Question 1.

Everyday observations seem to suggest that people tend to increase food consumption under stressful conditions. In order to examine the idea that social stress leads to over-eating, a group of researchers conducted a study in which participants answered a survey asking about their eating behaviors. Participants were asked to recall how much times they have engaged in over-eating behaviors over the past 3 months. Another question asked about their stress levels in the most recent 3-month period of time on a rating scale ranging from 1 (not stressed out at all) to 7 (extremely stressed out). It was found that increased food consumption was associated with higher levels of social stress. (35 pts total)

1. In this study, what are the independent and dependent variables? (6 pts)
2. What statistical test would be used to assess a reliable finding? (5 pts)
3. Give **two** alternate hypotheses that account for this finding but suggest different interpretations about why it occurred. (8 pts)

Question 1 continued.

1. This finding has been used to illustrate the negative effect of stress on unhealthy eating behavior. Describe an experimental approach to testing this hypothesis. Given enough details of the methods you would use for IV and DV that it would be possible to run the study. (10 pts)

1. One of the challenges that would make it difficult to run your proposed experiment above concerns ethical issues. Describe the key ethical issues that would be considered by the IRB before approving experimental research. (6 pts)

Question 2: Adapted from Dong, Huang, & Wyer, Jr. (2013)

A group of researchers conducted a series of studies to investigate whether people use different symbolical strategies to cope with embarrassment. As a way of manipulating embarrassment, half of the participants were instructed to write about a situation in which they had felt embarrassment, while the other half wrote about a typical day at school. Participants then reported their relative preference for activities they could perform alone and activities they could perform with others.

People who feel embarrassed are often motivated to avoid social contact—that is, to hide their face. At the same time, they may be motivated to restore the positive image that has been tarnished by the embarrassing event (or, in other words, to restore the face lost in the event). Individuals can symbolically employ these coping strategies by choosing commercial products that literally either hide their face (e.g., sunglasses) or repair it (e.g., restorative cosmetics).

However, one half of the participants were told that part of the study was helping a cosmetics company obtain reactions to a new restorative facial cream, and therefore they applied a sample of the cream thoroughly to their face and kept it on while making these ratings. This cream-applying procedure was omitted for the remaining half of participants. Prior studies have demonstrated that embarrassed participants tend to prefer face-restoring products such as restorative facial cream. Participants then proceeded to an ostensibly unrelated study. They were given nine pairs of activities and asked to indicate which activity they would prefer if they “had to make a choice at this moment.” One activity in each pair was performed with other people and the other was performed alone. The number of choices that reflected a preference for a social rather than a non-social activity was computed. (35 pts)

1. What are the constructs being studied in this study? How are they being operationalized? (6 pts)
2. What are the independent variable(s) here? What are their levels? (6 pts)

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| --- | --- | --- | --- | --- |
| **Descriptive Statistics** | | | | |
| Dependent Variable: Preference | | | | |
| Group | Coping | Mean | Std. Deviation | N |
| Embarrassment | Facial Cream | 7.25 | .967 | 20 |
| No coping | 4.35 | 1.137 | 20 |
| Total | 5.80 | 1.800 | 40 |
| No-embarrassment | Facial Cream | 6.40 | .995 | 20 |
| No coping | 6.35 | .988 | 20 |
| Total | 6.37 | .979 | 40 |
| Total | Facial Cream | 6.82 | 1.059 | 40 |
| No coping | 5.35 | 1.460 | 40 |
| Total | 6.09 | 1.469 | 80 |

1. Describe the two main effects and use the Descriptive Statistics table above in support of your statements. (6 pts)
2. What type of analysis did the authors use to evaluate the effects of the IVs on the DV? (4 pts)

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| --- | --- | --- | --- | --- | --- |
| **Tests of Between-Subjects Effects** | | | | | |
| Dependent Variable: Preference | | | | | |
| Source | Type III Sum of Squares | df | Mean Square | F | Sig. |
| Corrected Model | 90.738a | 3 | 30.246 | 28.860 | .000 |
| Intercept | 2964.613 | 1 | 2964.613 | 2828.758 | .000 |
| Group | 6.613 | 1 | 6.613 | 6.309 | .014 |
| Coping | 43.513 | 1 | 43.513 | 41.519 | .000 |
| Group \* Coping | 40.613 | 1 | 40.613 | 38.751 | .000 |
| Error | 79.650 | 76 | 1.048 |  |  |
| Total | 3135.000 | 80 |  |  |  |
| Corrected Total | 170.388 | 79 |  |  |  |

1. Describe interaction between the IVs. Be specific and detailed about what the interaction indicates about these data (5 pts)
2. Write out the statistical reports of the three tests in the standard APA format including all the standard reporting information. (8 pts)

Question 3.

Recent years have witnessed increasing interest in positive effects of prosocial media. A growing body of work has suggested that prosocial media can facilitate prosocial interactions. Prot and colleagues (2014) explored the relationship between prosocial-video-game use, violent-video-game use, and helping behavior in a large sample of Singaporean children. In this study, participants listed their three favorite video games and indicated how many hours they spent playing each game on a usual school day. They also indicated how frequently each game contained violent themes and prosocial themes. The helping orientation questionnaire was used to measure prosocial behavior. (30 pts)

1. Describe the independent and dependent variables in this study. (6 pts)
2. Is this an experimental design? Why or why not? (4 pts)
3. If a statistical test indicated a reliable effect of the IV on the DV, can we conclude that prosocial-media use led to more prosocial interactions? Are there any validity concerns? Give two clear and different alternate hypotheses. (10 pts)

Question 3 continued.

1. How could we use a new method to avoid the concerns in c? Outline a design to test this hypothesis. Give details of the methods you would use for IV and DV. (10 pts)