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EDITOR'S NOTE

I am delighted to present the 10th issue of the Koç University Undergraduate Psychology Journal. This issue is a milestone for KUUPJ since our current editorial board consists of almost completely new editors. With its brand-new team, KUUPJ will continue to achieve its goal of being a medium for undergraduate students to publish their research, thanks to our fellow undergraduate students who share their valuable research.

Beyond the new editorial team, we also established a social media team (Sena Pişkin and Dila Gürer) led by Mine Yürekli. In the meantime, we have shared posts on some concepts, theories, experimental paradigms, and research findings from each area of psychology on our Instagram account. Additionally, Irmak Biriz, our content writer, has published an article on alcohol and its long-term effects in collaboration with CogIST. I thank each of them for their efforts to introduce and promote our journal to a wide range of individuals.

Meanwhile, all components of academia in Turkey have been going through hard times on top of the individual and societal effects of the COVID-19 pandemic. The issues at Boğaziçi University are worrying for all of us. We stand with our fellows. We demand democratic processes in academia and freedom for all students. Besides the antidemocratic procedures in academia, we are also against the withdrawal from Istanbul Convention. It is also upsetting for us to witness and experience a process in which women and LGBTQ+ individuals lost their rights.

Though it is difficult to sustain motivation during such difficult times, both the authors of the articles in this issue and our editorial team managed to keep working hard. As a result of their hard work, we present four experimental articles and a scale development article from Koç University and Middle East Technical University. I thank both the authors and our editors individually for their great efforts. I also would like to thank our advisors, Assoc. Prof. Tilbe Göksun and Prof. Fuat Balcı, for their guidance and our dean Prof. Aylin Küntay for her supports. Additionally, we are grateful for all our faculty members, especially Prof. Sami Gülgöz, who has a significant role in shaping our interest in science and understanding of academic integrity. Last but not least, I would like to thank all of the former editors and editor-in-chiefs for their contributions to this issue, especially Eylül Turan for her invaluable support for all activities of our team.

Enjoy reading our 10th issue.

Editor-in-chief
Şeref Can Esmer

The Effect of Advertisements with Fantastical Content on Purchase Intention and Attitude Towards a Product

İlkim Şen, Yaman Tanılkan
Koç University

We are exposed to many advertisements in our everyday life. Some of them include ordinary events while others include fantastical events. In this paper, we examine the impact of advertisements with fantastical content on adults' purchase intentions and attitudes towards a product. The final sample consisted of 98 participants who were recruited through snowball sampling. Participants were randomly assigned either to the fantastical content group or to the non-fantastical content group. They completed a short survey regarding their purchase intention and attitudes towards a product before and after watching video-montages of advertisements with either fantastical or non-fantastical content. Results showed that watching advertisements with fantastical content did not have any significant impact on people's purchase intention or their attitude towards the product. Further investigations are needed to elucidate why exposure to fantastical content has no effect on purchase intention and attitudes.

Keywords: fantastical content, advertisements, purchase intention, attitude

Fantastical or magical events and characters are mainly conceptualized in empirical research as violating the principles of physics (Subbotsky & Slater, 2011), Some examples of fantastical events are inanimate objects that turn into humans or appear out of thin air, animals that talk, people that cause physical effects on objects solely by thinking, and so on. Thus, the main characteristic of fantastical events is their reality status. Commonly, events are divided into two: real or possible events, and fantastical or impossible events (Li et al., 2015). In previous literature which investigates the effects of fantastical events, the words "fantastical" and "magical" are used interchangeably to refer to the phenomenon of impossible events. Furthermore, the literature on fantastical events mostly focuses on children whereas studies with adults regarding this phenomenon are sparse. Also, researchers do not commonly use advertisements as a context to present fantastical events in empirical studies. To further build on the previous research, we are investigating the impact of advertisements with fantastical content on adults' purchase intentions and attitudes regarding a product.

The use of fantastical content in advertisements has the potential to positively influence buyers' purchase intention and attitudes because fantastical content is linked with increased attention and recognition. Fantastical content grabs the audience's attention through violating their world-knowledge (Subbotsky & Slater, 2011). The attention-grabbing quality of fantastical content is associated with novelty, surprise, emotional richness, and aesthetic pleasure (Hsu et al., 2015). The increased attention caused by fantastical content also leads to better recognition. Subbotsky and Matthews (2011) propose a higher likelihood of remembering events with bizarre elements, which they call the "distinctiveness effect". Bizarre events are remembered better because people do not encounter similar events in their daily life. In other words, since fewer interference opportunities arise, bizarre events remain intact in memory. In a study by Subbotsky and Matthews (2011), the participants were presented with advertisements that either had fantastical or non-fantastical content. After watching the video-clips, the participants completed a free recall test and an immediate recognition test, as well as a delayed recognition test which was administered two weeks later. The distinctiveness effect for fantastical events was more prominent in recognition tests compared to free recall tests. The video-clips with fantastical content were recognized more frequently than the video-clips with non-fantastical content in both immediate and delayed recognition tests. We think that these findings might have implications on real-life advertising and purchasing decisions such that

people do not necessarily have to recall a product to buy it, but rather they recognize it when they encounter it. Furthermore, they may not necessarily buy a product immediately after watching the advertisement. We believe that the products that are advertised in a fantastical context will elicit greater purchase intention because of the increased recognition caused by the distinctiveness effect. Notably, in our literature review, this study was the only one that we could find which used advertisements to present fantastical versus non-fantastical events to participants, and there was no mention of purchase intention or attitudes towards a product.

In addition to grabbing the audience's attention and being recognized better, fantastical content also evokes curiosity which may affect buyers' purchase intention and attitudes towards a product. Subbotsky et al. (2010) pose that the impossibility of a fantastical event contributes towards eliciting stronger curiosity compared to possible events, which they call the "impossible over possible effect (I/P)". In their research, Subbotsky et al. (2010) assessed curiosity by measuring the cost of exploratory behaviors the participants engaged in when exposed to fantastical versus non-fantastical events. Their results indicate that impossible events elicit stronger feelings of curiosity, as well as more exploratory behavior compared to possible events. We believe that the greater curiosity and more exploratory behaviors elicited by the fantastical events in an advertisement will also positively affect people's purchase intention and attitudes towards a product.

The enjoyment that is caused by the exposure to fantastical events is directly linked to their reality status and the cognitive processing of these events. Literary pleasure gets enhanced as the distance between fantasy and reality increases, even if the readers report that they are aware of the impossibility of fantastical events (Hsu et al., 2015). This is linked with the distinction between magical thinking and magical beliefs. Magical thinking is solely related to imagination and mentally representing events that violate the physical principles, whereas magical beliefs are assuming that magical events may have real effects (Subbotsky et al., 2010). It is important to

note that magical thinking is not necessarily accompanied by magical beliefs. There is evidence for magical thinking in adults, for example, they tend to engage in magical thinking when they experience anxiety, or a sense of lack of control over the situation (Woolley, 1997). This distinction between magical thinking and magical beliefs applies to our study because we expect a portion of our participants to engage in magical thinking as a result of getting exposed to fantastical content.

There is also neurological evidence for the significance of fantastical content; studies show that being exposed to fantastical content leads to distinctive brain activity in certain brain regions. In an fMRI study, Hsu et al. (2015) found that when people read passages with fantastical content compared to non-fantastical content, there was an increased level of activity in bilateral inferior frontal gyri (IFG), inferior frontal lobules, and amygdala, which are respectively associated with attention, knowledge-integration, and emotion-processing. More specifically, the involvement of IFG reflects a higher cognitive activity. The activity of IFG and inferior frontal lobes indicate an increase in attention. Finally, the increased activation of the amygdala reflects the reading pleasure which was also reported by the participants. These findings indicate a neurological basis for the advantageous effect of fantastical contents. We expect the increased cognitive activity, attention, and pleasure that are caused by the exposure to magical content to positively affect people's purchase intentions and attitudes regarding a product when it is presented in a fantastical context.

It is important to note that the literature on fantastical events is predominantly focused on children subjects due to the common assumption that children are more fantasy-prone compared to adults. However, several studies demonstrate that children are not as fantasy-prone as assumed, and their ability to differentiate fantasy from reality depends on task demands, context, experience with fantastical content, emotions of the content, and fantasy-orientation trait (Li et al., 2015; Subbotsky & Slater, 2011; Weisberg & Sobel, 2012; Sharon & Woolley, 2004; Carrick & Ramirez, 2012). Woolley (1997) argues that children and adults are not necessarily

different regarding how they approach fantastical events, especially not in terms of cognitive ability. Instead, the differences between children's and adults' understanding of fantastical events may be due to culture, or domain-specific knowledge. Additionally, Subbotsky and Matthews (2011) found that adults remember fantastical advertisements better compared to adolescents in delayed recognition tests. This finding accentuates the need for more studies on this issue. Following these ideas, we pose that more research is needed regarding the effects of fantastical events or content on adults.

The present study examines the impact of exposure to advertisements with fantastical content on adults' purchase intentions and attitudes towards a product presented in an advertisement. Our study contributes to the currently sparse literature on the effects of fantastical content on adults, and in the context of advertisements. To the best of our knowledge, this is the first study to examine the impact of advertisements with fantastical content on purchase intention and attitudes towards a product. Based on the existing scientific literature discussed above, we hypothesize that being exposed to advertisements with fantastical content, compared to non-fantastical content, will increase people's purchase intentions. In addition, we expect that being exposed to advertisements with fantastical content will positively affect people's attitudes toward the product that is advertised, compared to non-fantastical content.

Method

Participants

A total of 115 participants completed the survey. However, 17 participants (5 from the fantastical content group, 12 from the non-fantastical content group) were excluded for failing to correctly respond to the manipulation-check question resulting in a total of 98 participants in the final sample. Subsequently, there were 56 participants in the manipulation group (i.e. those who were exposed to fantastical content) and 42 participants in the control group (i.e. those who watched non-fantastical content). Demographic information of the participants was not collected.

Materials

We used pictures (Red Bull cans, see Appendix A) and video-montages of Red Bull Energy drink commercials (for examples see Appendix B). For the fantastical content condition, the videos involved events such as a man starting to fly, reindeers talking, and Santa Claus flying. For the control condition, the videos involved regular events such as two people playing chess, a man playing the piano, and a woman talking on the phone. We wanted to use the same product for each condition, and we wanted the videos for each condition to be as similar to each other as possible, for example in terms of duration and visuals, so that the only important difference between the two videos would be being exposed to the fantastical content or not. Therefore, we chose the Red Bull energy drink since it had a variety of commercial videos with both fantastical and non-fantastical contents. In addition, the Red Bull commercials were similar in terms of duration and visual elements since they were comprised of illustrations. After the presentation of the video-montages, we presented a follow-up question about the content of the video to check if the participants attended the video.

We also used a survey to measure the attitudes and purchase intentions of the participants regarding the product. We adapted the Attitude and Purchase Intention Measure by Cheng et al. (2014). Both attitude and purchase intention displayed satisfactory validity evidence. The reliability for the attitude measure exhibits Cronbach's alpha of .91 and the reliability for the purchase intention measure exhibits Cronbach's alpha of .88. The six items on the scale were measured in two formats: the three attitude items were measured on a semantic-differential 7-point scale, and the three purchase intention items were measured by a 7-point Likert Scale. For example, semantic-differential items include unattractive versus attractive, and purchase intention items include statements like "I intend to purchase this electronic translator" (Cheng et al., 2014). For attitude items, higher scores indicate more positive attitudes towards the product. Likewise, for purchase intention items, higher scores indicate more desire to purchase the product. The survey was translated to Turkish via translation-back translation method, and

adjustments were made such as replacing "electronic translator" with "Red Bull energy drink".

Procedure

The study protocol was approved by the university ethical committee. Data were collected using an online survey form created via Qualtrics. We used snowball sampling such that we recruited Turkish-speaking adults by word of mouth and asked them to refer suitable participants. This study was a mixed research design since there were pre-test and post-test comparisons within participants and there were a control group and manipulation group comparison between participants. We wanted to see if the observed effect was a consequence of the manipulation, hence we added a pre-test and post-test comparison to differentiate between participants who already liked the product before seeing the advertisement and participants who were influenced by the advertisements.

At the beginning of the survey, an informed consent form which included information about the study, the procedures, and the researchers, was presented. Those who agreed to participate in the experiment proceeded to the survey. Then, participants were randomly assigned to either the control group or the manipulation group. Firstly, they were presented a picture of the product and then responded to the Attitude and Purchase Intentions Measure. Then, they were presented with a Red Bull commercial montage. The participants in the control group were presented with non-fantastical advertisements, and the participants in the manipulation group were presented with fantastical advertisements. The video-montage for the control group was 45 seconds long, and the video-montage for the manipulation group was 47 seconds long. After that, there was a follow-up question regarding the details of the video to see if they had attended to the video or not. Lastly, participants responded to the Attitude and Purchase Intentions Measure again. It took approximately 10 minutes for participants to complete the survey, and the data was collected over 8 days. The participants did not receive any incentives for completing the survey.

Results

We conducted two separate 2 x 2 mixed-model analyses of variance (ANOVA) to examine the effect of time and advertisement type on purchase intention and attitude toward the product respectively. Table 1 shows the means, standard deviations, and the number of participants in each group for both purchase intention and attitude towards the product. There was no main effect of time on purchase intention, $F(1,96) = .04$, $p = .84$. Thus, there was no overall difference between the purchase intentions before ($M = 2.60$, $SD = 1.53$) and after ($M = 2.60$, $SD = 1.53$) watching the advertisements. The main effect for type of advertisements on purchase intention was also not significant, $F(1,96) = .94$, $p = .34$. In other words, there was no significant difference between the purchase intentions of those who watched advertisements with fantastical content ($M = 2.76$, $SD = 1.44$) and those who watched advertisements with non-fantastical content ($M = 2.39$, $SD = 1.64$). The interaction effect for time and advertisement type on purchase intention was also not significant, $F(1,96) = 1.21$, $p = .28$. This implies that the effect of time on participants' purchase intention did not vary across the levels of advertisement type. Due to a lack of any significant effects, post hoc analyses were not conducted.

The 2 x 2 mixed-model ANOVA that was conducted to compare the effect of time and advertisement type on attitude toward the product found the main effect of time on attitude towards the product to be non-significant, $F(1,96) = 2.48$, $p = .12$. This result indicates that there was not a significant difference between the participants' attitudes before ($M = 3.90$, $SD = 1.45$) and after ($M = 4.10$, $SD = 1.69$) watching the advertisements. The main effect for advertisement type on attitude was also not significant, $F(1,96) = .94$, $p = .33$. This means that watching advertisements with fantastical content ($M = 4.24$, $SD = 1.55$) did not have a significant influence on attitude compared to watching advertisements with non-fantastical content ($M = 3.90$, $SD = 1.86$). The interaction effect for advertisement type and time on attitude towards the product was also not significant, $F(1,96) = .19$, $p = .66$. More specifically, the effect of time on participants' attitudes towards

Table 1.

Means and Standard Deviations of Attitudes and Purchase Intentions for the Experimental and the

Control Group

Time	Fantastical Content		Neutral Content	
	M	*SD*	*M*	*SD*
Attitude				
Pretest	4.00	1.39	3.76	1.53
Posttest	4.24	1.55	3.90	1.86
Purchase Intention				
Pretest	2.70	1.48	2.48	1.70
Posttest	2.76	1.44	2.38	1.64

the product did not vary across the levels of advertisement type. Since there were not any significant results, post hoc analyses were not conducted.

Discussion

The purpose of our study was to examine the effect of advertisements with fantastical content on adults' purchase intentions and attitudes towards the product. Based on the existing findings that fantastical content is linked with increased attention, increased recognition, curiosity, and enjoyment (Subbotsky & Slater, 2011; Hsu et al., 2015; Subbotsky & Matthews, 2011; Haritaipan et al., 2018; Subbotsky, 2010), we hypothesized that watching advertisements with fantastical content would positively affect our participants' purchase intention and attitude towards the product we presented. The results indicated no such effect as there was no significant difference in our participants' purchase intention and attitudes towards the product before and after watching the advertisements, and there was no difference between the participants who watched advertisements with fantastical content and those who watched advertisements with neutral content. There was also not any significant interaction effect of time and advertisement type on purchase intention or attitudes towards the product. This means that watching advertisements with fantastical content does not have an impact on adults' purchase intention and attitude towards the product.

A possible reason for these insignificant findings could be that people do not like or do not pay attention to advertisements in general. People either give little value to advertisements, or they ignore them (Wang et al., 2002). Attention allocation is closely linked with the performance of mental activities (Wang & Day, 2007). Thus, the unattractive nature of advertisements might have negated the attention-grabbing quality of fantastical content that was described earlier (Subbotsky & Slater, 2011). Not paying attention to the advertisements could have prevented our participants in the experimental group from engaging in magical thinking, thus eliminating the possible effects of the exposure to fantastical content. This finding is inconsistent with the distinctiveness effect that Subbotsky and Matthews (2011) proposed, which suggests that fantastical events are recognized better because interference is reduced for them. To be more precise, if the participants resisted paying attention from the beginning as a reaction to being exposed to advertisements, then we cannot expect the distinctiveness effect to occur as a result of the exposure to fantastical content. Likewise, this could also lead us to question the impossible over possible effect which suggests that fantastical events elicit stronger feelings of curiosity (Subbotsky et al., 2010). Alternatively, situational factors may also reduce the participants' attention and thereby lead to the negation of said effects. Thus, for future research, we

recommend conducting the experiment in a more controlled setting instead of using an online survey.

Another issue that can explain our findings could be the informativeness of advertisements, which has been demonstrated to be a factor that influences how viewers value an advertisement (Deraz, 2018). The inclusion of fantastical events in an advertisement may reduce its informativeness, which may, in turn, hinder the possible positive impact of fantastical content on purchase intention and attitudes that we had expected. The possible interaction between the inclusion of fantastical events in advertisements and the perceived informativeness of advertisements, in addition to how this interaction might affect purchase intention and attitudes could be investigated in future research.

One other possible reason for the insignificance of this result may be due to the participants' already existing knowledge about the Red Bull brand. Red Bull is a brand that is commonly associated with humans' flying, which is a fantastical event since their slogan is "Red Bull gives you wings". The participants in the control group might have engaged with magical thinking solely due to their already existing schemas about the Red Bull brand. Therefore, in future research, it may be beneficial to create original advertisements with a pseudo-product to ensure that only the participants in the manipulation group engage with magical thinking as a result of getting exposed to fantastical content.

In addition to participants' already existing schemas about the brand, the relatively short duration of the video montages could be another reason for the insignificant results. Advertisements aim to create associations between the product and positive emotion. Associations are formed by pairing an unconditioned stimulus with a conditioned stimulus (UCS). According to the belief-based approach, the positive emotions, caused by one's beliefs or attitudes towards the product, serves as a UCS which is combined with the product as a conditioned stimulus (CS). It takes time for an association to get stronger for the product alone to elicit a positive emotion (Rossiter & Percy, 1980). In our case, we had approximately 45 seconds which is a very short time to form associations. The video-montages we used were relatively short because we used already existing materials and we wanted to control for extraneous variables such as visual elements. In future studies, longer video-montages may be used.

