

APPENDIX J : USABILITY CORRELATIONS

MOTOROLA RESULTS

Motorola User Perceptions of Ease of Use: General Ease of Use

Many responses to the questions regarding ease of use significantly correlated with responses to other survey questions.

The level of agreement on responses to the device being easy to use positively correlated with responses to:

1. finding the auto-redial feature useful ($r = .5739, p = .005$);
2. hearing the operator clearly when using only the microphone ($r = .5728, p = .010$); and
3. finding the operator's voice easy to understand ($r = .4411, p = .035$).

The level of agreement on responses to finding the operator's voice easy to hear positively correlated with responses to:

1. finding the operator's voice easy to understand ($r = .6906, p = .000$);
2. hearing the operator clearly when using only the microphone ($r = .4715, p = .042$) or the handset ($r = .6847, p = .002$);
3. reporting that the operator seemed to be able to hear them clearly when using only the microphone ($r = .4883, p = .047$); and
4. finding the auto-redial feature useful ($r = .4709, p = .027$).

The level of agreement on responses to finding the operator's voice easy to understand positively correlated with responses to:

1. finding the operator's voice easy to hear ($r = .6906, p = .000$); and
2. finding the auto-redial feature useful ($r = .4934, p = .020$).

The level of agreement on responses to knowing what to expect when participants operated the device positively correlated with responses to:

1. feeling confident in selecting which button to push for each scenario participants were given ($r = .5511, p = .006$).

Finally, the level of agreement on responses to feeling confident in selecting which button to push positively correlated with responses to:

1. finding the device easy to use ($r = .4223, p = .045$); and
2. believing this system would be likely to help authorities deliver assistance when they are in situations requiring police, medical, or roadside assistance ($r = .5750, p = .004$).

Motorola User Perceptions of Ease of Use: Microphone Versus Handset

The user views about the microphone and handset often significantly correlated with the responses to other questions.

The level of agreement on responses to being able to hear the operator clearly when using only the microphone positively correlated with responses to:

1. reporting that the operator seemed to be able to hear them clearly ($r = .5051$, $p = .039$); and
2. finding the auto-redial feature useful ($r = .5641$, $p = .015$).

The level of agreement on responses to the operator being able to hear participants clearly when using only the microphone positively correlated with responses to:

1. preferring to use the microphone ($r = .6276$, $p = .009$);
2. finding the microphone more effective than the handset ($r = .6323$, $p = .009$); and
3. finding the system consistent in how it worked ($r = .5928$, $p = .012$).

As would be expected, the level of agreement on responses to the operator being able to hear participants clearly when using only the microphone inversely correlated with responses to:

1. preferring to use the handset ($r = -.5547$, $p = .026$); and
2. finding the handset more effective than the microphone ($r = -.7783$, $p = .001$).

The level of agreement on responses to preferring to use the microphone positively correlated with responses to:

1. finding the microphone more effective than the handset ($r = .6956$, $p = .002$); and
2. reporting that the operator correctly described their location ($r = .4835$, $p = .031$).

The level of agreement on finding the microphone more effective than the handset positively correlated with responses to:

1. reporting that once they pressed a button, it seemed to take only a short time for the operator to respond to their request for service ($r = .5431$, $p = .030$).

Again, as expected, the level of agreement on preferring to use the handset positively correlated with responses to:

1. finding the handset more effective than the microphone ($r = .8123$, $p = .000$).

Also as would be expected, the level of agreement on preferring to use the handset inversely correlated with responses to:

1. preferring to use the microphone ($r = -.8588$, $p = .000$); and
2. finding the microphone more effective than the handset ($r = -.5237$, $p = .031$).

Finally, the level of agreement on finding the handset more effective than the microphone inversely correlated with responses to:

1. experiencing or witnessing higher numbers of incidents within the past five years ($r = -.5871, p = .027$).

Motorola User Perceptions of Security/Safety

Many responses to the questions regarding security and/or safety significantly correlated with responses to other questions on the survey.

The level of agreement on responses to feeling more secure in their vehicles if this system were permanently available to participants positively correlated with responses to:

1. feeling more secure if this system were permanently available to other members of their family ($r = .5954, p = .003$); and
2. hearing the phone beep and begin dialing after pressing the EMER, RA, or TA button ($r = .5259, p = .014$).

The level of agreement on responses to feeling more secure if this system were permanently available to other members of participants' families positively correlated with responses to:

1. preferring to use the microphone ($r = .5812, p = .007$); and
2. reporting that the operator almost always attempted to identify and describe their location ($r = .5661, p = .005$).

Finally, the level of agreement on responses to believing this system would be likely to help authorities deliver assistance when participants are in situations requiring police, medical, or roadside assistance correlated positively with responses to:

1. reporting that the operator almost always attempted to identify and describe their location ($r = .4610, p = .027$); and
2. feeling more secure in their vehicle if this system were permanently available to them ($r = .4557, p = .029$) and other members of their family ($r = .6612, p = .001$).

Motorola User Perceptions of Reliability and Consistency

Many responses to the questions regarding the reliability and consistency of the system significantly correlated with responses to other survey questions.

The level of agreement on responses regarding the consistency of the time it took the operator to respond to participants' calls positively correlated with responses to:

1. reporting that the operator correctly described their location ($r = .4260, p = .048$);
2. finding the microphone more effective than the handset ($r = .5581, p = .009$); and
3. finding the written instructions they were given for using the device easy to understand ($r = .5476, p = .015$).

The level of agreement on responses regarding the consistency of the time it took the operator to respond to participants' calls inversely correlated with responses to:

1. experiencing or witnessing higher numbers of incidents within the past five years ($r = -.5871, p = .027$).

