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The Use of Different Technologies During a Medical Interview: Effects on Perceived Quality of Care

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Abstract

This two-phase study examines a physician's use of one of five different types of technology to note a patient's symptoms during the medical interview. In this between-subjects design, 342 undergraduates viewed one of several videos that demonstrated one condition of the doctor/patient interaction. After viewing the interaction, each participant completed a series of questionnaires that evaluated their general satisfaction with the quality of care demonstrated in the medical interview. A main effect of technology condition was present in both phases. Further, in Phase 2 we found that drawing the participant's attention to the type of technology used has a divergent effect on their general satisfaction with the doctor/patient interaction depending on the technology condition. These findings have implications for healthcare providers such as how to address technology and which type of technology to use.

The Use of Different Technologies During a Medical Interview: Effects on Perceived Quality of Care

Few people go an entire year without a visit to some variety of the doctor's office. Healthcare is a top priority in political platforms, a major driving force for research, and a substantial portion of yearly expenditures. In fact, in the US, an upwards of 400 billion dollars are spent each year on health-care related paperwork alone (Gladwell, 2005). Because of healthcare's ubiquitous importance, the recent focus on the quality of care in the medical office follows logically.

Nuances of the Doctor-Patient Interaction

Arguably, the interaction between doctor and patient during the medical consultation is the most critical point for transferring information and the delivery of excellent healthcare (Bertakis, 1991; Ong, de Haes, Hoos, & Lammes, 1995; Russuvuori, 2001). During a successful medical interview, several steps must take place. The physician must become familiar with the patient's history through direct communication, consultation with medical records if available, or a combination of the two. In order to obtain useful information from the patient, the physician must first determine the patient's problems. The patient must be able to convey their symptoms in a way that is meaningful to the physician. Once the patient has explained the symptoms, the physician must mentally translate from laymen's terms to medical vernacular, use prior

knowledge or reference materials to diagnose, and suggest treatment. Each step of this interaction is complicated by the context of individuals of non-equal positions of power and status (Ong et al., 1995; Steilhaug & Malterud, 2003).

Quality of Care

There are at least two aspects to healthcare quality: actual patient outcome (observable consequences due to a medical encounter); and perceived quality of care (the patient's personal perception of the quality of care). Actual patient outcome can be measured in several ways including: adherence to doctor recommendations, recall of information given during consultation, and understanding of diagnosis (Ong et al., 1995). Perceived quality of care (QoC) is a good predictor of actual patient outcome (Ong et al.). The most widely accepted assessment of perceived QoC, and the measure that is considered in this study, is patient satisfaction. Ong et al. report that patients evaluate their overall healthcare experience on their doctor's interpersonal skills; skills which are largely interpreted through the use of non-verbal communication.

Verbal Versus Non-verbal Communication

At the time when the importance of the medical interview first came under researchers' scrutiny, only the verbal components of communication were studied. Since then, the focus has shifted to non-verbal components of communication. Non-verbal communication has been operationalized as body positioning, posture, gaze, voice tone, etc. These non-verbal components, or visual cues, make up 77% of perceived interpersonal communication (Ong et al., 1995). Although the verbal communication that takes place in each step of a medical interview is also important, this study focuses on non-verbal communication.

Shifting focus. While conducting the medical interview, a physician must often times consult two major sources of information simultaneously: a) the patient's medical records and b)

the patients themselves. Previous research has shown that patients often believe that their physician is not listening to them when attention is shifted from the patient to the records (Ruusuvuori, 2001). This attentional shift often entails a physical shift of the physician's head or head and upper torso depending on the way the physician is oriented relative to the patient and the patient's records (Ruusuvuori). Even the most minimal physical shift still requires that the doctor's gaze move from the patient to the records, thus making eye contact between the doctor and patient impossible to maintain.

Eye contact. During any face-to-face conversation, eye contact lets the speaker know that the recipient is focused on them. For a patient who may be anxious the need to know the physician is engaged in the conversation is heightened. Commonly, tactics are employed by speakers to regain eye contact with an intended recipient whose gaze has wandered. One such tactic is achieved by pausing mid-sentence, or engaging in other speech discontinuities until the recipient's gaze is regained (Goodwin, 1981). This same occurrence has been observed during medical interviews, indicating that the patient is perturbed by the loss of their physician's gaze (Ruusuvuori, 2001).

Body orientation. A final form of non-verbal communication examined in this study is body positioning. Even when eye contact is maintained, the speaker's torso may or may not be facing the recipient. When the speaker's torso is squared off with the recipient, the speaker's head may remain in its resting state. This scenario is termed a 0º body orientation in the current study. The other case examined in this study is one where the speaker's torso is facing 90º with respect to the recipient. The 90º body orientation requires the speaker to torque in order to face the recipient (see Figure 1). Evidence has shown that people prefer the 0º body orientation to the 90º when speaking to someone (Ruusuvuori, 2001; Furnham, Petrides, & Temple, 2006; Ong et

al., 1995).

Note Taking

Earlier, the potentially problematic situation of simultaneous consultation of both the patient and the patient's medical records was discussed. There is a third component, namely, the notes a physician may take during the medical interview. Taking notes allows a health provider to a) record the patient's symptoms and concerns in order to update medical records and b) refer back to different points of the interview to seek further clarification if needed. Ruusuvuori (2001) would argue that note taking affords a crucial written record because doctors otherwise tend to overlook problems presented subsequent to the beginning of the medical interview. Notes may be taken during the interview with the use of pen and paper, an electronic device, or not at all until the doctor leaves the examination room. Although healthcare providers differ in their mode of note talking, little research has examined the effect of these differences on patient satisfaction.

Technology's Influence on Non-verbal Cues

Caldwell, Mauney, Lyon, et al. conducted Phase 1 of this investigation of technology use on patient satisfaction (2006). The authors employed a novel methodology in which participants viewed a prerecorded doctor-patient interaction and then completed questionnaires that assessed their evaluation of the QoC. Phase 1 used a between-subjects design that exposed participants to the doctor's use of one of several different technologies. One major finding from that study was that participants were unsatisfied with the doctor's use of a desktop computer. This condition was rated significantly lower than others with regard to every subscale of perceived QoC, which supported the authors' hypothesis that perceived quality of care will increase when technology is less obtrusive.

Other Influences

In addition to examining different technologies, Caldwell et al. also examined the influence of body orientation and gender. The overwhelming suggestion in the literature is that body position and gender matching of the doctor and patient do have an effect on reported satisfaction (Steilhaug & Malterud, 2003; Ruusuvuori, 2001; Furnham, Petrides, & Temple, 2006; Ong et al., 1995). Although Caldwell et al. did not find a significant main effect for body position or gender; they did find a general trend that the 0 degree condition led to higher reported likelihood of a return visit in some technology conditions. The authors concluded that body orientation might be an influence in some conditions, but not others.

Phase 2

Phase 2 is a replication and extension of the work of Caldwell et al. (2006). In Phase 1, the type of technology used in each condition was not explicitly pointed out or explained to the participants until the debriefing period. As a result, it remained unclear whether participants could distinguish the type of technology the doctor was using in each condition. Specifically, the most novel form of technology, a wearable computer, may have been confused for a more common device, such as a personal digital assistant (PDA). It may be that the explicit mentioning of the doctor's use of technology will cause the patient to include the technology in their QoC evaluation. Furthermore, the mentioning of technology prior to viewing may draw the participant's attention to the fact that the doctor is not taking notes in the 'nothing' condition. For this reason, the current study included a one to two sentence explanation of the doctor's note-taking technology stated prior to the video viewing (see Appendix 1).

Similarities. Caldwell et al. found the desktop computer received significantly lower QoC subscale scores than every other technology condition (2006). All participants reported on the

Technology Use survey that they use a desktop computer on a daily basis. Since a desktop computer is a highly recognizable and familiar item to these participants, and was anticipated to be so for the future participants, the explicit explanation of technology should have no effect on preference for the desktop computer. Likewise, the explicit explanation of the use of the pen and paper and PDA is not expected to enhance participant's understanding of these conditions, therefore it is likely that QoC scores will not be significantly different from those obtained in Phase 1

Differences. Caldwell et al. suggest an explanation for the relatively high rating of the wearable computer condition; namely, that the wearable computer is so inconspicuous that participants did not recognize it as a novel technology. Indeed, as can be seen in Figure 2e, the visual display attached to the "doctor's" eyeglasses is barely discernible and the Twiddler might be mistaken for a PDA or other familiar, handheld device. It is expected that overall satisfaction for the wearable computer condition will be significantly higher than they were in Phase 1. Also, the expected results would show a significantly lower satisfaction scores for the wearable computer (because of its novelty) than the nothing, pen and paper, and PDA conditions.

The explicit explanation of each technology condition prior to the video viewing is expected to make one further difference. In the condition where the doctor relies on his memory rather than taking notes, participants will be told, "The doctor may or may not use pen and paper to input the patient's symptoms and concerns in order to update the patient's records." This statement may draw the participant's attention in the "nothing" condition to the fact that the doctor is not taking notes and they may conclude that he is not providing high quality health care. If this is the case, then it is expected that the satisfaction ratings will decrease compared to Phase 1 results.

Phase 2 Hypotheses

Hypothesis 1: There will be a significant main effect of technology condition, thus replicating the previous study.

Hypothesis 2: There will be a significant phase by technology interaction caused by the explicit technology statement.

Hypothesis 2a: The most novel device, the wearable computer, will receive higher ratings when compared to the previous ratings obtained by Caldwell and colleagues.

Hypothesis 2b: Patient satisfaction for the paper and pen, PDA, and desktop computer conditions will not be significantly different in the current study than they were in the previous study.

Hypothesis 2c: The condition where no notes are taken will receive lower ratings when compared to results obtained by Caldwell and colleagues.

Hypothesis 3: It is expected that there will be no main effect of body orientation. Although the literature suggests that the 0º condition would be rated more favorably than the 90º, Caldwell et al. did not find this main effect. Since this study uses the same methodology, similar results are expected.

Hypothesis 4: It is expected that there will not be a main effect of gender. Again, the literature suggests that this effect would be significant and again this is not what Caldwell et al. found.

Method

Phase 2 Participants

Two hundred undergraduate students (103 male and 97 female) at a southeastern technical institute participated for extra credit in psychology courses. Participants ranged between 18 and 25 with a mean age of 19.6 years. Participants were recruited through

Experimetrix, an online experiment sign-up system.

Apparatus and Stimuli

Videos. In this between-subjects design, each participant watched one of ten brief videos of a medical interview between a doctor and patient. During the interview, the doctor is ascertaining the patient's symptoms and concerns. "The doctor" in the video is played by a 27 year-old, Caucasian male (see Figure 2). The camera angle of the video is as if the patient were sitting approximately three feet in front of the physician. The male patient can be heard, but not seen, while reporting his symptoms of an upper respiratory infection, or a common cold, such as: headache, fatigue, loss of appetite, coughing, and so on. Participants could see, as well as hear, the actor posing as a doctor. The film is set in a mock-up of a doctor's office including a desk, lamp, medical poster, jar of cotton balls, and plant. The scenario in the film reflects an ordinary, non-emotional visit to the doctor's office that any undergraduate would experience for a common illness. In order to control the dialogue across all videos, the patient's responses were audio recorded in advance and this identical version was overlaid to be the audio track for all videos.

Viewing. The DVD quality videos were projected onto a standard projection screen at a viewing distance of approximately 10 feet. The participants were seated at a table, facing the screen and will range in number from 1 to 8 during any given session; however, participants' responses were completely individual. The projection screen was approximately 5' by 6.5' (see Figure 3).

Questionnaires. This study used four questionnaires to assess each participant's satisfaction with the QoC demonstrated in the video. These included a Background Questionnaire, a Quality of Care survey, an After Video Response sheet, and a Technology Use

survey. The Background Questionnaire was used to collect demographic information as well as answers to questions such as, "Are you in good health?" The Quality of Care survey consists of 25 questions that address five subscales of QoC such as, "communication". The After Video Response sheet gave participants a chance to respond freely whether they would choose to go to this doctor, comment about the video, or comment about the study in general. The Technology Use survey established the participant's familiarity and regular use of a variety of technologies such as a cellular phone or cruise control.

Variables

Independent variables. The independent variables in this study are the type of technology used by the physician to input the patient's responses, the orientation of the physician relative to the patient, and the gender of the participant. Five technology conditions were used (nothing, pen & paper, PDA, desktop computer, and wearable computer) along with two physician-patient orientations (0 degrees and 90 degrees) for a total of ten conditions, each represented in videos of length 2 minutes and 34 seconds ± 7 seconds (see Figure 2). The 0 degree condition is the case when the doctor is sitting face-to-face with the patient. The 90 degree condition is the case when the doctor is facing 90 degrees away from the patient so that he must torque his body to make direct eye contact (see Figure 1).

Dependent variables. The dependent variable in this study is the general satisfaction and will be operationally defined by participant responses to the four questionnaires previously described. Specifically, the response to the question, "Would you go to this doctor" was used as a measure of participant's QoC perception.

Technologies

The use of the word "technologies" in this study is used to mean the device or method used

by the healthcare provider to take notes throughout the entire medical interview. These devices and methods are either currently used or could easily be implemented in a doctor's office. (See Figure 2).

- Nothing: This condition represents the case where the physician does not take any sort of notes, but rather relies on his own memory.
- Paper and pen: The doctor takes hand-written notes onto a pad or directly onto the patient's chart.
- Personal Digital Assistant (PDA): The doctor is able to electronically store the patient's responses with a PDA and stylus. Additionally, the doctor is able to reference material such as patient history or drug interactions.
- Desktop Computer: This condition provides all the same functions as the PDA, but is visibly more noticeable. Also, instead of the use of a stylus, the doctor uses a keyboard and mouse as input devices.
- Wearable Computer: The participants will likely have least (if any) familiarity with this device, as it is the newest of the technologies. The wearable computer consists of a small display attached to the physician's glasses (which may or may not be noticed) and a handheld keyboard known as a Twiddler.

Procedure

After completing an informed consent form and filling out the Background Questionnaire, participants were instructed that they would be viewing a brief video of a doctor and a patient interaction. The participants were also informed that the interaction was only part of the visit and to assume that a check-up will follow after the initial interview. The type of technology used in the participant's particular condition was then brought to their attention. This

step differs from the original study, which took pains to ensure the use of technology was not mentioned at all until the debriefing stage. Lastly, the participants were informed that they would be given some questionnaires to complete after watching the video that would evaluate their perception of the doctor-patient interaction. Once the video was complete, the participants were given the Quality of Care Questionnaire, then the After Video Response sheet, and then the Technology Use survey, in that order. Finally, the participants were debriefed.

Analysis and Results

Phase comparison

As in the Phase 1, the between-subjects factors: gender, technology condition, and doctor's body orientation were analyzed. For all analyses, the Phase 1 data and Phase 2 data were included. Both phases were analyzed separately so that the new and old data could be directly compared. An alpha level of .05 was used throughout.

Hypothesis 1: Main Effect of Technology Condition

To test Hypothesis 1, a one-way ANOVA was run with technology condition as the independent variable and the percentage of participants reporting that they would go to the doctor, as obtained from the after video questionnaire, as the dependent variable (see Figure 4). Phase 1 showed a significant main effect of technology condition, $F(4,137) = 3.063$, $p = .019$, as did Phase 2, $F(4,194) = 3.303$, $p = .012$. Table 1 shows the ANOVA summary table for each phase. This provides support for Hypothesis 1.

Hypothesis 2: Technology Condition by Phase Interaction

To test Hypothesis 2, an ANOVA was run with phase and technology condition as fixed factors and the percentage of participants reporting that they would go see the doctor as the independent variable. Again, this analysis supported Hypothesis 1, showing a main effect of

technology condition, $F(4, 341) = 4.264$, $p = .002$. The main effect of phase was not significant, $F(1,341) = 0.210$, $p = .647$, but the interaction between phase and technology condition was marginally significant, $F(1,341) = 2.207$, $p=.068$, (see Table 2).

Hypotheses 2a, 2b, and 2c

To test hypotheses 2a, 2b, and 2c, five independent samples t-tests were run, one for each technology condition comparing the reported percentage of Phase 1 participants who would go see the doctor to those in Phase 2. In the 'nothing' condition, Phase 2 participants reported significantly lower willingness to see the doctor (37.8%) than Phase 1 participants (65.5%), $t(64)=2.286$, $p = .026$. This supports the predictions of Hypothesis 2a. The t-tests for every other technology condition show that the means were not significantly different between Phases 1 and 2: pen & paper, $t(66) = -0.419$, $p = .677$; PDA, $t(66) = 0.865$, $p = .390$; desktop computer $t(65) = -1.655$, $p = .103$; and wearable computer $t(70) = -0.099$, $p = .921$. Therefore, Hypothesis 2b was supported while Hypothesis 2c was not (see Table 3).

Hypothesis 3 & 4

A one-way ANOVA using body orientation (0° and 90°) as the independent variable and the percentage of participants who would go to the doctor as the independent variable showed that, in Phase 2, there is not a main effect of body orientation, $F(1,191) = .297$, $p = .586$. This replicates the results found by Caldwell et al. in Phase 1, $F(1,140) = .648$, $p = .422$, (see Table 4). Likewise, a one-way ANOVA with gender as the independent variable and the percentage of participants who reported that they would go to the doctor as the independent variable did not yield significant results for Phase 1, $F(1,198) = .215$, $p = .643$, or Phase 1, $F(1,140) = .127$, $p = .722$, (see Table 5).

Discussion

Hypotheses 1, 2, 2a, 2b, 3, and 4 were supported. Hypothesis 2c was rejected. It may be that this technology savvy population was familiar enough with the wearable computer that the explicit statement did not further their understanding, much as was expected for pen and paper, PDA, and desktop computer. Hypothesis 3 and 4 were expected because of Phase 1 results, but is still not understood in the context of the literature. This study replicates a novel methodology that blends a naturalistic, yet highly controlled portrayal of a medical interview. The importance of this study and its predecessor is that they examine a gap in a field that is currently being researched heavily. The study will have to be replicated more to control for extraneous factors. The more the medical field shifts from its once autocratic style, the more studies such as the current one will be needed.

A recent emphasis on patient-centered medical care has created a need for questions about patient preferences to be answered. The benefit of this design is that it is relatively economical and easily altered, making it feasible explore various aspects in the future. The least demanding extension of this study would be to show identical videos to an alternate population. To date, the participants have been undergraduates who are enrolled in a technical institution. A ceiling effect has been found on the Technology Use questionnaire for this population. Being both young and technologically savvy, there are not many devices that this population has no familiarity with. A sample of older adults, for instance, may reveal very different trends.

Gender match between patient and physician has previously been found to predict patient satisfaction, particularly for females (Furnham, Petrides, & Temple, 2006). However, the current and Caldwell et al.'s results did not support gender preferences. Although the intention was for the participant to imagine themselves in "the doctor's" office, it is possible that both male and female participants perceived the doctor and patient to be gender-matched because the voice of

both doctor and patient were male. An easy manipulation to test this possibility would be to re-record the patient responses with a female voice. If satisfaction scores decreased, one could infer that gender match or mismatch perceptions are based on the gender of the voices in the video.

The subject-matter of the current video was purposely chosen to be non-emotional. Previous literature states that severity of the illness being discussed drastically changes the dynamics of the medical interview (Ong et al., 1995). Once the effects of use of technology with non-emotional illnesses have been well established, the videos could be re-filmed with a more critical diagnosis such as breast cancer or Parkinson's disease. Satisfaction with healthcare quality may be different across technologies depending on the severity of illness. Along the same lines of more severe illnesses, some diagnoses may affect participants of varying ethnic backgrounds differently. For instance, sickle-cell anemia might be an illness that African Americans are more familiar with and more wary of. Again, the videos could be re-filmed to examine the effect of racially sensitive illnesses.

Another important dynamic that could easily be studied using the design of the current study is that between pediatrician, child, and parent. Less is known about this triad than the more common doctor-patient interaction. However, the same sorts of issues of communication, interpersonal skills, and child/parent satisfaction have been examined. The major difference in this dynamic is that the younger the child is and the more the child's parent tends to talk, the less the child tends to contribute to the conversation (Wassmer et al., 2004). Though children represent a smaller portion of the population than adults do, this line of research is just as important.