To conclude, our study revealed that watching advertisements with fantastical content does not significantly affect adults' purchase intention and attitudes towards the product presented. The insignificance of our results may be due to the unattractive nature of advertisements which decreases viewers' attention (Wang et al., 2002). Or it could be due to the possibly reduced informativeness of the advertisements as a result of the inclusion of fantastical events, which affects how the audience values an advertisement (Deraz, 2018). Even though we did not find any significant results, we believe that this study contributes to the literature on fantastical content's impact on adult participants and emphasizes the need for more research in this area. Moreover, to the best of our knowledge, fantastical content has not been studied in the context of advertisements earlier, except for the study by Subbotsky and Matthews (2011) which solely focused on memory as a dependent variable. As explained earlier, future studies would benefit from creating original advertisements that are longer in duration, and with a pseudo-product to reduce the effect of the subjects' prior knowledge about the brand, as well as conducting the experiment in a more controlled setting.

References

Carrick, N., & Ramirez, M. (2012). Preschoolers' fantasy–reality distinctions of emotional events. *Journal of Experimental Child Psychology, 112*(4), 467–483. https://doi.org/https://doi.org/10.1016/j.jecp.2012.04.010

Cheng, F. F., Wu, C. S., & Lin, H. H. (2014). Reducing the influence of framing on internet consumers' decisions: The role of elaboration. *Computers in Human Behavior, 37*, 56–63. https://doi.org/https://doi.org/10.1016/j.chb.2014.04.015

Deraz, H. (2018). Users' Assessment of the Value of Advertisements on Social Networking Sites: A Conceptual Study. *International Review of Management and Marketing, 8*(6), 32–40. https://doi.org/https://doi.org/10.32479/irmm.7117

Haritaipan, L., Saijo, M., & Mougenot, C. (2018). Leveraging creativity of design students with a magic-based inspiration tool. *In DS 93: Proceedings of the 20th International Conference on Engineering and Product Design Education (E&PDE 2018),* 265-270.

Hsu, C. T., Jacobs, A. M., Altmann, U., & Conrad, M. (2015). The magical activation of left amygdala when reading Harry Potter: An fMRI study on how descriptions of supranatural events entertain and enchant. *PloS One, 10*(2), 1–15. https://doi.org/https://doi.org/10.1371/journal.pone.0118179

Li, H., Boguszewski, K., & Lillard, A. S. (2015). Can that really happen? Children's knowledge about the reality status of fantastical events in television. *Journal of Experimental Child Psychology, 139*, 99–114. https://doi.org/10.1016/j.jecp.2015.05.007

Lu, H. P., & Yu-Jen Su, P. (2009). Factors affecting purchase intention on mobile shopping web sites. *Internet Research, 19*(4), 442–458. https://doi.org/https://doi.org/10.1108/10662240910981399

Rossiter, J. R., & Percy, L. (1980). Attitude change through visual imagery in advertising. *Journal of Advertising, 9*(2), 10-16. https://doi.org/10.1080/00913367.1980.10673313

Sharon, T., & Woolley, J. D. (2004). Do monsters dream? Young children's understanding of the fantasy/reality distinction. *British Journal of Developmental Psychology, 22*(2), 293-310. https://doi.org/10.1348/026151004323044627

Subbotsky, E. (2010). Curiosity and exploratory behaviour towards possible and impossible events in children and adults. *British Journal of Psychology, 101*(3), 481-501. https://doi.org/10.1348/000712609X470590

Subbotsky, E., Hysted, C., & Jones, N. (2010). Watching films with magical content facilitates creativity in children. *Perceptual and Motor Skills, 111*(1), 261-277. https://doi.org/10.2466/04.09.11.PMS.111.4.261-277

Subbotsky, E., & Matthews, J. (2011). Magical thinking and memory: Distinctiveness effect for TV commercials with magical content. *Psychological Reports, 109*(2), 369-379. https://doi.org/10.2466/04.11.28.PR0.109.5.369-379

Subbotsky, E., & Slater, E. (2011). Children's discrimination of fantastic vs realistic visual displays after watching a film with magical content. *Perceptual and Motor Skills, 112*(2), 603-609. https://doi.org/10.2466/10.11.PMS.112.2.603-609

Wang, C., Zhang, P., Choi, R., & D'Eredita, M. (2002). Understanding consumers attitude toward advertising. *AMCIS 2002 Proceedings, 158*, 1143-1148.

Wang, J. C., & Day, R. F. (2007). The effects of attention inertia on advertisements on the WWW. *Computers in Human Behavior, 23*(3), 1390-1407. https://doi.org/10.1016/j.chb.2004.12.014

Weisberg, D. S., & Sobel, D. M. (2012). Young children discriminate improbable from impossible events in fiction. *Cognitive Development, 27*(1), 90-98. https://doi.org/10.1016/j.cogdev.2011.08.001

Woolley, J. D. (1997). Thinking about fantasy: Are children fundamentally different thinkers and believers from adults? *Child Development, 68*(6), 991-1011.

The Effect of Source Credibility and Political Orientation on the Perceived Strength of an Argument

İrem Tuncer, Onur Akın, Mahinur Tanyeri
Koç University

This study investigated argument strength, source credibility, and political orientation with the main interest of change in perceived argument strength. A sample consisting of 139 liberals and 61 conservatives was presented with a product description, which could either be strong or weak. Then they were asked to score the strength of the product description, and whether they would buy the product. Then, either a credible or non-credible source was presented, and participants scored the strength of the product description and purchase behavior again. The results found that for both liberals and conservatives source credibility overrode the argument strength on the level of persuasion. It was also found that liberals and conservatives differ in their need for cognition, which affected their initial rating of the argument. This study provides further information about the effect of individual differences and source characteristics on persuasion.

Keywords: source credibility, political orientation, argument strength, persuasion, attitude change

Persuasion is an active attempt to change a person's attitudes, beliefs, or behaviors (Kassin et al., 2017). An attitude refers to a general and enduring feeling about a person, object, or issue; and it can be positive, negative, or neutral (Tormala, & Briñol, 2015). Belief, on the other hand, is the information one has about other people, objects, or issues which again can be positive, negative, or neutral. Attitudes and behaviors may result in certain overt actions. Beliefs, attitudes, and behaviors are thought to be related to each other such that beliefs contribute to the formation of attitudes, which in turn direct behaviors (Petty, & Cacioppo, 2018). Thus, studying attitude change is one of the primary focuses of persuasion researchers. It is also crucial for scholars studying persuasion to realize that countless individual factors that could influence how information is processed in the eyes of people. We believe that, with an increasingly politicized world, an individual's political stance is rapidly becoming an integral part of their identity. Hence, we find it important to evaluate how an individual's political beliefs can impact the way that they interpret information and make decisions. With a general understanding of persuasion, we aim to investigate the effect of political orientation, message, and source characteristics on the perception of argument quality and attitude change.

Persuasion is affected by the factors related to the source (e.g., expertise, trustworthiness), the message itself, and factors related to the recipient (e.g., personality, mood, motivation) (Tormala, & Briñol, 2015). Elaboration-Likelihood Model (ELM) of persuasion (viz., the dual-process model of persuasion) is one of the theories, which explain how these factors are related to each other. According to ELM, the motivation of the recipient is one of the most valuable information, which can be used to infer what is needed to persuade the individual (Petty & Cacioppo, 1984). If a person is motivated to process a message, then they will be persuaded by the strength and quality of the given message; referred to as the central route to persuasion. On the other hand, if they are not motivated, they will want to avoid effortful processing, which will cause them to be persuaded by other peripheral cues. Along with motivation, characteristics of a message and its source are deciding factors of what type of processing an individual will engage in. Factors related to the message, the source, and the recipient as well as their relationship with persuasion will be analyzed respectively in the next three sections.

The Message

Type of evidence presented (e.g., statistical, testimonial, anecdotal or analogical), and sidedness of the message are two main factors influencing

persuasion, which are about the message itself (Dillard, 2012). The most commonly studied types of evidence are statistical, which, as its name suggests, presents statistics to support the claim; and testimonial evidence, which uses a person's experience to support the claim (Dillard, 2012). A meta-analysis of fifteen studies conducted by Allen and Preiss (1997) found statistical evidence to be more persuasive than testimonial evidence. However, a follow-up study found that the combination of these two types of evidence was found to be more persuasive than either one alone (Allen et al., 2000).

Message sidedness refers to the presence (i.e., two-sided message) or absence (i.e., one-sided message) of the opposing view (Dillard, 2012). Studies have generally found two-sided messages to be more persuasive than one-sided messages when the opposing view was refuted in the two-sided message; however, the opposite was found when the opposing view was not refuted (Allen, 1991; O'Keefe, 1999).

The Source

Source factors refer to the characteristics of the individual or company which prepares and/or delivers the persuasive message (Tormala & Briñol, 2015). The two key features of the source that influence persuasion are credibility and likability (Kassin et al., 2017).

Source credibility is one of the most frequently studied source factors in persuasion literature (Tormala, & Briñol, 2015). It is an umbrella term that gives information about both the expertise and the trustworthiness of the given source. Expertise refers to the real or perceived amount of knowledge possessed by a source whereas trustworthiness refers to the perceived honesty and motivation to provide true information of the source. Independent of whether it is operationalized in terms of expertise or trustworthiness, a high-credible source is commonly found to be more persuasive than a low-credibility one (Pornpitakpan, 2004).

Likability is also an umbrella term that gives information about the physical attractiveness and similarity of the source (Kassin et al., 2017). For instance, physically attractive sources are generally found to be more persuasive compared to physically unattractive sources (Tormala, & Briñol, 2015).

Similarity, on the other hand, refers to the degree of resemblance between the recipient and the source; and can range from sharing the same values and perspectives to sharing a similar name or even looking alike (Perloff, 2017). Empirical studies have generally found that the similarity between the source and recipient tends to facilitate persuasion.

The Recipient

Characteristics of the target audience, which can be stable (e.g., intelligence, personality) or context-dependent (e.g., mood), are also critical factors that affect persuasion (Tormala, & Briñol, 2015) because they influence the audience's motivation and ability to process and understand the persuasive attempt. This, as it is also stated in the ELM, will, in turn, affect which factors of the message the audience will pay attention to the most.

One of the well-studied recipient factors which influence an individual's motivation to process persuasive messages is the need for cognition (NC), which refers to differences in the extent to which individuals engage in and enjoy thinking (Cacioppo & Petty, 1982). People who are high in NC are more likely to elaborate on and evaluate the information they were presented with. Thus, according to the ELM, individuals who are high in NC were found to be influenced more by the quality of the messages in an argument, whereas individuals who are low in NC were found to be influenced more by peripheral cues (Haugtvedt & Petty, 1992). Furthermore, high NC individuals are also more likely to exhibit persistence in their attitudes and are less likely to be influenced by counterarguments compared to low NC individuals. However, this does not mean that high-NC individuals resist counterarguments dogmatically and do not change their opinion regardless of the strength of the counterargument. According to the ELM, individuals who go through persuasion via the central route resist counterarguments because they can organize their cognitive responses in order to defend their opinions. The confidence of low-NC individuals in their opinions stems from their perceived expertise of the source and the amount of information the message includes. However, for high-NC individuals, the confidence stems from the number of strong arguments one can recall. The level of resisting the counterarguments is in line with the

increasing number of strong arguments that are recalled. In contrast, for low-NC individuals, since their opinions are shaped by source credibility and amount of information, they are not resistant to counterarguments. (Haugtvedt & Petty, 1992).

Bidirectional Relationship Between the Message and the Source

While strong messages and credible sources are known to increase persuasion, it is also crucial to investigate how the strength of an argument and the credibility of a source interact with each other. According to bidirectionality, sources could affect how people interpret claims, which, in turn influence how individuals judge the credibility of a source (Collins et al., 2018). The strength of a message informs the recipient about the credibility of the source. However, for the purpose of the current study, we put a special emphasis on how the credibility of a source affects the attitudes towards a message. In the case of ambiguous statements, credible sources can have a determinative role such that their expertise and likability will influence how the message is evaluated. More specifically, individuals will be more likely to agree with a statement that they could reject otherwise, simply due to the influence of the source that makes the statement (Collins et al., 2018).

Political Orientation

Political ideology is not only related to the political domain, but its effects are also seen in daily, non-political life. With the information that somebody is liberal or conservative, one can infer how that person thinks, feels, and acts (Miller et al., 2009). The two groups have different psychological needs that motivate them (Jost et al., 2003). Liberals score higher on the need for cognition, meaning that they have deeper processing of information before concluding their opinions whereas conservatives score higher on the need for closure, meaning that they prefer to arrive at conclusions faster and more precisely (Sargent, 2004). Such differences in the epistemic needs of the groups signify differences in ways of processing information. Since liberals are high in need for cognition, they are expected to systematically process information using the central route, whereas the conservatives are expected to use heuristic processing via the peripheral route, since they are higher in need for closure (Miller et al.,

2009). As mentioned above, information processing via the peripheral route involves cues such as source credibility, based on the perception of the expertise or likability of the source. On the other hand, the central route involves focusing on the argument itself and deeply processing it without prioritizing the cues. Therefore, it can be hypothesized that liberals will attend more to the argument itself and dismiss the heuristic cue of source credibility, whereas conservatives will experience a significant impact of the source credibility during their persuasion process.

The Present Study

There have been quite a few research studies interested in source credibility, message characteristics, or political orientation concerning persuasion. How political ideology impacts persuasion depending on the strength of arguments (Miller et al., 2009), how partisanship predicts believing in fake news and the mediating role of source credibility (Faragó et al., 2020), how the level of identification with a party contributes to resistance in persuasion (Pfau & Burgoon, 1988), and how the perceived message strength and political orientation influence resistance to persuasion (Gollust & Capella, 2014), are only a small part of the examples of studies in the literature on our topics of interest. However, these studies focus on the variables of our interest separately. There exists a gap in the literature in terms of investigating the effects of the variables of source credibility, message strength, and political orientation altogether on persuasion. We aim to understand the dynamics of persuasion in today's politicized world we are living in.

Therefore, we do not want to eliminate any of the main factors that are determinative in persuasion (i.e., source credibility and message strength) as well as the factor relevant to many persuasion strategies in this politicized world (viz., political orientation) from our study.

Thus, our current research aims to understand how source characteristics, message characteristics, and political orientation influence persuasion. According to the Elaboration Likelihood Model, for individuals who are motivated to process information, a strong message will activate the central route to persuasion, while a credible source will activate the peripheral route to persuasion (Petty

& Cacioppo, 1984). Thus, we hypothesize that, regardless of political orientation, persuasion will be highest when the source is credible, and the argument is strong since both routes to persuasion will be activated. Conversely, persuasion will be lowest when the source is non-credible, and the argument is weak since neither one of the routes for persuasion will be activated.

Another focus of our research is to investigate how the political orientation of individuals could influence what they attend to when they encounter a message. Accordingly, we hypothesize that political orientation will act as a moderator in terms of the level of persuasion: for individuals classified as liberals, the influence of the argument strength on persuasion will be more pronounced when compared to source credibility. For individuals classified as conservatives, this effect will be reversed since they are expected to prioritize the credibility of a source rather than the quality of an argument.

Method

Participants

The final sample for the study consisted of 200 university students who were over the age of 18. The gender and ages of the participants were not collected. The number of the liberals was 139 and of the conservatives was 61. The participants were randomly assigned to one of the four conditions. There were 52 individuals in strong argument/credible source condition (37 liberals and 15 conservatives), 47 individuals in the strong argument/non-credible source condition (33 liberals and 14 conservatives), 47 individuals in the weak argument/credible source condition (30 liberals and 17 conservatives), and 54 individuals in the weak argument/non-credible source condition (39 liberals and 15 conservatives).

Measures
Product Descriptions

Participants received five product descriptions adapted from Tormala et al. (2006), which are about medical products, personal hygiene products, and household goods (See Appendix A for the product descriptions that were presented to the participants). The argument quality was manipulated by presenting stronger evidence. The strength of the evidence was manipulated by one or more of the following ways: including statistical information, providing comparisons with similar products, including conclusions of the experiments that were conducted to assess the effectiveness of the products. Immediately after reading the product description the perceived strength of the argument was measured using a 7-point Likert scale ranging from 1 (very weak) to 7 (very strong). Furthermore, attitude toward the product was operationalized as an intention of buying the product and was measured using a 7-point Likert scale ranging from 1 (I definitely wouldn't buy the product) to 7 (I definitely would buy the product). The same measures were used again immediately after the participant was presented with the source information which could either be credible or non-credible. The credibility of the source was manipulated by one or more of the following ways: using the names of well-known and respected institutions, adding information about whether the source is biased or not, changing the job title and position of the individual giving the information. This scale was not pilot tested, so even though it is adapted from a credible source, its validity and reliability are within our limitations.

Need for Cognition

Need for Cognition was measured using the Turkish version of the Need for Cognition Scale, which had high reliability (Cronbach's $\alpha = 0.91$) (Cacioppo, & Petty, 1982; Gulgoz, & Sadowski, 1995) (See Appendix B). Each of the 18 items in the scale asks the participants to rate the extent to which they agree with the given statement on a 9-point Likert scale (-4 = very strong disagreement and +4 = very strong agreement). The total score a participant can get ranges from -72 (low need for cognition) to +72 (high need for cognition).

Political Orientation

Finally, the political orientation of the participants was measured using three items: assessing the participants' general political orientation, their political orientation on economic and social issues, respectively, using a 7-point Likert scale ranging from 1 (very liberal) to 7 (very conservative) (Cronbach's $\alpha = 0.73$) (Liu & Latané, 1998; Miller et al.b, 2009) (See Appendix C). Thus, a higher mean score of these three questions indicated

a more conservative political orientation. Due to the limited number of participants and possible social desirability bias which could have resulted in a lower number of participants who identified as conservative, we classified individuals into these two categories by assigning those who scored a 3.33 or lower in the mean score of the three political orientation items into the liberal group and assigning those who scored higher than 3.33 into the conservative group.

Procedure

The study protocol was approved by the university ethical committee. Data were collected using an online survey form created via Qualtrics. The participants were recruited by posting the link of the survey to social media websites and groups such as Koç University students' Facebook groups and credible Twitter accounts. Also, the snowballing technique was used. Before starting the survey, participants read an Informed Consent form and were able to proceed with the survey only if they agreed with the terms of participation. In the first part of the survey, participants were randomly assigned to read either a strong or weak argument about a product description. The perceived strength of the argument, and intention to purchase the product were measured. In the second part of the survey, participants were presented with information about the source from which the product description came from, which could be either credible or non-credible. The perceived strength of argument, and intention to purchase the product were measured again. In the third part, participants' need for cognition was assessed. In the fourth and final part of the survey, the political orientation of the participants was assessed. The whole survey took approximately 10 minutes, and the participants did not receive any incentives for completing the survey.

