Summary
Conditions and Scenarios Eliciting Emotions of Disgust, Anger, Shame, Sadness and Happiness

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Since emotion has been of great importance in psychopathology, scients have been increasingly eager to examine it under laboratory conditions (Gross & Levenson, 1995). For this purpose, a number of emotion elicitation tecniques have been used. These are films (e.g., Lobbestael, Arntz, & Wiers, 2008), photographs (e.g., Bradley & Lang, 2000, 2008), written or unwritten scripts about social interactions (e.g., Harmon-Jones, Amodio, & Zinner, 2007), music (e.g., Eich, Ng, Macaulay, Percy, & Grebneva, 2000), autobiographical recolllection (e.g., Schaefer & Philippot, 2005), imaginery (e.g., Schaefer et al., 2003) and real life tecniques (e.g., Stemmler, Heldmann, Pauls, &Scherer, 2001).

Recently, with the maturation of emotion science, the need for new emotion elicitation tecniques in clinical research has been emerged. Indeed, with explosive growth on emotion research, scenarios have increasingly been used. It has been accepted that scenarios would be used to elicit different emotions, such as anger and disgust, effectively and reliably (Lowenstein, 2007). Tangney (1996) has also asserted that scenarios have the desirable properties of not requiring to express emotions and emotion related responses openly, leading to less defensive behaviour.

To accept scenarios as effective, the contents of them should meet discreteness and dimensional criterias of emotion (Gross & Levenson, 1995; Russell, Weiss, & Mendelsohn, 1989; Schaefer, Nils, Sanchez, & Philippot, 2010; Sato, Noguchi, & Yoshıkawa, 2007). To meet the criteria mentioned in the content of the scenario, the premise is associated with the events that impact on elicitation of the targeted emotions (Lowenstein, 2007). In other words, emotions do not come up haphazardly, they are triggered from certain objects and events (Niedenthal, Krauth-Gruber, & Ric, 2006).

There are different theories attempting to explain the elicitation of emotions. One of them is socio-constructivist theory, asserting that emotions are being induced from evaluation of the events and hence culture provides certain type of context in evaluation and making sense of these events. This theory addresses that as much as emotions come in sight in social enviroment and involve both linguistic and cultural atmosphere, they should be considered the product of culture. With making acquaintance to socio-constructivist theory, socio-cultural nature of emotion has been attracted attention. As a consequence, it has been started to give place to cross cultural differences in the conceptualization of emotions (Mesquita, 2001). A number of studies corroborate cultural variations in the situational elicitors of emotions (Bedford & Hwang, 2003; Heine et al., 2001; Mesquita & Walker, 2002)

From these point of views, we believed that both antecedent events and scenarios would shed light on to the possible role of emotions in development and maintenance of psychopathology as well as would make a major contribution to the development of emotion research in Turkey. In this vein, we chose emotions of disgust, anger, shame, sadness and happiness, which are argued to have importance in psychopathology (Asberg, 2013; Salkovskis, 1999; Wright, O'Leary, & Balkin, 1989). Hence, there are two objectives of this study. The first one is to have an idea about antecedent events of disgust, anger, shame, sadness and happiness in our society. The second one is to develop and test the effectiveness of scenarios aiming to elicit these emotions.

Method

Participants

This study was conducted with two different samples. The first sample was used to have an idea about antecedent events of disgust, anger, shame, sadness and happiness in our society and consequently scenarios

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were composed from reported antecedents of participants. This sample was composed of 180 people (80 men, 100 women, $M = 33.48$, $SD = 3.21$) who live in Izmir. The second sample was used to test the effectiveness of composed scenarios. This sample was consisted of 96 people (41 men, 55 women, $M = 32.82$, $SD = 4.24$) who live in Izmir.

Measures

Demographic Form.
Respondents are asked to answer the questions about their education level, age and gender.