Assuming that the expected results are found, this study will have implications that should be considered by healthcare providers. Perhaps by explaining why and how devices will

be used throughout the medical interview and check-up, physicians can alleviate some of the negative perceptions participants tend to have about such devices. Although increasing perceived quality of care is important, the ideal goal is to integrate optimal satisfaction with the most effective, efficient methods possible. Although participants may not initially like a novel device, an increased understanding of the potential benefits may persuade popular opinion.

Combined Phase Analysis

Initial analyses of Phase 1 and Phase 2 included a univariate analysis using the percentage of participants reporting that they would go to the doctor (YESGO) as the only dependent variable. Furthermore, identical independent variables (gender, body orientation, technology condition) were used in Phase 2 for ease of comparison with Phase 1. Once the phases were combined, YESGO was further analyzed in order to exhaust all possible independent variables. The participants' major, age, recent health, number of doctor's visits in the past year, level of familiarity with technological devices, and level of familiarity with computers were independently analyzed using YESGO as the dependent variable. Of the resulting univariate ANOVAs, only major was significant, $F= 2.008$, $p=0.077$, and age was marginally significant, $F = 1.359$, $p = 0.059$.

Multivariate analyses included YESGO and Quality of Care questions 1-25 as dependent variables. Quality of Care questions were further categorized into five subscales: Technical Quality (TECH), General Satisfaction (GSAT), Interpersonal Aspects (INTER), Communication (COMM), and Time Spent with the Doctor (TIME). Correlations were run on the questions within each subscale to ensure that the questions were measuring a common element. Multivariate analyses using the 26 dependent variables were run with Major, Age, TechCond, Gender, and Phase as independent variables. Next, the same independent variables were used in

multivariate analyses using the five subscales as dependent variables. Finally, interactions were analyzed to reveal any differential results.

Data Analyses

Orientation analysis

Crosstabs

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
YESGO * orientation of doctor relative to patient	335	98.0%	7	2.0%	342	100.0%

YESGO * orientation of doctor relative to patient Crosstabulation

Count

		orientation of doctor relative to patient		
		0 degree	90 degree	Total
YESGO	.00	78	74	152
	.50		1	1
	1.00	103	79	182
Total		181	154	335

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	2.108[a]	2	.349
Likelihood Ratio	2.487	2	.288
Linear-by-Linear Association	.936	1	.333
N of Valid Cases	335		

a. 2 cells (33.3%) have expected count less than 5. The minimum expected count is .46.

Univariate Analysis of Variance

Between-Subjects Factors

		Value Label	N
orientation of doctor relative to patient	.00	0 degree	181
	1.00	90 degree	154

Tests of Between-Subjects Effects

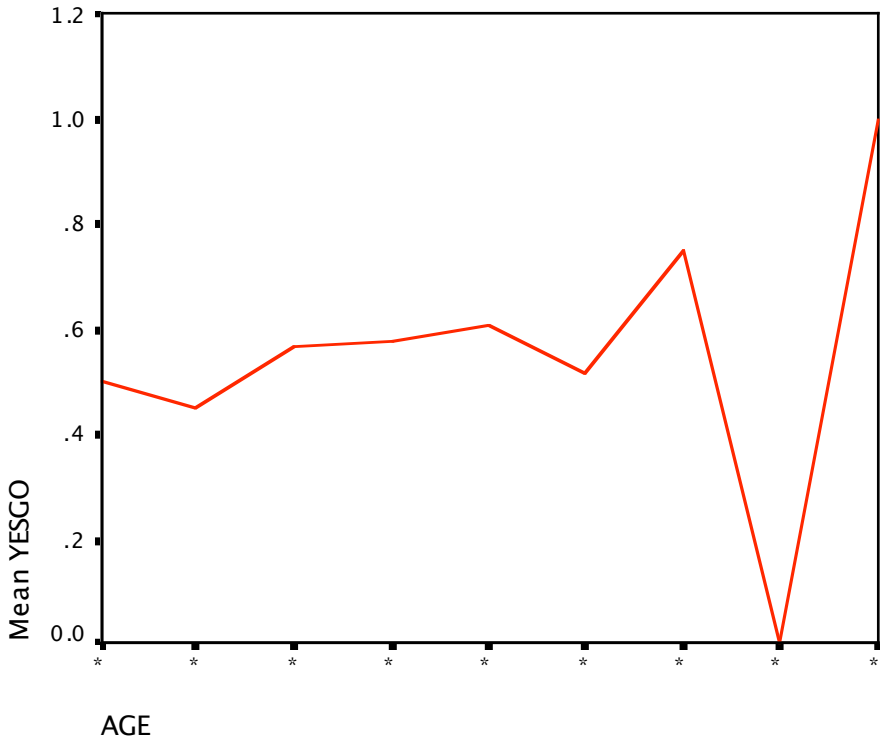
Dependent Variable: YESGO

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	.232[a]	1	.232	.936	.334
Intercept	98.005	1	98.005	395.125	.000
ORIENT	.232	1	.232	.936	.334
Error	82.596	333	.248		
Total	182.250	335			
Corrected Total	82.828	334			

a. R Squared = .003 (Adjusted R Squared = .000)

Age analyses

Graph



Crosstabs

YESGO * AGE Crosstabulation

Count

		AGE									Total
		17	18	19	20	21	22	23	24	25	
YESGO	.00	1	51	40	29	16	13	3	1		154
	.50				1						1
	1.00	1	42	53	40	25	14	9		3	187
Total		2	93	93	70	41	27	12	1	3	342

Oneway

ANOVA

AGE

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	10.137	2	5.068	2.238	.108
Within Groups	767.574	339	2.264		
Total	777.711	341			

	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
YESGO * AGE	342	100.0%	0	.0%	342	100.0%

Between-Subjects Factors

		N
AGE	17	2
	18	93
	19	93
	20	70
	21	41
	22	27
	23	12
	25	3

Tests of Between-Subjects Effects

Dependent Variable: YESGO

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	2.260[a]	7	.323	1.313	.243
Intercept	24.445	1	24.445	99.399	.000
AGE	2.260	7	.323	1.313	.243
Error	81.893	333	.246		
Total	187.250	341			

Post Hoc Tests

AGE

Multiple Comparisons

Dependent Variable: YESGO

Tukey HSD

(I) AGE	(J) AGE	Mean Difference (I–J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
17	18	.0484	.35441	1.000	−1.0327	1.1294
	19	−.0699	.35441	1.000	−1.1510	1.0112
	20	−.0786	.35563	1.000	−1.1634	1.0062
	21	−.1098	.35911	1.000	−1.2052	.9856
	22	−.0185	.36341	1.000	−1.1270	1.0900
	23	−.2500	.37876	.998	−1.4053	.9053
	25	−.5000	.45270	.956	−1.8809	.8809
18	17	−.0484	.35441	1.000	−1.1294	1.0327
	19	−.1183	.07272	.734	−.3401	.1035
	20	−.1270	.07847	.739	−.3663	.1124
	21	−.1581	.09296	.687	−.4417	.1254
	22	−.0669	.10841	.999	−.3976	.2638
	23	−.2984	.15211	.510	−.7624	.1656
	25	−.5484	.29089	.562	−1.4357	.3389
19	17	.0699	.35441	1.000	−1.0112	1.1510
	18	.1183	.07272	.734	−.1035	.3401
	20	−.0087	.07847	1.000	−.2480	.2307
	21	−.0399	.09296	1.000	−.3234	.2437
	22	.0514	.10841	1.000	−.2793	.3821
	23	−.1801	.15211	.936	−.6441	.2839
	25	−.4301	.29089	.818	−1.3174	.4572
20	17	.0786	.35563	1.000	−1.0062	1.1634
	18	.1270	.07847	.739	−.1124	.3663
	19	.0087	.07847	1.000	−.2307	.2480
	21	−.0312	.09753	1.000	−.3287	.2663
	22	.0601	.11235	.999	−.2826	.4027
	23	−.1714	.15494	.955	−.6440	.3012
	25	−.4214	.29238	.837	−1.3133	.4704
21	17	.1098	.35911	1.000	−.9856	1.2052
	18	.1581	.09296	.687	−.1254	.4417
	19	.0399	.09296	1.000	−.2437	.3234
	20	.0312	.09753	1.000	−.2663	.3287
	22	.0912	.12291	.996	−.2837	.4661
	23	−.1402	.16276	.989	−.6367	.3562
	25	−.3902	.29660	.893	−1.2950	.5145
22	17	.0185	.36341	1.000	−1.0900	1.1270
	18	.0669	.10841	.999	−.2638	.3976
	19	−.0514	.10841	1.000	−.3821	.2793
	20	−.0601	.11235	.999	−.4027	.2826
	21	−.0912	.12291	.996	−.4661	.2837
	23	−.2315	.17205	.881	−.7563	.2933
	25	−.4815	.30180	.753	−1.4021	.4391
23	17	.2500	.37876	.998	−.9053	1.4053
	18	.2984	.15211	.510	−.1656	.7624
	19	.1801	.15211	.936	−.2839	.6441
	20	.1714	.15494	.955	−.3012	.6440
	21	.1402	.16276	.989	−.3562	.6367
	22	.2315	.17205	.881	−.2933	.7563
	25	−.2500	.32011	.994	−1.2264	.7264
25	17	.5000	.45270	.956	−.8809	1.8809
	18	.5484	.29089	.562	−.3389	1.4357
	19	.4301	.29089	.818	−.4572	1.3174
	20	.4214	.29238	.837	−.4704	1.3133
	21	.3902	.29660	.893	−.5145	1.2950
	22	.4815	.30180	.753	−.4391	1.4021
	23	.2500	.32011	.994	−.7264	1.2264

Based on observed means.

Homogeneous Subsets

YESGO

Tukey HSD[a,b,c]

AGE	N	Subset 1
18	93	.4516
17	2	.5000
22	27	.5185
19	93	.5699
20	70	.5786
21	41	.6098
23	12	.7500
25	3	1.0000
Sig.		.357

Means for groups in homogeneous subsets are displayed.
Based on Type III Sum of Squares
The error term is Mean Square(Error) = .246.

a. Uses Harmonic Mean Sample Size = 7.890.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

c. Alpha = .05.

Doctor's visits analyses

Crosstabs

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
YESGO * Number of doctor's visits in the last year	324	90.3%	35	9.7%	359	100.0%

YESGO * Number of doctor's visits in the last year Crosstabulation

Count

		Number of doctor's visits in the last year				
		0 visits	1–2 visits	3–4 visits	5 or more visits	Total
YESGO	.00	19	85	32	10	146
	.50			1		1

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	5.645[a]	6	.464
Likelihood Ratio	4.786	6	.571
Linear-by-Linear Association	.158	1	.691
N of Valid Cases	324		

a. 4 cells (33.3%) have expected count less than 5. The minimum expected count is .08.

Univariate Analysis of Variance

Between-Subjects Factors

		Value Label	N
Number of doctor's visits in the last year	1.00	0 visits	45
	2.00	1-2 visits	191
	3.00	3-4 visits	63
	4.00	5 or more visits	25

Tests of Between-Subjects Effects

Dependent Variable: YESGO

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	.374[a]	3	.125	.501	.682
Intercept	58.976	1	58.976	236.988	.000
VISITS	.374	3	.125	.501	.682
Error	79.635	320	.249		
Total	177.250	324			
Corrected Total	80.008	323			

a. R Squared = .005 (Adjusted R Squared = -.005)

Number of doctor's visits in the last year

Multiple Comparisons

Dependent Variable: YESGO

Tukey HSD

(I) Number of doctor's visits in the last year	(J) Number of doctor's visits in the last year	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
0 visits	1-2 visits	.0228	.08266	.993	-.1907	.2363
	3-4 visits	.0937	.09737	.771	-.1578	.3451
	5 or more visits	-.0222	.12444	.998	-.3436	.2991
1-2 visits	0 visits	-.0228	.08266	.993	-.2363	.1907
	3-4 visits	.0708	.07248	.762	-.1163	.2580
	5 or more visits	-.0450	.10610	.974	-.3190	.2290
3-4 visits	0 visits	-.0937	.09737	.771	-.3451	.1578
	1-2 visits	-.0708	.07248	.762	-.2580	.1163
	5 or more visits	-.1159	.11792	.759	-.4204	.1887
5 or more visits	0 visits	.0222	.12444	.998	-.2991	.3436

YESGO

Tukey HSD[a,b,c]

Number of doctor's visits in the last year	N	Subset 1
3-4 visits	63	.4841
1-2 visits	191	.5550
0 visits	45	.5778
5 or more visits	25	.6000
Sig.		.666

Means for groups in homogeneous subsets are displayed.
Based on Type III Sum of Squares
The error term is Mean Square(Error) = .249.

a. Uses Harmonic Mean Sample Size = 48.001.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

c. Alpha = .05.

Number of technological devices checked analysis

YESGO

Case Processing Summary

			Cases					
			Valid		Missing		Total	
TECHCOND		YESGO	N	Percent	N	Percent	N	Percent
NOTHING	Number of technoloical devices checked	1.00	33	100.0%	0	.0%	33	100.0%
		.00	33	100.0%	0	.0%	33	100.0%
PAPER	Number of technoloical devices checked	1.00	51	100.0%	0	.0%	51	100.0%
		.00	17	100.0%	0	.0%	17	100.0%
PDA	Number of technoloical devices checked	1.00	37	100.0%	0	.0%	37	100.0%
		.00	31	100.0%	0	.0%	31	100.0%
DESKTOP	Number of technoloical devices checked	1.00	29	100.0%	0	.0%	29	100.0%
		.00	38	100.0%	0	.0%	38	100.0%
WEARABLE	Number of technoloical devices checked	1.00	36	100.0%	0	.0%	36	100.0%
		.00	35	100.0%	0	.0%	35	100.0%
		.50	1	100.0%	0	.0%	1	100.0%

Number of technological devices checked

Means

Report

Number of technoloical devices checked

TECHCOND	YESGO	Mean	N	Std. Deviation
NOTHING	.00	40.6970	33	3.35862
	1.00	40.7879	33	4.72201
	Total	40.7424	66	4.06603
PAPER	.00	39.6471	17	3.75735
	1.00	41.0000	51	3.89872
	Total	40.6618	68	3.88111
PDA	.00	40.6774	31	4.32348
	1.00	40.2162	37	3.82343
	Total	40.4265	68	4.03461
DESKTOP	.00	41.5789	38	4.24666
	1.00	42.7586	29	3.97002
	Total	42.0896	67	4.14046
WEARABLE	.00	42.1714	35	3.58498
	.50	42.0000	1	.
	1.00	41.3889	36	3.75901
	Total	41.7778	72	3.64333

Univariate Analysis of Variance

Tests of Between-Subjects Effects

Dependent Variable: YESGO

TECHCOND	Source	Type III Sum of Squares	df	Mean Square	F	Sig.
NOTHING	Corrected Model	3.992[b]	18	.222	.833	.654
	Intercept	13.450	1	13.450	50.540	.000
	TECH	3.992	18	.222	.833	.654
	Error	12.508	47	.266		
	Total	33.000	66			
	Corrected Total	16.500	65			
PAPER	Corrected Model	3.008[c]	16	.188	.984	.487
	Intercept	19.572	1	19.572	102.458	.000
	TECH	3.008	16	.188	.984	.487
	Error	9.742	51	.191		
	Total	51.000	68			
	Corrected Total	12.750	67			
PDA	Corrected Model	5.669[d]	17	.333	1.489	.138
	Intercept	11.900	1	11.900	53.133	.000
	TECH	5.669	17	.333	1.489	.138
	Error	11.198	50	.224		
	Total	37.000	68			
	Corrected Total	16.868	67			
DESKTOP	Corrected Model	3.361[e]	17	.198	.740	.747
	Intercept	7.072	1	7.072	26.479	.000
	TECH	3.361	17	.198	.740	.747
	Error	13.087	49	.267		
	Total	29.000	67			
	Corrected Total	16.448	66			
WEARABLE	Corrected Model	3.180[f]	14	.227	.889	.575
	Intercept	9.022	1	9.022	35.302	.000
	TECH	3.180	14	.227	.889	.575

Univariate Analysis of Variance

Between-Subjects Factors

TECHCOND			N
.	YESGO	1.00	1
NOTHING	YESGO	1.00	33
		.00	33
PAPER	YESGO	1.00	51
		.00	17
PDA	YESGO	1.00	37
		.00	31
DESKTOP	YESGO	1.00	29
		.00	38
WEARABLE	YESGO	1.00	36
		.00	35
		.50	1

Tests of Between-Subjects Effects

Dependent Variable: Number of technoloical devices checked

TECHCOND	Source	Type III Sum of Squares	df	Mean Square	F	Sig.
NOTHING	Corrected Model	.136[b]	1	.136	.008	.928
	Intercept	109556.379	1	109556.379	6525.553	.000
	YESGO	.136	1	.136	.008	.928
	Error	1074.485	64	16.789		
	Total	110631.000	66			
	Corrected Total	1074.621	65			
PAPER	Corrected Model	23.338[c]	1	23.338	1.562	.216
	Intercept	82925.338	1	82925.338	5551.446	.000
	YESGO	23.338	1	23.338	1.562	.216
	Error	985.882	66	14.938		
	Total	113439.000	68			
	Corrected Total	1009.221	67			
PDA	Corrected Model	3.588[d]	1	3.588	.218	.642
	Intercept	110378.176	1	110378.176	6701.621	.000
	YESGO	3.588	1	3.588	.218	.642
	Error	1087.044	66	16.470		
	Total	112223.000	68			
	Corrected Total	1090.632	67			
DESKTOP	Corrected Model	22.889[e]	1	22.889	1.342	.251
	Intercept	116990.053	1	116990.053	6859.584	.000
	YESGO	22.889	1	22.889	1.342	.251
	Error	1108.574	65	17.055		
	Total	119824.000	67			
	Corrected Total	1131.463	66			
WEARABLE	Corrected Model	10.917[f]	2	5.459	.404	.669
	Intercept	14924.414	1	14924.414	1105.480	.000
	YESGO	10.917	2	5.459	.404	.669
	Error	931.527	69	13.500		

Computer use analysis

Frequencies

Statistics

		Length of time one has used computers	Highest frequecy of computer use	Recent frequecy of computer use
N	Valid	342	341	342
	Missing	0	1	0

Frequency Table

Length of time one has used computers

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1-3 years	1	.3	.3	.3
	3-5 years	7	2.0	2.0	2.3
	> 5 years	334	97.7	97.7	100.0
	Total	342	100.0	100.0	

Highest frequecy of computer use

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	every month	1	.3	.3	.3
	once per week	1	.3	.3	.6
	several days per week	5	1.5	1.5	2.1
	daily, but infrequently	43	12.6	12.6	14.7
	daily, frequently	189	55.3	55.4	70.1
	daily, most of the day	102	29.8	29.9	100.0
	Total	341	99.7	100.0	
Missing	System	1	.3		
Total		342	100.0		

Recent frequecy of computer use

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1-5 hours per week	9	2.6	2.6	2.6
	5-10 hours	46	13.5	13.5	16.1
	10-15 hours per week	87	25.4	25.4	41.5
	> 15 hours	200	58.5	58.5	100.0

Means

Case Processing Summary

	Cases					
	Included		Excluded		Total	
	N	Percent	N	Percent	N	Percent
Length of time one has used computers * YESGO	342	100.0%	0	.0%	342	100.0%
Highest frequecy of computer use * YESGO	341	99.7%	1	.3%	342	100.0%
Recent frequecy of computer use * YESGO	342	100.0%	0	.0%	342	100.0%

Report

YESGO		Length of time one has used computers	Highest frequecy of computer use	Recent frequecy of computer use
.00	Mean	4.9805	6.1169	4.3701
	N	154	154	154
	Std. Deviation	.13866	.78339	.82408
1.00	Mean	4.9679	6.1237	4.4171
	N	187	186	187
	Std. Deviation	.20488	.69809	.81473
Total	Mean	4.9737	6.1232	4.3977
	N	342	341	342
	Std. Deviation	.17766	.73730	.81755

Recent health analysis

Crosstabs

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
YESGO * HEALTHY	341	99.7%	1	.3%	342	100.0%

YESGO * HEALTHY Crosstabulation

Count

		HEALTHY		
		no	yes	Total
YESGO	.00	3	150	153
	.50		1	1
	1.00	4	183	187
Total		7	334	341

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	.034[a]	2	.983
Likelihood Ratio	.055	2	.973
Linear-by-Linear Association	.013	1	.908
N of Valid Cases	341		

a. 4 cells (66.7%) have expected count less than 5. The minimum expected count is .02.