Design

In this study, a 2x2x2 between-subjects design was used. The strength of the argument was manipulated to be either weak or strong, and the credibility of the source was manipulated to be either credible or non-credible. Furthermore, the participants were categorized as either liberals or conservatives depending on their political orientation. These manipulations' effects on the change in perceived argument strength and change in purchase behavior were investigated.

Results

Preliminary Analysis

We categorized our sample into two groups based on their self-reports on political orientation: liberals ($N = 139$) and conservatives ($N = 61$). An independent-samples t-test was conducted to investigate the effect of political orientation on individuals' need for cognition. The need for cognition scores of liberals ($M = 22.12$, $SD = 18.67$) were found to be significantly higher than the need for cognition scores of conservatives ($M = 16.44$, $SD = 17.79$), $t(198) = 2.00$, $p < .05$.

To test our first hypothesis, we randomly assigned the participants into the following four groups: (1) strong argument, credible source, (2) strong argument, non-credible source, (3) weak argument, credible source, (4) weak argument, non-credible source. Two one-way ANOVAs were conducted to see in which condition change in perceived argument strength and change in purchase behavior would be highest. The analyses partially supported our hypothesis. It was revealed that change in perceived argument strength was significantly higher in both strong, credible condition ($M = 0.63$, $SD = 0.85$) and weak, credible condition ($M = 1.04$, $SD = 1.07$) compared to the strong, non-credible condition ($M = -1.38$, $SD = 0.85$) and weak-non-credible condition ($M = -1.21$, $SD = 0.95$), $F(3, 196) = 89.38$, $p < .001$ (See Figure 1). The same pattern was observed for the change in purchase attitude, $F(3, 196) = 54.99$, $p < .001$. In other words, the change in purchase attitude was significantly higher in both strong, credible condition ($M = 0.53$, $SD= 0.85$) and weak, credible condition ($M = 0.67$, $SD = 0.94$) than in strong, non-credible ($M = -0.97$, $SD = 0.72$) and

weak, non-credible condition (M = -0.91, SD = 0.87) (See Figure 2).
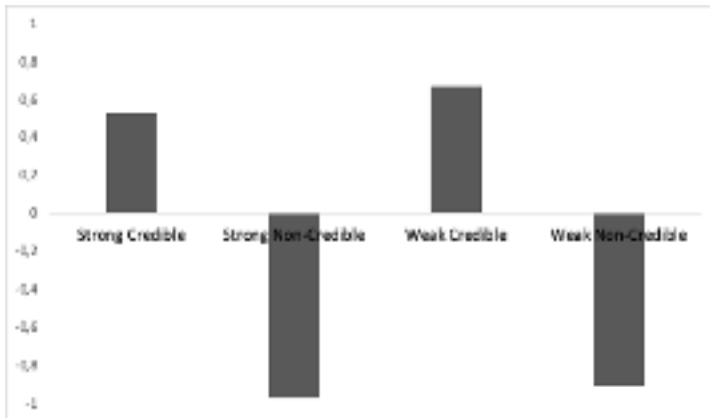
Figure 1

Change in Perceived Argument Strength for Argument Strength-Source Credibility Pairs
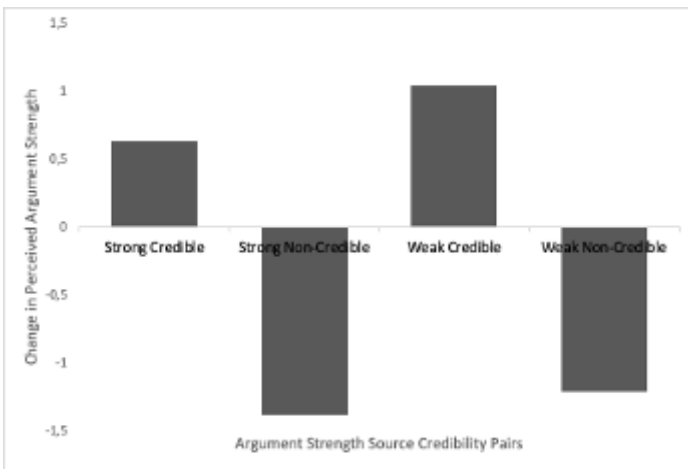
Note. Change in perceived argument strength was significantly higher in both strong argument-credible source condition and weak argument-credible source condition compared to the strong argument- non-credible source condition and weak argument -non-credible source condition.

Figure 2

Change in Purchase Attitude for Argument Strength-Source Credibility Pairs

Note. Change in purchase behavior was significantly higher in both strong argument credible source condition and weak argument credible source condition compared to the strong argument-non-credible source condition and weak argument-non-credible source condition.

Effect of Political Orientation and Argument Strength on Initial Perceived Strength of Argument

A two-way ANOVA was conducted to compare the effect of political orientation and argument strength on initial perceived strength of argument. The results revealed a main effect of argument strength such that the strong argument (M = 4.51, SD = 0.99) was judged as stronger than the weak argument (M = 4.10, SD = 1.09), $F(1, 196)$ =

6.50, p = .012. Neither a main effect of political orientation, $F(1, 196)$ = 0.34, p = .56; nor an interaction effect, $F(1, 196)$ = 0.006, p = .94 was found. The pairwise comparisons revealed a significant difference of argument strength for liberals, $F(1, 196)$ = 5.66, p = .018 such that liberals rated strong arguments (M = 4.49, SD = 1.00) significantly higher than weak arguments (M = 4.07, SD = 1.08). However, no such effect was found for conservatives, $F(1, 196)$ = 2.20, p = .14.

Effect of Argument Strength, Source Credibility and Political Orientation on Change in Perceived Argument Strength

To test our second hypothesis, we conducted two separate three-way ANOVAs which examined the effect of argument strength, source credibility, and political orientation on change in perceived argument strength and change in purchase attitude respectively. Again, our hypothesis was partially supported.

The three-way ANOVA that was conducted to examine the effect of argument strength, source credibility and political orientation on change in perceived argument strength found a significant main effect of source credibility on change in perceived argument strength, $F(1, 192)$ = 264.04, p < .001, such that a credible source (M = 0.83, SD = 0.98) resulted in more attitude change compared to a non-credible source (M = -1.29, SD = 0.89). Neither a main effect of argument strength, $F(1, 192)$ = 2.69, p = .103, nor a main effect of political orientation, $F(1, 192)$ = 0.15, p = .70 was found. The results revealed no significant two-way interactions. However, there was a significant three-way interaction, $F(1,192)$ = 8.74, p = .003 (See Figure 3).

In the strong argument condition, there was a significant difference between the change in perceived argument strength reported by conservatives and liberals, when they were presented with a credible source, $F(1, 95)$ = 5.50, p = .021. In other words, the change in perceived argument strength reported by conservatives (M = 1.05, SD = 0.99) was significantly higher than the change in perceived argument strength reported by liberals (M = 0.47, SD = 0.74) when they were presented with a credible source. No significant difference was observed between the change in perceived argument

strength reported by conservatives and liberals when perceived argument strength reported by liberals (*M* = 0.47, *SD* = 0.74) when they were presented with a credible source. No significant difference was observed between the change in perceived argument strength reported by conservatives and liberals when they were presented with a non-credible source, $F(1,95) = 0.11, p = .745$.

Figure 3
Interaction of Argument Strength, Source Credibility and Political Orientation on Change in Perceived Argument Strength
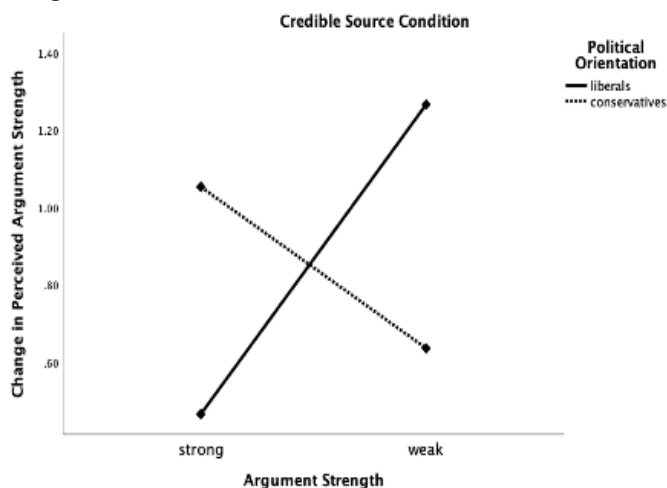
Note. In the credible source condition, the change in perceived argument strength when presented with a strong argument was significantly higher for conservatives compared to liberals. A reverse effect was observed when participants were presented with a weak argument by a credible source such that liberals reported greater change in perceived argument strength compared to conservatives.

In the weak argument condition, there was again a significant difference between liberals and conservatives when they were presented with a credible source, $F(1,97) = 4.46, p = .037$. However, this time the effect was reversed such that the change in perceived argument strength reported by liberals (*M* = 1.27, *SD* = 1.16) was significantly higher than the change in perceived strength reported by conservatives (*M* = 0.64, *SD* = 0.74). There was again no significant difference between liberals and conservatives when they were presented with a non-credible source, $F(1, 97) = 1.35, p = .248$.

Finally, for liberals in the credible source condition the change in perceived argument strength was significantly higher for the weak argument (*M* = 1.27, *SD* = 1.16) than for the strong argument (*M* = 0.47, *SD* = 0.74), $F(1, 135) = 13.02, p < .001$. On the other hand, for conservatives in the credible source condition, the change in perceived argument strength in the strong argument (*M* = 1.05, *SD* = 0.99) was not significantly different than the change in weak argument condition (*M* = 0.64, *SD* = 0.74), $F(1, 57) = 1.67, p = .201$.

Effect of Argument Strength, Source Credibility and Political Orientation on Change in Purchase Attitude

The three-way ANOVA that was conducted to examine the effect of argument strength, source credibility, and political orientation on change in purchase attitude revealed a significant main effect of source credibility on change in purchase attitude was found, $F(1, 196) = 164.35, p < .001$. More specifically, a credible source (*M* = 0.60, *SD* = 0.89) resulted in more attitude change compared to a non-credible source (*M* = -0.94, *SD* = 0.80). Neither a main effect of argument strength, $F(1, 196) = 0.68, p = .41$, nor a main effect of political orientation was found, $F(1, 196) = 0.06, p = .81$. The results revealed no significant two-way or three-way interactions.

Discussion

This study was conducted in the light of previous studies that investigated argument strength, source credibility, and political orientation, and is expected to contribute to further understanding of the interactions between these crucial points in persuasion. Our design consisted of asking conservative and liberal participants of strongly or weakly advertised products, then providing a credible or non-credible source for the argument. Their perceived strength of the argument was assessed each time the arguments and sources were presented. The change between the perceived strengths before and after the source was presented was our main interest. We aimed to understand the interaction between the credibility of the source and the strength of the argument, also, how political orientation acts on persuasion considering these two factors.

As expected, there was a significant difference between conservatives and liberals in terms of the need for cognition scores such that the need for cognition scores of liberals were higher. This was in line with the findings of Jost et al. (2003), indicating differences in information processing between conservatives and liberals. Liberals will likely engage in systematic processing when

evaluating arguments, whereas conservatives will engage in heuristic processing (Miller et al., 2009).

Overall, in the credible source condition either with a strong or weak argument, the change in the perceived argument strength was significantly higher than the non-credible source conditions. This indicates that the effect of source credibility overrode the effect of argument strength, which might further indicate that the participants in the experiment were influenced more by the peripheral cues. The significant main effect of source credibility also supports this finding. These results can also be explained by the overall involvement, how important the topic is for the participants and the personal relevance of the presented products. ELM predicts that people will process the information through the central route only if they are highly motivated (Petty & Cacioppo, 1984). Furthermore, personal relevance increases a person's motivation to engage in effortful processing (Petty et al., 1983). The product descriptions were about medical, personal hygiene, and household products, which had specific purposes. Such products were possibly unrelated for a university student to process the information in the central route.

Though there was no significant overall difference between the conservatives and liberals when the source was credible, there were significant differences between the two groups in the conditions of weak argument-credible source and strong argument-credible source. When the source was credible, conservatives had a significantly higher change in perceived argument strength than liberals in the strong argument condition whereas liberals had a significantly higher change than conservatives in the weak argument condition. Again, when the source was credible, liberals had a significantly higher change in the weak argument condition than the strong argument condition, but there was no difference between the strong and weak argument conditions for conservatives.

In the strong argument and credible source condition conservatives showed more change in perceived argument strength compared to liberals. Since source credibility is a peripheral cue (Petty & Cacioppo, 1984), these findings indicate that conservatives paid more attention to the peripheral

cues when judging the strength of an argument. This was in line with the hypothesis of the current study showing that for conservatives the source credibility had a more pronounced effect than argument strength.

Contrary to our hypothesis, liberals showed a higher change in weak argument-credible source condition compared to conservatives. This can be explained by liberals' and conservatives' initial judgments of the strength of the arguments. Liberals rated the strong arguments higher than weak arguments; whereas there was no difference between weak and strong arguments reported by conservatives. This difference between liberals and conservatives may be due to the difference in their overall need for cognition scores. Since liberals have a higher NC, their motivation to process the argument before receiving the source information was higher than conservatives, whose low NC led them to be unable to differentiate between the strengths of arguments without information about the source. Even though liberals, unlike conservatives, had rated weak arguments lower than strong arguments, they still experienced the same overriding effect of source credibility due to low involvement. Therefore, the change in the perceived argument strength in the weak argument- credible source condition was found to be higher.

Following the same rationale, conservatives had a higher change in strong argument-credible source condition than liberals because they scored strong arguments lower than liberals but experienced the same overriding effect of the source with liberals. Other than the differences between liberals and conservatives, initial strength perception explains the differences within the credible source condition of both groups. Liberals had a higher change in the weak argument than the strong argument with a credible source because their high scorings for the strong and low scorings for the weak were overriden by the credibility. Conservatives, on the other hand, had no difference between the change in perceived strength of weak and strong arguments since there was initially no difference between the ratings of weak and strong arguments.

Although there were various changes observed in the perceived strength of attitudes

towards the product, the same results were not found for change in intention to purchase. The only noteworthy result was that credible sources were more persuasive than non-credible sources in changing individuals' intention to purchase a product. This result was expected, as is evidenced by the usage of experts or famous people in advertisements. The more trustworthy the source is perceived, the more persuasive power would be achieved (Tormala & Briñol, 2015). However, since there was not a difference between liberals and conservatives, and the strength of the argument did not affect the purchase intention, it is important to discuss why individuals' attitudes did not translate into the behavioral intention.

The theory of planned behavior suggests that for attitudes to turn into behaviors, they first need to create behavioral intention (Ajzen, 1991). Behavioral intention refers to motivational factors which will channelize attitudes into behavior. Behavioral intention is influenced by behavioral beliefs, normative beliefs, and control beliefs. Since the individuals in our sample had favorable attitudes towards the products, behavioral beliefs were satisfied. Additionally, since we could assume that a credible source provides information that would be accepted by a big portion of the society, normative beliefs would also be satisfied. The only beliefs that could be problematic are control beliefs that concern self-efficacy. If the individuals in our study did not think that they could purchase the products for economic reasons or any other reason, their attitudes would not translate into an intention. Another explanation could be that perhaps individuals in our sample were not motivated to purchase these products because they simply did not need them. Although participants had favorable attitudes about the strength of the arguments, and rated the products positively, they still did not end up with an intention to purchase the products.

Conclusion

There are some limitations to our study that might have been misleading in our analysis and discussion. First of all, though our sample size was not too small, there was an imbalance in the number of participants between the groups of liberals and conservatives. However, since participants of the two groups were randomly assigned to conditions, this problem was mostly overcome. Another limitation might be our sampling technique. The survey link was spread by using social media sites, but mostly by snowballing technique. Therefore, there might be problems with the representativeness of the sample since there exist differences among participants such as SES and universities that they are enrolled in, and this might be a threat to external validity. Also, the arguments of product promotions and sources were created and not tested in terms of validity. Even though the arguments and sources were carefully designed considering the persuasive features, a pilot testing to check the validity of the arguments should have been conducted. Finally, the age and gender information of the participants were not collected. However, we believed that these variables wouldn't play a significant role in the process of product evaluations since all participants were university students over the age of 18. In further studies, the age and gender information should be assessed for a more complete understanding of consumer behavior that is free of confounding effects.

Another factor that should be addressed lies in our classification of individuals into categories of either liberal or conservative. There may be individuals who do not identify their political ideology with either of these terms, or there may be individuals who rated themselves to be in the middle of this spectrum. For the sake of our analyses, we classified individuals who rated themselves as slightly liberal in two out of three items as conservatives, as well as those who rated themselves as neither conservative nor liberal. Although this is a limitation of our study, the reason that we made such a division lies under our belief that a social desirability bias could have been in play. Individuals may have chosen to report themselves to be slightly liberal or neither conservative nor liberal in certain items because they did not want to be classified as conservatives. Since our sample consisted of young adults and being conservative might be associated with being close-minded and traditional in the eyes of the new generation, some individuals may have refrained from describing themselves as conservative. This study investigated how argument strength, source credibility, and the political

orientation of the recipient influence persuasion and how they interact with each other. Significant differences between liberals and conservatives indicated that the two groups processed messages differently via the central or peripheral route; however, source credibility overrode their perceptions of the strength of arguments.

These findings imply that although individuals who identify as liberals may be targets of persuasive messages that rely more heavily on how strong the content of an argument is; overall, all individuals appear to be more influenced by who delivered a message. Hence, we believe that while a certain group of people may benefit from learning concrete information about a product, the source that delivers the message will have a decisive effect on whether the product is judged positively or negatively. Also, important to note is that the judgment of how strong an argument is when source information is presented did not translate into persuasion, in the sense of convincing the recipient to purchase the product. While there were changes in how people perceived the strength of a message when they believed that it was delivered by a credible source, it was still not enough to persuade them to buy the product. This finding is also important for advertisers as it appears that the presence of a credible source doesn't always bridge the attitude-behavior gap, hence it is not sufficient to solely rely on the level of persuasiveness of the presenter of a message.

Future studies should use a sample that is balanced for political orientation and other demographic variables such as gender, SES, and age. Possible confounding variables such as involvement and previous experience with the given product categories should also be measured. Measuring involvement with political orientation may reveal some important insights as to why liberals care more about the content of an argument, but in the end, most individuals base their decisions more or less on the source of the message. Additionally, presenting individuals with a more diverse category of products would help us infer whether these results apply to only certain product categories, or whether they can be generalized to purchase behavior as a whole.

References

Ajzen, I. (1991). The theory of planned behavior. *Organizational behavior and human decision processes, 50*(2), 179-211.

