked</td>
</tr>
<tr>
<td></td>
<td>c.) Missing the text alert</td>
</tr>
<tr>
<td></td>
<td>d.) Believability</td>
</tr>
<tr>
<td></td>
<td>e.) Compliments</td>
</tr>
</tbody>
</table>
Appendix One: Sample Text Messages

Sample set one: First message

FROM: “UK Alerts”

MESSAGE: “An incident has occurred at Victoria Street. If you are near this location you must leave now. Please remain calm and stay indoors. Do not return until you are told it is safe to do so.”

Sample set one: Second message

FROM: “UK Alerts”

MESSAGE: “An incident at Victoria Street is being dealt with. It involves unexploded WWII bombs. Leave the area now and stay indoors. Rest centre open at Emmanuel Centre, Marsham Street.”

Sample set one: Third message

FROM: “UK Alerts”

MESSAGE: “Incident at Victoria Street involves unexploded WWII bombs. Controlled explosion will occur shortly. Leave the area now and stay indoors. Rest centre open at Emmanuel Centre, Marsham Street.”

Sample set one: Fourth message

FROM: “UK Alerts”

MESSAGE: “The incident at Victoria Street is now over. It is safe to return to this area.”
Sample set two: First message

FROM: “UK Alerts”

MESSAGE: “Emergency. A flood has occurred at the Thames Barrier. Go in, stay in and tune in.”

Sample set two: Second message

FROM: “UK Alerts”

MESSAGE: “Emergency. A flood is occurring at Southwark. Go in, stay in and tune in.”

Sample set two: Third message

FROM: “UK Alerts”

MESSAGE: “A flood is occurring at Southwark and spreading. Evacuate to higher ground now.”

Sample set two: Fourth message

FROM: “UK Alerts”

MESSAGE: “ALL CLEAR. No imminent threat. Go to www.environment-agency.gov.uk/flooding for more information.”
Appendix Two: Interview schedule

“We will begin the discussion in the moment. I will be recording this session so please speak clearly, one at a time and try not to speak over one another. This is to aid future analysis. Rest assured that the comments will not be identifiable to you. There will be 2 sections to this interview, and it will not take more than 1 hour. I also have a response sheet which I will hand out to you before we proceed on to section 2 of this interview. I will explain what this sheet is for later. We are interested in hearing everyone’s opinions. There are no right or wrong answers so please feel free to share your views.”

Section 1: Manner of the Alert

Reading Text Messages

1. If you received a text message on your phone, do you read it straight away?
   - (If no to above question): How long do you wait to open a text message?
   - Why do you wait for that period of time?
2. If you received a text from “UK Alert”, would you open it?
   - When would you open it? (E.g. immediately, when I had time)

Manner of the Alert

1. Do you think text messaging is a good way to inform you about emergencies?
   - Do you think it’s good or bad?
   - Would you find it useful or annoying?
2. Do you have any concerns about such a system?
   - E.g. Advantages or disadvantages
3. Are there any other ways of communicating such information that you think will reach you better than text messages?
   - Why do you think so/not think so?

Section 2: Response to the Message

“I’m going to pass out some cards to you now. These are meant to simulate you receiving text messages on an incident that is happening. There will be 2 sets of messages that I will pass around. Please write down in your response sheet any thoughts that you have about the messages, how you felt about it as well as what you would once you’ve read it. We will discuss these shortly.”

Overall Reaction to the messages (with reference to the 2 sets of messages on the cards)
1. How did you feel when you read the messages?
2. What did you think about the messages?
   - Were they useful/scary etc.?
3. Who would you expect to receive such a message from?
4. Did any aspect of the messages particularly catch your attention?

**Perception of risk (with reference to messages on the response sheet)**

1. Do you feel that the situations/incidents are particularly dangerous?
2. How serious do you think these situations are?
   - Impact on you, the local people, your family, friends etc.
3. Would you want to go and see what is happening?
   - Why/why not?

**Authenticity of Message**

1. If you received a message like that, would you think the message was authentic or a spam/advert?
   - Why/why not?
2. What would make the message seem authentic or official?
4. What would you do check if the message was real?
   - Where/who would you go to check?

**Understanding of Message Content**

1. Did you understand the content of the message?
2. Did you understand the instructions given?
3. What further information would you have liked to have?

**Actions/Likelihood to comply (setting-specific)**

“*I’m going to ask you now to imagine yourselves in different settings and I’d like you to answer the questions as best as you can, as if you were in that setting.*”

**1st scenario: In class**

“*I’d like you to imagine that you are in class now and your phone vibrates, signalling that you’ve received a text.*”

1. Firstly, are you allowed to have your phone on you/in your pocket in class?
   - If not, where is it kept usually when you’re in school?
   - When do you usually check your phone then? (e.g. in between classes, recess time, after school)
2. Would you check your phone for messages in class? *(reassure students that their answers will not be shared with their teachers and they would not be penalised for*
what they say)
3. What do you think you should do when you read message 1? How about for message 2?
4. What would you really do if you received the messages on your answer sheet?
   • Especially if you’re not supposed to be using your phone in class?
5. How would you check if the messages were real or not?
   • Where/who would you go to check?
6. Would you immediately comply or follow the instructions in the messages?
   • Why/why not?
   • Any differences in likelihood to comply between message 1 and 2?
7. Would you tell anyone else about the message?
   • Why/why not?
   • Do you think they will believe you?

2nd scenario: At home/weekend

“I’d like you to imagine that it’s the weekend/school holiday and you are at home now, .”

1. Do you usually keep your phone on you when you’re at home?
2. How often do you check your phone while you’re at home?
3. What would you do after reading message 1? How about message 2?
4. How would you check if the messages were real or not?
   • Where/who would you go to check?
5. Would you immediately comply or follow the instructions in the messages?
   • Why/why not?
   • Any differences in likelihood to comply between message 1 and 2?
6. Would you tell anyone else about the message?
   • Why/why not?
   • Do you think they will believe you?

3rd scenario: Out of home and out of school (Alone)

“I’d like you to imagine now that you are out on your own, without your friends. You’re not in school and not at home. Let’s say for example you are going to the shops.”

1. Do you bring your phone when you go out alone?
2. How often do you check your phone?
3. What would you do after reading message 1? How about message 2?
4. How would you check if the messages were real or not?
   • Where/who would you go to check?
5. Would you immediately comply or follow the instructions in the messages?
   • Why/why not?
   • Any differences in likelihood to comply between message 1 and 2?
6. Would you tell anyone else about the message?  
   - Why/why not?  
   - Do you think they will believe you?

4th scenario: Out of home and out of school (With friends)

“I’d like you to image now that you are with your friends. You’re not in school and not at home. Let’s say for example you’re meeting them for a meal or to hang out somewhere.”

1. Do you bring your phone with you when you go out with your friends?
2. How often do you check your phone when you’re with your friends?
3. What would you do after reading Message 1? How about message 2?
4. How would you check if the messages were real or not?  
   - Where/who would you go to check?
5. Would you immediately comply or follow the instructions in the messages?  
   - Why/why not?  
   - Any differences in likelihood to comply between message 1 and 2?
6. What would you do if your friends think it’s not a real message?
7. Would you tell anyone else about the message?  
   - Why/why not?  
   - Do you think they will believe you?