XYPOINT RESULTS

XYPOINT User Perceptions of Ease of Use

Many responses to the questions regarding ease of use significantly correlated with responses to other survey questions.

The level of agreement to finding the device easy to use positively correlated with responses to:

1. finding the device easy to set-up ($r = .6431, p = .000$);
2. finding the written instructions for using the device easy to understand ($r = .6595, p = .000$); and
3. feeling confident in selecting which button to push for each scenario given ($r = .2784, p = .046$).

The level of agreement to finding the written instructions easy to understand positively correlated with responses to:

1. finding the device easy to set-up ($r = .4961, p = .000$).

The level of agreement to finding the device easy to set-up positively correlated with responses to:

1. knowing what to expect when they operated the device ($r = .2759, p = .048$).

The level of agreement to finding the messages easy to read positively correlated with responses to:

1. finding the device easy to set-up ($r = .5017, p = .000$);
2. finding the written instructions easy to understand ($r = .3055, p = .026$); and
3. finding the device easy to use ($r = .5520, p = .000$).

The level of agreement to finding the messages easy to understand positively correlated with responses to:

1. finding the device easy to set-up ($r = .2892, p = .044$);
2. finding the written instructions easy to understand ($r = .5416, p = .000$);
3. feeling confident in selecting which button to push ($r = .4966, p = .000$);
4. finding the device easy to use ($r = .5259, p = .000$); and
5. finding the messages easy to read ($r = .5034, p = .000$).

The level of agreement to knowing what to expect when participants operated the device positively correlated with responses to:

1. feeling more secure if this system were permanently available to them ($r = .3914, p = .004$) and to other members of their family ($r = .4456, p = .001$); and
2. believing this system would be likely to help authorities deliver assistance ($r = .3568, p = .009$).

The level of agreement to finding the way the device beeped helpful positively correlated with responses to:

1. knowing what to expect when they operated the device ($r = .3471, p = .016$).

The level of agreement to sometimes not seeing new messages appear on the screen positively correlated with responses to:

1. agreeing that it would be helpful if the device beeped every time a new message appeared on the screen ($r = .7235, p = .000$).
2. agreeing that the device beeped once when they pushed a button ($r = .4278, p = .004$); and

Finally, the level of agreement to feeling that it would be helpful if the device beeped every time a new message appeared on the screen positively correlated with responses to:

1. feeling more secure in their vehicle if this system were permanently available to them ($r = .2846, p = .041$);
2. finding the device easy to set-up ($r = .3281, p = .019$);
3. finding the written instructions easy to understand ($r = .2910, p = .035$);
4. finding the device easy to use ($r = .2836, p = .042$);
5. finding the messages easy to read ($r = .2815, p = .043$); and
6. agreeing that the device beeped once after they pushed a button ($r = .4666, p = .001$).

XYPOINT User Perceptions of Security/Safety

Many responses to the questions regarding perceptions of security and safety significantly correlated with responses to other questions on the survey.

The level of agreement to feeling more secure in their vehicle if this system were permanently available to participants positively correlated with responses to:

1. agreeing that it would be helpful if the device beeped every time a new message appeared on the screen ($r = .2846, p = .041$).

The level of agreement to feeling more secure if this system were available to other members of their family positively correlated with responses to:

1. feeling more secure in their vehicle if this system were permanently available to them ($r = .8957, p = .000$).

The level of agreement to believing this system would be likely to help authorities deliver assistance when participants are in situations requiring police, medical, or roadside assistance positively correlated with responses to:

1. feeling more secure if this system were available to other members of their family ($r = .8062, p = .000$); and
2. feeling more secure in their vehicle if this system were permanently available to them ($r = .7793, p = .000$).

XYPOINT User Perceptions of Reliability and Consistency

Many responses to the questions regarding reliability and consistency of the system significantly correlated with responses to other survey questions.

The level of agreement on responses regarding the device beeping three times when ready positively correlated with responses to:

1. feeling confident in selecting which button to push ($r = .3449, p = .022$).

The level of agreement on responses regarding the device beeping once after pushing a button positively correlated with responses to:

1. finding the device easy to use ($r = .3046, p = .044$);
2. finding the way the device beeped helpful ($r = .4304, p = .004$); and
3. agreeing that the device beeped three times when it was ready for use ($r = .3938, p = .011$).

The level of agreement on responses regarding it taking only a short time to receive a message once a button was pushed positively correlated with responses to:

1. knowing what to expect when they operated the device ($r = .5007, p = .000$);
2. finding the device easy to set-up ($r = .3531, p = .015$); and
3. finding the way the device beeped helpful ($r = .3706, p = .012$).

The level of agreement on responses regarding it taking only a short time to receive a message once a button was pushed inversely correlated with responses to:

1. feeling confident in selecting which button to push ($r = -.3617, p = .012$).

The level of agreement on responses regarding the time it took to receive an initial response being consistent positively correlated with responses to:

1. feeling more secure if this system were permanently available to them ($r = .3700, p = .009$ and to other members of their family ($r = .3827, p = .009$);
2. knowing what to expect when they operated the device ($r = .4815, p = .000$);
3. finding the way the device beeped helpful ($r = .2990, p = .046$); and
4. reporting that once they pushed a button it usually only took a short time to receive a message from the response center ($r = .3898, p = .006$).

Finally, the level of agreement to feeling that the system was consistent in how it worked positively correlated with responses to:

1. knowing what to expect when they operated the device ($r = .4124, p = .002$);
2. reporting that once they pushed a button it usually only took a short time to receive a message from the response center ($r = .5785, p = .000$); and
3. reporting that the time it took to receive a message was usually consistent ($r = .7047, p = .000$).