Allen, M. (1991). Meta-analysis comparing the persuasiveness of one-sided and two-sided messages. *Western Journal of Communication*, 55, 390–404.

Allen, M., Bruflat, R., Fucilla, R., Kramer, M., Mckellips, S., Ryan, D. J., & Spiegelhoff, M. (2000). Testing the persuasiveness of evidence: Combining narrative and statistical forms. *Communication Research Reports, 17*(4), 331–336. doi: 10.1080/08824090009388781

Allen, M., & Preiss, R. W. (1997). Comparing the persuasiveness of narrative and statistical evidence using meta-analysis. *Communication Research Reports, 4*, 125–131.

Cacioppo, J. T., & Petty, R. E. (1982). The Need for Cognition. *Journal of Personality and Social Psychology, 42*(1), 116–131.

Collins, P. J., Hahn, U., von Gerber, Y., & Olsson, E. J. (2018). The bi-directional relationship between source characteristics and message content. *Frontiers in psychology, 9*, 18.

Dillard, J. P. (2012). The SAGE Handbook of Persuasion Edited by. In J. P. Dillard & L. Shen (Eds.), *The SAGE Handbook of Persuasion: Developments in Theory and Practice* (2nd ed., pp. 20–35). Los Angeles: SAGE Publications Sage CA: Los Angeles, CA.

Faragó, L., Kende, A., & Krekó, P. (2019). We only believe in news that we doctored ourselves: The connection between partisanship and political fake news. *Social Psychology*.

Gollust, S. E., & Cappella, J. N. (2014). Understanding public resistance to messages about health disparities. *Journal of Health Communication, 19*(4), 493-510.

Gülgöz, S. ve Sadowski, C. J. (1995). Düşünme İhtiyacı Ölçeğinin Türkçe uyarlaması ve öğrenci başarısı göstergeleri ile korelasyonu. *Türk Psikoloji Dergisi, 10* (35), 15-24.

Haugtvedt, C. P., & Petty, R. E. (1992). Personality and persuasion: Need for cognition moderates the persistence and resistance of attitude changes. *Journal of Personality and Social Psychology, 63*(2), 308–319. doi: 10.1037//0022-3514.63.2.308

Kassin, S., Fein, S., & Markus, H. R. (2017). Attitudes. *In Social Psychology* (10th ed., pp. 209–259). Boston, MA: Cengage Learning.

Liu, J. H., & Latané, B. (1998). The catastrophic link between the importance and extremity of political attitudes. *Political Behavior, 20(2)*, 105-126.

Miller, AL., Krochik, M., & Jost, J. (2009). Political ideology and persuasion: Systematic and heuristic processing among liberals and conservatives. *Yale Review of Undergraduate Research in Psychology, 1,* 14-28.

O'Keefe, D. J. (1999). How to handle opposing arguments in persuasive messages: A meta-analytic review of the effects of one-sided and two-sided messages. *Annals of the International Communication Association, 22*(1), 209-249.

Pfau, M., & Burgoon, M. (1988). Inoculation in political campaign communication. *Human Communication Research, 15*(1), 91-111.

Perloff, R. M. (2017). "Who Says It": Communicator Factors in Persuasion. In the Dynamics of Persuasion: Communication and Attitudes in the 21st Century (6th ed., pp. 277–331). Taylor & Francis.

Petty, R. E., & Cacioppo, J. T. (2018). Introduction to Attitudes and Persuasion. In Attitudes and persuasion: classic and contemporary approaches (pp. 3–36). essay, Routledge.

Petty, R. E., & Cacioppo, J. T. (1984). Source factors and the elaboration likelihood model of persuasion. *ACR North American Advances.*

Petty, R. E., Cacioppo, J. T., & Schumann, D. (1983). Central and Peripheral Routes to Advertising Effectiveness: The Moderating Role of Involvement. *Journal of Consumer Research, 10*(2), 135. doi:10.1086/208954

Pornpitakpan, C. (2004). The persuasiveness of source credibility: A critical review of five decades' evidence. *Journal of applied social psychology, 34*(2), 243-281.

Sargent, M. J. (2004). Less thought, more punishment: Need for cognition predicts support for punitive responses to crime. *Personality and Social Psychology Bulletin, 30*(11), 1485-1493.

Tormala, Z. L., Briñol, P., & Petty, R. E. (2006). When credibility attacks: The reverse impact of source credibility on persuasion. *Experimental Social Psychology, 42*, 684–691.
https://doi.org/10.1016/j.jesp.2005.10.005

Tormala, Z. L., & Briñol, P. (2015). Attitude change and persuasion: Past, present, and future directions.

Effects of Diagnostic Label on Attitudes Towards People with Major Depression Disorder

Ece Elif Cantay

Koç University

Previous literature shows discriminatory and distancing stigmatization toward mental illness (Corrigan & Watson, 2002). A negative attitude towards the person is gained once another finds out that he/she has a mental disorder. Following the existing literature, this study aims to investigate (i) the effects of a diagnostic label of Major Depressive Disorder (MDD) on young adults' attitudes towards the person with a mental disorder and (ii) the effect of a relationship between college students' attitudes and their anxiety and depression levels on attitudes towards diagnostic labeling. The current study is administered to college students and recent graduates mainly from Turkey. Participants were randomly assigned to two experimental groups and asked to read a story on a hypothetical person's day. The two experimental groups had the same stories except one group read a story revealing an MDD diagnosis and the other group read a story that did not reveal this diagnosis. Participants then completed questionnaires assessing their demographic information, depression and anxiety levels, and their attitude towards this person. The research failed to find any significant effect. This might be due to several limitations such as the completion of the study in participants' second language and participants' familiarity with psychology and mental disorders.

It is established by previous research that college students encounter a significant number of stress-inducing situations (Morrow, 2009). Such situations can be both extrinsic (e.g., social or academic pressure) or intrinsic (e.g., traumatic incidents or health problems). More importantly, extreme and chronic stress levels are risk factors for mental illnesses, especially for Major Depressive Disorder (MDD) (Cirulli et al., 2009). Nowadays, due to the increased stress levels, more and more people are being diagnosed with a mental disorder than ever (Kessler & Zhao, 2010; Bagalman & Napili, 2014). Therefore, it is more likely for people to meet individuals diagnosed with a psychological disorder, which might, in turn, increase the likelihood of systematic stigmatization. Stigmatization is defined as attributes that disqualify one from full social acceptance by society and it is a social problem since it often takes the forms of social rejection, devaluation, and discrimination (Goffman, 1963). Individuals having MDD are already struggling to cope with the symptoms and their impairments in their everyday lives. Moreover, the stigmatization they face adds to their already existing struggles.

Therefore, stigmatizing behaviors and thoughts are considered to be an important issue by individuals with mental disorders. However, such issues are sometimes disregarded by society (Jorm & Reavley, 2013). Even though the recognition of the existence of stigmatization has led to the formation of some commissions (i.e., President's New Freedom Commission on Mental Health in 2013) and campaigns, facing stigmatization continues to affect mentally disordered individuals' lives (Kanter et al., 2008). Considering the current status of the stigmatization towards mental disorders, this study aims to examine the factors affecting the attitudes towards individuals diagnosed with MDD.

Unlike the stigma towards physical disabilities, previous literature demonstrates that individuals with psychological disorders are believed to be able to control their disorders and are responsible for having them (Corrigan et al., 2000). People with mental disorders are regarded as less capable and dysfunctional, childish and they are seen to be more prone to violence by the societies they live in and by their acquaintances on a daily basis (Wahl, 1995; Brown et al, 2010). Apart from the social

inconveniences caused both by the mental illness itself and stigmatizing behaviors, facing stigmatization regularly has negative consequences on one's self-receptions (Brown et al., 2010). A negative view on one's self may be caused by confronting devaluing behaviors and internalizing them, later leading to an expectation of rejection and lowered self-esteem.

Previous literature assessing the forms and types of stigmatization faced by individuals diagnosed with mental disorders shows that the attitudes of others tend to be discriminatory and distancing (Corrigan & Watson, 2002). Facing such attitudes acts as a discourager when it comes to motivation to seek treatment (Satcher, 1999). For example, individuals who experience feelings of shame, mostly resulting from the stigmas around their mental illnesses, are less likely to seek or participate in treatment programs (Sirey et al., 2001). Further, Brown and colleagues (2010) examined the effects of internal and public stigma on treatment-related behaviors and attitudes towards treatment with African American and white young adults. Their results reveal that the mediating effects of internalized stigma on public stigma are only significant for whites, and internalized stigma is highly related to negative attitudes towards treatment. Hence, it is observed that the effects of stigmatization can differ in societies with different demographic characteristics.

Many college students experience social or academic pressure, which leads to psychological disorders such as anxiety and depression (e.g., Kumaraswamy, 2013). College students make up the most of their age group, and just as the rest of the population, depression is relatively frequent among them, with females getting affected more than males (Ghaedi & Kosnin, 2014; Boggiano & Barret, 1991). For example, Schwenk and colleagues (2010) state that medical students tend to engage in potentially harmful coping methods such as excessive alcohol consumption. College students also suffer from a strong fear of peer pressure and negative evaluation (Morrow, 2009). Even though a vast majority suffer from similar anxiety inducing situations and thoughts, students with social anxiety tend to judge their peers who show anxious behaviors more negatively than those without social anxiety (Morrow, 2009).

The studies investigating stigmatization of mental illnesses in college students focus on students from medical departments. For example, Phelan and Basow (2007) show that medical students who label a person as mentally disordered are more likely to negatively stigmatize them. This stigmatization then leads to a perceived danger and a desire for social distance. On the other hand, empathy and increased beliefs about the treatability of mental illnesses are correlated with more positive attitudes and less stigmatizing behavior (Phelan & Basow, 2007; Stone & Merlo, 2011). Besides, Pompeo-Fargnoli (2020) found that college students' perceived stigma (i.e., the individual's beliefs about the attitudes of others) and personal stigma (i.e., the individual's personal beliefs and attitudes toward an issue) levels are significantly and positively correlated, while their perceived stigma levels are higher than their personal stigma levels. Wada and colleagues (2019) proposed three accounts that could explain these findings. First, academic pressure and mistreatment of mental illnesses are sources of stigmatization; second, stigmatization threatens the being, doing, and belonging aspects of a student's life; third, increasing awareness of mental health is critical in addressing stigmatizing behaviors.

Hence, considering the effects of stigmatization on individuals diagnosed with mental disorders and college students' current living situations and anxiety levels, current research aims to shine a light on factors that may be contributing to one's tendency to have a stigma towards such disorders. Regarding the existing literature stating that people with mental illnesses are subject to a high level of stigmatizing behaviors and attitudes (e.g., Jorm & Reavley, 2013; Corrigan & Watson, 2002; Kanter et al., 2008), it is expected that individuals' attitude towards a person diagnosed with a mental disorder is less positive than a person displaying the same symptoms but is not diagnosed. Further, the research also aims to understand the factors affecting the level of stigmatizing behaviors. Increased knowledge on mental health issues is expected to produce fewer stigmatizing behaviors against people with mental illnesses. Previous literature shows

positive attitudes toward mental illness in medical students and correlates such findings with the psychiatric education these students had (Poreddi et al., 2015). This finding could be due to the understanding of psychological disorders. Such an understanding might be present in a person who either has a mental disorder or knows someone having such disorder, consequently this person might form a less negative attitude. Following such findings, it is expected that individuals who either have an acquaintance with a mental disorder or individuals who sought help from a professional for a psychological problem themselves would have a more positive attitude towards other individuals diagnosed with mental disorders as well.

Method

Participants

177 college students enrolled in either Koç University, Ozyegin University, Bilgi University, Sabancı University, Izmir University of Economics, Bilkent University, Boğaziçi University, Bahçeşehir University, New York University, McGill University, Vanderbilt University or Northeastern University participated in this study voluntarily along with 7 recent graduates from these universities. Some of the participants were recruited from the Koç University subject pool and others were recruited via online posting. The ages of the participants varied between 18 and 27 ($M = 20.97$, $SD = 1.70$). Each individual who participated in the study was asked to provide information regarding their age and gender to assess whether there are any possible differences in gender or age. Albeit lacking information, the majority of the sample was Turkish. However, since demographic information concerning nativity was not asked to the participants, any possible difference between different origins was not assessed.

Measures

Participants were initially asked to complete a demographic form asking them of their age and gender. In addition to their demographic information, participants were also asked a dichotomous (Yes/No) question regarding whether they took a Psychology course in their life to control for any mediation that can result from a knowledge of the field. Further, brief information regarding psychiatric history of individuals and their close relatives or friends was collected using a dichotomous (Yes/No) question to control for a positive attitude bias resulting from a past close association with any mental illness.

To measure the participants' attitude towards a hypothetical diagnosed person, they were presented with one of the two versions of a story that introduces a character. Participants were instructed to read the story as if the character in it was someone close to them. To avoid any gender biases no gender-specific pronouns were used throughout the story. In the expressed mental illness condition, participants read a story that contained the following statement: "… I talked to my mom about the major depression diagnosis I recently got". In the no-expression condition, the story included the statement "… I had a chat with my mom". To avoid any possible alterations, apart from these sentences, the remaining parts of the stories were identical. (See Appendix A for the full version of the stories).

Attitudes towards the character from the story were assessed with two different styles of questionnaires. First, participants filled out a matrix table consisting of adjectives, with 6 different questions each having two extreme ends (see Figure 1). Next, participants were presented an Attitude Scale created by the researcher with 32 statements, each rated on the 5-point Likert Scale. The Attitude Scale was created by adjusting the items of Eskin's Attitudes Towards Suicide Scale for attitudes towards people with MDD. Eskin's Attitudes Towards Suicide Scale reported high internal consistency for 5 of the 6 different factors: (1) Acceptability of suicide ($\alpha = 0.89$), (2) Punishment after death ($\alpha = 0.91$), (3) Suicide as a sign of mental illness ($\alpha = 0.93$), (4) Communicating psychological problems ($\alpha = 0.70$), (5) Hiding suicidal behavior ($\alpha = 0.71$); and moderate internal consistency for the 6th factor: (6) Open reporting and discussion of suicide ($\alpha = 0.60$) (see Eskin, 1995; Eskin et al, 2016; Eskin et al, 2016, for more information on psychometric properties of the scale).

Figure 1. The display of adjective matrix for the Attitude Scale.

Select the scale point closer to the adjective your friend fits the most.

sad	○ ○ ○ ○ ○	happy
problematic	○ ○ ○ ○ ○	carefree
difficult to get along with	○ ○ ○ ○ ○	easy going
strong	○ ○ ○ ○ ○	weak
peaceful	○ ○ ○ ○ ○	tiring
boring	○ ○ ○ ○ ○	entertaining

Procedure

All measures used in this study were presented to the participants on an online platform whose link was given to each participant individually and randomly. Participants were able to complete the study through their mobile phones, tablets, or computers. All participants were randomly assigned to two conditions (92 participants assigned to the expressed mental illness condition and 92 assigned to the no-expression condition) either by the researcher sending them the link to the online survey randomly or by enrolling in different sessions of the experiment that provided them the links randomly on the subject pool system.

After the random assignment, individuals who gave their consent to participate in the study continued to fill out the demographic information form which takes approximately 2 minutes to complete. Information collected on the demographic form was not being linked to the identity of the participants.

Later, participants read a brief story depicting an individual's normal day. Participants were asked to think of the story as if someone they know closely was describing them a typical day in their lives to make sure that a connection was made between the character of the story and the participant himself/herself. The difference between the versions of the story read by the two experimental groups was that the MDD diagnosis was not revealed to the reader in the no-expression condition whereas an MDD diagnosis was revealed to the expressed mental illness condition. Apart from the reporting of the diagnosis, the remaining parts of the stories were kept identical.

Following the story, participants completed the adjective-matrix table, Attitude Scale, and Beck's Depression and Anxiety Inventory. Even though the duration of the study was estimated to be between 15 to 20 minutes, the average duration of 184 participants was approximately 13 minutes. All results of these questionnaires were collected anonymously, which means no links were made between the results and the identities of the participants.

Results

Preliminary Analysis

The analyses on demographic information showed that the ages of participants varied between 18 and 27 ($M = 20.96$, $SD = 1.70$). 135 of the participants were female and 49 were male. 157 of all participants either took a Psychology course at one point in their education or were taking a Psychology course at the time of their participation. The mean of the total score of Beck's Depression and Anxiety Inventory ($M = 12.35$, $SD = 9.99$) indicated that the participant group belonged to the "minimal depression" category; the base score being 0 and ceiling score being 48.

Further analysis to check whether there is a difference between the two groups regarding their Beck's Depression and Anxiety Inventory scores was conducted with an independent samples t-test. The diagnosis-reveal experimental group had a base score of 0 with a ceiling score of 48 ($M = 11.12$, $SD = 9.37$); the no-reveal experimental group had a base score of 0 and a ceiling score of 44 ($M = 13.59$, $SD = 10.47$). The results of the t-test showed that there was no significant difference in the scores for Beck's Depression and Anxiety Inventory between the two conditions, ($t(182) = 1.18$, $p = .09$).

Later, the possible positive bias stemming from a familiarity with mental disorders (i.e., being diagnosed with one or having a close acquaintance diagnosed with one) was analyzed with an independent samples t-test between the two experimental groups. 68.48% of participants in the diagnosis reveal group were either diagnosed with a mental illness or had a close acquaintance who was diagnosed, while 70.65% of participants in the no-reveal group had such a familiarity with mental illnesses. The results of the t-test showed no

significant difference between the two experimental groups regarding their familiarity with mental illnesses, $t(182) = 0.41, p = .75$.

Main Results

To test the main hypotheses, t-tests and three factorial analyses of variance (ANOVA) were conducted. For each factorial ANOVA, Levene's Test of Equality of Error Variances was conducted to check the homogeneity of variance assumptions. The results of Levene's tests revealed that there is no violation of the homogeneity of variance assumption for all three analyses. Therefore, no corrections were applied in the following analyses.

First, to assess the effects of manipulation established by two different story conditions on individuals' attitude scores, an independent samples t-test was conducted. Then, two two-way ANOVAs were conducted in order to examine the effects of participants' Beck's Depression and Anxiety Inventory scores and the existence of an acquaintance with a mental illness on their attitudes towards a depressed person. The possible interaction effects of the experimental group and these variables are also considered.

By using the independent samples t-test, the effect of the experiment groups on Attitude scores was assessed. Attitude scores were combined scores of the Eskin Attitude Scale and the adjective matrix. The results showed that participants' Attitude Scale scores showed no significant difference between the two experimental conditions, $t(182) = .021, p = .37$. There is no difference in attitude scores when the mental illness diagnosis is revealed ($M = 2.83, SD = 0.21$) compared to no-reveal condition ($M = 2.85, SD = 0.20$).