Positive and Negative Affect Scale.
The Positive and Negative Affect Scale (PANAS) is a self-reported adjective check-list that contains two 10 item subscales designed for the assessment of positive and negative affect. For each of the 20 emotion-related words, respondents are asked to rate the extent to which they have experienced each particular emotion within a specified time period, with reference to a 5-point scale (1 = *Very slightly or not at all*, 5 = *Very much*). Psychometric assessment of the Turkish PANAS was examined by Gençöz (2000). The internal consistency of the scale was positive and for negative feelings .83 and .86, respectively. The test-retest consistency was reported to be .40 and .50 in Turkish culture.

Procedure
Procedure for emotion eliciting events and scenarios.
For the purpose of having an idea about antecedents and creating scenarios, eliciting disgust, anger, shame, sadness and happiness emotions, the participants were asked to write down the last event that had caused them to feel the emotions of disgust, anger, shame, sadness and happiness. After being written by the participants, four judges independently coded randomly selected twenty five participants' antecedents and determined categories of each emotion. Ambiguities and discrepancies between judges resolved by the writers via creating new categories for each emotion. The last states of categories were given to different four judges, in this time the new judges assigned antecedents of each emotion to lastly determined categories. After that the proportion of all categories for each emotion were calculated. To write scenarios for eliciting specific emotions, the most frequently sited antecedents of categories were chosen or incorporated by the writers.
Procedure for testing the effectiveness of emotion eliciting scenarios.
In this stage, the effectiveness of the scenarios were tested with the participants who are different from the first group. People read the each scenario in a laboratory setting

and rated their emotional responses as if they had been the hero of the scenarios. Firstly for emotional discreteness approach, after reading the scenarios, participants evaluated how strongly they felt the each emotion (disgust, anger, shame, sadness and happiness) on a 5 item Likert-type rating scale. Emotion terms were randomized for each of the participant. This self-report scale was a similar form of which was used in the study of Kucera and Haviger (2012), exceptionally the emotion terms.

For emotion dimensional approach, arousal and valence were evaluated also with Likert-type rating scales. Because we wanted to use the same format for all of the ratings, these criterias were assessed on a 5 item Likert-type rating scales, as it was did in the previous studies (Feldman-Barret & Russell, 1998; Recio, Conrad, Hansen, & Jacobs, 2014).

Results

Results of the Emotion Eliciting Events and Scenarios
Disgust-producing events.
One hundred eighty people described 370 disgust-producing events. According to the results, elicitors of disgust came from ten domains. The most frequently stated elicitor of disgust was unconventional-disorder-illegal-unethical and/or atypical sexual behaviours (25%). A one sample chi-square test was conducted to assess whether or not there was a difference between the disgust elicitors, which were classified into ten domains. The results of the test were significant, $[\Delta \chi^2 (9) = 172.68, p < .05]$.
Anger-producing events.
One hundred eighty people described 380 anger-producing events. According to the results, elicitors of anger came from ten domains. The most frequently stated elicitor of anger was the perceived threat to self (36%). A one sample chi-square test was conducted to assess whether or not there was a difference between the anger elicitors, which were classified into ten domains. The results of the test were significant, $[\Delta \chi^2 (9) = 318.15, p < .05]$.
Shame-producing events.
One hundred eighty people described 251 shame-producing events. According to the results, elicitors of shame came from nine domains. The most frequently stated elicitor of shame was the feeling discomfort of one's own physical, spiritual, moral, social, occupational faints and its related results, which is whether or not the other people are aware (28%). A one sample chi-square test was conducted to assess whether or not there was a difference between the elicitors of anger, which were classified into nine domains. The results of the test were significant, $[\Delta \chi^2 (8) = 394.87, p < .05]$.

Sadness-producing events.

One hundred eighty people described 478 sadness-producing events. According to the results, elicitors of sadness derived from ten domains. The most frequently stated elicitor of sadness was the death/ilness/ wreck of loved/familiar people (35%). A one sample chi-square test was conducted to assess whether or not there was a difference between the anger elicitors, which were classified into ten domains. The results of the test were significant, $[\Delta \chi^2(9) = 439.55, p < .05]$.

Happiness-producing events.