Major analysis

Descriptives

Descriptive Statistics

MAJOR		N	Minimum	Maximum	Mean	Std. Deviation
engineering	YESGO	134	.00	1.00	.5336	.49886
	Valid N (listwise)	134				
arch/design	YESGO	17	.00	1.00	.5294	.51450
	Valid N (listwise)	17				
science	YESGO	43	.00	1.00	.6047	.49471
	Valid N (listwise)	43				
management	YESGO	47	.00	1.00	.3830	.49137
	Valid N (listwise)	47				
computational media	YESGO	7	.00	1.00	.8571	.37796
	Valid N (listwise)	7				
CS	YESGO	21	.00	1.00	.7619	.43644
	Valid N (listwise)	21				
economics	YESGO	1	.00	.00	.0000	.
	Valid N (listwise)	1				
IAML	YESGO	2	1.00	1.00	1.0000	.00000
	Valid N (listwise)	2				
international affairs	YESGO	5	.00	1.00	.8000	.44721
	Valid N (listwise)	5				
matematics	YESGO	1	.00	.00	.0000	.
	Valid N (listwise)	1				
psychology	YESGO	43	.00	1.00	.5814	.49917
	Valid N (listwise)	43				
public policy	YESGO	4	.00	.00	.0000	.00000
	Valid N (listwise)	4				
ST&C	YESGO	9	.00	1.00	.4444	.52705
	Valid N (listwise)	9				
undecided	YESGO	8	.00	1.00	.7500	.46291

Oneway - yesgo and major

ANOVA

YESGO

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	6.080	13	.468	1.957	.024
Within Groups	78.374	328	.239		
Total	84.454	341			

Univariate Analysis of Variance

Between-Subjects Factors

		Value Label	N
MAJOR	1.00	engineering	134
	2.00	arch/design	17
	3.00	science	43
	4.00	management	47
	5.00	computational media	7
	6.00	CS	21
	7.00	economics	1
	8.00	IAML	2
	9.00	international affairs	5
	10.00	matematics	1
	11.00	psychology	43
	12.00	public policy	4
	13.00	ST&C	9
	14.00	undecided	8

Tests of Between-Subjects Effects

Dependent Variable: YESGO

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	6.080[a]	13	.468	1.957	.024
Intercept	14.954	1	14.954	62.583	.000
MAJOR	6.080	13	.468	1.957	.024
Error	78.374	328	.239		
Total	187.250	342			
Corrected Total	84.454	341			

Multivariate Analyses

General Linear Model

Between-Subjects Factors

		Value Label	N
TECHCOND	1	NOTHING	65
	2	PAPER	66
	3	PDA	66
	4	DESKTOP	67
	5	WEARABLE	72
PHASE	1		142
	2		194
MAJOR	1.00		131
	2.00		17
	3.00		43
	4.00		46
	5.00		7
	6.00		21
	7.00		1
	8.00		2
	9.00		4
	10.00		1
	11.00		42
	12.00		4
	13.00		9
	14.00		8
AGE	17.00		2
	18.00		91
	19.00		92
	20.00		69
	21.00		41
	22.00		26
	23.00		11
	24.00		1
	25.00		3

Multivariate Tests[c]

Effect		Value	F	Hypothesis df	Error df	Sig.
Intercept	Pillai's Trace	.997	1210.693[a]	26.000	107.000	.000
	Wilks' Lambda	.003	1210.693[a]	26.000	107.000	.000
	Hotelling's Trace	294.187	1210.693[a]	26.000	107.000	.000
	Roy's Largest Root	294.187	1210.693[a]	26.000	107.000	.000
TECHCOND	Pillai's Trace	.914	1.254	104.000	440.000	.063
	Wilks' Lambda	.348	1.252	104.000	427.037	.064
	Hotelling's Trace	1.233	1.251	104.000	422.000	.066
	Roy's Largest Root	.502	2.123[b]	26.000	110.000	.004
PHASE	Pillai's Trace	.173	.859[a]	26.000	107.000	.662
	Wilks' Lambda	.827	.859[a]	26.000	107.000	.662
	Hotelling's Trace	.209	.859[a]	26.000	107.000	.662
	Roy's Largest Root	.209	.859[a]	26.000	107.000	.662
MAJOR	Pillai's Trace	2.171	.918	338.000	1547.000	.837
	Wilks' Lambda	.083	.907	338.000	1289.738	.864
	Hotelling's Trace	2.885	.898	338.000	1367.000	.890
	Roy's Largest Root	.599	2.744[b]	26.000	119.000	.000
AGE	Pillai's Trace	1.331	.875	208.000	912.000	.882
	Wilks' Lambda	.223	.869	208.000	836.801	.893
	Hotelling's Trace	1.704	.862	208.000	842.000	.905
	Roy's Largest Root	.422	1.849[b]	26.000	114.000	.015
TECHCOND * PHASE	Pillai's Trace	.569	.702	104.000	440.000	.985
	Wilks' Lambda	.537	.697	104.000	427.037	.987
	Hotelling's Trace	.683	.693	104.000	422.000	.988
	Roy's Largest Root	.252	1.068[b]	26.000	110.000	.391
TECHCOND * MAJOR	Pillai's Trace	4.323	.940	728.000	3432.000	.853
	Wilks' Lambda	.006	.931	728.000	2165.798	.877
	Hotelling's Trace	6.406	.925	728.000	2732.000	.904
	Roy's Largest Root	.998	4.703[b]	28.000	132.000	.000
PHASE * MAJOR	Pillai's Trace	1.165	.868	182.000	791.000	.880
	Wilks' Lambda	.270	.862	182.000	737.444	.889
	Hotelling's Trace	1.480	.856	182.000	737.000	.900
	Roy's Largest Root	.416	1.807[b]	26.000	113.000	.018
TECHCOND * PHASE * MAJOR	Pillai's Trace	1.276	.731	234.000	1035.000	.998
	Wilks' Lambda	.244	.717	234.000	933.533	.999
	Hotelling's Trace	1.569	.706	234.000	947.000	.999
	Roy's Largest Root	.343	1.516[b]	26.000	115.000	.071
TECHCOND * AGE	Pillai's Trace	2.849	.848	494.000	2375.000	.989
	Wilks' Lambda	.037	.836	494.000	1722.310	.992
	Hotelling's Trace	3.906	.831	494.000	1997.000	.994
	Roy's Largest Root	.833	4.003[b]	26.000	125.000	.000
PHASE * AGE	Pillai's Trace	.898	.935	130.000	555.000	.677
	Wilks' Lambda	.362	.936	130.000	532.174	.671
	Hotelling's Trace	1.157	.938	130.000	527.000	.665
	Roy's Largest Root	.457	1.952[b]	26.000	111.000	.009
TECHCOND * PHASE * AGE	Pillai's Trace	1.871	.838	312.000	1416.000	.974
	Wilks' Lambda	.119	.830	312.000	1205.618	.978
	Hotelling's Trace	2.446	.824	312.000	1262.000	.982
	Roy's Largest Root	.521	2.364[b]	26.000	118.000	.001
MAJOR * AGE	Pillai's Trace	3.854	.851	702.000	3432.000	.996
	Wilks' Lambda	.010	.841	702.000	2126.540	.997
	Hotelling's Trace	5.633	.843	702.000	2732.000	.997
	Roy's Largest Root	1.048	5.125[b]	27.000	132.000	.000
TECHCOND * MAJOR * AGE	Pillai's Trace	3.973	.882	702.000	3432.000	.982
	Wilks' Lambda	.009	.876	702.000	2126.540	.982
	Hotelling's Trace	5.877	.880	702.000	2732.000	.982
	Roy's Largest Root	1.059	5.178[b]	27.000	132.000	.000
PHASE * MAJOR * AGE	Pillai's Trace	1.387	.919	208.000	912.000	.772
	Wilks' Lambda	.200	.938	208.000	836.801	.713
	Hotelling's Trace	1.893	.958	208.000	842.000	.644
	Roy's Largest Root	.664	2.911[b]	26.000	114.000	.000
TECHCOND * PHASE * MAJOR * AGE	Pillai's Trace	.000	.[a]	.000	.000	.
	Wilks' Lambda	1.000	.[a]	.000	119.500	.
	Hotelling's Trace	.000	.[a]	.000	2.000	.
	Roy's Largest Root	.000	.000[a]	26.000	106.000	1.000

a. Exact statistic

b. The statistic is an upper bound on F that yields a lower bound on the significance level.

MAJOR

General Linear Model

Between-Subjects Factors

		N
MAJOR	1.00	132
	2.00	17
	3.00	43
	4.00	46
	6.00	21
	11.00	42

Multivariate Tests[c]

Effect		Value	F	Hypothesis df	Error df	Sig.
Intercept	Pillai's Trace	.995	11855.404[a]	5.000	291.000	.000
	Wilks' Lambda	.005	11855.404[a]	5.000	291.000	.000
	Hotelling's Trace	203.701	11855.404[a]	5.000	291.000	.000
	Roy's Largest Root	203.701	11855.404[a]	5.000	291.000	.000
MAJOR	Pillai's Trace	.064	.769	25.000	1475.000	.785
	Wilks' Lambda	.937	.766	25.000	1082.519	.788
	Hotelling's Trace	.066	.764	25.000	1447.000	.791
	Roy's Largest Root	.029	1.706[b]	5.000	295.000	.133

a. Exact statistic

b. The statistic is an upper bound on F that yields a lower bound on the significance level.

c. Design: Intercept+MAJOR

Tests of Between-Subjects Effects

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	TECH	.509[a]	5	.102	.789	.558
	GSAT	.445[b]	5	8.894E-02	1.012	.411
	INTER	.429[c]	5	8.573E-02	.708	.618
	COMM	.121[d]	5	2.414E-02	.252	.939
	TIME	1.734[e]	5	.347	1.416	.218
Intercept	TECH	1775.652	1	1775.652	13763.561	.000
	GSAT	1470.628	1	1470.628	16726.495	.000
	INTER	2170.174	1	2170.174	17928.350	.000
	COMM	1734.712	1	1734.712	18098.107	.000
	TIME	1802.144	1	1802.144	7357.913	.000
MAJOR	TECH	.509	5	.102	.789	.558
	GSAT	.445	5	8.894E-02	1.012	.411
	INTER	.429	5	8.573E-02	.708	.618
	COMM	.121	5	2.414E-02	.252	.939
	TIME	1.734	5	.347	1.416	.218
Error	TECH	38.058	295	.129		
	GSAT	25.937	295	8.792E-02		
	INTER	35.709	295	.121		
	COMM	28.276	295	9.585E-02		
	TIME	72.253	295	.245		
Total	TECH	2754.429	301			
	GSAT	2253.917	301			
	INTER	3319.750	301			
	COMM	2665.875	301			
	TIME	2771.000	301			
Corrected Total	TECH	38.567	300			
	GSAT	26.382	300			
	INTER	36.138	300			
	COMM	28.397	300			
	TIME	73.987	300			

a. R Squared = .013 (Adjusted R Squared = -.004)

b. R Squared = .017 (Adjusted R Squared = .000)

c. R Squared = .012 (Adjusted R Squared = -.005)

d. R Squared = .004 (Adjusted R Squared = -.013)

e. R Squared = .023 (Adjusted R Squared = .007)

TechCond

General Linear Model

Between-Subjects Factors

		Value Label	N
TECHCOND	1	NOTHING	65
	2	PAPER	66
	3	PDA	66
	4	DESKTOP	67
	5	WEARABLE	72

Multivariate Tests[c]

Effect		Value	F	Hypothesis df	Error df	Sig.
Intercept	Pillai's Trace	.997	20250.194[a]	5.000	327.000	.000
	Wilks' Lambda	.003	20250.194[a]	5.000	327.000	.000
	Hotelling's Trace	309.636	20250.194[a]	5.000	327.000	.000
	Roy's Largest Root	309.636	20250.194[a]	5.000	327.000	.000
TECHCOND	Pillai's Trace	.112	1.903	20.000	1320.000	.009
	Wilks' Lambda	.892	1.911	20.000	1085.486	.009
	Hotelling's Trace	.118	1.914	20.000	1302.000	.009
	Roy's Largest Root	.062	4.097[b]	5.000	330.000	.001

a. Exact statistic

b. The statistic is an upper bound on F that yields a lower bound on the significance level.

c. Design: Intercept+TECHCOND

Tests of Between-Subjects Effects

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	TECH	1.126[a]	4	.281	2.343	.055
	GSAT	.637[b]	4	.159	1.742	.140
	INTER	.555[c]	4	.139	1.188	.316
	COMM	.157[d]	4	3.915E-02	.425	.791
	TIME	3.141[e]	4	.785	3.394	.010
Intercept	TECH	3020.113	1	3020.113	25147.417	.000
	GSAT	2496.569	1	2496.569	27310.096	.000
	INTER	3664.627	1	3664.627	31370.415	.000
	COMM	2937.302	1	2937.302	31866.423	.000
	TIME	2998.389	1	2998.389	12961.106	.000
TECHCOND	TECH	1.126	4	.281	2.343	.055
	GSAT	.637	4	.159	1.742	.140
	INTER	.555	4	.139	1.188	.316
	COMM	.157	4	3.915E-02	.425	.791
	TIME	3.141	4	.785	3.394	.010
Error	TECH	39.752	331	.120		
	GSAT	30.259	331	9.142E-02		
	INTER	38.667	331	.117		
	COMM	30.510	331	9.218E-02		
	TIME	76.573	331	.231		
Total	TECH	3064.020	336			
	GSAT	2531.722	336			
	INTER	3708.389	336			
	COMM	2971.250	336			
	TIME	3082.750	336			
Corrected Total	TECH	40.877	335			
	GSAT	30.896	335			
	INTER	39.222	335			
	COMM	30.667	335			
	TIME	79.714	335			

a. R Squared = .028 (Adjusted R Squared = .016)

b. R Squared = .021 (Adjusted R Squared = .009)

PHASE
General Linear Model

Between-Subjects Factors

		N
PHASE	1	142
	2	195

Multivariate Tests[b]

Effect		Value	F	Hypothesis df	Error df	Sig.
Intercept	Pillai's Trace	.997	19653.013[a]	5.000	331.000	.000
	Wilks' Lambda	.003	19653.013[a]	5.000	331.000	.000
	Hotelling's Trace	296.873	19653.013[a]	5.000	331.000	.000
	Roy's Largest Root	296.873	19653.013[a]	5.000	331.000	.000
PHASE	Pillai's Trace	.010	.689[a]	5.000	331.000	.632
	Wilks' Lambda	.990	.689[a]	5.000	331.000	.632
	Hotelling's Trace	.010	.689[a]	5.000	331.000	.632
	Roy's Largest Root	.010	.689[a]	5.000	331.000	.632

a. Exact statistic

b. Design: Intercept+PHASE

Tests of Between-Subjects Effects

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	TECH	2.235E-03[a]	1	2.235E-03	.018	.892
	GSAT	.177[b]	1	.177	1.930	.166
	INTER	2.687E-05[a]	1	2.687E-05	.000	.988
	COMM	4.169E-02[c]	1	4.169E-02	.456	.500
	TIME	.197[d]	1	.197	.831	.363
Intercept	TECH	2958.791	1	2958.791	24237.131	.000
	GSAT	2454.236	1	2454.236	26700.943	.000
	INTER	3587.199	1	3587.199	30566.747	.000
	COMM	2873.183	1	2873.183	31427.359	.000
	TIME	2929.972	1	2929.972	12343.866	.000
PHASE	TECH	2.235E-03	1	2.235E-03	.018	.892
	GSAT	.177	1	.177	1.930	.166
	INTER	2.687E-05	1	2.687E-05	.000	.988
	COMM	4.169E-02	1	4.169E-02	.456	.500
	TIME	.197	1	.197	.831	.363
Error	TECH	40.896	335	.122		
	GSAT	30.792	335	9.192E-02		
	INTER	39.314	335	.117		
	COMM	30.627	335	9.142E-02		
	TIME	79.516	335	.237		
Total	TECH	3073.898	337			
	GSAT	2540.722	337			
	INTER	3717.389	337			
	COMM	2980.250	337			
	TIME	3091.750	337			
Corrected Total	TECH	40.898	336			
	GSAT	30.969	336			
	INTER	39.314	336			

Leoh

Subscale Correlation

Technical Quality (TECH) Correlations

Correlations

		QC1	QC3	QC10	QC13	QC17	QC22	QC25
QC 1	Pearson Correlation	1	.148**	.038	.228**	.232**	.235**	.343**
	Sig. (2-tailed)	.	.006	.487	.000	.000	.000	.000
	N	342	342	342	342	342	340	340
QC 3	Pearson Correlation	.148**	1	.235**	.020	.176**	.088	.191**
	Sig. (2-tailed)	.006	.	.000	.718	.001	.104	.000
	N	342	342	342	342	342	340	340
QC 10	Pearson Correlation	.038	.235**	1	.023	.194**	.111*	.193**
	Sig. (2-tailed)	.487	.000	.	.677	.000	.041	.000
	N	342	342	342	342	342	340	340
QC 13	Pearson Correlation	.228**	.020	.023	1	.114*	.151**	.151**
	Sig. (2-tailed)	.000	.718	.677	.	.034	.005	.005
	N	342	342	342	342	342	340	340
QC 17	Pearson Correlation	.232**	.176**	.194**	.114*	1	.182**	.417**
	Sig. (2-tailed)	.000	.001	.000	.034	.	.001	.000
	N	342	342	342	342	342	340	340
QC 22	Pearson Correlation	.235**	.088	.111*	.151**	.182**	1	.267**
	Sig. (2-tailed)	.000	.104	.041	.005	.001	.	.000
	N	340	340	340	340	340	340	340
QC 25	Pearson Correlation	.343**	.191**	.193**	.151**	.417**	.267**	1
	Sig. (2-tailed)	.000	.000	.000	.005	.000	.000	.
	N	340	340	340	340	340	340	340

General Satisfaction (GSAT) Correlations

Correlations

		QC2	QC5	QC9	QC 14	QC 20	QC 24
QC 2	Pearson Correlation	1	.566**	.416**	.354**	.488**	.439**
	Sig. (2-tailed)	.	.000	.000	.000	.000	.000
	N	342	342	342	341	340	340
QC 5	Pearson Correlation	.566**	1	.584**	.528**	.720**	.621**
	Sig. (2-tailed)	.000	.	.000	.000	.000	.000
	N	342	342	342	341	340	340
QC 9	Pearson Correlation	.416**	.584**	1	.571**	.611**	.642**
	Sig. (2-tailed)	.000	.000	.	.000	.000	.000
	N	342	342	342	341	340	340
QC 14	Pearson Correlation	.354**	.528**	.571**	1	.565**	.608**
	Sig. (2-tailed)	.000	.000	.000	.	.000	.000
	N	341	341	341	341	339	339
QC 20	Pearson Correlation	.488**	.720**	.611**	.565**	1	.620**
	Sig. (2-tailed)	.000	.000	.000	.000	.	.000
	N	340	340	340	339	340	340
QC 24	Pearson Correlation	.439**	.621**	.642**	.608**	.620**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.
	N	340	340	340	339	340	340