The majority of the participants either had an acquaintance that is diagnosed with a mental illness or had a previous counseling experience himself/herself or had a diagnosed mental illness himself/herself. To reveal any interaction this may cause to the Attitude scores, a 2 (experimental groups) x 2 (having an acquaintance) Factorial ANOVA was conducted. The results revealed that the main effect of presence or absence of an acquaintance with a mental illness is not significant, $F(3,180) = .98, p > .05$, which implies that the mean score of Attitude Scale does not differentiate according to the presence

or absence of an acquaintance with a mental illness. The main effect of experimental groups was not significant, $F(1,180) = .35, p > .05$. There was also no significant interaction effect found between experimental conditions and the presence or absence of an acquaintance with a mental illness, $F(1,180) = 0.48, p > .05$.

Beck's Depression and Anxiety Inventory results were categorized into 4 groups (minimal, mild, moderate, severe) as set by Beck and colleagues (1988). The minimal value was given to scores between 0 and 13; the mild value was given to scores between 14 and 19; the moderate value was given to scores between 20 and 28; and the severe value was given to scores 29 and above, the highest possible score being 63. The results of a 2 (experimental groups) x 4 (Beck's score groups) Factorial ANOVA revealed that the main effect of Beck's Depression and Anxiety Inventory scores between two experimental groups is not significant, $F(7, 176) = .78, p > .05$, which implies that the Attitude Scale mean score did not differ according to the total score of Beck's Depression and Anxiety Inventory. The analysis showed no significant main effect of Beck's Depression and Anxiety scores on Attitude Scores $F(3,176) = .18, p > .05$ or experimental condition on Attitude Scores, $F(1,176) = 1.35, p > .05$; there was also no interaction effect of Beck's Depression and Anxiety scores or experimental condition $F(3,176) = .14, p > .05$. Further, the Pearson correlation coefficient computed to assess the relationship between the Beck's Depression and Anxiety scores and Attitude scores showed no correlation between the two variables ($r = .02, p = .77$).

A 2x2x4 factorial ANOVA was further conducted to investigate the interaction of the levels of depression and having an acquaintance with a mental disorder on Attitude Scores. Results showed that the interaction effect was not statistically significant, $F(3,168) = 1.69, p = .17$.

Discussion

The present research was conducted to investigate the effects of a diagnostic label of Major Depressive Disorder (MDD) on young adults' attitudes towards a person diagnosed with a mental disorder; and, to investigate the existence of a relationship between college students' attitudes and

their anxiety and depression levels. The results suggested that the mean scores of the attitude scale both did not differ regarding labeled mental illness and no-label conditions. The majority of the participants either had an acquaintance that is diagnosed with a mental illness or had a previous psychological counseling experience himself/herself. However, the results showed that individuals' previous exposure to a mental illness and their Beck's Depression and Anxiety scores did not have a statistically significant interaction effect on the Attitude Scale scores.

The first hypothesis stated that there would be an effect of the presence of a diagnosis on individuals' attitudes towards the depressed person, yet it was not supported by the data. Previous literature showed significant negative stigmatization and prejudice against mental illness diagnosis, yet the current study failed to find a relation between the existence of a diagnosis and negative stigmatization (Corrigan & Watson, 2002). It is speculated that such results are the consequence of having a rather insightful and informed sample about mental disorders. Considering the fact that a vast majority of the sample encountered a Psychology course at one point or another in their lives increases the risk for a bias in the sample. Such a bias might have resulted in attitude scores on the positive side of the scale. Existing literature has focused on studies of stigmatization towards mental illness in college students studying primarily in health departments, which demonstrates the gap in the literature on the attitudes of college students from other departments (Puspitasari et al., 2020). Poreddi and colleagues (2015) concluded in a study conducted with medical students, that a psychiatric education effectively alters the attitude toward mental illnesses. However, other studies showed that while a majority of medical and nursing students hold a positive attitude toward mental illness, some still continued to hold negative beliefs and prejudices despite having good knowledge (Puspitasari et al., 2020). Consequently, the current study contributed to this literature by finding no difference in attitudes regarding the diagnostic labels in a different sample, possibly due to the contextual knowledge of the participants.

The second hypothesis was that individuals who scored higher on the Beck's Depression and Anxiety Inventory or have an acquaintance with a mental disorder would show a more positive attitude towards the depressed person compared to those who scored lower, which failed to show a significant difference between the two groups. Notably, individuals who had moderate levels of depression on Beck's Anxiety and Depression Inventory showed both the most and least positive attitude towards the depressed person. Even the least positive attitude was slightly higher than an expected negative attitude score. The rest of the sample showed an attitude that is more on the positive side of the spectrum without falling below the least positive attitude portrayed by the moderately depressed individuals. This might be due to several reasons. First, knowledge of psychology as a field and mental disorders of the participants might have affected their attitudes. Because of this bias of the sample, regardless of the level of their depression and anxiety, participants show slightly more positive attitudes. Secondly, Kanter and colleagues (2008) showed that the portrayed stigma towards a person with a mental disorder is not related to being exposed to psychotherapy. Besides, another finding of that study was that even though having taken psychotherapy did not affect the level of stigmatizing, taking antidepressant medications is related to stigmatizing behavior. That is, a person taking an antidepressant is more likely to receive negative stigmatizing behavior from others compared to someone diagnosed with a mental illness. In this study, the medication status of the hypothetical character was not present, and this may be the reason why the attitudes might be consistently positive. Overall, the current study added a third possible factor, having a relative or a friend who is diagnosed with a mental disorder, that can affect attitude towards the depressed person. Although no significant effect was found in the study, this might be due to the high levels of familiarity and acquaintance with the mental disorders. Therefore, such a factor should be examined with a more diverse sample and a more elaborate attitude scale.

The study was successfully conducted with students and graduates from 10 universities preventing a convenience sampling regarding the

issue of origins of the students. However, the fact that almost all universities have a similar success rate implies a possible lack of diversity concerning education and SES levels. Regarding the fact that the students in the sample all attend colleges that require them to face stress-inducing environments and the same social environment each day, may have an effect on their attitudes towards their peers and on their anxiety levels. It is crucial to consider the already elevated stress levels of college students while assessing their Beck's Depression and Anxiety Inventory scores (See Appendix C).

Considering the fact that a majority of the participants were native Turkish speakers, the research being conducted in English can propose a limitation concerning the level of English of the participants, which suggests a possibility of misunderstanding of the inventories or the hypothetical cases. Further, having a sample of individuals varying between the ages of 18 and 27 makes the research results lack external validity. The research lacked a pilot study to check whether manipulation works prior to the experimental studies due to time limitations. It is advised for further studies to conduct a primary pilot study introducing a neutral story to assess a baseline for the attitude scales. Additionally, as an ex-post facto variable, the Beck's Depression and Anxiety Inventory scores were not normally distributed, and it might have affected the results. Besides, the fact that 157 of all participants were familiar with the field of Psychology as a result of having taken a Psychology course further establishes a problem of external validity. A possibility that the findings of this research might have been influenced by these limitations should be acknowledged.

Despite its limitations, the current study proposed significant hypotheses since the problem of negative stigmatization toward mental illness is an ever-growing one and introduced a significant factor that can influence its levels. Future research should focus on the effects of labeling produced by the existence of a mental illness diagnosis, controlling for the limitations of this study, to further understand stigmatizing attitudes.

References

Bagalman, E., & Napili, A. (2014). *Prevalence of mental illness in the United States: Data sources and estimates.* Congressional Research Service.

Basker M., Moses, P.D., Russell, S. & Russel, P. S. S. (2007). The psychometric properties of Beck Depression Inventory for adolescent depression in a primary-care pediatric setting in India. *Child Adolesc Psychiatry Ment Health 1*, 8. https://doi.org/10.1186/1753-2000-1-8

Beck, A. T., Epstein, N., Brown, G., & Steer, R. A. (1988). An inventory for measuring clinical anxiety: psychometric properties. *Journal of Consulting and Clinical Psychology, 56*(6), 893.

Boggiano, A. K., & Barret, M. (1991). Gender differences in depression in college students. *Sex Roles, 25*(11-12).

Brown, C., Connor K. O., Copelant, V. C., Grote, N., Beach, S., Battista, D. & Reynolds, C. F. (2010). Depression, Stigma, Race and Treatment Seeking Behavior and Attitudes. *Journal of Community Psychology, 38*(3), 350-368.

Cirulli, F., Laviola, G., & Ricceri, L. (2009). Risk factors for mental health: translational models from behavioural neuroscience. *Neuroscience and Biobehavioral Reviews, 33*(4), 493–497.

Corrigan, P., River, L., Lundin, R., Wasowski, K., Campion, J., Mathisen, J., Goldstein, H., Bergman, M., & Gagnon, C. (2000). Stigmatizing attributions about mental illness. *Journal of Community Psychology, 28*, 91–103.

Corrigan, P. W. & Watson, A. C. (2002). Understanding the Impact of Stigma on People with Mental Illness. *World Psychiatry, 1*, 16-20.

Eskin. M. (1995). Adolescents' attitudes toward suicide, and a suicidal peer: A comparison between Swedish and Turkish high school students. *Scandinavian Journal of Psychology, 36*, 201-207.

Eskin, M., Kujan, O., Voracek, M., Shaheen, A., Carta, M. G., Sun, J.-M., Flood, C., Poyrazli, S., Janghorbani, M., Yoshimasu, K., Mechri, A., Khader, Y., Aidoudi, K., Bakhshi, S., Harlak, H., Ahmead, M., Moro, M. F., Nawafleh, H., Phillips, L., Abuderman, A., Tran, U.S., & Tsuno, K. (2016). Cross-national comparisons of attitudes towards suicide and suicidal persons in university students from 12 countries. *Scandinavian Journal of Psychology, 57*, 554–563.

Eskin, M., Sun, J., Abuidhail, J., Yoshimasu, K., Kujan, O., Janghorbani, M., Flood, C., Carta, M. G., Tran, U. S., Mechri, A., Hamdan, M., Poyrazli, S., Aidoudi, K., Bakhshi, S., Harlak, H., Moro, M. F., Nawafleh, H., Phillips, L., Shaheen, A., Taifour, S., Tsuno, K., & Voracek, M. (2016). Suicidal Behavior and Psychological Distress in University Students: A 12-nation Study. *Archives of Suicide Research, 20*(3), 369-388.

Ghaedi, L. & Kosnin, A. B. M. (2014). Prevalence of Depression among Undergraduate Students: Gender and Age Differences. *International Journal of Psychological Research, 7*(2): 38-50.

Gives, J. L. & Tija, J. (2002). Depressed Medical Students' use of Mental Health Services and Barriers to use. *Acad Med., 77*(9), 918-921.

Goffman, E. (1963). *Stigma*. Englewood Cliffs, NJ: Prentice Hall.

Jorm, A. F. & Reavley, N. J. (2013). Depression and Stigma: From Attitudes to Discrimination. *The Lancet, 381*, 55-56.

Kanter, J. W., Rusch, L C., & Brondino, M. J. (2008). Depression Self-Stigma: A New Measure and Preliminary Findings. *The Journal of Nervous and Mental Disease, 196*(9), 663-670.

Kessler, R. C. & Zhao, S. (2010). The prevalence of mental illness. *A handbook for the study of mental health: Social contexts, theories, and systems*, 46-63.

Kumaraswamy, N. (2013). Academic Stress, Anxiety and Depression among College Students – A Brief Review. *International Review of Social Sciences and Humanities, 5*(1), 135-143.

Morrow, K. N. (2009). *Mental Health of College Students*. New York: Nova Science Publishers, Inc.

Nader, I. W., Tran, U. S., Naranyai, P., & Voracek, M. (2012). Investigating Dimensionality of Eskin's Attitudes Toward Suicide Scale with Mokken Scaling and Confirmatory Factor Analysis. *Archives of Suicide Research, 16*, 226-237.

Phelan, J. & Basow, S. (2007). College Students' Attitudes Toward Mental Illness: An Examination of the Stigma Process. *Journal of Applied Social Psychology, 37*. 2877 - 2902.

Pompeo-Fargnoli, A. (2020) Mental health stigma among college students: misperceptions of perceived and personal stigmas, *Journal of American College Health*,

Poreddi, V., Thimmaiah, R., & Math, S. B. (2015). Attitudes toward people with mental illness among medical students. *Journal of Neurosciences in Rural Practice, 6*(3), 349–354.

Puspitasari I.M., Garnisa I.T., Sinuraya R.K., & Witriani W. (2020) Perceptions, Knowledge, and Attitude Toward Mental Health Disorders and Their Treatment Among Students in an Indonesian University. *Psychol Res Behav Manag., 13*, 845-854.

Schwenk, T. L., Davis, L., & Wimsatt, L. A. (2010). Depression, Stigma, and Suicidal Ideation in Medical Students. *JAMA, 304*(11), 1181-1190.

Satcher, D. (1999*) Mental Health: A report of the surgeon general.* National Institute of Mental Health (U.S.).

Sirey, J., Bruce, M., Alexopoulos, G., Perlick, D., Friedman, S., & Myers, B. (2001). Stigma as a barrier to recovery; perceived stigma and patient-related severity of illness as predictors of antidepressant drug adherence. *Psychiatric Services, 52*, 1615–1620.

Stone, A. M., & Merlo, L. J. (2011). Attitudes of college students toward mental illness stigma and the misuse of psychiatric medications. *The Journal of Clinical Psychiatry, 72*(2), 134–139.

Wada, M., Suto, M. J., Lee, M., Sanders, D., Sun, C., Le, T. N., ... & Chauhan, S. (2019). University students' perspectives on mental illness stigma. *Mental Health & Prevention, 14.*

Beauty Ideals and Rejection Sensitivity: Effect of Primed Beauty Ideals on Rejection Sensitivity

İdil Alp, Perin Aydın, Selin Songül Ertaş
Koç University

What effect do beauty ideals have on romantic relationships of young adult women? This study was conducted to investigate how rejection sensitivity in romantic relationships is affected by primed beauty ideals and whether this impact is influenced by perceived body image. Female university students (n = 87) were asked to fill out an online survey in which they were randomly assigned to two conditions of priming that consist of (1) images of thin lingerie models, representing beauty ideals; and (2) gender-neutral shoe images, providing a basis for control. Subsequently, each group was asked to complete scales that measure appearance-based rejection sensitivity and body appreciation/dissatisfaction. Women that displayed high levels of body dissatisfaction were found to be more sensitive towards rejection, yet there was not a significant relationship in terms of primed beauty ideals and rejection sensitivity. In addition to contributing to the literature with a new point of view, this study forms a basis for further research by providing novel perspectives such as addressing women's perception of body image in relation to their romantic relationships.

Today's world is encircled by remarkable advancements provided by the development of technology, such as media. Mass media brings along countless advantages; however, it has a critical role that may result in certain drawbacks such as the imposition of beauty ideals. For instance, the media highlights the depiction of idealized thin women, particularly in Western societies (Johansson et al., 2005). Current female beauty ideals are framed around thinness; therefore, the concept of body image and its susceptibility are inherently addressed. Previous research has suggested that continuous portrayal of women with idealized bodies on media results in a perceived discrepancy between the societal beauty ideals and the body image, particularly among women who experience body dissatisfaction since they perceive beauty ideals to be unattainable (Posavac et al., 1998). Furthermore, it is also critical to refer to the impact of the media on women's weight concerns and how they desperately pursue that thin ideal. Past research indicated that the way women view the ideal body is profoundly ingrained and originated early in life, conveyed by messages from media illustrating an inaccessible ideal (Davison et al., 2000; Levine & Smolak, 1996; Stice & Agras, 2001). As appearance concerns of women continue existing, there will be several other problems that stem from appearance concerns, such as rejection sensitivity, which refers to the anxious anticipations about getting rejected by others due to their appearance (Park, 2007). With respect to these issues, this study is interested in how women's attitudes regarding their romantic relationships are influenced by the portrayal of the ideal woman through media.

Body image, the way one perceives and feels about their own body, is determined by the societal norms and beauty ideals imposed by society (Van den Brinck et al., 2015). According to a cognitive perspective, people actively form appearance schemas that are influenced by beauty ideals recognized by society (Labarge et al., 1998). Currently, in Western societies, female body ideals are formed with a significant emphasis on thinness (Grogan, 1999); even, thinness became almost synonymous with beauty according to women (Striegel-Moore et al., 1986; Thompson, 1990). However, the depiction of the ideal female body as being slim may lead to discrepancies between how a woman perceives her body image and the portrayal of the ideal female body by the media. These perceived discrepancies are the main reason underlying body dissatisfaction (Johansson et al., 2005), which in turn leads to bodyweight concerns. These bodyweight

concerns and body dissatisfaction may cause distress in women since they are constantly being exposed to thin ideals in almost every aspect of their lives (Johansson et al., 2005), which might lead to some problems such as disordered eating (Sharp & Keyton, 2016). In addition, since current female beauty ideals rely on the objectification of women, females feel an obligation to consider their attractiveness and are overwhelmed by bridging the discrepancy between the thin beauty ideal and their body image in order to be accepted (Posavac et al., 1998).

Regarding the manifestations of beauty ideals, it is crucial to emphasize the role of broadcast media as it contains portrayals of objectified women in large amounts. Thus, it is necessary to address the effect of media given its depictions of highly attractive women who also possess idealized beauty standards. As Lakoff and Scherr (1984) support, broadcast media has a powerful influence on an individual's body image. There is also empirical evidence suggesting that the media-presented images of thinness and attractiveness may negatively affect body satisfaction (Heinberg & Thompson, 1995). Further, in the same study, results showed that individuals who were more likely to report negative reactions to media images had already high levels of body image disturbance or they appeared to agree with societal images (Heinberg & Thompson, 1995). Additionally, it is noted that the mass media plays an important role in reinforcing the idea that only the beautiful deserve and receive romantic love (Galacian, 2004). Therefore, the role of mass media in beauty ideals and body image should be acknowledged.

Exposure to thin-ideal by the media influences body concerns of women who are already dissatisfied with their bodies because of a perceived discrepancy (Posavac et al., 1998), which might be due to social comparison. In addition, women who are dissatisfied with their bodies perceive the thin ideal imposed by the media, as the "superimage" of a woman which is considered unattainable for them. (Posavac et al., 1998). Thus, the concept of "superimage" is in line with the objectification theory such that women tend to adopt the perception of an observer about their body and internalize it (Sanchez & Broccoli, 2008). Consequently, women feel obliged to abide by beauty ideals since finding a partner and being accepted are often tied to appearance and the level of attractiveness (Sanchez & Broccoli, 2008). Therefore, the portrayal of idealized bodies might affect the social processes of individuals.

The appearance concerns may be more pronounced for individuals in their 20s since they are inclined to focus on themselves and social interactions to explore their identity (Arnett, 2000). These young adults are excessively concerned with their own identities as well as the events and individuals in their lives (Markey & Markey, 2006). It is also known that young women's involvement in romantic relationships with the opposite sex increases during this period (Markey & Markey, 2006), hence their thoughts and concerns about intimate relationships naturally begin to shape. In that sense, we believe that especially young women form an automatic link between conforming to beauty ideals and finding a romantic partner since they are constantly paired together through print and broadcast media. Thus, it is crucial to study young women's beliefs about ideal bodies and romantic relationships.