One hundred eighty people described 380 happiness-producing events. According to the results, elicitors of happiness came from ten domains. For the participants, spending time and accompanying satisfactionally with the loved people was the most frequently stated elicitor of happines (29%). A one sample chi-square test was conducted to assess whether or not there was a difference between the anger elicitors, which were classified into ten domains. The results of the test were significant, $[\Delta \chi^2 (8) = 439.55, p < .05]$.

Results for Testing Effectiveness of Emotion Eliciting Scenarios

The results on testing the effectiveness of emotion eliciting scenarios were organized around three basic domains. Before the statistical analysis, the people who have missing valves were excluded from the data.

Targeted emotion.
Disgust.

It was hypothesized that Scenario 1 would have elicited the emotion of disgust. Repeated measures ANOVA was conducted to see whether Scenario 1 was effective in eliciting disgust emotion. The results for the ANOVA indicated a significant emotion effect, Wilks' $\lambda = .82$, $F_{4,90} = 252.87$, $p < .05$. Pairwise comparisons were conducted to assess the differences in terms of mean scores. The mean disgust score of Scenario 1 was significantly higher than the mean score of anger, shame, sadness and happiness $[t(93) = -6.233, p = .000; t(93)=-19.544, p = .000; t(93) = 13,591, p = .000; t(93) = 32,129, p = .000$, respectively].

In addition, to determine whether the anticipated target emotion of Scenario 1 had received higher rating than the other negative scenarios, repeated measures ANOVA was conducted. ANOVA yielded a significant disgust emotion effect, Wilks' $\lambda =.99$, $F_{4,90} = 277.61$, $p < .05$. Pairwise comparisons were conducted to assess which means differ from each other. The mean disgust score of Scenario 1 was significantly higher than the mean disgust scores of Scenarios 2, 3 and 4 $[t(93) = 12.608, p = .000; t(93) = 20.011, p = .000; t(93) = 26.955, p = .000$, respectively].

Anger.

It was hypothesized that Scenario 2 would have elicited anger emotion. Repeated measures ANOVA was conducted to assess the effectiveness of Scenario 2 in eliciting anger emotion. The results for the ANOVA indicated a significant emotion effect, Wilks' $\lambda =.74$, $F_{4,90} = 285.58$, $p < .05$. Pairwise comparisons were conducted to assess which means differ from each other. The mean anger score of Scenario 2 was significantly higher than the mean score of disgust, shame, sadness and happiness $[t(93) = 14.420, p = .000; t(93) = 22.324, p = .000; t(93) = 9.911, p = .000; t(93) = 34.007, p = .000$, respectively].

Furthermore, to determine whether the anticipated target emotion of Scenario 1 had received higher rating than the other negative scenarios, repeated measures ANOVA was conducted. The results of ANOVA indicated a significant anger emotion effect, Wilks' $\lambda = .64$, $F_{3,91} = 171,83$, $p < .05$. Pairwise comparisons were conducted to understand which means differ from each other. The mean anger score of Scenario 1 was significantly higher than the mean anger scores of Scenarios 1, 3 and 4 $[t(93) = -6.568, p = .000; t(93) = -21.197, p = .000; t(93) = 16.745, p = .000$, respectively].

Shame.

It was hypothesized that Scenario 3 would have elicited the emotion of shame. Repeated measures ANOVA was conducted to assess the effectiveness of Scenario 3 in eliciting shame emotion. The results of the ANOVA indicated a significant emotion effect, Wilks' $\lambda = .10$, $F_{4,90} = 200.10$, $p < .05$. Pairwise comparisons were conducted to see which means differ from each other. The mean shame score of Scenario 3 was significantly higher than the mean score of disgust, anger, sadness and happiness $[t(93) = -18.253, p = .000; t(93) = -18.129, p = .000; t(93) = -5.597, p = .000; t(93) = 28.715, p = .000$, respectively].