**. Correlation is significant at the 0.01 level (2-tailed).

Interpersonal Aspects (INTER) Correlations

Correlations

		QC4	QC7	QC11	QC12	QC15	QC19
QC4	Pearson Correlation	1	.472**	.396**	.468**	.520**	.270**
	Sig. (2-tailed)	.	.000	.000	.000	.000	.000
	N	342	342	342	342	341	340
QC7	Pearson Correlation	.472**	1	.283**	.560**	.610**	.181**
	Sig. (2-tailed)	.000	.	.000	.000	.000	.001
	N	342	342	342	342	341	340
QC11	Pearson Correlation	.396**	.283**	1	.279**	.329**	.185**
	Sig. (2-tailed)	.000	.000	.	.000	.000	.001
	N	342	342	342	342	341	340
QC12	Pearson Correlation	.468**	.560**	.279**	1	.507**	.116*
	Sig. (2-tailed)	.000	.000	.000	.	.000	.033
	N	342	342	342	342	341	340
QC15	Pearson Correlation	.520**	.610**	.329**	.507**	1	.150**
	Sig. (2-tailed)	.000	.000	.000	.000	.	.006
	N	341	341	341	341	341	339
QC19	Pearson Correlation	.270**	.181**	.185**	.116*	.150**	1
	Sig. (2-tailed)	.000	.001	.001	.033	.006	.
	N	340	340	340	340	339	340

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Time Spent with the Doctor (COMM) Correlations

Correlations

		QC6	QC8	QC18	QC21
QC6	Pearson Correlation	1	.219**	.227**	.295**
	Sig. (2-tailed)	.	.000	.000	.000
	N	342	342	342	340
QC8	Pearson Correlation	.219**	1	.056	.113*
	Sig. (2-tailed)	.000	.	.303	.037
	N	342	342	342	340
QC18	Pearson Correlation	.227**	.056	1	.727**
	Sig. (2-tailed)	.000	.303	.	.000
	N	342	342	342	340
QC21	Pearson Correlation	.295**	.113*	.727**	1
	Sig. (2-tailed)	.000	.037	.000	.
	N	340	340	340	340

**. Correlation is significant at the 0.01 level (2-tailed).

Correlations

Correlations

		TECH	GSAT	INTER	COMM	TIME
TECH	Pearson Correlation	1	.641**	.511**	.472**	-.072
	Sig. (2-tailed)	.	.000	.000	.000	.188
	N	340	339	339	340	340
GSAT	Pearson Correlation	.641**	1	.689**	.508**	.055
	Sig. (2-tailed)	.000	.	.000	.000	.317
	N	339	339	338	339	339
INTER	Pearson Correlation	.511**	.689**	1	.540**	.122*
	Sig. (2-tailed)	.000	.000	.	.000	.025
	N	339	338	339	339	339
COMM	Pearson Correlation	.472**	.508**	.540**	1	.117*
	Sig. (2-tailed)	.000	.000	.000	.	.031
	N	340	339	339	340	340
TIME	Pearson Correlation	-.072	.055	.122*	.117*	1
	Sig. (2-tailed)	.188	.317	.025	.031	.
	N	340	339	339	340	340

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Interactions

General Linear Model

Between-Subjects Factors

		Value Label	N
PHASE	1		124
	2		177
TECHCOND	1	NOTHING	58
	2	PAPER	57
	3	PDA	58
	4	DESKTOP	61
	5	WEARABLE	67
MAJOR	1.00		132
	2.00		17
	3.00		43
	4.00		46
	6.00		21
	11.00		42

Multivariate Tests[c]

Effect		Value	F	Hypothesis df	Error df	Sig.
Intercept	Pillai's Trace	.983	2816.137[a]	5.000	241.000	.000
	Wilks' Lambda	.017	2816.137[a]	5.000	241.000	.000
	Hotelling's Trace	58.426	2816.137[a]	5.000	241.000	.000
	Roy's Largest Root	58.426	2816.137[a]	5.000	241.000	.000
PHASE	Pillai's Trace	.028	1.407[a]	5.000	241.000	.222
	Wilks' Lambda	.972	1.407[a]	5.000	241.000	.222
	Hotelling's Trace	.029	1.407[a]	5.000	241.000	.222
	Roy's Largest Root	.029	1.407[a]	5.000	241.000	.222
TECHCOND	Pillai's Trace	.110	1.375	20.000	976.000	.125
	Wilks' Lambda	.894	1.370	20.000	800.256	.128
	Hotelling's Trace	.114	1.363	20.000	958.000	.132
	Roy's Largest Root	.054	2.644[b]	5.000	244.000	.024
MAJOR	Pillai's Trace	.110	1.103	25.000	1225.000	.330
	Wilks' Lambda	.894	1.102	25.000	896.777	.332
	Hotelling's Trace	.115	1.099	25.000	1197.000	.335
	Roy's Largest Root	.058	2.850[b]	5.000	245.000	.016
PHASE * TECHCOND	Pillai's Trace	.109	1.371	20.000	976.000	.127
	Wilks' Lambda	.893	1.382	20.000	800.256	.122
	Hotelling's Trace	.116	1.391	20.000	958.000	.117
	Roy's Largest Root	.082	4.002[b]	5.000	244.000	.002
PHASE * MAJOR	Pillai's Trace	.118	1.179	25.000	1225.000	.247
	Wilks' Lambda	.887	1.173	25.000	896.777	.254
	Hotelling's Trace	.122	1.165	25.000	1197.000	.261
	Roy's Largest Root	.050	2.463[b]	5.000	245.000	.034
TECHCOND * MAJOR	Pillai's Trace	.344	.906	100.000	1225.000	.733
	Wilks' Lambda	.699	.900	100.000	1180.388	.745
	Hotelling's Trace	.374	.895	100.000	1197.000	.758
	Roy's Largest Root	.122	1.489[b]	20.000	245.000	.085
PHASE * TECHCOND * MAJOR	Pillai's Trace	.251	.810	80.000	1225.000	.886
	Wilks' Lambda	.771	.810	80.000	1164.482	.885
	Hotelling's Trace	.271	.810	80.000	1197.000	.885
	Roy's Largest Root	.107	1.643[b]	16.000	245.000	.059

a. Exact statistic

b. The statistic is an upper bound on F that yields a lower bound on the significance level.

c. Design: Intercept+PHASE+TECHCOND+MAJOR+PHASE * TECHCOND+PHASE * MAJOR+TECHCOND * MAJOR+PHASE * TECHCOND * MAJOR

Tests of Between-Subjects Effects

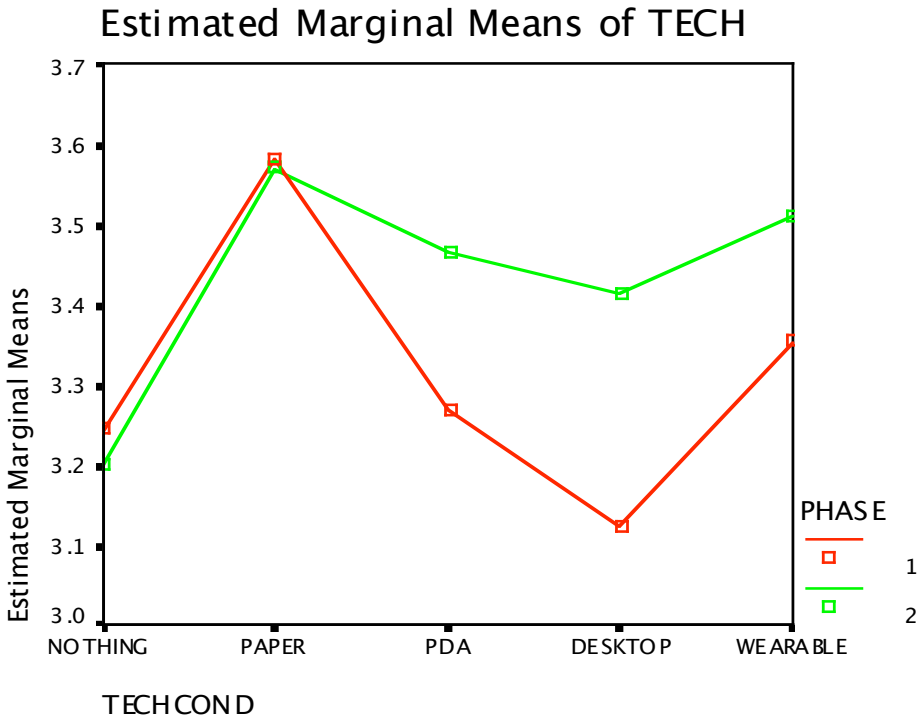
Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	TECH	18.057[a]	55	.328	1.190	.189
	GSAT	41.057[b]	55	.746	1.333	.074
	INTER	38.471[c]	55	.699	1.539	.015
	COMM	25.326[d]	55	.460	1.278	.108
	TIME	12.743[e]	55	.232	.894	.683
Intercept	TECH	1680.133	1	1680.133	6090.177	.000
	GSAT	1216.769	1	1216.769	2172.310	.000
	INTER	1423.411	1	1423.411	3132.025	.000
	COMM	2241.942	1	2241.942	6223.731	.000
	TIME	1341.038	1	1341.038	5176.793	.000
PHASE	TECH	.465	1	.465	1.686	.195
	GSAT	8.574E-02	1	8.574E-02	.153	.696
	INTER	.604	1	.604	1.329	.250
	COMM	5.375E-02	1	5.375E-02	.149	.700
	TIME	7.295E-02	1	7.295E-02	.282	.596
TECHCOND	TECH	2.234	4	.559	2.025	.092
	GSAT	4.603	4	1.151	2.054	.087
	INTER	4.551	4	1.138	2.503	.043
	COMM	1.193	4	.298	.828	.508
	TIME	1.217	4	.304	1.174	.323
MAJOR	TECH	1.480	5	.296	1.073	.376
	GSAT	3.422	5	.684	1.222	.299
	INTER	3.446	5	.689	1.517	.185
	COMM	3.216	5	.643	1.786	.116
	TIME	1.584	5	.317	1.223	.299
PHASE * TECHCOND	TECH	.591	4	.148	.536	.710
	GSAT	2.387	4	.597	1.066	.374
	INTER	5.090	4	1.272	2.800	.027
	COMM	3.224	4	.806	2.238	.066
	TIME	.873	4	.218	.843	.499
PHASE * MAJOR	TECH	2.078	5	.416	1.507	.188
	GSAT	5.094	5	1.019	1.819	.110
	INTER	4.917	5	.983	2.164	.059
	COMM	3.115	5	.623	1.729	.128
	TIME	.610	5	.122	.471	.798
TECHCOND * MAJOR	TECH	4.876	20	.244	.884	.608
	GSAT	7.784	20	.389	.695	.830
	INTER	7.272	20	.364	.800	.713
	COMM	8.425	20	.421	1.169	.282
	TIME	5.152	20	.258	.994	.470
PHASE * TECHCOND * MAJOR	TECH	4.470	16	.279	1.013	.444
	GSAT	6.849	16	.428	.764	.725
	INTER	5.544	16	.347	.762	.727
	COMM	4.074	16	.255	.707	.786
	TIME	2.213	16	.138	.534	.928
Error	TECH	67.590	245	.276		
	GSAT	137.231	245	.560		
	INTER	111.345	245	.454		
	COMM	88.255	245	.360		
	TIME	63.467	245	.259		
Total	TECH	3537.286	301			
	GSAT	2694.833	301			
	INTER	3133.444	301			
	COMM	4700.375	301			
	TIME	2764.250	301			
Corrected Total	TECH	85.647	300			
	GSAT	178.288	300			
	INTER	149.816	300			
	COMM	113.581	300			
	TIME	76.209	300			

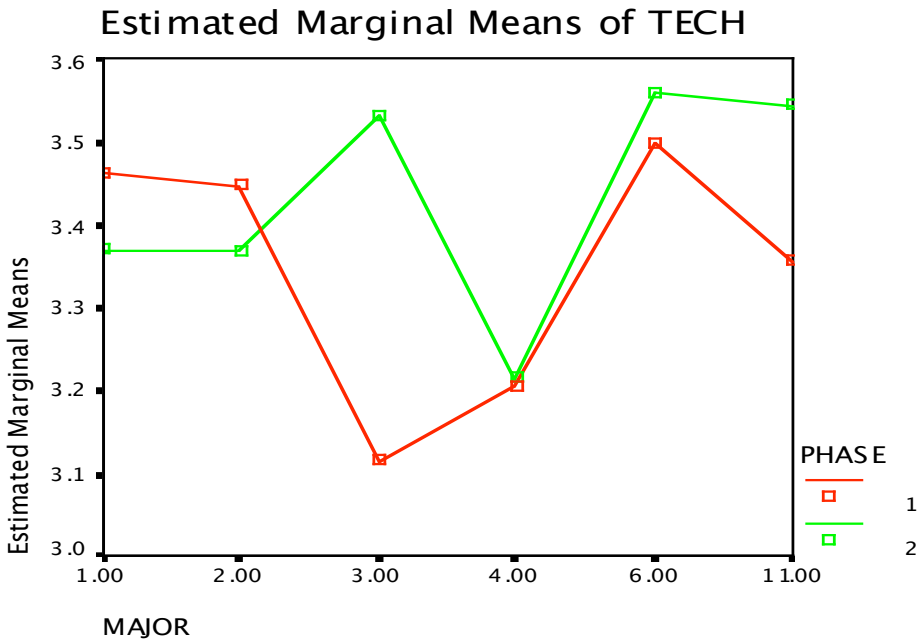
a. R Squared = .211 (Adjusted R Squared = .034)

b. R Squared = .230 (Adjusted R Squared = .057)

Profile Plots

TECH

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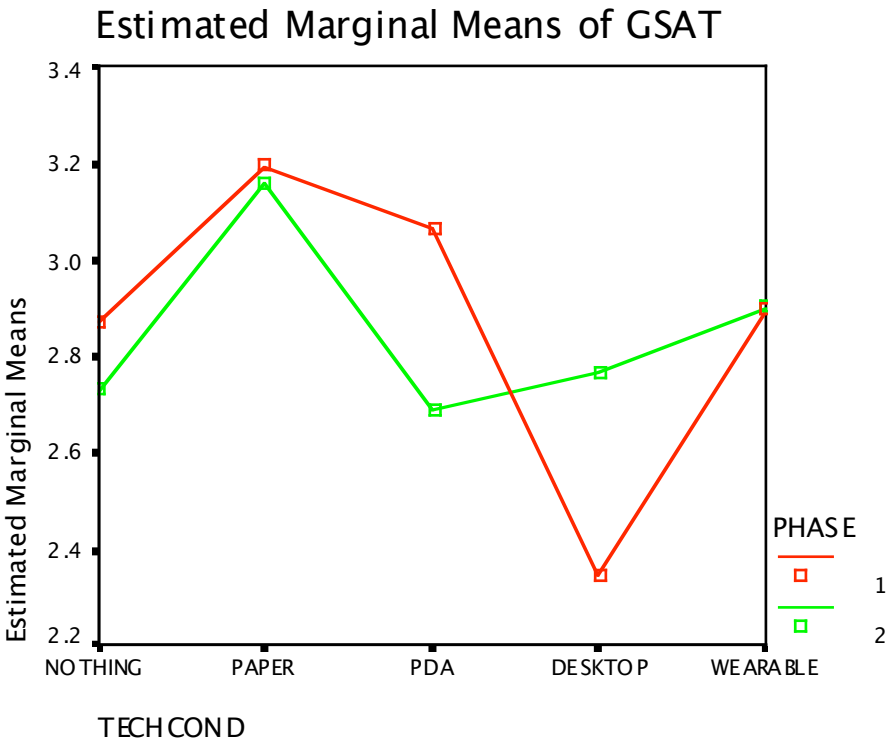
6.00
11.00
MAJOR
PHASE
1
2