Unattainable beauty standards could lead to appearance concerns for young women, which are linked with anxious expectations of rejection regarding physical attractiveness (Park, 2007). Such an appearance-based rejection sensitivity could harm the individuals' proper functioning. For instance, appearance-based rejection sensitivity is associated with more eating disorder symptoms, more comparison with others in terms of physical appearance, feeling of rejection, and loneliness following an appearance threat (Park, 2007). Additionally, such sensitivity may lead individuals to behave in ways that impair their current close relationships or risk their chances of maintaining a supportive and fulfilling intimate relationship (Downey & Feldman, 1996). In other words, rejection sensitivity has many implications in the sense that it predicts people's expectations, behavioral tendencies, and mindsets. For example, Sharp and Keyton (2016) suggest that females evaluate their likelihood of being liked and

maintaining romantic relationships more positively when they are closer to achieve the thin ideal.

The body image that females have in the context of a romantic relationship could be different. For instance, a discrepancy between young women's perceptions of their bodies and their partners' perceptions of these women's bodies was found (Markey & Markey, 2006). Therefore, this could form a basis for the objectification theory as well as the self-objectification process women engage in (Sanchez & Broccoli, 2008). Specifically, objectification theory asserts that women accept other people's views regarding their body particularly in cultures that sexually objectify the female body (Fredrickson & Roberts, 1997). Likewise, women have high tendencies for self-objectification which also predicts various mental health risks such as anxiety, depression, lower self-esteem, and eating disorder symptoms (Thompson, 1996). In that sense, less is known about the associations between beauty ideals and specifically rejection sensitivity by also recognizing any possible impact of perceived body image on this association.

Research Question and Hypotheses

The main purpose of this study is to analyze the link between primed beauty ideals and rejection sensitivity in romantic relationships and how this link is moderated by perceived body image. We hypothesize that exposure to images of idealized beauty will lead to an increase in rejection sensitivity in romantic relationships. At the same time, we expect to see that this relationship will be moderated by body dissatisfaction in a way that the higher the body dissatisfaction, the higher the level of rejection sensitivity.

Method

Participants

The sample of the study consisted of 87 Turkish female university students who were all native Turkish speakers and whose ages ranged from 17 to 28 years ($M = 21.56$, $SD = 2.46$). Participants were selected based on their willingness to participate in the study, there was no compensation for their participation. The data collection took place online, via an anonymous link provided to them. Participants were randomly assigned into two groups: the control

group watched a video of neutral images (n = 41) and the experimental group watched a video of objectified women images (n = 46). They were divided into two categories according to their body dissatisfaction level: low (n = 44) and high (n = 43). In total, there were 23 participants in low body dissatisfaction, control condition; 18 in high body dissatisfaction, control condition. Moreover, there were 21 participants in low body dissatisfaction, experimental condition, and 25 participants in high body dissatisfaction, experimental condition.

Measures

Body Dissatisfaction

To evaluate their body dissatisfaction levels participants filled the short version of the Body Shape Questionnaire (BSQ; Dowson & Henderson, 2001; α = .97) that consisted of 14 questions (e.g. Have you been so worried about your shape that you have been feeling you ought to diet?) with a 6-point Likert scale ranging from "Never (1)" to "Always (6)" (See Appendix A).

Rejection Sensitivity

To evaluate to what level participants anxiously expect to be rejected based on their appearance the Appearance-based Rejection Sensitivity Scale (Appearance-RS) was used (Park, 2007). Each of the 15 scenarios (e.g., You are leaving your house to go on a first date when you notice a blemish on your face.) was given with two questions assessing first their anxiety about being rejected based on appearance (e.g., How concerned or anxious would you be that your date might be less attracted to you because of the way you looked?) on a scale from 1 (very unconcerned) to 6 (very concerned), and second, their expectation of rejection based on appearance (e.g., I would expect that my date would find me less attractive.) on a scale from 1 (very unlikely) to 6 (very likely) (see Appendix B). Total scores were calculated by multiplying the degree of anxious concerns with the degree of rejection expectation in each situation, and then averaging these scores across situations (Park, 2007; α = .88).

Primed Beauty Ideals

In order to manipulate the priming of beauty ideals, participants were randomly assigned into two

groups as the control group watching a video of neutral images and the experimental group watching a video of objectified women images. The video that the control group was exposed to consisted of 10 neutral shoe images presented for 10s each. The video that the experimental group was exposed to consisted of 10 objectified women images presented for 10s each (see Appendix C).

Procedure

A 2x2 between-subjects factorial design was used in this study. Participants completed the experiment via an online survey on Qualtrics. In the survey, first, participants were given the consent form to confirm their voluntary participation and were asked to indicate their sex. Then the control group was exposed to gender-neutral images which are determined as unisex shoe pictures while the experimental group was exposed to images where women are objectified. After being exposed to these photo sets, each group was exposed to the same three gender-neutral shoe pictures. Afterwards, both groups were asked two consumer behavior questions regarding their shopping preferences ("Does this product reflect your style?" and "Would you buy this product?") as a filler task. We applied this task to create a cover story since we did not want the participants to understand the main aim of the study as it might have an impact on their responses. After that, both groups answered the Turkish version of Appearance-RS Scale (Park, 2013) questions. Then they encountered the Turkish version of BSQ (Dowson & Henderson, 2001), in which we aimed to assess their perceived body image. In the final phase, participants were asked to indicate their age, weight, and height. At the very end, participants were asked about their predictions regarding the aim of the study. Completion of the survey took about 10 minutes.

Results

Independent variables of the study consisted of levels of body dissatisfaction (i.e. low, high) and exposure to visual stimuli (i.e. idealized beauty or neutral images), and the dependent variable was appearance-based rejection sensitivity. The scores of participants on the BSQ determined the subcategories of body dissatisfaction meaning that the average scores of body dissatisfaction were divided into two

as low (< 3.18) and high (> 3.18) based on whether they are below or above the total mean score of BSQ. In this study, the internal consistency of the BSQ measured by Cronbach's alpha was .95 and the internal consistency of Appearance-RS measured by Cronbach's alpha was .96.

A two-way analysis of variance (ANOVA) was conducted to assess the effects of primed beauty ideals and perceived body image on appearance-based rejection sensitivity. A 2 x 2 between-subjects ANOVA indicated a significant main effect of body dissatisfaction on rejection sensitivity $F(1, 83) = 30.06$, $p < .001$, which implies that rejection sensitivity scores significantly differ according to the level of body dissatisfaction. Participants with high body dissatisfaction ($M = 14.96$, $SD = 7.48$) scored higher on rejection sensitivity scale rather than participants with low body dissatisfaction ($M = 7.14$, $SD = 5.13$).

Table 1
Descriptive Statistics for Body Dissatisfaction and Type of Groups (Control-Experimental)

Body Dissatisfaction	Control Group			Experimental Group		
	M	SD	N	M	SD	N
High	13.11	7.10	18	16.25	7.62	25
Low	6.67	3.60	23	7.65	6.46	21

The 2 x 2 between-subjects ANOVA did not reveal a significant main effect of primed beauty ideals on rejection sensitivity, $F(1, 83) = 2.19$, $p > .05$, which means that rejection sensitivity scores did not significantly differ between control and manipulation groups.

Table 2
Two-Way ANOVA Test Results for Manipulation and Body Dissatisfaction Interaction

	df	F	p
Manipulation	1	2.19	.143
Body Dissatisfaction	1	30.06	.000
Manipulation * Body Dissatisfaction	1	.58	.449
Error: 83			

The 2 x 2 between-subjects ANOVA did not reveal a significant interaction between body dissatisfaction and exposure to beauty ideals, $F(1, 83) = .58$, $p > .05$, which implies that the differences

between experimental and control groups in terms of rejection sensitivity scores did not depend on body dissatisfaction. Even though the result did not reach the significance level, as it is illustrated in Figure 1, the interaction is in line with our hypothesis, because the increase in rejection sensitivity is higher in the high body dissatisfaction group than the low body dissatisfaction group.
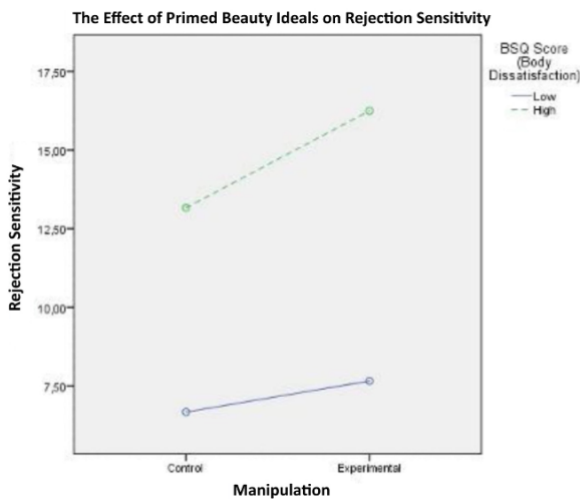

Figure 1. The Plot for the Relationship Between Manipulation and Body Dissatisfaction.

Discussion

In our study, we examined the effect of primed beauty ideals on rejection sensitivity. Also, we investigated the interaction between beauty ideals and perceived body image and its effect on appearance-based rejection sensitivity. The findings of our study showed that body dissatisfaction has a significant effect on rejection sensitivity. This means that participants with high body dissatisfaction were more sensitive to the feeling of rejection in romantic relationships. However, we were not able to find a significant effect of primed beauty ideals on rejection sensitivity. In addition, the results indicated that there was no significant interaction between primed beauty ideals and perceived body dissatisfaction on appearance-based rejection sensitivity. Therefore, our hypotheses which stated that primed beauty ideals influence rejection sensitivity and body dissatisfaction moderates the relationship between primed beauty ideals and rejection sensitivity were not confirmed. This could be due to the characteristics of our sample in terms of both size and diversity. Our sample was relatively small in size and this might have prevented us from obtaining

significant results. Moreover, our sample lacked diversity since most of the participants came from similar backgrounds and they were all native Turkish speakers. This might presumably be the reason why our findings were not in line with the literature as our hypotheses were not confirmed either. Discrepancies in cultural norms might be the key to understanding our inability to confirm our hypotheses. As none of our sources obtained by a rigorous literature review included Turkish participants, we can suggest that the effects of thin body ideal priming may not be as significantly observable in Turkish women as those of women from different cultural backgrounds.

Previously, Posavac et al. (1998) demonstrated the effect of thin-ideal priming on weight concerns in young women. Similarly, with our study, perceived body image was used as a moderating variable in the way of understanding how thin-ideal priming influences weight concern. As we were also expecting in our study, they found that women that did not display body dissatisfaction would be immune to thin ideal priming, thus immune to media images that represent beauty ideals. Even though the present study is somewhat similar to the Posavac et al. (1998) study in terms of methodology, the effect we intended to measure significantly differed from past studies since our focus has been the effect of primed beauty ideals on rejection sensitivity. To our knowledge, there is not a research design identical or similar to ours that intends to measure how rejection sensitivity in romantic relationships could be influenced by exposure to the thin ideal.

Similar to our findings, Park (2007) found that individuals that scored high on appearance-based rejection sensitivity were more involved in eating disorders and appearance-based comparisons. Additionally, they felt more rejected and alone when they were told about negative aspects of their appearance. Our research's findings have somewhat similar conclusions in terms of the link between sensitivity to rejection and appearance-related concerns. To be more precise, based on the findings of our research, we can conclude that young adult women that have strong body dissatisfaction are more likely to be anxious about their appearance and believe it might cause various problems in a

hypothetical romantic relationship scenario. In other words, if a young adult woman has a negatively perceived body image, then she also assumes that her appearance underlies any possible disliking by the opposite sex.

There exist some limitations to be considered in the present research. First, we were unable to obtain a baseline measure for perceived body image due to our priming condition. We recommend taking a measure of perceived body image or body dissatisfaction before priming for further studies so that a possible effect of priming on the perceived body image can be observed. Second, we did not obtain a baseline measure of negative affect either. We assert that it would be useful to examine a possible moderating effect of negative affect on the relationship between priming and rejection sensitivity. Third, our sample size may not be large enough to yield a significant relationship that would imply causation. Thereby, we encourage replication of this study with a larger sample, so that more effects can be observed. Finally, images used in the shoe-priming condition may not be exactly neutral since they may display a connection with appearance. Thus, the effect of priming between two groups may be inhibited. We strongly recommend a selection of images that present a more neutral pattern. In addition to the implications provided, we put forward a need for cross-cultural research since beauty ideals differ across cultures and young women around the world may be experiencing different processes regarding their perceived body image, romantic relationships, and issues depending upon these concepts. Last but not the least, we believe the present study contributes to the literature with a new point of view where the associations between beauty ideals, and specifically, rejection sensitivity were examined by also looking for any possible impact of perceived body image on this association. We also argue that this study provides beneficial information about the effects of the perceived body image of women on their reflections concerning their romantic relationships. An alternative way of using this knowledge may be to develop a clinical intervention among women with relationship problems that also consider their perceptions of body image. Such therapy may in turn enable them to have a healthier romantic relationship while promoting a healthier body image.

In conclusion, in this study, we aimed to uncover the effects of primed beauty ideals on rejection sensitivity in romantic relationships by also considering body dissatisfaction. Even though our hypotheses regarding the effects of primed beauty ideals on rejection sensitivity were not confirmed, we were able to point out a significant link between body dissatisfaction and rejection sensitivity. Considering the aforementioned limitations such as better control of the priming condition and other procedures, we expect future studies to discover the links we intended to find if necessary modifications are applied accordingly.

References

Arnett, J. J. (2000). Emerging adulthood: A theory of development from the late teens through the twenties. *Am. Psychol, 55*(5), 469-480.

Davison, K., Markey, C., & Birch, L. (2000). Etiology of body dissatisfaction and weight concerns among 5-year-old girls. *Appetite, 35*(2), 143-151. doi:10.1006/appe.2000.0349

Downey, G., & Feldman, S. I. (1996). Implications of rejection sensitivity for intimate relationships. *Journal of Personality and Social Psychology, 70*(6), 1327-1343. doi:10.1037//0022-3514.70.6.1327

Dowson, J., & Henderson, L. (2001). The validity of a short version of the Body Shape Questionnaire. *Psychiatry Research, 102*(3), 263-271.

Fredrickson, B. L. & Roberts, T. (1997). Objectification theory: Toward understanding women's lived experiences and mental health risks. *Psychology of Women Quarterly, 22*, 173-206. doi: 10.1111/j.1471-6402.1997.tb00108.x

Galacian, M. L. (2004). *Sex, Love, and Romance in the Mass Media: Analysis and Criticism of Unrealistic Portrayals and their influence.* Lawrence Erlbaum.

Grogan, S. (1999). *Body Image: Understanding Body Dissatisfaction in Men, Women and Children.* Routledge.

Heinberg, L. J., & Thompson, J. K. (1995). Body Image and Televised Images of Thinness and Attractiveness: A Controlled Laboratory Investigation. *Journal of Social and Clinical Psychology, 14*(4), 325-338. doi:10.1521/jscp.1995.14.4.325

Johansson, L., Lundh, L., & Andersson, G. (2005). Attentional bias for negative self-words in young women. The role of thin ideal priming and body shape dissatisfaction. *Personality and Individual Differences, 38*(3), 723-733. doi:10.1016/j.paid.2004.05.026

Labarge, A. S., Cash, T. F., & Brown, T. A. (1998). *Cognitive Therapy and Research, 22*(2), 179-190. doi:10.1023/a:1018732423464

Levine, M. P., & Smolak, L. (1996). Media as a context for the development of disordered eating. In *The developmental psychopathology of eating disorders: Implications for research, prevention, and treatment* (pp. 235-257). Lawrence Erlbaum Associates, Inc.

Markey, C. N., & Markey, P. M. (2006). Romantic Relationships and Body Satisfaction Among Young Women. *Journal of Youth and Adolescence, 35*(2), 256-264. doi:10.1007/s10964-005-9013-6

Markis, T. A., & McLennan, C. T. (2011). The effect of priming a thin ideal on the subsequent perception of conceptually related body image words. *Body Image, 8*(4), 423-426. doi:10.1016/j.bodyim.2011.05.001

Park, L. (2007). Appearance-based rejection sensitivity: Implications for mental and physical health, affect, and motivation. PsycEXTRA Dataset.

Posavac, H., Posavac, S., & Posavac, E. (1998). Exposure to Media Images of Female Attractiveness and Concern with Body Weight Among Young Women. *Sex Roles, 38*(3/4), 187-201. doi:10.1023/a:1018729015490

Rodin, J., Silberstein, L., & Striegel-Moore, R. (1984). Women and weight: a normative discontent. In *Nebraska Symposium on Motivation* (pp. 267-307).

Sanchez, D. T., & Broccoli, T. L. (2008). The Romance of Self-objectification: Does Priming Romantic Relationships Induce States of Self-objectification Among Women? *Sex Roles, 59*(7-8), 545-554. doi:10.1007/s11199-008-9451-1

Sharp, E. A., & Keyton, K. (2016). Caught in a Bad Romance? The Negative Effect of Normative Dating and Marital Ideologies on Women's Bodies. *Sex Roles, 75*(1-2), 15-27. doi:10.1007/s11199-016-0610-5

Stice, E., Spangler, D., & Agras, W. S. (2001). Exposure to Media-Portrayed Thin-Ideal Images Adversely Affects Vulnerable Girls: A Longitudinal Experiment. *Journal of Social and Clinical Psychology, 20*(3), 270-288. doi:10.1521/jscp.20.3.270.22309

Thompson, J. K. (1996). *Body image, eating disorders, and obesity: An integrative guide for assessment and treatment*. American Psychological Association.

Van den Brink, F., Smeets, M. A., Hessen, D. J., & Woertman, L. (2015). Positive body image and sexual functioning in dutch female university students: The role of adult romantic attachment. *Archives of Sexual Behavior, 45*(5), 1217-1226. doi:10.1007/s10508-015-0511-7

Development of the Perceived Body Objectification Inventory

Pınar Ayça Özgen, Ezgi Karanfil, Fatih Osal, and İrem Arıcı
Middle East Technical University

The concept of body image is defined as people's perception of the appearance of their bodies. Such perception can be influenced by external viewers, which in turn, might lead people to internalize other people's perceptions. This internalization process of others' perspectives is termed self-objectification. In the current study, we introduced Perceived Body Objectification Inventory (PBOI) to measure the degree to which women possess self-objectification. 103 undergraduate female students whose ages ranged from 18 to 29 from Middle East Technical University participated in the study. The analyses demonstrated that the currently developed scale has high internal consistency. Convergent, divergent, and criterion-related validity of PBOI were assessed by objectified body consciousness, narcissistic personality, and eating attitude scales, respectively. Results supported a three-factorial structure, namely body surveillance, body shame, and denial of autonomy; and the hypotheses for convergent, discriminant, and criterion-related validity. The current study has implications for understanding the concept of self-objectification and its influence on clinical and health domains such as eating disorders among women. We provided possible limitations and suggestions of our currently developed scale.