In addition, to determine whether the anticipated target emotion of Scenario 3 had received higher rating than the other negative scenarios, repeated measures ANOVA was conducted. The results of the ANOVA indicated a significant shame emotion effect, Wilks' $\lambda =.11$, $F_{4,90} = 230.77$, $p < .05$. Pairwise comparisons were conducted to assess which means differ from each other. The mean shame score of Scenario 3 was significantly higher than the mean disgust scores of Scenarios 1, 2 and 4 $[t(93) = -17.434, p = .000; t(93) = -22.007, p = .000; t(93) = -26.202, p = .000$, respectively].

Sadness.

It was hypothesized that Scenario 4 would have elicited sadness emotion. Repeated measures ANOVA was conducted to assess the effectiveness of Scenario 4 in terms of eliciting sadness emotion. The results of ANOVA indicated a significant emotion effect, Wilks'

λ =.42, $F_{4,90}$ = 513.17, $p < .05$. To assess which means differ from each other, pairwise comparisons were conducted. The mean sadness score of Scenario 4 was significantly higher than the mean scores of disgust, anger, shame and happiness [$t(93)$ = 34.995, p = .000; $t(93)$ = 18.343, p = .000; $t(93)$ = 37.901, p =.000; $t(93)$ = 43.904, p = .000, respectively].

In addition, to determine whether the anticipated target emotion of Scenario 4 had received higher rating than the other negative scenarios, repeated measures ANOVA was conducted. ANOVA yielded a significant sadness emotion effect, Wilks' λ = .11, $F_{4,90}$ = 230.77, $p < .05$. To assess which means differ from each other, pairwise comparisons were conducted. The mean sadness score of Scenario 4 was significantly higher than the mean sadness scores of Scenarios 1, 2 and 4 [$t(93)$ = -17.434, p = .000; $t(93)$ = -22.007, p = .000; $t(93)$ = -26.202, p = .000, respectively].

Happiness.

It was hypothesized that Scenario 5 would have elicited happiness emotion. The results indicated that the happiness mean score of scenario 5 was significantly higher than the mean scores of all untargeted emotions, $t(92)$ = 32.994, p = .000.

Emotional arousal and valence.

In order to specify whether each scenario's arousal score higher than the average score, one sample t-test was conducted, as it was done in the study of Gross and Levenson (1995). The results indicated that disgust, anger, shame, sadness and happiness scenarios were successful at generating stronger levels of self reported arousal than the average score [$t(92)$ = 9.291, p = .000; $t(92)$ = 12.853, p = .000; $t(93)$ = 8.405, p = .000; $t(92)$ = 15.105, p = .000, respectively]. Moreover, one sample t-test was conducted to examine the levels of valence of scenarios. The results suggested that while the scores of disgust, anger, shame and sadness inducing scenarios were significantly lower than the average score, [$t(93)$ = -28.410, p =.000; $t(93)$ = -32.385, p = .000; $t(93)$ = -22.531, p = .000; $t(93)$ = -28.505, p = .000, respectively] the scores of happiness inducing scenario were significantly higher than average score [$t(93)$ = 18,408, p = .000].

Repeated measures ANOVA was conducted to assess whether or not scenarios were different from each other in respect to arousal and valence. While the results for the ANOVA indicated a significant arousal effect [Wilks' λ = .87, $F_{4,90}$ = 3.08, $p < .05$], they did not indicate a significant valence effect [Wilks' λ = .93, $F_{4,90}$ = 2.11, $p > .05$].

Positive and negative affect.

In order to test whether negative and positive scenarios would be different in terms of negative affect (NA) and positive affect (PA), paired sample t-tests were conducted. According to the results, while the scores of NA for all negative scenarios had significantly higher than the scores of PA [disgust: $t(89)$ = 8.158, p = .000; anger: $t(89)$ = 2.806, p = .000; shame: $t(89)$ = 11.380, p = .000; sadness: $t(89)$ = 13.147, p = .000). The scores of PA for positive scenario were significantly higher than the scores of NA, [$t(89)$ = 17.065, p = .000].