GSAT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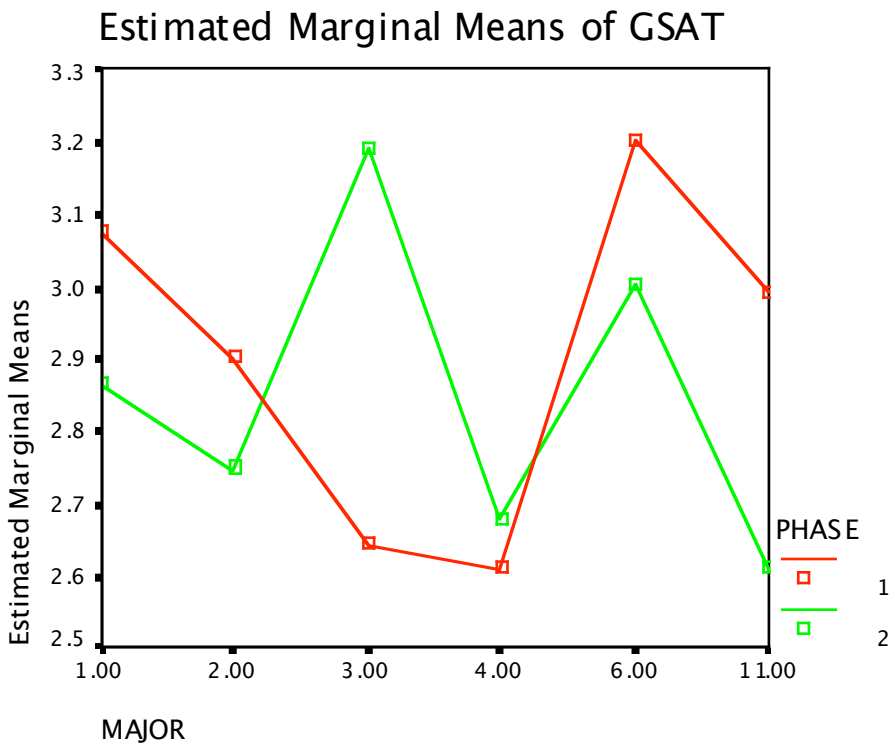
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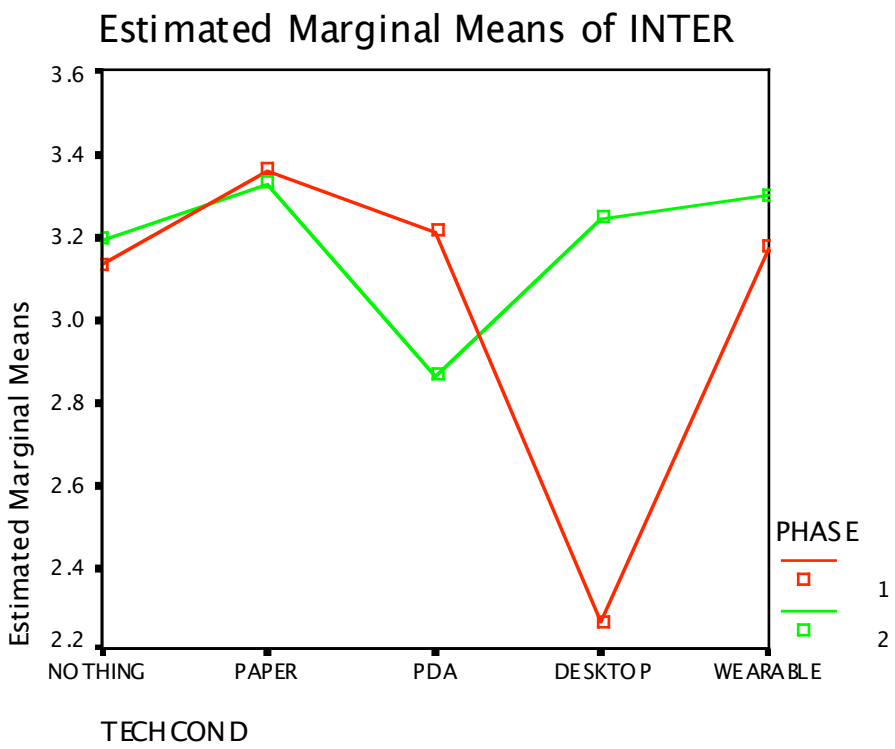
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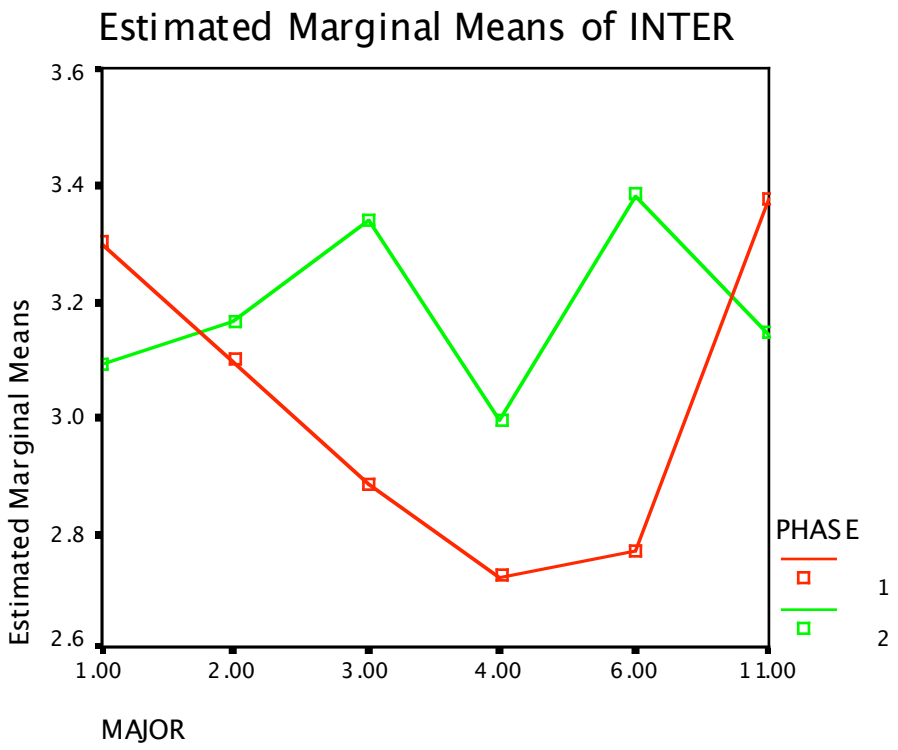
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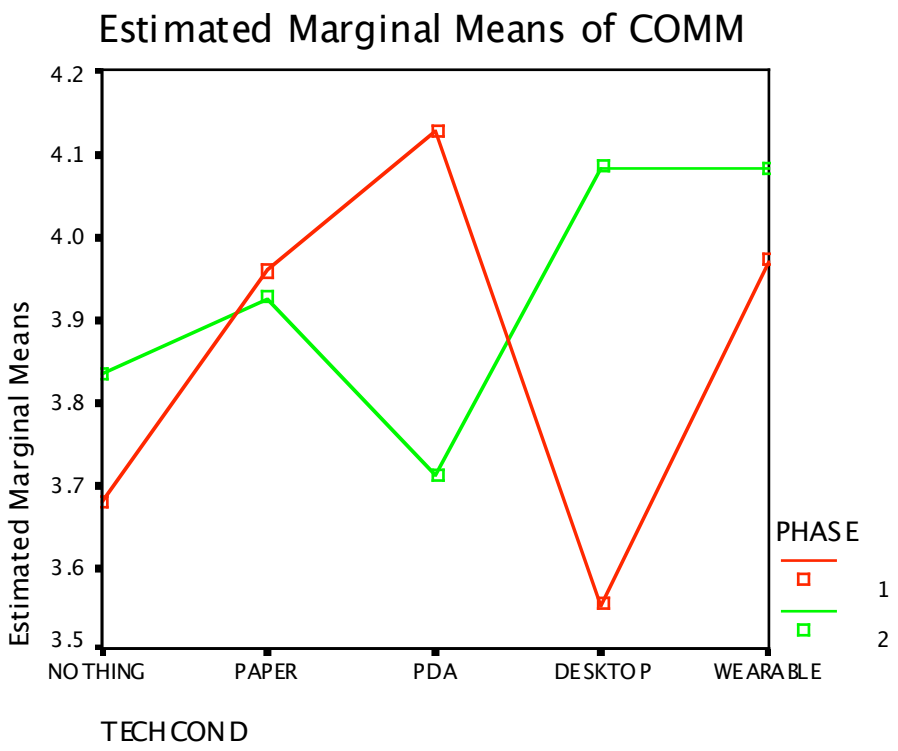
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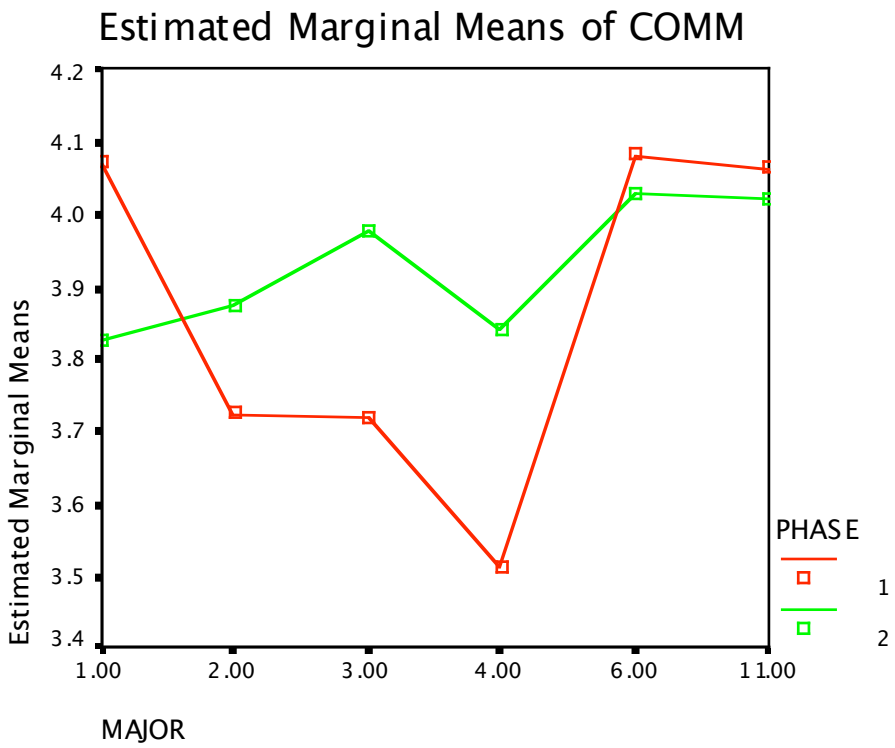
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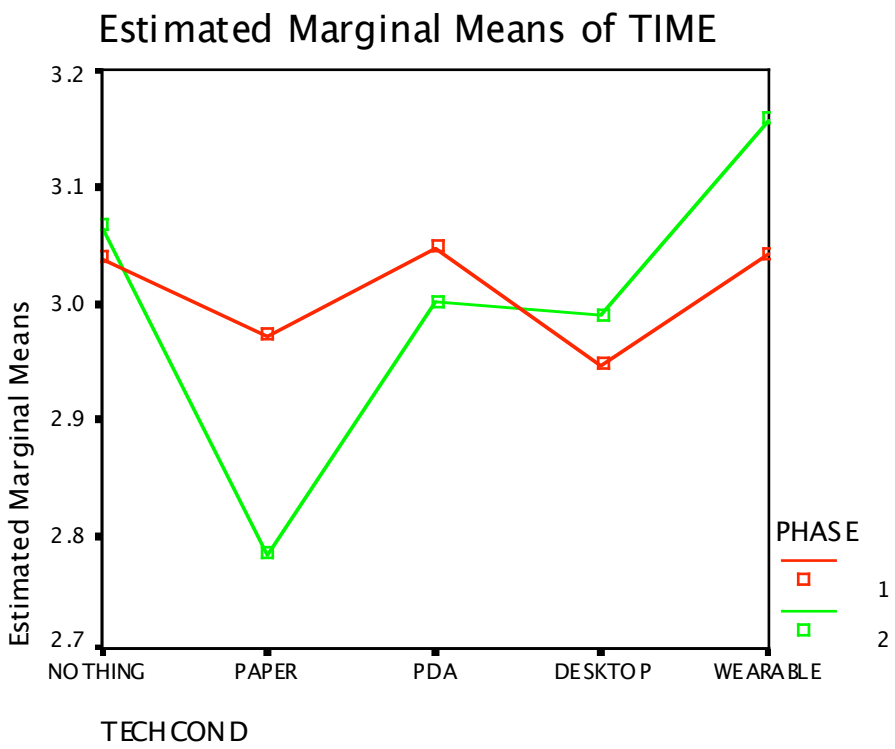
TIME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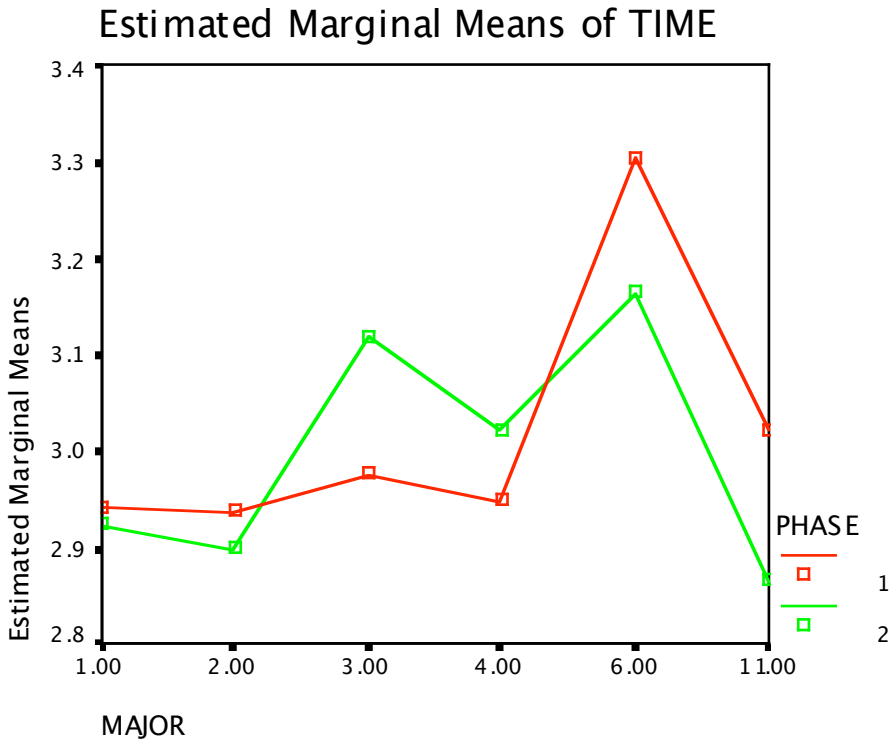

Posthoc Analyses of Significant Results

MAJOR

Univariate Analysis of Variance – YESGO

Descriptive Statistics

Dependent Variable: YESGO

MAJOR	Mean	Std. Deviation	N
1.00	.5336	.49886	134
2.00	.5294	.51450	17
3.00	.6047	.49471	43
4.00	.3830	.49137	47
6.00	.7619	.43644	21
11.00	.5814	.49917	43
Total	.5426	.49817	305

Tests of Between-Subjects Effects

Dependent Variable: YESGO

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	2.452[a]	5	.490	2.008	.077
Intercept	63.396	1	63.396	259.685	.000
MAJOR	2.452	5	.490	2.008	.077
Error	72.994	299	.244		
Total	165.250	305			
Corrected Total					

MAJOR

Dependent Variable: YESGO

MAJOR	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
1.00	.534	.043	.450	.618
2.00	.529	.120	.294	.765
3.00	.605	.075	.456	.753
4.00	.383	.072	.241	.525
6.00	.762	.108	.550	.974
11.00	.581	.075	.433	.730

Multiple Comparisons

Dependent Variable: YESGO

Tukey HSD

(I) MAJOR	(J) MAJOR	Mean Difference (I–J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1.00	2.00	.0042	.12721	1.000	–.3607	.3690
	3.00	–.0711	.08660	.964	–.3195	.1773
	4.00	.1506	.08376	.469	–.0897	.3909
	6.00	–.2283	.11596	.363	–.5609	.1043
	11.00	–.0478	.08660	.994	–.2962	.2006
2.00	1.00	–.0042	.12721	1.000	–.3690	.3607
	3.00	–.0752	.14156	.995	–.4813	.3308
	4.00	.1464	.13984	.901	–.2547	.5475
	6.00	–.2325	.16120	.701	–.6949	.2299
	11.00	–.0520	.14156	.999	–.4580	.3540
3.00	1.00	.0711	.08660	.964	–.1773	.3195
	2.00	.0752	.14156	.995	–.3308	.4813
	4.00	.2217	.10427	.277	–.0774	.5207
	6.00	–.1573	.13154	.839	–.5345	.2200
	11.00	.0233	.10656	1.000	–.2824	.3289
4.00	1.00	–.1506	.08376	.469	–.3909	.0897
	2.00	–.1464	.13984	.901	–.5475	.2547
	3.00	–.2217	.10427	.277	–.5207	.0774
	6.00	–.3789*	.12969	.043	–.7509	–.0069
	11.00	–.1984	.10427	.402	–.4975	.1007
6.00	1.00	.2283	.11596	.363	–.1043	.5609
	2.00	.2325	.16120	.701	–.2299	.6949
	3.00	.1573	.13154	.839	–.2200	.5345
	4.00	.3789*	.12969	.043	.0069	.7509
	11.00	.1805	.13154	.744	–.1968	.5578
11.00	1.00	.0478	.08660	.994	–.2006	.2962
	2.00	.0520	.14156	.999	–.3540	.4580
	3.00	–.0233	.10656	1.000	–.3289	.2824
	4.00	.1984	.10427	.402	–.1007	.4975
	6.00	–.1805	.13154	.744	–.5578	.1968

Based on observed means.

*. The mean difference is significant at the .05 level.

Univariate Analysis of Variance – QC2

Descriptive Statistics

Dependent Variable: QC2

MAJOR	Mean	Std. Deviation	N
1.00	3.5896	.89453	134
2.00	3.4706	.87447	17
3.00	3.8140	.62700	43
4.00	3.2979	.90686	47
6.00	3.9048	.43644	21
11.00	3.4884	.88296	43
Total	3.5770	.84767	305

Tests of Between-Subjects Effects

Dependent Variable: QC2

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	8.884[a]	5	1.777	2.535	.029
Intercept	2559.550	1	2559.550	3652.037	.000
MAJOR	8.884	5	1.777	2.535	.029
Error	209.556	299	.701		
Total	4121.000	305			
Corrected Total	218.439	304			

a. R Squared = .041 (Adjusted R Squared = .025)

MAJOR

Dependent Variable: QC2

MAJOR	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
1.00	3.590	.072	3.447	3.732
2.00	3.471	.203	3.071	3.870
3.00	3.814	.128	3.563	4.065
4.00	3.298	.122	3.058	3.538
6.00	3.905	.183	3.545	4.264
11.00	3.488	.128	3.237	3.740

Multiple Comparisons

Dependent Variable: QC2

Tukey HSD

(I) MAJOR	(J) MAJOR	Mean Difference (I–J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1.00	2.00	.1190	.21554	.994	-.4993	.7372
	3.00	-.2244	.14673	.646	-.6453	.1965
	4.00	.2917	.14192	.314	-.1154	.6988
	6.00	-.3152	.19648	.596	-.8788	.2484
	11.00	.1012	.14673	.983	-.3197	.5220
2.00	1.00	-.1190	.21554	.994	-.7372	.4993
	3.00	-.3434	.23985	.708	-1.0313	.3446

Univariate Analysis of Variance – QC10

Descriptive Statistics

Dependent Variable: QC10

MAJOR	Mean	Std. Deviation	N
1.00	3.0821	.45963	134
2.00	3.1176	.48507	17
3.00	2.9302	.45750	43
4.00	2.9574	.29173	47
6.00	3.1429	.47809	21
11.00	2.9302	.33773	43
Total	3.0262	.42839	305

Tests of Between-Subjects Effects

Dependent Variable: QC10

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	1.861[a]	5	.372	2.063	.070
Intercept	1815.167	1	1815.167	10063.796	.000
MAJOR	1.861	5	.372	2.063	.070
Error	53.929	299	.180		
Total	2849.000	305			
Corrected Total	55.790	304			

a. R Squared = .033 (Adjusted R Squared = .017)

Multiple Comparisons

Dependent Variable: QC10

Tukey HSD

(I) MAJOR	(J) MAJOR	Mean Difference (I–J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
1.00	2.00	-.0356	.10934	1.000	-.3492	.2781
	3.00	.1519	.07444	.322	-.0616	.3654
	4.00	.1246	.07200	.512	-.0819	.3312
	6.00	-.0608	.09967	.990	-.3467	.2251
	11.00	.1519	.07444	.322	-.0616	.3654
2.00	1.00	.0356	.10934	1.000	-.2781	.3492
	3.00	.1874	.12167	.638	-.1616	.5364

Univariate Analysis of Variance - QC20

Descriptive Statistics

Dependent Variable: QC20

MAJOR	Mean	Std. Deviation	N
1.00	3.2256	.99709	133
2.00	3.0000	1.06066	17
3.00	2.9302	.93593	43
4.00	2.7826	1.07317	46
6.00	3.1905	.81358	21
11.00	2.9070	.97135	43
Total	3.0561	.99676	303

Tests of Between-Subjects Effects

Dependent Variable: QC20

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	9.330[a]	5	1.866	1.906	.093
Intercept	1785.239	1	1785.239	1823.829	.000
MAJOR	9.330	5	1.866	1.906	.093
Error	290.716	297	.979		
Total	3130.000	303			
Corrected Total	300.046	302			

a. R Squared = .031 (Adjusted R Squared = .015)

MAJOR

Dependent Variable: QC20

MAJOR	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
1.00	3.226	.086	3.057	3.394
2.00	3.000	.240	2.528	3.472
3.00	2.930	.151	2.633	3.227
4.00	2.783	.146	2.496	3.070
6.00	3.190	.216	2.766	3.615
11.00	2.907	.151	2.610	3.204

Multiple Comparisons

Dependent Variable: QC20

Tukey HSD

(I) MAJOR	(J) MAJOR	Mean Difference (I–J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1.00	2.00	.2256	.25483	.950	−.5054	.9565
	3.00	.2953	.17356	.532	−.2025	.7932
	4.00	.4430	.16923	.096	−.0425	.9284
	6.00	.0351	.23232	1.000	−.6313	.7015
	11.00	.3186	.17356	.444	−.1793	.8164
2.00	1.00	−.2256	.25483	.950	−.9565	.5054
	3.00	.0698	.28345	1.000	−.7433	.8828
	4.00	.2174	.28082	.972	−.5881	1.0229
	6.00	−.1905	.32279	.992	−1.1164	.7354
	11.00	.0930	.28345	.999	−.7200	.9061
3.00	1.00	−.2953	.17356	.532	−.7932	.2025
	2.00	−.0698	.28345	1.000	−.8828	.7433
	4.00	.1476	.20986	.981	−.4544	.7496
	6.00	−.2602	.26339	.922	−1.0158	.4953
	11.00	.0233	.21337	1.000	−.5888	.6353
4.00	1.00	−.4430	.16923	.096	−.9284	.0425
	2.00	−.2174	.28082	.972	−1.0229	.5881
	3.00	−.1476	.20986	.981	−.7496	.4544
	6.00	−.4079	.26056	.622	−1.1553	.3395
	11.00	−.1244	.20986	.991	−.7263	.4776
6.00	1.00	−.0351	.23232	1.000	−.7015	.6313
	2.00	.1905	.32279	.992	−.7354	1.1164
	3.00	.2602	.26339	.922	−.4953	1.0158
	4.00	.4079	.26056	.622	−.3395	1.1553
	11.00	.2835	.26339	.891	−.4720	1.0390
11.00	1.00	−.3186	.17356	.444	−.8164	.1793
	2.00	−.0930	.28345	.999	−.9061	.7200
	3.00	−.0233	.21337	1.000	−.6353	.5888
	4.00	.1244	.20986	.991	−.4776	.7263
	6.00	−.2835	.26339	.891	−1.0390	.4720

Based on observed means.