Keywords: objectification, self-objectification, body image, narcissism, eating attitudes

In Western patriarchal societies, gender plays a crucial role in operating people's lives, especially for women. In these societies, women have been oppressed and subordinated due to having feminine gender (Holmes, 2015). This oppression of society affects women's perception of their physical appearance or their body image (Beauvoir, 1972). Body image is described as the picture of an individual's own body which is created in their mind (Slade, 1994). In other words, it is how a person's body appears to them. The body image is a multidimensional construct (Cash & Grasso, 2005) and is influenced by various external factors including sociocultural factors (Carrillo Durán & del Moral Agúndez, 2013; Rasnake et al., 2005). The body image of women is also affected by the ideal body and beauty standards imposed by society (Mills et al., 2017). The most common components of the ideal body are thinness and youthfulness (Calogero, 2012), along with a symmetric face and a particular waist-to-hip ratio (WHR) (Gangestad & Scheyd, 2005). Moreover, according to the attitude of many women in Western societies, thinness simply means beauty (Mills et al., 2017).

Objectification theory, which was originally proposed by Fredrickson and Roberts (1997), suggests that female adults and adolescents adopt an observer's point of view as the primary appearance of their physical self. Fredrickson and Roberts (1997) investigated women's experiences with their bodies, and they suggested that the desire to hold an ideal body is enforced by objectification (Jarrar, 2017). According to the objectification theory, objectification implies women as bodies, not individuals, and it means that women have always been subjected to the objectifying gaze (Jarrar, 2017). To clarify, objectification is a process that occurs if a perceiver identifies either oneself or others solely based on physical characteristics, which in turn, makes physical appearance become the main predictor of that person's identity (Kozak et al., 2009). This leads women to be treated as an object, which can be controlled and manipulated as if a physical property (Calogero, 2012).

Nussbaum (1995) suggested that seven notions might be involved in objectification: instrumentality, denial of autonomy, fungibility, inertness, ownership, denial of subjectivity, and violability. According to Nussbaum, denial of autonomy is central in a distinctive way (Langton, 2009); since when a person is evaluated as an object, the attitude towards the objectified being implies its

absence of autonomy (Nussbaum, 1995). In other words, according to Nussbaum (1995), objects are not autonomous because of their lack of own decisions and actions (Dworkin, 1981), and they are only evaluated in terms of their physical properties such as beauty, age, naturalness. Therefore, as female adults and adolescents are regarded as lacking autonomy, they are treated as objects, rather than human beings (Nussbaum, 1995).

When women evaluate their bodies through an objectified perspective, they, in a way, detach from their bodies and adopt others' perspectives (Fredrickson & Roberts, 1997). Fredrickson and Roberts (1997) defined this internalization process as self-objectification. Hence, women's identity as individuals had been made conditional upon their physical appearances, and the proximity of women's bodies to the ideal body standards determines their level of self-worth (Overstreet & Quinn, 2012).

Self-objectification can be a risk factor several negative outcomes on women, such as depression, anxiety, body shame, and low self-esteem (Calogero et al., 2005; Fredrickson et al., 1998; Tiggemann & Kuring, 2004). In that sense, self-objectification was found to be linked to disordered eating behaviors in cultures that sexually objectify the female body (Calogero et al., 2005; Fredrickson & Roberts, 1997). This illustrates the critical role of self-objectification in women's tendency for psychopathologies. Correspondingly, self-objectification is an important dimension to diagnose and describe the treatment of eating disorders in women.

Previous Measures

Considering its theoretical and clinical importance, two main self-report scales were measuring the self-objectification levels of individuals. First, The Self-Objectification Questionnaire (SOQ) developed by Noll and Fredrickson (1998), aims to measure trait self-objectification. Participants are required to rank a list of ten body attributes by considering the impact of these attributes on their self-concept. These ten body attributes are divided into two attributes namely 5 appearance-based attributes (weight, sex appeal, physical attractiveness, firm/sculpted muscles, and measurements) and 5 competence-based attributes

(physical coordination, health, strength, energy level, physical fitness level). Final scores range between -25 and +25 in which higher scores imply a higher self-objectification. The scale was translated to Turkish by Dogan (2013) and reexamined by Yilmaz and Bozo (2019). We did not prefer to use this measure in our current study as the SOQ was developed on the idea that negative consequences of the self-objectification stem from a general concern with individuals' physical appearance (Lindner, 2014). Instead, we developed our current scale by considering the association between self-objectification and body dissatisfaction.

Second, The Objectified Body Consciousness Scale (OBCS) was developed by McKinley and Hyde (1996). this scale aims to measure the extent to which females possess objectified body consciousness. The scale has three subscales: body surveillance (i.e., viewing the body from an outside observer perspective), body shame (i.e., shame due to the discrepancy between one's own body and the ideal body), and control beliefs (i.e., the belief that women are responsible for their appearance), and adapted by Yilmaz and Bozo (2019) into Turkish. The scale has some limitations, that is, even though the body surveillance and body shame subscales are found to be positively correlated with women's self-objectification, depressive symptoms, and maladaptive eating patterns (Augustus-Horvath & Tylka, 2009), conflicting results have been obtained regarding control beliefs subscale (Moradi & Varnes, 2017; Yilmaz & Bozo, 2019). That is, inconsistent positive, negative, and non-significant associations were found between the scores of the control beliefs subscale and indicators of body image and eating problems (McKinley, 1998, 1999; McKinley & Hyde, 1996; Parsons & Betz, 2001). Consequently, Moradi and Varnes (2017) reevaluated the factor structure of OBCS data and found lower reliability for the control beliefs subscale which replicated the prior concerns. Such concerns are also investigated in this study.

The Present Study

Even though women's experiences regarding their body image can vary according to their cultures (Altabe, 1998), existing measures were developed based on European-American women. Despite the

translated and adapted measures into Turkish, there is currently no self-objectification scale that was developed originally for Turkish women. This in turn led us to aim for developing a scale that investigates self-objectification in Turkish women. The existing scales measuring self-objectification, namely OBCS (Yilmaz & Bozo, 2019), and SOQ (Dogan, 2013; Yilmaz & Bozo, 2019), are adapted from Western literature into Turkish literature.

Considering the aforementioned research indicating the theory-inconsistent findings of the control beliefs subscale of the OBCS (Moradi & Varnes, 2017), the main aim of this study was to remove the control beliefs subscale from the original OBCS and to introduce a new denial of autonomy subscale to the currently developed scale called Perceived Body Objectification Inventory (PBOI). This is because objectified individuals might not be able to make autonomous decisions and actions in their lives (Nussbaum, 1995). There has been no study to examine the relationship between objectification, specifically self-objectification, and autonomy, hence we aimed to fill this gap in the literature.

Drawing conclusions from the existing literature, the current study has 3 hypotheses. We examined whether the scores on the Objectified Body Consciousness Scale (OBCS) (Yilmaz & Bozo, 2019) would yield a positive significant correlation with the currently developed scale, Perceived Body Objectification Inventory (PBOI). Secondly, Lindner and Tantleff-Dunn (2017) found a non-significant correlation between self-objectification and narcissism scores. Thus, parallel with this finding, we hypothesize that there will be a non-significant or very low correlation between the scores obtained from PBOI and the level of narcissism measured by Narcissistic Personality Inventory-16 (NPI-16) (Atay, 2009). Lastly, that self-objectification will predict disturbed eating through the scores obtained from Eating Attitude Test-26 (EAT-26) (Sarioglu-Devran, 2014).

Method

Scale Development

The newly developed scale, Perceived Body Objectification Inventory (PBOI), was based on Fredrickson and Roberts' Objectification Theory

(1997). Literature findings have shown us that two dimensions, namely body shame, and body surveillance, reflect our construct with strong psychometric support (e.g., McKinley & Hyde, 1996; Moradi & Varnes, 2017; Yilmaz & Bozo, 2019). Therefore, we decided to involve these two dimensions in PBOI to assess the levels of self-objectification in women. However, the control beliefs dimension of OBCS was not included in PBOI due to its lack of concrete psychometric support (McKinley & Hyde, 1996; Moradi & Varnes, 2017; Yilmaz & Bozo, 2019). Moreover, the literature review has shown us that autonomy is a significant component of objectification/body image (McKinley, 1999; Pelletier et al., 2004). The two dimensions, body shame, and body surveillance, provided by McKinley and Hyde (1996) do not include items associated with autonomy. Consequently, we constructed a new dimension of denial autonomy to better frame the experiences of self-objectified women.

Denial of autonomy is one of the features that Nussbaum (1995) identified while defining the concept of objectification. According to her, seven notions may give rise to treat one as an object. As aforementioned, these are instrumentality, denial of autonomy, inertness, fungibility, violability, ownership, and denial of subjectivity. As Nussbaum (1995) described autonomy as the most exigent among the 7 notions, we decided that denial of autonomy can be a stronger candidate to construct self-objectification. When the dimension was generated, Nussbaum's statement about the denial of autonomy "the objectifier treats the object as lacking in autonomy and self-determination" is used as a foundation (1995, p. 257). In light of the aforementioned scales and Nussbaum's work on objectification (1995), we decided on body shame, body surveillance, and denial of autonomy dimensions to construct PBOI.

The item pool is constructed through a comprehensive literature review of each researcher. Most widely used scales were analyzed, which are OBCS (McKinley & Hyde, 1996) and SOQ (Noll & Fredrickson, 1998), and gender research regarding body image and objectification (e.g., Hebl et al., 2004; Moradi, 2010; Smolak & Murnen, 2008) have

been taken into account to compose the item pool. In the end, 24 items were chosen from the item pool.

Participants

We recruited 136 (133 females) undergraduate students. Three male participants were removed from the sample since this study addresses women's body objectification. Then, participants who did not complete any of the items in the scales were excluded from the data pool (N = 30). Therefore, the final sample consisted of 103 female undergraduate students. The mean age of the sample was 21.4 (SD = 2.1), ranging from 18 to 29. The participants mostly have a moderate level of income (91.3%), do not work (91.3%), and do not have a relationship (55.3%).

Measures

Perceived Body Objectification Inventory

The Perceived Body Objectification Inventory (PBOI) consists of 3 subscales, which are body shame, body surveillance, and denial of autonomy. A total of 24 items was originally developed and each dimension consisted of 8 items in each dimension. 7 of 24 items were reverse-coded (items 1, 2, 7, 9, 16, 18, 21) (e.g., I do not think that others judge my appearance). In order to avoid accidental and/or random answers from participants, a bogus item was included in the body surveillance subscale as the 12th item. To prevent the tendency to staying neutral while answering the questions, a 6-pointed Likert scale was implemented. Points were ranged from Strongly disagree (= 1) to Strongly agree (= 6). A score of 138 is the maximum that can be obtained from PBOI.

Eating Attitudes Scale

The original Eating Attitudes Scale (EAT-26) was developed by Garner et al. (1982). EAT-26 is mostly used to assess eating disorder behaviors, yet the scale does not diagnose anorexia or bulimia nervosa. The Eating Attitudes Tests has an internal consistency of .94 (Garner & Garfinkel, 1979). The Turkish version of the EAT-26 adapted by Saridag-Devran (2014) was used in this study to determine the disordered eating attitudes of participants which will be used for the criterion validity of the developed survey. The EAT-26 contains three subscales, which are bulimia and food preoccupation, dieting behavior, and oral control, having 6, 13, 7 items, respectively. The scale was designed as a 6-point Likert scale (1 = Always, 6 = Never) and composed of 26 items including 1 reverse item, and assesses participants' attitudes about eating (e.g., Yedikten sonra kusma dürtüsü hissederim.). The possible score range for EAT-26 is 0 to 53, and a score above 20 is an indicator for disordered eating whereas a score below 20 implies normal eating behavior (Garner et al., 1982). Cronbach's α level of Turkish adaptation of EAT-26 is .70 (Saridag-Devran, 2014).

Objectified Body Consciousness Scale

Objectified Body Consciousness Scale (OBCS), which was developed by McKinley and Hyde (1996) measures the degree to which a woman self-objectifies herself. The OBCS has three factors: body surveillance, body shame, and control beliefs, with 8 items each. The internal consistencies (α) in the original scale were found to be moderate to high: body surveillance subscale .89, body shame subscale .75, and control beliefs subscale .72. In the current study, Turkish adaptation of OBCS was used (Yilmaz & Bozo, 2019). The reliability of the Turkish adaptation of OBCS was .64 and the internal consistency of the subscales ranged from .64 to .75 (Yilmaz & Bozo, 2019). This scale was used to assess evidence of convergent validity of our developed scale. OBCS is a 7-point Likert scale (1 = Strongly disagree, 7 = Strongly agree) with 24 items, which includes 14 reverse items, that measure the individual's body consciousness with items such as " I feel ashamed when I do not make an effort to look my best" and "I feel embarrassed if I am not at my ideal size".

Narcissistic Personality Inventory

Narcissistic Personality Inventory (NPI-16) was developed and abbreviated by Ames et al. (2006). The original scale had an internal consistency (α) of .72. The original NPI-16 is composed of 16 dichotomous items in which the participants are required to choose between 2 options for each question. Turkish version of NPI-16 (Atay, 2009) was used to measure the discriminant validity of the developed scale. The Cronbach's α level of the Turkish adaptation of NPI-16 is .67. The inventory

consists of 16 dichotomous items. The "narcissistic" items were scored as 1 and "non-narcissistic items" were scored as 0 and the total score ranges between 0 and 16 (Mathieu & St-Jean, 2013).

Procedure

Permission to conduct the survey was obtained from the Departmental Human Subjects Ethics Committee in Middle East Technical University. Using a convenience sampling method, participants were recruited via social media groups based on voluntary participation.

Participants were asked to complete a survey block involving four scales, NPI-16 (Atay, 2009), EAT-26 (Sarioglu-Devran, 2014), OBCS (Yilmaz & Bozo, 2019), and PBOI, respectively, via Qualtrics Survey Software. At the beginning of the survey, informed consent was obtained, and participants are asked to fill out the demographic information form. Upon finishing, participants were debriefed. The survey took 20 minutes on average and the total process of data collection took approximately 2 months.

Results

Before proceeding to the main analyses, we checked whether there are any outliers, Z scores were calculated, and univariate outliers were checked. The results indicated that there was no univariate outlier. Moreover, item 12 (bogus item) of the PBOI was removed from the analysis. No accidental or random responses from participants were found. Thus, the remaining 103 participants' data were used in factor, reliability, and validity analyses.

Factor Analysis

Kaiser-Meyer Olkin (KMO) measure of sampling adequacy was found to be .87 indicating that the sample was factorable, and Bartlett's test of sphericity was significant ($p < .001$). We constrained the number of factors as three according to our expectations. According to our factor analysis, the three-factor solution explained approximately 48% of the variance in the data. 6 items were loaded on Factor 1 (Denial of Autonomy; item numbers: 19, 21, 22, 23, 24), 5 items on Factor 2, (Body Shame; item numbers: 1, 3, 4, 5, 8), 7 items on Factor 3 (Body Surveillance; item numbers: 9, 10, 11, 13, 14, 15, 16). Item 2 and 7 did not load on any factor, item 20 was shared by two factors, and items 6, 18, and 17 loaded on theoretically unrelated factors; therefore, these items were excluded. The further factor analysis was conducted with the remaining 17 items, and approximately 51% of the variance was explained by the three-factor solution.

Reliability and Validity Analyses

To check the internal reliability of the overall PBOI scale, IBM SPSS Statistics 22 software is used. Cronbach's α for the 18-item PBOI scale was .90, indicating high internal reliability (see Table 1 for further information).

Table 1
Psychometric Properties for PBOI items

Items	Corrected Item-Total Correlation	M	SD	Cronbach's α If Item Deleted
1	.609	2.51	1.70	.895
3	.503	3.81	1.60	.898
4	.482	3.63	1.65	.899
5	.678	1.89	1.34	.893
8	.472	2.45	1.66	.900
9	.592	3.54	1.56	.895
10	.616	3.23	1.47	.895
11	.551	3.75	1.58	.897
13	.520	4.09	1.29	.898
14	.397	3.67	1.35	.901
15	.647	2.97	1.57	.893
16	.430	2.54	2.66	.900
19	.656	2.33	1.46	.893
21	.486	2.81	1.58	.899
22	.665	1.99	1.33	.894
23	.681	2.62	1.58	.892
24	.605	2.56	1.55	.895

Note. PBOI = Perceived Body Objectification Inventory

For the validity analyses, correlation analyses are conducted between the overall score obtained from PBOI and all the validity scales. Furthermore, validity analyses were performed on the factorial level, that is, each factor of PBOI and validity scales were correlated. Table 2 demonstrates the descriptive statistics and reliability values of each of the scales. Furthermore, and correlation values of validity scales with PBOI and its three factors are given in Table 3.

Convergent validity evidence was obtained by correlating the scores of PBOI ($M = 50.4$, $SD = 16$) and the Turkish version of OBCS by Yilmaz and Bozo (2019) ($M = 97.4$, $SD = 17.4$). The results of the Pearson correlation demonstrated that there is a statistically significant positive relationship between PBOI and OBCS ($r = .66$, p < .01). These results provided moderate support for the convergent validation. In addition to the overall correlation between PBOI and OBCS, all three factors of PBOI provided evidence for the convergent validation. That is, "Body Surveillance", "Body Shame", and "Denial of Autonomy" factors correlated significantly with OBCS (in the same order of the factors; $r = .63$, p < .01; $r = .59$, p < .01; $r = .41$, p < .01)

The scores of PBOI and NPI-16 ($M = 21.1$ $SD = 2.9$) were correlated and found to be nonsignificant ($r = .16$, $p > .05$). This result provided the discriminant validity evidence of PBOI. "Body Shame" factor also non-significantly correlated with NPI-16 ($r = -.01$, $p = .84$); however, the factors "Body Surveillance" and "Denial of Autonomy" did not provide discriminant validity evidence as they correlated significantly with NPI-16 (in the same order of the factors; $r = .19$, $p < .05$; $r = .21$, $p < .05$).

EAT-26 ($M = 13.2$, $SD = 9.6$) scores and PBOI scores correlated significantly ($r = .58$, $p < .01$), and support for criterion-related validation was obtained (Hypothesis 3). The correlation between all three factors, namely "Body Surveillance", "Body Shame", and "Denial of Autonomy", and EAT-26 yielded significant results, $r = .45$, $p < .01$, $r = .57$, p < .01, and $r = .43$, $p < .01$, respectively. Thus, criterion-related validation was obtained on the factorial level as well.