Repeated measures ANOVA was conducted to assess whether or not scenarios were different from each other in respect to the scores of PA and NA. The results indicated significant main effect of PA, Wilks' λ = .24, $F_{4,86}$ = 68.96, p < .05. Similarly, the statistics on NA ratings showed a significant main effect of NA, Wilks' λ = .19, $F_{4,86}$ = 90.25, $p < .05$.

Discussion

According to the results, for the participants, the disgust emotion was reported to be elicited most frequently by unconventional-disorder-illegal-unethical and/or atypical sexual behaviours. This domain is characterized with cheating, dishonesty, two facedness, abuse, and violence. While all of the reported events theoretically evokes emotion of anger, they are different from core disgust theme, which serves primarily as a food-rejection response and centres on the avoidance or oral incorporation of disgusting stimulus (Marzillier & Davey, 2004; Strongman, 2003). On the other hand, it is consistent with the literature that disgust eliciting events are similar to the anger eliciting events (Nabi, 2002; Roizn, Haidt, McCauley, Dunlop, & Asmore, 1999; Strongman, 2003). Rozin and colleagues (1999) have proposed that these results are the new view of disgust which have been emerged in social context (social-moral). Socio-moral disgust have been accepted as mixture of disgust and anger emotions and evokes in cases when social and moral boundaries are neglected (Simpson, Carter, Anthony, & Overton, 2006). These findings support the view that there are differences in theoretical meaning of disgust, eliciting vomiting and in lay meaning of disgust understood by the public (Nabi, 2002).

For the participants of the current study, the sadness emotion was reported most frequently for the events which would be related with death/disease/wreck of loved people. Izard (1991) have asserted that sadness emotion was evoked frequently by the events of separation and loss, because of the fact that death or threat of death would be accepted as a form of physical separation and loss (Bonanno, Goorin, & Goifman, 2008).

According to our findings, for the participants happiness was most frequently evoked by the events of passing time and accompanying with loved people,

it was least frequently evoked by the events of being independent and standing on one's own feet. The finding is not consistent with the studies presented in the literature which were conducted with different cultures. Americans and Europeans stated that the most happiest events for themselves are related with independency and standing on their own feet (Scherer, 1997). So it would be thought that the inconsistency between the results of studies are acceptable, because of the different identities in terms of collectivism and individualism.

The results related to the emotion of anger showed that, perceived threat to one's own self was the most frequently reported event. In this study, perceived threat to self contains events of being hard done, used, cheated, lied, misunderstood, subjected to violence (psychological, verbal or physical). These situations, evoking emotion of anger, in terms of their contents are rather similar to some of the situations, evoking emotions of sadness and disgust. However, there are differences between these situations. Events that trigger feelings of sadness and disgust is quite similar with the events that trigger anger in terms of content. However, in this case there is a difference between them as follows: in anger situation people are exposed to events themselves, but in other emotions, people are witnessed the other people are exposed to the events.

According to results of shame, for our participants the most frequently reported event was the feeling dis-comfort of one's own physical, spiritual, moral, social, occupational faints and its related results, which is whether or not the other people are aware. This domain contains shaking confidence of other people, deceiving, telling lies, not acquiring a profession, physical flaws such as having a big nose. This finding is consistent with those studies showing that emotion of shame elicits whether or not the other people are present (Bedford & Hwang, 2003; Tangney, Miller, Flicker, & Barlow, 1996).

To sum up, the results provided that all of the emotions are elicited in case of interpersonal realms, supporting the view that emotions not only have a biological nature but also include a socio-cultural component (Mesquita & Walker, 2002). There are differences between individualistic and collectivistic cultures in terms of emotions. It can be thought that both positive and negative emotions evoke frequently in case of relational-contextual states in our collectivistic culture, which is different from individualistic cultures, giving weight to self sufficiency, personal achivievement and living in isolation.

The present study also created and tested the effectiveness of scenarios in eliciting targeted emotions according to different validity criterias. The results showed that the scenarios had differentiated responses in terms of positive and negative affect, discreteness, arousal and valence.