Univariate Analysis of Variance – QC23

Descriptive Statistics

Dependent Variable: QC23

MAJOR	Mean	Std. Deviation	N
1.00	2.4586	.99629	133
2.00	2.4118	.71229	17
3.00	2.5349	.76684	43
4.00	2.7826	.91683	46
6.00	2.8095	.74960	21
11.00	2.3256	.68037	43
Total	2.5215	.89074	303

Tests of Between-Subjects Effects

Dependent Variable: QC23

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	7.267[a]	5	1.453	1.858	.102
Intercept	1288.578	1	1288.578	1647.161	.000
MAJOR	7.267	5	1.453	1.858	.102
Error	232.344	297	.782		
Total	2166.000	303			
Corrected Total	239.611	302			

MAJOR

Dependent Variable: QC23

MAJOR	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
1.00	2.459	.077	2.308	2.610
2.00	2.412	.215	1.990	2.834
3.00	2.535	.135	2.269	2.800
4.00	2.783	.130	2.526	3.039
6.00	2.810	.193	2.430	3.189
11.00	2.326	.135	2.060	2.591

Multiple Comparisons

Dependent Variable: QC23

Tukey HSD

(I) MAJOR	(J) MAJOR	Mean Difference (I–J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1.00	2.00	.0469	.22782	1.000	–.6066	.7004
	3.00	–.0762	.15516	.996	–.5213	.3688
	4.00	–.3240	.15129	.269	–.7579	.1100
	6.00	–.3509	.20769	.540	–.9466	.2449
	11.00	.1331	.15516	.956	–.3120	.5781
2.00	1.00	–.0469	.22782	1.000	–.7004	.6066
	3.00	–.1231	.25340	.997	–.8500	.6037
	4.00	–.3708	.25105	.679	–1.0910	.3493

AGE

Univariate Analysis of Variance – QC4

Descriptive Statistics

Dependent Variable: QC4

AGE	Mean	Std. Deviation	N
18.00	3.5806	1.06651	93
19.00	3.6237	.93150	93
20.00	3.6571	1.06166	70
21.00	3.6585	1.15347	41
22.00	3.0741	1.26873	27
23.00	2.9167	1.24011	12
Total	3.5536	1.07486	336

Tests of Between-Subjects Effects

Dependent Variable: QC4

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	12.803[a]	5	2.561	2.258	.048
Intercept	2330.023	1	2330.023	2054.625	.000
AGE	12.803	5	2.561	2.258	.048
Error	374.233	330	1.134		
Total	4630.000	336			
Corrected Total	387.036	335			

AGE

Dependent Variable: QC4

AGE	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
18.00	3.581	.110	3.363	3.798
19.00	3.624	.110	3.406	3.841
20.00	3.657	.127	3.407	3.908
21.00	3.659	.166	3.331	3.986
22.00	3.074	.205	2.671	3.477
23.00	2.917	.307	2.312	3.521

Multiple Comparisons

Dependent Variable: QC4
Tukey HSD

(I) AGE	(J) AGE	Mean Difference (I–J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
18.00	19.00	–.0430	.15617	1.000	–.4907	.4046
	20.00	–.0765	.16851	.998	–.5595	.4065
	21.00	–.0779	.19963	.999	–.6501	.4944
	22.00	.5066	.23280	.252	–.1608	1.1739
	23.00	.6640	.32665	.326	–.2724	1.6003
19.00	18.00	.0430	.15617	1.000	–.4046	.4907
	20.00	–.0335	.16851	1.000	–.5165	.4495
	21.00	–.0349	.19963	1.000	–.6071	.5374
	22.00	.5496	.23280	.173	–.1177	1.2169
	23.00	.7070	.32665	.257	–.2294	1.6433
20.00	18.00	.0765	.16851	.998	–.4065	.5595
	19.00	.0335	.16851	1.000	–.4495	.5165
	21.00	–.0014	.20943	1.000	–.6017	.5989
	22.00	.5831	.24125	.153	–.1085	1.2746
	23.00	.7405	.33272	.229	–.2133	1.6942
21.00	18.00	.0779	.19963	.999	–.4944	.6501
	19.00	.0349	.19963	1.000	–.5374	.6071
	20.00	.0014	.20943	1.000	–.5989	.6017
	22.00	.5845	.26393	.234	–.1721	1.3410
	23.00	.7419	.34952	.278	–.2600	1.7438
22.00	18.00	–.5066	.23280	.252	–1.1739	.1608
	19.00	–.5496	.23280	.173	–1.2169	.1177
	20.00	–.5831	.24125	.153	–1.2746	.1085
	21.00	–.5845	.26393	.234	–1.3410	.1721
	23.00	.1574	.36947	.998	–.9017	1.2165
23.00	18.00	–.6640	.32665	.326	–1.6003	.2724
	19.00	–.7070	.32665	.257	–1.6433	.2294
	20.00	–.7405	.33272	.229	–1.6942	.2133
	21.00	–.7419	.34952	.278	–1.7438	.2600
	22.00	–.1574	.36947	.998	–1.2165	.9017

Based on observed means.

Univariate Analysis of Variance – QC11

Descriptive Statistics

Dependent Variable: QC11

AGE	Mean	Std. Deviation	N
18.00	3.7527	1.01784	93

Tests of Between-Subjects Effects

Dependent Variable: QC11

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	9.458[a]	5	1.892	2.553	.028
Intercept	3046.457	1	3046.457	4111.282	.000
AGE	9.458	5	1.892	2.553	.028
Error	[illegible]	[illegible]	[illegible]		

AGE

Dependent Variable: QC11

AGE	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
18.00	3.753	.089	3.577	3.928
19.00	4.043	.089	3.867	4.219
20.00	4.029	.103	3.826	4.231
21.00	4.073	.134	3.809	4.338
22.00	3.556	.166	3.230	3.881
23.00	4.000	.248	3.511	4.489

Multiple Comparisons

Dependent Variable: QC11

Tukey HSD

(I) AGE	(J) AGE	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
18.00	19.00	-.2903	.12624	.197	-.6522	.0715
	20.00	-.2759	.13621	.330	-.6663	.1146
	21.00	-.3205	.16137	.353	-.7831	.1421
	22.00	.1971	.18818	.901	-.3423	.7366
	23.00	-.2473	.26404	.937	-1.0042	.5096
19.00	18.00	.2903	.12624	.197	-.0715	.6522
	20.00	.0144	.13621	1.000	-.3760	.4049
	21.00	-.0302	.16137	1.000	-.4927	.4324
	22.00	.4875	.18818	.102	-.0520	1.0269
	23.00	.0430	.26404	1.000	-.7139	.7999
20.00	18.00	.2759	.13621	.330	-.1146	.6663
	19.00	-.0144	.13621	1.000	-.4049	.3760
	21.00	-.0446	.16929	1.000	-.5299	.4407
	22.00	.4730	.19501	.150	-.0860	1.0320
	23.00	.0286	.26895	1.000	-.7424	.7995
[illegible]						

Univariate Analysis of Variance – QC14

Descriptive Statistics

Dependent Variable: QC14

AGE	Mean	Std. Deviation	N
18.00	2.2174	.84938	92
19.00	2.2796	.81248	93
20.00	2.3429	.93073	70
21.00	2.7561	1.06725	41
22.00	2.4444	.69798	27
23.00	2.6667	1.07309	12
Total	2.3612	.89459	335

Tests of Between-Subjects Effects

Dependent Variable: QC14

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	10.246[a]	5	2.049	2.623	.024
Intercept	1197.201	1	1197.201	1532.311	.000
AGE	10.246	5	2.049	2.623	.024
Error	257.049	329	.781		
Total	2135.000	335			
Corrected Total	267.296	334			

a. R Squared = .038 (Adjusted R Squared = .024)

AGE

Dependent Variable: QC14

AGE	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
18.00	2.217	.092	2.036	2.399
19.00	2.280	.092	2.099	2.460
20.00	2.343	.106	2.135	2.551
21.00	2.756	.138	2.485	3.028
22.00	2.444	.170	2.110	2.779
23.00	2.667	.255	2.165	3.169

Multiple Comparisons

Dependent Variable: QC14

Tukey HSD

(I) AGE	(J) AGE	Mean Difference (I–J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
18.00	19.00	−.0622	.12998	.997	−.4348	.3104
	20.00	−.1255	.14019	.948	−.5273	.2764
	21.00	−.5387*	.16598	.016	−1.0145	−.0629
	22.00	−.2271	.19347	.849	−.7816	.3275
	23.00	−.4493	.27130	.562	−1.2270	.3284
19.00	18.00	.0622	.12998	.997	−.3104	.4348
	20.00	−.0633	.13987	.998	−.4642	.3377
	21.00	−.4765*	.16570	.049	−.9515	−.0015
	22.00	−.1649	.19323	.957	−.7188	.3890
	23.00	−.3871	.27113	.710	−1.1643	.3901
20.00	18.00	.1255	.14019	.948	−.2764	.5273
	19.00	.0633	.13987	.998	−.3377	.4642
	21.00	−.4132	.17383	.167	−.9115	.0851
	22.00	−.1016	.20025	.996	−.6756	.4724
	23.00	−.3238	.27617	.850	−1.1155	.4679
21.00	18.00	.5387*	.16598	.016	.0629	1.0145
	19.00	.4765*	.16570	.049	.0015	.9515
	20.00	.4132	.17383	.167	−.0851	.9115
	22.00	.3117	.21907	.713	−.3163	.9396
	23.00	.0894	.29011	1.000	−.7422	.9211
22.00	18.00	.2271	.19347	.849	−.3275	.7816
	19.00	.1649	.19323	.957	−.3890	.7188
	20.00	.1016	.20025	.996	−.4724	.6756
	21.00	−.3117	.21907	.713	−.9396	.3163
	23.00	−.2222	.30667	.979	−1.1013	.6569
23.00	18.00	.4493	.27130	.562	−.3284	1.2270
	19.00	.3871	.27113	.710	−.3901	1.1643
	20.00	.3238	.27617	.850	−.4679	1.1155
	21.00	−.0894	.29011	1.000	−.9211	.7422
	22.00	.2222	.30667	.979	−.6569	1.1013

Based on observed means.

*. The mean difference is significant at the .05 level.

Univariate Analysis of Variance – INTER

Descriptive Statistics

Dependent Variable: INTER

AGE	Mean	Std. Deviation	N
18.00	3.1341	.68973	92
19.00	3.1953	.64998	93
20.00	3.1957	.65552	69
21.00	3.3943	.80688	41
22.00	2.8519	.68770	27
23.00	3.0606	.89527	11
Total	3.1707	.70044	333

AGE

Dependent Variable: INTER

AGE	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
18.00	3.134	.072	2.992	3.277
19.00	3.195	.072	3.054	3.337
20.00	3.196	.084	3.031	3.360
21.00	3.394	.108	3.181	3.608
22.00	2.852	.134	2.589	3.115
23.00	3.061	.209	2.649	3.473

Tests of Between-Subjects Effects

Dependent Variable: INTER

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	5.151[a]	5	1.030	2.136	.061
Intercept	1881.851	1	1881.851	3901.326	.000
AGE	5.151	5	1.030	2.136	.061
Error	157.732	327	.482		
Total	3510.583	333			
Corrected Total	162.884	332			

a. R Squared = .032 (Adjusted R Squared = .017)

Multiple Comparisons

Dependent Variable: INTER

Tukey HSD

(I) AGE	(J) AGE	Mean Difference (I–J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
18.00	19.00	-.0613	.10213	.991	-.3540	.2315
	20.00	-.0616	.11061	.994	-.3787	.2555
	21.00	-.2603	.13041	.347	-.6341	.1136
	22.00	.2822	.15201	.431	-.1536	.7180
	23.00	.0735	.22157	.999	-.5617	.7086
19.00	18.00	.0613	.10213	.991	-.2315	.3540
	20.00	-.0003	.11035	1.000	-.3167	.3160
	21.00	-.1990	.13020	.646	-.5722	.1743
	22.00	.3435	.15183	.213	-.0918	.7787
	23.00	.1347	.22144	.990	-.5001	.7696
20.00	18.00	.0616	.11061	.994	-.2555	.3787
	19.00	.0003	.11035	1.000	-.3160	.3167
	21.00	-.1987	.13695	.696	-.5913	.1939
	22.00	.3438	.15766	.250	-.1082	.7958
	23.00	.1350	.22548	.991	-.5113	.7814
21.00	18.00	.2603	.13041	.347	-.1136	.6341
	19.00	.1990	.13020	.646	-.1743	.5722
	20.00	.1987	.13695	.696	-.1939	.5913
	22.00	.5425*	.17213	.022	.0490	1.0359
	23.00	.3337	.23583	.718	-.3424	1.0098
22.00	18.00	-.2822	.15201	.431	-.7180	.1536
	19.00	-.3435	.15183	.213	-.7787	.0918
	20.00	-.3438	.15766	.250	-.7958	.1082
	21.00	-.5425*	.17213	.022	-1.0359	-.0490
	23.00	-.2088	.24843	.960	-.9209	.5034
23.00	18.00	-.0735	.22157	.999	-.7086	.5617
	19.00	-.1347	.22144	.990	-.7696	.5001
	20.00	-.1350	.22548	.991	-.7814	.5113
	21.00	-.3337	.23583	.718	-1.0098	.3424
	22.00	.2088	.24843	.960	-.5034	.9209

Based on observed means.

*. The mean difference is significant at the .05 level.

TECHCOND

Univariate Analysis of Variance – YESGO

Descriptive Statistics

Dependent Variable: YESGO

TECHCOND	Mean	Std. Deviation	N
NOTHING	.5000	.50395	64
PAPER	.7500	.43623	68
PDA	.5441	.50175	68
DESKTOP	.4375	.50000	64
WEARABLE	.5000	.50000	71
Total	.5478	.49771	335

Tests of Between-Subjects Effects

Dependent Variable: YESGO

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	3.868[a]	4	.967	4.046	.003
Intercept	99.828	1	99.828	417.701	.000
TECHCOND	3.868	4	.967	4.046	.003
Error	78.868	330	.239		
Total	183.250	335			
Corrected Total	82.736	334			

a. R Squared = .047 (Adjusted R Squared = .035)

TECHCOND

Dependent Variable: YESGO

TECHCOND	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
NOTHING	.500	.061	.380	.620
PAPER	.750	.059	.633	.867
PDA	.544	.059	.427	.661
DESKTOP	.438	.061	.317	.558
WEARABLE	.500	.058	.386	.614

Multiple Comparisons

Dependent Variable: YESGO

Tukey HSD

(I) TECHCOND	(J) TECHCOND	Mean Difference (I–J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
NOTHING	PAPER	-.2500*	.08514	.029	-.4835	-.0165
	PDA	-.0441	.08514	.986	-.2777	.1894
	DESKTOP	.0625	.08642	.951	-.1745	.2995
	WEARABLE	.0000	.08426	1.000	-.2311	.2311
PAPER	NOTHING	.2500*	.08514	.029	.0165	.4835
	PDA	.2059	.08384	.104	-.0241	.4358
	DESKTOP	.3125*	.08514	.003	.0790	.5460
	WEARABLE	.2500*	.08295	.023	.0225	.4775
PDA	NOTHING	.0441	.08514	.986	-.1894	.2777
	PAPER	-.2059	.08384	.104	-.4358	.0241
	DESKTOP	.1066	.08514	.721	-.1269	.3402
	WEARABLE	.0441	.08295	.984	-.1834	.2716
DESKTOP	NOTHING	-.0625	.08642	.951	-.2995	.1745
	PAPER	-.3125*	.08514	.003	-.5460	-.0790
	PDA	-.1066	.08514	.721	-.3402	.1269
	WEARABLE	-.0625	.08426	.947	-.2936	.1686
WEARABLE	NOTHING	.0000	.08426	1.000	-.2311	.2311
	PAPER	-.2500*	.08295	.023	-.4775	-.0225
	PDA	-.0441	.08295	.984	-.2716	.1834
	DESKTOP	.0625	.08426	.947	-.1686	.2936

Based on observed means.

*. The mean difference is significant at the .05 level.

Univariate Analysis of Variance – QC4

Descriptive Statistics

Dependent Variable: QC4

TECHCOND	Mean	Std. Deviation	N
NOTHING	3.7656	.90400	64
PAPER	3.8676	1.02075	68
PDA	3.4853	.99989	68
DESKTOP	3.0312	1.32100	64
WEARABLE	3.6197	.91599	71
Total	3.5582	1.07310	335

TECHCOND

Dependent Variable: QC4

TECHCOND	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
NOTHING	3.766	.130	3.510	4.021
PAPER	3.868	.126	3.620	4.116
PDA	3.485	.126	3.237	3.733
DESKTOP	3.031	.130	2.776	3.287
WEARABLE	3.620	.123	3.377	3.863

Source	of Squares	df	Mean Square	F	Sig.
Corrected Model	27.667[a]	4	6.917	6.394	.000
Intercept	4224.376	1	4224.376	3905.450	.000
TECHCOND	27.667	4	6.917	6.394	.000
Error	356.948	330	1.082		
Total	4626.000	335			
Corrected Total	384.615	334			

a. R Squared = .072 (Adjusted R Squared = .061)

Multiple Comparisons

Dependent Variable: QC4

Tukey HSD

(I) TECHCOND	(J) TECHCOND	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
NOTHING	PAPER	-.1020	.18113	.980	-.5988	.3948
	PDA	.2803	.18113	.532	-.2165	.7772
	DESKTOP	.7344*	.18385	.001	.2301	1.2387
	WEARABLE	.1459	.17926	.926	-.3458	.6376
PAPER	NOTHING	.1020	.18113	.980	-.3948	.5988
	PDA	.3824	.17836	.204	-.1069	.8716
	DESKTOP	.8364*	.18113	.000	.3396	1.3332
	WEARABLE	.2479	.17647	.625	-.2361	.7320
PDA	NOTHING	-.2803	.18113	.532	-.7772	.2165
	PAPER	-.3824	.17836	.204	-.8716	.1069
	DESKTOP	.4540	.18113	.092	-.0428	.9509
	WEARABLE	-.1344	.17647	.941	-.6185	.3496
DESKTOP	NOTHING	-.7344*	.18385	.001	-1.2387	-.2301
	PAPER	-.8364*	.18113	.000	-1.3332	-.3396
	PDA	-.4540	.18113	.092	-.9509	.0428
	WEARABLE	-.5885*	.17926	.010	-1.0802	-.0968
WEARABLE	NOTHING	-.1459	.17926	.926	-.6376	.3458
	PAPER	-.2479	.17647	.625	-.7320	.2361
	PDA	.1344	.17647	.941	-.3496	.6185
	DESKTOP	.5885*	.17926	.010	.0968	1.0802

Based on observed means.

*. The mean difference is significant at the .05 level.

Univariate Analysis of Variance - QC 7

Descriptive Statistics

Dependent Variable: QC7

TECHCOND	Mean	Std. Deviation	N
NOTHING	3.1406	1.13902	64
PAPER	2.7647	1.03833	68
PDA	2.5147	.85506	68
DESKTOP	2.1719	.98488	64
WEARABLE	2.8592	1.08622	71
Total	2.6925	1.06851	335

Tests of Between-Subjects Effects

Dependent Variable: QC7

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	34.675[a]	4	8.669	8.252	.000
Intercept	2420.605	1	2420.605	2304.301	.000
TECHCOND	34.675	4	8.669	8.252	.000
Error	346.656	330	1.050		
Total	2810.000	335			
Corrected Total	381.331	334			

a. R Squared = .091 (Adjusted R Squared = .080)

TECHCOND

Dependent Variable: QC7

TECHCOND	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
NOTHING	3.141	.128	2.889	3.393
PAPER	2.765	.124	2.520	3.009
PDA	2.515	.124	2.270	2.759
DESKTOP	2.172	.128	1.920	2.424
WEARABLE	2.859	.122	2.620	3.098

Multiple Comparisons

Dependent Variable: QC7

Tukey HSD

(I) TECHCOND	(J) TECHCOND	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
NOTHING	PAPER	.3759	.17850	.220	-.1137	.8655
	PDA	.6259*	.17850	.005	.1363	1.1155
	DESKTOP	.9688*	.18118	.000	.4718	1.4657
	WEARABLE	.2815	.17666	.503	-.2031	.7660
PAPER	NOTHING	-.3759	.17850	.220	-.8655	.1137
	PDA	.2500	.17577	.614	-.2321	.7321
	DESKTOP	.5928*	.17850	.009	.1032	1.0824
	WEARABLE	-.0944	.17391	.983	-.5715	.3826
PDA	NOTHING	-.6259*	.17850	.005	-1.1155	-.1363
	PAPER	-.2500	.17577	.614	-.7321	.2321
	DESKTOP	.3428	.17850	.308	-.1468	.8324
	WEARABLE	-.3444	.17391	.278	-.8215	.1326
DESKTOP	NOTHING	-.9688*	.18118	.000	-1.4657	-.4718
	PAPER	-.5928*	.17850	.009	-1.0824	-.1032
	PDA	-.3428	.17850	.308	-.8324	.1468
	WEARABLE	-.6873*	.17666	.001	-1.1718	-.2027
WEARABLE	NOTHING	-.2815	.17666	.503	-.7660	.2031
	PAPER	.0944	.17391	.983	-.3826	.5715
	PDA	.3444	.17391	.278	-.1326	.8215
	DESKTOP	.6873*	.17666	.001	.2027	1.1718

Based on observed means.