Discussion

Fredrickson and Roberts' (1997) objectification theory argues that self-objectification occurs when women internalize themselves based on objectifying perspective of an external observer. Our

Table 2

Psychometric Properties for PBOI, OBCS, NPI-16, and EAT-26

Scale	N	M	SD	Cronbach's α
PBOI	103	50.46	16.03	.90
OBCS	103	97.44	17.41	.74
NPI-16	103	21.07	2.89	.67
EAT-26	103	13.24	9.59	.82

Note. PBOI = Perceived Body Consciousness Inventory, OBCS = Objectified Body Consciousness Scale, NPI-16 = Narcissistic Personality Inventory, EAT-26 = Eating Attitudes Scale.

Table 3

Correlation Coefficients for Validity Scales and PBOI factors

Measure	1	2	3	4	5	6
BSU	-					
BSH	.519**	-				
DOA	.568**	.522**	-			
OBCS	.630**	.598**	.412**	-		
NPI-16	.199*	-.019	.211*	.071	-	
EAT-26	.451**	.570**	.436**	.429**	.110	-

Note. PBOI = Perceived Body Consciousness Inventory, BSU = Body Surveillance, BSH = Body Shame, DOA = Denial of Autonomy, OBCS = Objectified Body Consciousness Scale, NPI-16 = Narcissistic Personality Inventory, EAT-26 = Eating Attitudes Scale. *p < .05, **p < .01.

current scale PBOI is composed of the dimensions of surveillance, body shame, and the denial of autonomy was constructed to reveal more theory-consistent results and to better frame the experiences of self-objectified women. The reliability analyses demonstrated that PBOI is an internally consistent measure with an excellent Cronbach's α coefficient of .90. Further, the proposed three-dimensional structure with the inclusion of denial of autonomy subscale was supported by the factor analysis. The current study had three hypotheses regarding validity questions based on existing literature. We expected to obtain a positive significant correlation between the scores of PBOI and OBCS; there would be no significant correlation between PBOI and NPI-16 scores, and participants' score of PBOI would predict their scores of EAT-26.

Concerning the first hypothesis, we found a moderate positive significant correlation between the scores of PBOI and OBCS. This finding implies support for convergent validity meaning that our scale is able to measure the self-objectification construct which OBCS assesses. We did not choose scales that measure different constructs because although our scale and OBCS measures the same structure, our scale contains a dimension different from OBCS (e.g., denial of autonomy). In addition, as we originally developed items in PBOI, items under the same title (e.g., body surveillance and body shame) do not share the same items. Moreover, as OBCS control beliefs dimension has received several criticisms (McKinley, 1998, 1999; McKinley & Hyde, 1996; Parsons & Betz, 2001), excluding the control belief dimension from the current scale is another difference. As a result, even though in general our scale and OBCS measure self-objectification, the control beliefs and denial of autonomy dimensions which these scales focus on when assessing self-objectification differ. Therefore, we used OBCS to evaluate the convergent validity of PBOI, and notably, a strong positive correlation could have been yielded by considering the unsupported three-dimensional structure of OBCS.

We supported our second hypothesis by finding a non-significant correlation between the scores on the PBOI and NPI-16. In other words, divergent validity was met in our study. Consistent with the literature (Davis et al., 2005; Lindner & Tantleff-Dunn, 2017), possessing a narcissistic personality was not significantly associated with the extent to which self-objectification was experienced by the participants.

Lastly, we successfully established our criterion validity. We found a moderate correlation between the scores of PBOI and EAT-26. Moreover, regarding our limited sample size (N = 103), we already expected a moderate correlation, and a stronger correlation can be reached with a larger sample size. Along with our detailed literature review stating that women adopt inappropriate eating habits and weight control methods due to self-objectification (Calogero et al., 2005; Fredrickson & Roberts, 1997; Kessler, 2010; Lindner & Tantleff-Dunn, 2017; Nolan, 2010), our participants' level of self-objectification and disordered eating patterns significantly associated.

Limitations and Further Research Suggestions

As with any study related to the self-objectification of women, there are some limitations that the current study had come upon. The present study yielded significant results, nevertheless, the nature of correlational studies does not allow causal relationships to reveal, which is a quite common issue for the construct of self-objectification (e.g., Dryden & Anderson, 2019). Another limitation encountered in the study is related to the sample size and characteristics. Although we analyzed and supported the three-dimensional structure of PBOI, our sample size was limited to 103 which might influence the results of factor analysis. For our sample characteristics, the sample consisted of Turkish female undergraduate students, with an age range of 18 to 29, and recruited by using convenience sampling, meaning that the sample was relatively homogeneous, which manipulates the generalizability of the results considerably. This limitation had struck as a problem for also previous studies (e.g., Lindner & Tantleff-Dunn, 2017), thus, as McKinley and Hyde (1996) previously stated, using a more diverse sample population can help to generalize the results among women who belong to a different race, age group and socioeconomic status more confidently.

Future studies can be conducted with a larger sample size in order to more accurately examine the dimensions of PBOI. Exploratory factor analysis without a factor number specification can be conducted to further investigate whether there is a different factor solution. Regarding the homogeneous nature of our sample which was composed of heterosexual women, future studies can be conducted on a more diverse sample. This deficiency can be accounted for the previous problem related to the sampling, hence, including sexual orientations of the participants to the study is likely to increase the validity of the construct among a wider sample of women.

Furthermore, in light of the previous literature, culturally emphasized ideals can lead women to embrace self-objectification (Ramsey et al., 2017), therefore, cultural influences on women and to which degree they internalize these cultural standards can account for women's self-objectification largely. Further studies that also control for the culture's role in self-objectification theory can contribute to the literature to a great extent.

Implications of the Results

The current study provided crucial information and aims to make a substantial contribution to the literature by increasing our understanding and knowledge about self-objectification notion specifically body surveillance, body shame, and denial of autonomy in women ranged in age from 18 to 29 years. It is known that several studies which have been done so far were related to objectification and self-objectification, the results of this study might contribute to the existing literature by providing a new dimension to measure in a reliable and valid scale.

The findings of the current study may make a substantial contribution to the clinical domain since these findings may provide insight for women with self-objectification and enable those women to overcome the ideas of body shame, beware of body surveillance. Moreover, women constantly experience difficulties in various areas of life, for example, women may give up on their opportunities in job settings due to the feeling that their body is perceived as inferior to the ideal standards. This implies that women deny their autonomy, and we

think that understanding this dimension of self-objectification carries considerable significance in women's lives.

A considerable percentage of women suffer from eating disorders, such as anorexia nervosa, binge eating, bulimia nervosa (Favaro et al., 2009; Hudson et al., 2007; Keski-Rahkonen et al., 2007), and our study demonstrated that self-objectification may be associated with developing eating disorders. Therefore, the findings of our study stress the significance of self-objectification in mental and physical health settings.

To conclude, considering its clinical and theoretical importance, body objectification is a crucial concept that needs a reliable and valid measurement. Considering the limitations of the previous scales, PBOI introduced a new facet under the body objectification construct, which is the denial of autonomy. Together with previously established subscales (i.e., body surveillance and body shame), the validity and reliability of PBOI were established for a university student sample. Therefore, PBOI can be employed in future studies or clinical settings especially for female university students.

References

Altabe, M. (1998). Ethnicity and body image: Quantitative and qualitative analysis. *International Journal of Eating Disorders, 23*(2), 153-159.

Ames, D. R., Rose, P., & Anderson, C. P. (2006). The NPI-16 as a short measure of narcissism. *Journal of Research in Personality, 40*(4), 440-450.

Atay, S. (2009). Narsistik Kişilik Envanteri'nin Türkçe'ye standardizasyonu [Standardization of Narcissistic Personality Inventory into Turkish]. *Gazi Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi, 11*(1), 181-196.

Augustus-Horvath, C. L., & Tylka, T. L. (2009). A test and extension of objectification theory as it predicts disordered eating: Does women's age matter?. *Journal of Counseling Psychology, 56*(2), 253.

Bartky, S. L. (1990). *Feminity and domination: Studies in the phenomenology of oppression.* Routledge.

Beauvoir, S. D. (1972). *Old age* (P. O'Brian, Trans.). Deutsch, Weidenfeld and Nicolson.

Calogero, R. M. (2004). A test of objectification theory: The effect of the male gaze on appearance concerns in college women. *Psychology of Women Quarterly, 28*(1), 16-21.

Calogero, R. M. (2012). Objectification theory, self-objectification, and body image.

Calogero, R. M. (2013). Objects don't object: Evidence that self-objectification disrupts women's social activism. *Psychological Science, 24*(3), 312-318.

Calogero, R. M., Davis, W. N., & Thompson, J. K. (2005). The role of self-objectification in the experience of women with eating disorders. *Sex Roles, 52*(1-2), 43-50.

Carrillo Durán, V., & del Moral Agúndez, A. (2013). The influence of factors that define the body image model on the well-being of young women who suffer from anorexia and bulimia and healthy people. *Saúde e Sociedade, 22*(2), 468-484.

Cash, T. F., & Grasso, K. (2005). The norms and stability of new measures of the multidimensional body image construct. *Body Image, 2*(2), 199-203.

Davis, C., Karvinen, K., & McCreary, D. R. (2005). Personality correlates of a drive for muscularity in young men. *Personality and Individual Differences, 39*(2), 349-359. https://doi.org/10.1016/j.paid.2005.01.013

Dogan G. (2013). Objectification and its relation with some variables in college students. [Unpublished Master's thesis] Ankara University.

Dryden, C., & Anderson, J. (2019). The dark triad, trait-based self-objectification, and body image concerns in young women. *Personality and Individual Differences, 145*, 1-8.

Dworkin, G. (1981). The concept of autonomy. *Grazer Philosophische Studien, 12*(1), 203-213.

Fairburn, C. G., & Bohn, K. (2005). Eating disorder NOS (EDNOS): an example of the troublesome "not otherwise specified" (NOS) category in DSM-IV. *Behaviour Research and Therapy, 43*(6), 691-701.

Favaro A, Caregaro L, Tenconi E, Bosello R, and Santonastaso P. (2009). Time trends in age at onset of anorexia nervosa and bulimia nervosa. *Journal of Clinical Psychiatry, 70*(12), 1715-21.

Fitzsimmons-Craft, E. E., Bardone-Cone, A. M., & Kelly, K. A. (2011). Objectified body consciousness in relation to recovery from an eating disorder. *Eating Behaviors, 12*(4), 302-308.

Fredrickson, B. L., & Roberts, T. A. (1997). Objectification theory: Toward understanding women's lived experiences and mental health risks. *Psychology of Women Quarterly, 21*(2), 173-206.

Fredrickson, B. L., Roberts, T. A., Noll, S. M., Quinn, D. M., & Twenge, J. M. (1998). That swimsuit becomes you: Sex differences in self-objectification, restrained eating, and math performance. *Journal of Personality and Social Psychology, 75*(1), 269.

Friestad, C., & Rise, J. (2004). A longitudinal study of the relationship between body image, self-esteem and dieting among 15–21 year olds in Norway. *European Eating Disorders Review: The Professional Journal of the Eating Disorders Association, 12*(4), 247-255.

Gangestad, S. W., & Scheyd, G. J. (2005). The evolution of human physical attractiveness. *Annual Review of Anthropology, 34*, 523-548.https://doi.org/10.1146/annurev.anthro.33.070203.143733

Garner, D. M., & Garfinkel, P. E. (1979). The Eating Attitudes Test: An index of the symptoms of anorexia nervosa. *Psychological Medicine, 9(*2), 273-279.

Garner, D., Olmsted, M., Bohr, Y., & Garfinkel, P. (1982). The Eating Attitudes Test: Psychometric features. *Psychological Medicine, 12,* 871-878.

Hebl, M. R., King, E. B., & Lin, J. (2004). The swimsuit becomes us all: Ethnicity, gender, and vulnerability to self-objectification. *Personality and Social Psychology Bulletin, 30*(10), 1322-1331.

Hill, M. S., & Fischer, A. R. (2008). Examining objectification theory: Lesbian and heterosexual women's experiences with sexual-and self-objectification. *The Counseling Psychologist, 36*(5), 745-776.

Holmes, M. (2015). Men's emotions: Heteromasculinity, emotional reflexivity, and intimate relationships. *Men and Masculinities, 18*(2), 176-192.

Hudson JI, Hiripi E, Pope HG Jr, and Kessler RC. (2007). The prevalence and correlates of eating disorders in the National Comorbidity Survey Replication. *Biological Psychiatry, 61*(3), 348-58.

Jarrar, D. (2017). Seamstress: A multimedia documentary song-cycle based on the collected oral histories of Palestinian women.

Keski-Rahkonen A, Hoek HW, Susser ES, Linna MS, Sihvola E, Raevuori A, …, and Rissanen A. (2007). Epidemiology and course of anorexia nervosa in the community. *American Journal of Psychiatry, 164*(8), 1259-65.

Kessler, K. L. (2010). Self-objectification, body image, eating behaviors, and exercise dependence among college females [Master's thesis, University of North Texas]. ProQuest Dissertations and Theses.

Kozak, M., Frankenhauser, H., & Roberts, T. A. (2009). Objects of desire: Objectification as a function of male sexual orientation. *Psychology of Men & Masculinity, 10*(3), 225.

Kuhn, M. H., & McPartland, T. S. (1954). An empirical investigation of self-attitudes. *American Sociological Review, 19*(1), 68-76.

Langton, R. (2009). *Sexual solipsism: Philosophical essays on pornography and objectification.* Oxford University Press.

Lindner, D. (2014). The development and psychometric evaluation of a new measure of self-objectification.

Lindner, D., & Tantleff-Dunn, S. (2017). The development and psychometric evaluation of the Self-Objectification Beliefs and Behaviors Scale. *Psychology of Women Quarterly, 41*(2), 254-272.

Mathieu, C., & St-Jean, É. (2013). Entrepreneurial personality: The role of narcissism. *Personality and Individual Differences, 55*(5), 527-531.

McKinley, N. M. (1998). Gender differences in undergraduates' body esteem: The mediating effect of objectified body consciousness and actual/ideal weight discrepancy. *Sex Roles, 39*(1-2), 113-123.

McKinley, N. M. (1999). Women and objectified body consciousness: Mothers' and daughters' body experience in cultural, developmental, and familial context. *Developmental Psychology, 35*, 760–769.

McKinley, N. M., & Hyde, J. S. (1996). The Objectified Body Consciousness Scale: Development and validation. *Psychology of Women Quarterly, 20*(2), 181-215. https://doi.org/10.1111/j.1471-6402.1996.tb00467.x

Mills, J. S., Shannon, A., & Hogue, J. (2017). Beauty, body image, and the media. *Perception of Beauty*, 145-157.

Moradi, B. (2010). Addressing gender and cultural diversity in body image: Objectification theory as a framework for integrating theories and grounding research. *Sex Roles, 63*(1-2), 138-148.

Moradi, B., & Varnes, J. R. (2017). Structure of the Objectified Body Consciousness Scale: Reevaluated 20 years later. *Sex Roles, 77*(5-6), 325-337.

Muehlenkamp, J. J., & Saris–Baglama, R. N. (2002). Self–objectification and its psychological outcomes for college women. *Psychology of Women Quarterly, 26*(4), 371-379.

Nolan, L. (2010). Female objectification, body dissatisfaction and disordered eating behaviour in a non-clinical sample [Doctoral dissertation, Victoria University].

Noll, S. M., & Fredrickson, B. L. (1998). A mediational model linking self-objectification, body shame, and disordered eating. *Psychology of Women Quarterly, 22*(4), 623-636.

Nussbaum, M. C. (1995). Objectification. *Philosophy & Public Affairs, 24*(4), 249-291.

Overstreet, N. M., & Quinn, D. M. (2012). Contingencies of self-worth and appearance concerns: Do domains of self-worth matter?. *Psychology of Women Quarterly, 36*(3), 314-325.

Ozgungor, S., & Arıcıoğlu, A. (2020). Nesneleştirilmiş Beden Bilinci Ölçeği-Genç Formunun Türkçeye Uyarlanarak Kendini Nesneleştirmenin Sosyal Medya Kullanımı ve Beğenilme Arzusu Arasındaki İlişkide Aracı Rolünün İncelenmesi [Adaptation of Objectified Body Consciousness Scale for Youth to Turkish and to investigate the mediator role of self-objectification in the relationship between social media usage and desire to be liked]. *Pamukkale Üniversitesi Eğitim Fakültesi Dergisi,* (50), 23-49. https://doi.org/10.9779/pauefd.544809

Parsons, E. M., & Betz, N. E. (2001). The relationship of participation in sports and physical activity to body objectification, instrumentality, and locus of control among young women. *Psychology of Women Quarterly, 25*, 209–222.

Pelletier, L. G., Dion, S., & Lévesque, C. (2004). Can self-determination help protect women against sociocultural influences about body image and reduce their risk of experiencing bulimic symptoms. *Journal of Social and Clinical Psychology, 23*(1), 61-88.

Ramsey, L. R., Marotta, J. A., & Hoyt, T. (2017). Sexualized, objectified, but not satisfied: Enjoying sexualization relates to lower relationship satisfaction through perceived partner-objectification. *Journal of Social and Personal Relationships, 34*(2), 258-278.

Ramseyer Winter, V. (2017). Toward a relational understanding of objectification, body image, and preventive sexual health. *The Journal of Sex Research, 54*(3), 341-350.

Rasnake, L. K., Laube, E., Lewis, M., & Linscheid, T. R. (2005). Children's nutritional judgments: relation to eating attitudes and body image. *Health Communication, 18*(3), 275-289.

Sarıdağ-Devran, B. (2014). Doğu Anadolu bölgesinde yaşayan adolesan ve yetişkin bireylerin beslenme alışkanlıkları ile yeme tutum ve davranışlarının belirlenmesi [Determination of eating habits and behaviors based on the dieting habits of adolescents and adults in East Anatolia region]. [Master's thesis, Başkent Üniversitesi Sağlık Bilimleri Enstitüsü].

Slade, P. D. (1994). What is body image?. *Behaviour Research and Therapy*.

Smolak, L., & Murnen, S. K. (2008). Drive for leanness: Assessment and relationship to gender, gender role and objectification. *Body Image, 5*(3), 251-260.

Tiggemann, M., & Kuring, J. K. (2004). The role of body objectification in disordered eating and depressed mood. *British Journal of Clinical Psychology, 43*(3), 299-311.

Vandenbosch, L., & Eggermont, S. (2012). Understanding sexual objectification: A comprehensive approach toward media exposure and girls' internalization of beauty ideals, self-objectification, and body

surveillance. *Journal of Communication, 62*(5), 869-887.

Yılmaz, T., & Bozo, O. (2019). Turkish adaptation of the Objectified Body Consciousness Scale and the Self-Objectification Questionnaire. *Düşünen Adam, 32*(3), 214-226.

Yilmaz, T., & Bozo, Ö. (2019). Whose gaze is more objectifying? An experimental study of college women's state self-objectification, body shame, negative mood, and body dissatisfaction. *Mediterranean Journal of Clinical Psychology, 7*(2).