*. The mean difference is significant at the .05 level.

Univariate Analysis of Variance – QC11

Descriptive Statistics

Dependent Variable: QC11

TECHCOND	Mean	Std. Deviation	N
NOTHING	3.7969	.94583	64
PAPER	3.9853	.80098	68
PDA	3.8971	.90008	68
DESKTOP	3.8281	1.03210	64
WEARABLE	4.0845	.64910	71
Total	3.9224	.87202	335

Tests of Between-Subjects Effects

Dependent Variable: QC11

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	3.756[a]	4	.939	1.238	.294
Intercept	5135.252	1	5135.252	6772.400	.000
TECHCOND	3.756	4	.939	1.238	.294
Error	250.226	330	.758		
Total	5408.000	335			
Corrected Total	253.982	334			

a. R Squared = .015 (Adjusted R Squared = .003)

TECHCOND

Dependent Variable: QC11

TECHCOND	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
NOTHING	3.797	.109	3.583	4.011
PAPER	3.985	.106	3.778	4.193
PDA	3.897	.106	3.689	4.105
DESKTOP	3.828	.109	3.614	4.042
WEARABLE	4.085	.103	3.881	4.288

Multiple Comparisons

Dependent Variable: QC11

Tukey HSD

(I) TECHCOND	(J) TECHCOND	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
NOTHING	PAPER	-.1884	.15165	.726	-.6044	.2276
	PDA	-.1002	.15165	.965	-.5162	.3158
	DESKTOP	-.0313	.15393	1.000	-.4535	.3910
	WEARABLE	-.2876	.15009	.311	-.6993	.1241
PAPER	NOTHING	.1884	.15165	.726	-.2276	.6044
	PDA	.0882	.14934	.976	-.3214	.4979
	DESKTOP	.1572	.15165	.838	-.2588	.5731
	WEARABLE	-.0992	.14775	.962	-.5045	.3061
PDA	NOTHING	.1002	.15165	.965	-.3158	.5162
	PAPER	-.0882	.14934	.976	-.4979	.3214
	DESKTOP	.0689	.15165	.991	-.3470	.4849
	WEARABLE	-.1874	.14775	.711	-.5927	.2178
DESKTOP	NOTHING	.0313	.15393	1.000	-.3910	.4535
	PAPER	-.1572	.15165	.838	-.5731	.2588
	PDA	-.0689	.15165	.991	-.4849	.3470
	WEARABLE	-.2564	.15009	.430	-.6681	.1553
WEARABLE	NOTHING	.2876	.15009	.311	-.1241	.6993
	PAPER	.0992	.14775	.962	-.3061	.5045
	PDA	.1874	.14775	.711	-.2178	.5927
	DESKTOP	.2564	.15009	.430	-.1553	.6681

Based on observed means.

Univariate Analysis of Variance – QC 12

Descriptive Statistics

Dependent Variable: QC12

TECHCOND	Mean	Std. Deviation	N
NOTHING	2.5000	1.18187	64
PAPER	2.5294	1.23953	68
PDA	2.0147	.93828	68
DESKTOP	1.8750	1.09109	64
WEARABLE	2.4789	1.20545	71
Total	2.2836	1.16339	335

Tests of Between-Subjects Effects

Dependent Variable: QC12

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	25.415[a]	4	6.354	4.914	.001
Intercept	1738.069	1	1738.069	1344.357	.000
TECHCOND	25.415	4	6.354	4.914	.001
Error	426.645	330	1.293		
Total	2199.000	335			
Corrected Total	452.060	334			

a. R Squared = .056 (Adjusted R Squared = .045)

TECHCOND

Dependent Variable: QC12

TECHCOND	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
NOTHING	2.500	.142	2.220	2.780
PAPER	2.529	.138	2.258	2.801
PDA	2.015	.138	1.743	2.286
DESKTOP	1.875	.142	1.595	2.155
WEARABLE	2.479	.135	2.213	2.744

Multiple Comparisons

Dependent Variable: QC12

Tukey HSD

(I) TECHCOND	(J) TECHCOND	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
NOTHING	PAPER	-.0294	.19802	1.000	-.5726	.5138
	PDA	.4853	.19802	.105	-.0579	1.0285
	DESKTOP	.6250*	.20100	.017	.0737	1.1763
	WEARABLE	.0211	.19599	1.000	-.5164	.5587
PAPER	NOTHING	.0294	.19802	1.000	-.5138	.5726
	PDA	.5147	.19500	.066	-.0202	1.0496
	DESKTOP	.6544*	.19802	.009	.1112	1.1976
	WEARABLE	.0505	.19293	.999	-.4787	.5797
PDA	NOTHING	-.4853	.19802	.105	-1.0285	.0579
	PAPER	-.5147	.19500	.066	-1.0496	.0202
	DESKTOP	.1397	.19802	.955	-.4035	.6829
	WEARABLE	-.4642	.19293	.116	-.9934	.0650
DESKTOP	NOTHING	-.6250*	.20100	.017	-1.1763	-.0737
	PAPER	-.6544*	.19802	.009	-1.1976	-.1112
	PDA	-.1397	.19802	.955	-.6829	.4035
	WEARABLE	-.6039*	.19599	.019	-1.1414	-.0663
WEARABLE	NOTHING	-.0211	.19599	1.000	-.5587	.5164
	PAPER	-.0505	.19293	.999	-.5797	.4787
	PDA	.4642	.19293	.116	-.0650	.9934
	DESKTOP	.6039*	.19599	.019	.0663	1.1414

Based on observed means.

*. The mean difference is significant at the .05 level.

Univariate Analysis of Variance – QC14

Descriptive Statistics

Dependent Variable: QC14

TECHCOND	Mean	Std. Deviation	N
NOTHING	2.2344	.86817	64
PAPER	2.7761	.93454	67
PDA	2.3676	.87936	68
DESKTOP	2.0156	.74519	64
WEARABLE	2.3803	.88425	71
Total	2.3593	.89524	334

Tests of Between-Subjects Effects

Dependent Variable: QC14

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	20.234[a]	4	5.059	6.748	.000
Intercept	1849.220	1	1849.220	2466.609	.000
TECHCOND	20.234	4	5.059	6.748	.000
Error	246.652	329	.750		
Total	2126.000	334			
Corrected Total	266.886	333			

a. R Squared = .076 (Adjusted R Squared = .065)

TECHCOND

Dependent Variable: QC14

TECHCOND	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
NOTHING	2.234	.108	2.021	2.447
PAPER	2.776	.106	2.568	2.984
PDA	2.368	.105	2.161	2.574
DESKTOP	2.016	.108	1.803	2.229
WEARABLE	2.380	.103	2.178	2.582

Multiple Comparisons

Dependent Variable: QC14

Tukey HSD

(I) TECHCOND	(J) TECHCOND	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
NOTHING	PAPER	-.5417*	.15134	.004	-.9569	-.1266
	PDA	-.1333	.15079	.903	-.5469	.2804
	DESKTOP	.2188	.15306	.609	-.2011	.6386
	WEARABLE	-.1459	.14924	.865	-.5553	.2635
PAPER	NOTHING	.5417*	.15134	.004	.1266	.9569
	PDA	.4085	.14905	.050	-.0004	.8173
	DESKTOP	.7605*	.15134	.000	.3454	1.1756
	WEARABLE	.3958	.14747	.058	-.0087	.8004
PDA	NOTHING	.1333	.15079	.903	-.2804	.5469
	PAPER	-.4085	.14905	.050	-.8173	.0004
	DESKTOP	.3520	.15079	.137	-.0616	.7656
	WEARABLE	-.0126	.14692	1.000	-.4156	.3904
DESKTOP	NOTHING	-.2188	.15306	.609	-.6386	.2011
	PAPER	-.7605*	.15134	.000	-1.1756	-.3454
	PDA	-.3520	.15079	.137	-.7656	.0616
	WEARABLE	-.3647	.14924	.107	-.7740	.0447
WEARABLE	NOTHING	.1459	.14924	.865	-.2635	.5553
	PAPER	-.3958	.14747	.058	-.8004	.0087
	PDA	.0126	.14692	1.000	-.3904	.4156
	DESKTOP	.3647	.14924	.107	-.0447	.7740

Based on observed means.

*. The mean difference is significant at the .05 level.

Univariate Analysis of Variance - QC15

Descriptive Statistics

Dependent Variable: QC15

TECHCOND	Mean	Std. Deviation	N
NOTHING	3.1250	1.14781	64
PAPER	3.0896	1.16426	67
PDA	2.7059	1.02300	68
DESKTOP	2.3750	1.07644	64
WEARABLE	3.1690	1.02798	71
Total	2.8982	1.12378	334

Tests of Between-Subjects Effects

Dependent Variable: QC15

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	30.987[a]	4	7.747	6.543	.000
Intercept	2790.878	1	2790.878	2357.062	.000
TECHCOND	30.987	4	7.747	6.543	.000
Error	389.552	329	1.184		
Total	3226.000	334			
Corrected Total	420.539	333			

a. R Squared = .074 (Adjusted R Squared = .062)

TECHCOND

Dependent Variable: QC15

TECHCOND	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
NOTHING	3.125	.136	2.857	3.393
PAPER	3.090	.133	2.828	3.351
PDA	2.706	.132	2.446	2.965
DESKTOP	2.375	.136	2.107	2.643
WEARABLE	3.169	.129	2.915	3.423

Multiple Comparisons

Dependent Variable: QC15

Tukey HSD

(I) TECHCOND	(J) TECHCOND	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
NOTHING	PAPER	.0354	.19019	1.000	-.4862	.5571
	PDA	.4191	.18951	.178	-.1007	.9389
	DESKTOP	.7500*	.19236	.001	.2224	1.2776
	WEARABLE	-.0440	.18756	.999	-.5585	.4704
PAPER	NOTHING	-.0354	.19019	1.000	-.5571	.4862
	PDA	.3837	.18731	.245	-.1301	.8975
	DESKTOP	.7146*	.19019	.002	.1929	1.2362
	WEARABLE	-.0795	.18534	.993	-.5878	.4289
PDA	NOTHING	-.4191	.18951	.178	-.9389	.1007
	PAPER	-.3837	.18731	.245	-.8975	.1301
	DESKTOP	.3309	.18951	.407	-.1889	.8507
	WEARABLE	-.4631	.18463	.091	-.9696	.0433
DESKTOP	NOTHING	-.7500*	.19236	.001	-1.2776	-.2224
	PAPER	-.7146*	.19019	.002	-1.2362	-.1929
	PDA	-.3309	.18951	.407	-.8507	.1889
	WEARABLE	-.7940*	.18756	.000	-1.3085	-.2796
WEARABLE	NOTHING	.0440	.18756	.999	-.4704	.5585
	PAPER	.0795	.18534	.993	-.4289	.5878
	PDA	.4631	.18463	.091	-.0433	.9696
	DESKTOP	.7940*	.18756	.000	.2796	1.3085

Based on observed means.

*. The mean difference is significant at the .05 level.

Univariate Analysis of Variance- QC24

Descriptive Statistics

Dependent Variable: QC24

TECHCOND	Mean	Std. Deviation	N
NOTHING	2.7143	1.06904	63
PAPER	3.1765	1.10550	68
PDA	2.6866	1.03293	67
DESKTOP	2.3906	.93634	64
WEARABLE	2.9014	1.11040	71
Total	2.7808	1.07965	333

Tests of Between-Subjects Effects

Dependent Variable: QC24

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	22.295[a]	4	5.574	5.013	.001
Intercept	2557.498	1	2557.498	2300.125	.000
TECHCOND	22.295	4	5.574	5.013	.001
Error	364.702	328	1.112		
Total	2962.000	333			
Corrected Total	386.997	332			

a. R Squared = .058 (Adjusted R Squared = .046)

TECHCOND

Dependent Variable: QC24

TECHCOND	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
NOTHING	2.714	.133	2.453	2.976
PAPER	3.176	.128	2.925	3.428
PDA	2.687	.129	2.433	2.940
DESKTOP	2.391	.132	2.131	2.650
WEARABLE	2.901	.125	2.655	3.148

Multiple Comparisons

Dependent Variable: QC24

Tukey HSD

(I) TECHCOND	(J) TECHCOND	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
NOTHING	PAPER	-.4622	.18439	.092	-.9680	.0436
	PDA	.0277	.18505	1.000	-.4799	.5353
	DESKTOP	.3237	.18714	.417	-.1897	.8370
	WEARABLE	-.1871	.18251	.844	-.6877	.3135
PAPER	NOTHING	.4622	.18439	.092	-.0436	.9680
	PDA	.4899	.18151	.056	-.0080	.9878
	DESKTOP	.7858*	.18364	.000	.2821	1.2896
	WEARABLE	.2751	.17892	.539	-.2157	.7658
PDA	NOTHING	-.0277	.18505	1.000	-.5353	.4799
	PAPER	-.4899	.18151	.056	-.9878	.0080
	DESKTOP	.2959	.18431	.495	-.2096	.8015
	WEARABLE	-.2148	.17960	.754	-.7075	.2778
DESKTOP	NOTHING	-.3237	.18714	.417	-.8370	.1897
	PAPER	-.7858*	.18364	.000	-1.2896	-.2821
	PDA	-.2959	.18431	.495	-.8015	.2096
	WEARABLE	-.5108*	.18175	.042	-1.0093	-.0122
WEARABLE	NOTHING	.1871	.18251	.844	-.3135	.6877
	PAPER	-.2751	.17892	.539	-.7658	.2157
	PDA	.2148	.17960	.754	-.2778	.7075
	DESKTOP	.5108*	.18175	.042	.0122	1.0093

Based on observed means.

*. The mean difference is significant at the .05 level.

Univariate Analysis of Variance - QC25

Descriptive Statistics

Dependent Variable: QC25

TECHCOND	Mean	Std. Deviation	N
NOTHING	3.2381	.77697	63
PAPER	3.5588	.74076	68
PDA	3.3134	.63267	67
DESKTOP	3.1094	.62022	64
WEARABLE	3.4648	.69346	71
Total	3.3423	.70918	333

Tests of Between-Subjects Effects

Dependent Variable: QC25

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	8.465[a]	4	2.116	4.379	.002
Intercept	3701.091	1	3701.091	7658.676	.000
TECHCOND	8.465	4	2.116	4.379	.002
Error	158.508	328	.483		
Total	3887.000	333			
Corrected Total	166.973	332			

a. R Squared = .051 (Adjusted R Squared = .039)

TECHCOND

Dependent Variable: QC25

TECHCOND	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
NOTHING	3.238	.088	3.066	3.410
PAPER	3.559	.084	3.393	3.725
PDA	3.313	.085	3.146	3.481
DESKTOP	3.109	.087	2.938	3.280
WEARABLE	3.465	.083	3.302	3.627

Multiple Comparisons

Dependent Variable: QC25

Tukey HSD

(I) TECHCOND	(J) TECHCOND	Mean Difference (I–J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
NOTHING	PAPER	-.3207	.12156	.066	-.6542	.0127
	PDA	-.0753	.12200	.972	-.4100	.2593
	DESKTOP	.1287	.12338	.835	-.2097	.4671
	WEARABLE	-.2267	.12032	.328	-.5567	.1033
PAPER	NOTHING	.3207	.12156	.066	-.0127	.6542
	PDA	.2454	.11966	.244	-.0828	.5736
	DESKTOP	.4494*	.12107	.002	.1174	.7815
	WEARABLE	.0940	.11795	.931	-.2295	.4176
PDA	NOTHING	.0753	.12200	.972	-.2593	.4100
	PAPER	-.2454	.11966	.244	-.5736	.0828
	DESKTOP	.2041	.12151	.448	-.1292	.5373
	WEARABLE	-.1514	.11840	.705	-.4761	.1734
DESKTOP	NOTHING	-.1287	.12338	.835	-.4671	.2097
	PAPER	-.4494*	.12107	.002	-.7815	-.1174
	PDA	-.2041	.12151	.448	-.5373	.1292
	WEARABLE	-.3554*	.11982	.027	-.6841	-.0267
WEARABLE	NOTHING	.2267	.12032	.328	-.1033	.5567
	PAPER	-.0940	.11795	.931	-.4176	.2295
	PDA	.1514	.11840	.705	-.1734	.4761
	DESKTOP	.3554*	.11982	.027	.0267	.6841

Based on observed means.

*. The mean difference is significant at the .05 level.

Univariate Analysis of Variance – TECH

Descriptive Statistics

Dependent Variable: TECH

TECHCOND	Mean	Std. Deviation	N
NOTHING	3.2744	.46913	63
PAPER	3.5273	.43405	68
PDA	3.3667	.65287	67
DESKTOP	3.2589	.48286	64
WEARABLE	3.4588	.50647	71
Total	3.3810	.52243	333

Tests of Between-Subjects Effects

Dependent Variable: TECH

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	3.568[a]	4	.892	3.362	.010
Intercept	3791.068	1	3791.068	14285.570	.000
TECHCOND	3.568	4	.892	3.362	.010
Error	87.044	328	.265		
Total	3897.082	333			
Corrected Total	90.612	332			

a. R Squared = .039 (Adjusted R Squared = .028)

TECHCOND

Dependent Variable: TECH

TECHCOND	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
NOTHING	3.274	.065	3.147	3.402
PAPER	3.527	.062	3.404	3.650
PDA	3.367	.063	3.243	3.491
DESKTOP	3.259	.064	3.132	3.386
WEARABLE	3.459	.061	3.338	3.579

Multiple Comparisons

Dependent Variable: TECH

Tukey HSD

(I) TECHCOND	(J) TECHCOND	Mean Difference (I–J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
NOTHING	PAPER	-.2529*	.09008	.042	-.5000	-.0058
	PDA	-.0924	.09041	.845	-.3403	.1556
	DESKTOP	.0154	.09143	1.000	-.2353	.2662
	WEARABLE	-.1844	.08916	.237	-.4290	.0602
PAPER	NOTHING	.2529*	.09008	.042	.0058	.5000
	PDA	.1606	.08868	.369	-.0827	.4038
	DESKTOP	.2684*	.08972	.025	.0223	.5145
	WEARABLE	.0686	.08741	.935	-.1712	.3083
PDA	NOTHING	.0924	.09041	.845	-.1556	.3403
	PAPER	-.1606	.08868	.369	-.4038	.0827
	DESKTOP	.1078	.09004	.753	-.1392	.3548
	WEARABLE	-.0920	.08774	.832	-.3327	.1487
DESKTOP	NOTHING	-.0154	.09143	1.000	-.2662	.2353
	PAPER	-.2684*	.08972	.025	-.5145	-.0223
	PDA	-.1078	.09004	.753	-.3548	.1392
	WEARABLE	-.1998	.08879	.164	-.4434	.0437
WEARABLE	NOTHING	.1844	.08916	.237	-.0602	.4290
	PAPER	-.0686	.08741	.935	-.3083	.1712
	PDA	.0920	.08774	.832	-.1487	.3327
	DESKTOP	.1998	.08879	.164	-.0437	.4434

Based on observed means.

*. The mean difference is significant at the .05 level.

Univariate Analysis of Variance – GSAT

Descriptive Statistics

Dependent Variable: GSAT

TECHCOND	Mean	Std. Deviation	N
NOTHING	2.8439	.79361	63
PAPER	3.1866	.76184	67
PDA	2.8458	.69891	67
DESKTOP	2.5937	.74882	64
WEARABLE	2.9225	.72912	71
Total	2.8820	.76550	332

Tests of Between-Subjects Effects

Dependent Variable: GSAT

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	11.829[a]	4	2.957	5.309	.000
Intercept	2746.072	1	2746.072	4930.242	.000
TECHCOND	11.829	4	2.957	5.309	.000
Error	182.134	327	.557		
Total	2951.583	332			
Corrected Total	193.963	331			

a. R Squared = .061 (Adjusted R Squared = .049)

TECHCOND

Dependent Variable: GSAT

TECHCOND	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
NOTHING	2.844	.094	2.659	3.029
PAPER	3.187	.091	3.007	3.366
PDA	2.846	.091	2.666	3.025
DESKTOP	2.594	.093	2.410	2.777
WEARABLE	2.923	.089	2.748	3.097

Multiple Comparisons

Dependent Variable: GSAT

Tukey HSD

(I) TECHCOND	(J) TECHCOND	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
NOTHING	PAPER	-.3427	.13097	.070	-.7019	.0166
	PDA	-.0019	.13097	1.000	-.3611	.3574
	DESKTOP	.2502	.13245	.325	-.1132	.6135
	WEARABLE	-.0786	.12917	.974	-.4330	.2757
PAPER	NOTHING	.3427	.13097	.070	-.0166	.7019
	PDA	.3408	.12894	.065	-.0129	.6945
	DESKTOP	.5928*	.13045	.000	.2350	.9506
	WEARABLE	.2640	.12711	.233	-.0847	.6127
PDA	NOTHING	.0019	.13097	1.000	-.3574	.3611
	PAPER	-.3408	.12894	.065	-.6945	.0129
	DESKTOP	.2520	.13045	.302	-.1058	.6098
	WEARABLE	-.0768	.12711	.974	-.4254	.2719
DESKTOP	NOTHING	-.2502	.13245	.325	-.6135	.1132
	PAPER	-.5928*	.13045	.000	-.9506	-.2350
	PDA	-.2520	.13045	.302	-.6098	.1058
	WEARABLE	-.3288	.12864	.081	-.6816	.0241
WEARABLE	NOTHING	.0786	.12917	.974	-.2757	.4330
	PAPER	-.2640	.12711	.233	-.6127	.0847
	PDA	.0768	.12711	.974	-.2719	.4254
	DESKTOP	.3288	.12864	.081	-.0241	.6816

Based on observed means.

*. The mean difference is significant at the .05 level.

Univariate Analysis of Variance – INTER

Descriptive Statistics

Dependent Variable: INTER

TECHCOND	Mean	Std. Deviation	N
NOTHING	3.3148	.68856	63
PAPER	3.3234	.70763	67
PDA	3.0721	.60874	67
DESKTOP	2.8307	.73192	64
WEARABLE	3.2958	.65659	71
Total	3.1702	.70144	332

Tests of Between-Subjects Effects

Dependent Variable: INTER

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	12.029[a]	4	3.007	6.520	.000
Intercept	3324.866	1	3324.866	7208.415	.000
TECHCOND	12.029	4	3.007	6.520	.000
Error	150.828	327	.461		
Total	3499.472	332			
Corrected Total	162.857	331			

a. R Squared = .074 (Adjusted R Squared = .063)

TECHCOND

Dependent Variable: INTER

TECHCOND	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
NOTHING	3.315	.086	3.146	3.483
PAPER	3.323	.083	3.160	3.487
PDA	3.072	.083	2.909	3.235
DESKTOP	2.831	.085	2.664	2.998
WEARABLE	3.296	.081	3.137	3.454

Multiple Comparisons

Dependent Variable: INTER

Tukey HSD

(I) TECHCOND	(J) TECHCOND	Mean Difference (I–J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
NOTHING	PAPER	-.0086	.11919	1.000	-.3355	.3184
	PDA	.2427	.11919	.251	-.0843	.5696
	DESKTOP	.4841*	.12053	.001	.1535	.8147
	WEARABLE	.0190	.11755	1.000	-.3034	.3415
PAPER	NOTHING	.0086	.11919	1.000	-.3184	.3355
	PDA	.2512	.11734	.205	-.0706	.5731
	DESKTOP	.4927*	.11871	.000	.1670	.8183
	WEARABLE	.0276	.11568	.999	-.2897	.3449
PDA	NOTHING	-.2427	.11919	.251	-.5696	.0843
	PAPER	-.2512	.11734	.205	-.5731	.0706
	DESKTOP	.2414	.11871	.252	-.0842	.5670
	WEARABLE	-.2236	.11568	.302	-.5409	.0937
DESKTOP	NOTHING	-.4841*	.12053	.001	-.8147	-.1535
	PAPER	-.4927*	.11871	.000	-.8183	-.1670
	PDA	-.2414	.11871	.252	-.5670	.0842
	WEARABLE	-.4650*	.11706	.001	-.7862	-.1439
WEARABLE	NOTHING	-.0190	.11755	1.000	-.3415	.3034
	PAPER	-.0276	.11568	.999	-.3449	.2897
	PDA	.2236	.11568	.302	-.0937	.5409
	DESKTOP	.4650*	.11706	.001	.1439	.7862

Based on observed means.

*. The mean difference is significant at the .05 level.

Univariate Analysis of Variance - COMM

Descriptive Statistics

Dependent Variable: COMM

TECHCOND	Mean	Std. Deviation	N
NOTHING	3.9127	.64627	63
PAPER	3.8934	.59116	68
PDA	3.9328	.62852	67
DESKTOP	3.7461	.71199	64
WEARABLE	4.0106	.49720	71
Total	3.9017	.61871	333

Tests of Between-Subjects Effects

Dependent Variable: COMM

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	2.468[a]	4	.617	1.624	.168
Intercept	5053.295	1	5053.295	13299.934	.000
TECHCOND	2.468	4	.617	1.624	.168
Error	124.623	328	.380		
Total	5196.313	333			
Corrected Total	127.092	332			

a. R Squared = .019 (Adjusted R Squared = .007)

TECHCOND

Dependent Variable: COMM

TECHCOND	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
NOTHING	3.913	.078	3.760	4.065
PAPER	3.893	.075	3.746	4.040
PDA	3.933	.075	3.785	4.081
DESKTOP	3.746	.077	3.595	3.898
WEARABLE	4.011	.073	3.867	4.154

Multiple Comparisons

Dependent Variable: COMM

Tukey HSD

(I) TECHCOND	(J) TECHCOND	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
NOTHING	PAPER	.0193	.10779	1.000	-.2763	.3150
	PDA	-.0201	.10817	1.000	-.3169	.2766
	DESKTOP	.1666	.10940	.548	-.1335	.4667
	WEARABLE	-.0979	.10669	.890	-.3905	.1948
PAPER	NOTHING	-.0193	.10779	1.000	-.3150	.2763
	PDA	-.0395	.10611	.996	-.3305	.2516
	DESKTOP	.1473	.10735	.646	-.1472	.4418
	WEARABLE	-.1172	.10459	.796	-.4041	.1697
PDA	NOTHING	.0201	.10817	1.000	-.2766	.3169
	PAPER	.0395	.10611	.996	-.2516	.3305
	DESKTOP	.1867	.10774	.415	-.1088	.4823
	WEARABLE	-.0777	.10499	.947	-.3657	.2103
DESKTOP	NOTHING	-.1666	.10940	.548	-.4667	.1335
	PAPER	-.1473	.10735	.646	-.4418	.1472
	PDA	-.1867	.10774	.415	-.4823	.1088
	WEARABLE	-.2645	.10625	.096	-.5559	.0270
WEARABLE	NOTHING	.0979	.10669	.890	-.1948	.3905
	PAPER	.1172	.10459	.796	-.1697	.4041
	PDA	.0777	.10499	.947	-.2103	.3657
	DESKTOP	.2645	.10625	.096	-.0270	.5559

Based on observed means.

PHASE

Univariate Analysis of Variance - QC25

Descriptive Statistics

Dependent Variable: COMM

PHASE	Mean	Std. Deviation	N
1	3.9371	.61833	139
2	3.8769	.61780	195
Total	3.9019	.61781	334

Tests of Between-Subjects Effects

Dependent Variable: COMM

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	.293[a]	1	.293	.768	.381
Intercept	4955.036	1	4955.036	12972.951	.000
PHASE	.293	1	.293	.768	.381
Error	126.808	332	.382		
Total	5212.313	334			
Corrected Total	127.101	333			

a. R Squared = .002 (Adjusted R Squared = -.001)

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Appendix

Medtech Project Participant Running Script

Welcome to experiment number 297!

Today you will watch a short video of a doctor and patient interacting. The video is just part of an interview and implies that the medical check up will come afterwards. [INSERT TECHNOLOGY SENTENCE BELOW]

==========

Condition: nothing and paper

In the video the doctor might be using pen and paper to input the patient's symptoms and concerns in order to update the patient's records.

Condition: desktop computer

In the video the doctor will be using a desktop computer to input the patient's symptoms and concerns in order to update the patient's records.

Condition: PDA

In the video the doctor will be using a handheld PDA to input the patient's symptoms and concerns in order to update the patient's records.

Condition: wearable computer

In the video the doctor will be using a wearable computer to input the patient's symptoms and concerns in order to update the patient's records. The wearable computer consists of a visual display connected to the doctor's glasses and a handheld keyboard.

==========

After watching the video you will be given some questionnaires to fill out that will evaluate your perception of the doctor-patient interaction.

Are there any questions?

Table 1: Main effect of Technology Condition (Hypothesis 1)

ANOVA[a]

YESGO

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2.868	4	.717	3.063	.019
Within Groups	32.062	137	.234		
Total	34.930	141			

a. PHASE = 1

ANOVA[a]

YESGO

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	3.140	4	.785	3.303	.012
Within Groups	46.114	194	.238		
Total	49.254	198			

a. PHASE = 2

Table 2: Phase by Technology condition interaction (Hypothesis 2)

Tests of Between-Subjects Effects

Dependent Variable: YESGO

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	6.074[a]	9	.675	2.857	.003	.072
Intercept	98.814	1	98.814	418.383	.000	.558
TECHCOND	4.028	4	1.007	4.264	.002	.049
PHASE	4.958E-02	1	4.958E-02	.210	.647	.001
TECHCOND * PHASE	2.085	4	.521	2.207	.068	.026
Error	78.176	331	.236			
Total	186.250	341				
Corrected Total	84.249	340				

a. R Squared = .072 (Adjusted R Squared = .047)

Table 3: T-tests to show individual phase by technology condition comparisons (hypotheses 2, 2a, 2b, and 2c).

Independent Samples Test[a]

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
YESGO	Equal variances assumed	.313	.578	2.286	64	.026	.2768	.12108	.03490	.51868
	Equal variances not assumed			2.291	60.733	.025	.2768	.12084	.03514	.51845

a. TECHCOND = NOTHING

Independent Samples Test[a]

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
YESGO	Equal variances assumed	.685	.411	-.419	66	.677	-.0451	.10763	-.25998	.16980
	Equal variances not assumed			-.415	58.266	.680	-.0451	.10865	-.26257	.17238

a. TECHCOND = PAPER

Independent Samples Test[a]

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
YESGO	Equal variances assumed	1.869	.176	.865	66	.390	.1071	.12387	-.14016	.35445
	Equal variances not assumed			.868	58.922	.389	.1071	.12347	-.13992	.35421

a. TECHCOND = PDA

Independent Samples Test[a]

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
YESGO	Equal variances assumed	6.800	.011	-1.655	65	.103	-.2045	.12353	-.45122	.04221
	Equal variances not assumed			-1.683	56.209	.098	-.2045	.12152	-.44792	.03891

a. TECHCOND = DESKTOP

Independent Samples Test[a]

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
YESGO	Equal variances assumed	.729	.396	-.099	70	.921	-.0119	.12035	-.25194	.22813
	Equal variances not assumed			-.099	61.963	.922	-.0119	.12070	-.25319	.22938

a. TECHCOND = WEARABLE

Table 4: Main effect of body orientation (Hypothesis 3)

ANOVA[a]

YESGO

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.161	1	.161	.648	.422
Within Groups	34.769	140	.248		
Total	34.930	141			

a. PHASE = 1

ANOVA[a]

YESGO

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.074	1	.074	.297	.586
Within Groups	47.739	191	.250		
Total	47.813	192			

a. PHASE = 2

Table 5: Main effect of gender (Hypothesis 4)

ANOVA[a]

YESGO

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.032	1	.032	.127	.722
Within Groups	34.898	140	.249		
Total	34.930	141			

a. PHASE = 1

ANOVA[a]

YESGO

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.054	1	.054	.215	.643
Within Groups	49.415	198	.250		
Total	49.469	199			

a. PHASE = 2

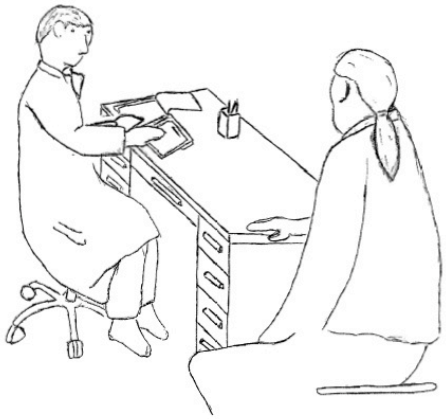
Figure Captions

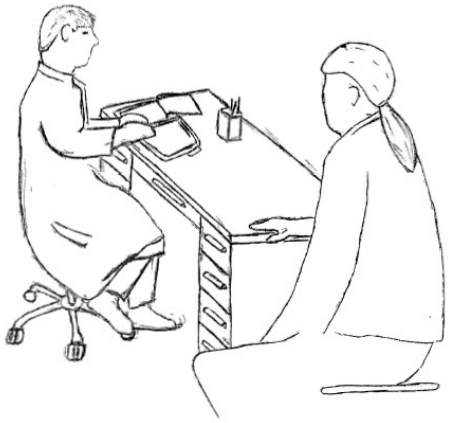
Figure 1. The 0 and 90 degree conditions for physician to patient body orientation.

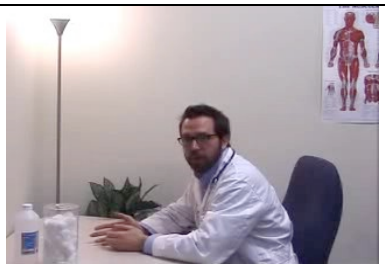
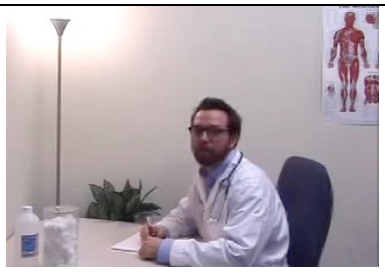
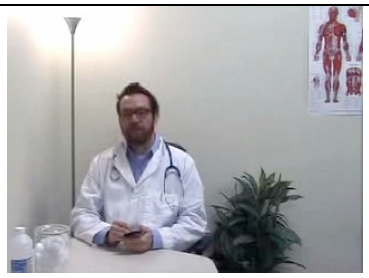
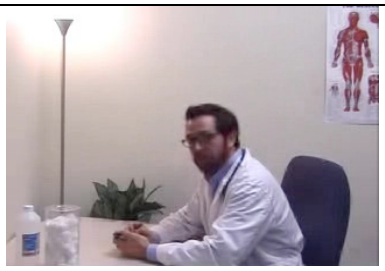
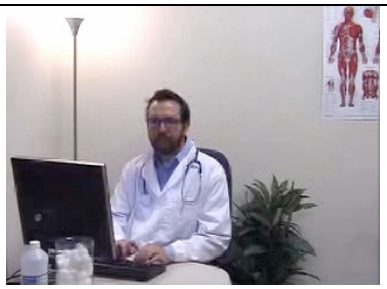
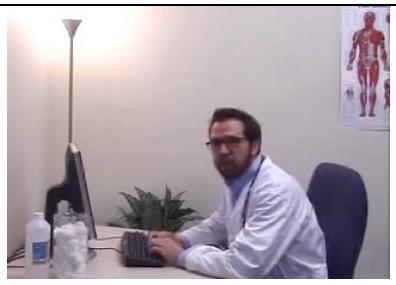
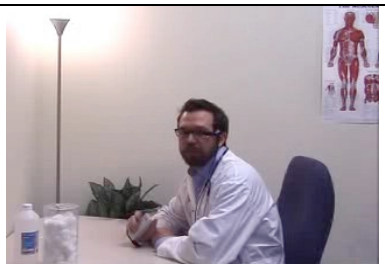
Figure 2. One clip from each of the 10 video conditions, illustrating Dr. Sanely and his medical office.

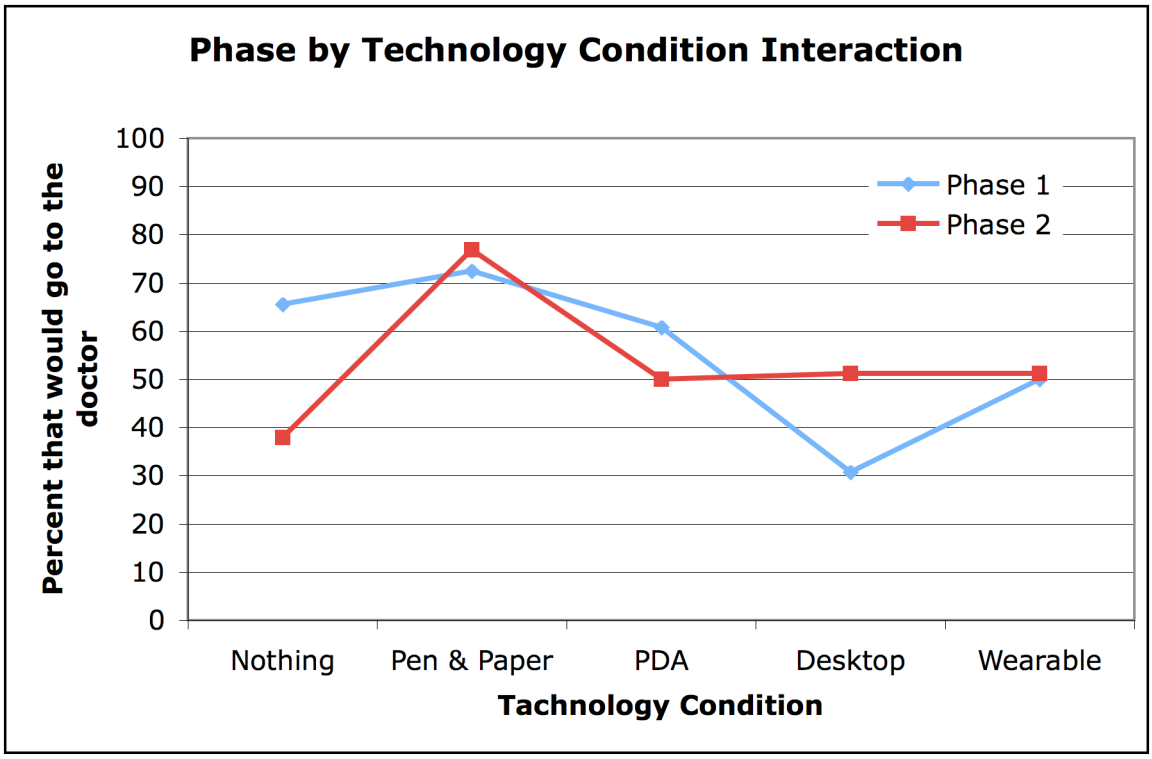
Figure 3. Participant's viewing one of the videos.

Figure 4. A plot of the phase by technology condition interaction.





	0 Degree Conditions	90 Degree Conditions
Technology Type	 a. Nothing (no technology)	 a. Nothing (no technology)
	 b. Paper and Pen	 b. Paper and Pen
	 c. Personal Digital Assistant (PDA)	 c. Personal Digital Assistant (PDA)
	 d. Desktop Computer	 d. Desktop Computer
	 e. Wearable Computer	 e. Wearable Computer


Phase by Technology Condition Interaction
Percent that would go to the doctor
100
90
80
70
60
50
40
30
20
10
0
Phase 1
Phase 2
Nothing
Pen & Paper
PDA
Desktop
Wearable
Tachnology Condition