

HOW PERCEIVED GROUP STATUS AFFECTS NEGATIVITY BIAS  
IN COLLECTIVE FUTURE THINKING

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## DECLARATION OF ORIGINALITY

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## ABSTRACT

### How Perceived Group Status Affects Negativity Bias in Collective Future Thinking

People expect their social groups' future to be mainly negative. In our group's previous research, we found that ruling Justice and Development Party (AKP) voters expected Turkey's future to be less negative than main-opponent Republican People's Party (CHP) voters. This may have been due to AKP voters perceiving themselves as a more advantaged group. Based on these findings, in this thesis we tested the relationship between perceptions of societal status and future projections, focusing on college and national level identities. To test this, after highlighting the advantages or disadvantages of being a Boğaziçi University student/graduate, we asked Boğaziçi students to provide two events that might happen in the near and distant future of their university and to rate their emotional valence. One group read about academic advantages of Boğaziçi students/alumni compared to other universities and the other group read the opposite. All participants also provided subjective sense of privilege ratings and identified possible events in Turkey's near and distant future. In either category, there was no relationship between feelings of social advantageousness and future projections' emotional valence; events were on average more negative. Only for the events expected to occur in Boğaziçi's near future and related to school prestige, the difference between the groups was marginally significant. Events expected to occur in distant future were less negative and more central to participants' identity. Temporal distance also influenced how positive and negative events were evaluated. We discussed our findings in relation to group dynamics and temporal properties of collective future thoughts.

## ÖZET

### Sosyal Grupların Toplumdaki Konumunun Toplumsal Geleceğe Dair Öngörülere Etkisi

Yapılan çalışmalar insanların dahil oldukları sosyal grupların geleceklerine dair beklentilerinin genellikle olumsuz olduğunu göstermiştir. Önceki çalışmalarımızda, iktidarda olan Adalet ve Kalkınma Partisi (AKP) seçmenlerinin Türkiye'nin geleceğine dair beklentilerinin ana muhalefet konumunda olan Cumhuriyet Halk Partisi (CHP) seçmenlerine kıyasla daha az olumsuz olduğunu gözlemledik. Bunun bir sebebinin AKP seçmenlerinin kendilerini daha avantajlı bir grup olarak görmesi olabileceğini düşündük. Bu öngörü üzerine, bu tezde insanların dahil oldukları grupların geleceğine dair beklentilerinin bu grupların toplumdaki konumundan etkilenip etkilenmediğini test ettik. Bunun için, Boğaziçi Üniversitesi öğrencilerinin diğer üniversitelere kıyasla daha avantajlı ya da dezavantajlı konumda olduklarına inanmalarını sağladık. Daha sonra Boğaziçi Üniversitesinin yakın ve uzak geleceğinde yaşanabilecek olaylar belirtmelerini ve bu olayların ne kadar olumlu/olumsuz olduğunu değerlendirmelerini istedik. Bir grup öğrenci Boğaziçi Üniversitesinin diğer okullara kıyasla daha başarılı olduğu ve daha fazla profesyonel avantaj sağladığına ilişkin bir metin okurken diğer grup tam tersi duruma ilişkin bir metin okudu. Tüm katılımcılar ayrıca kendilerini ne kadar imtiyazlı hissettiklerini değerlendirdi ve Türkiye'nin geleceğinde yaşanabilecek olası olaylar belirtti. Her iki durumda da katılımcıların sosyal konumlarına dair algıları ile gelecek beklentilerinin ne kadar olumsuz olduğu arasında bir ilişki yoktu, gerçekleşmesi beklenen olaylar genelde olumsuzdu. İki gruptaki katılımcıların sadece Boğaziçi'nin yakın geleceğine ve prestijine dair beklentilerindeki fark anlamlı olmaya yakındı. Katılımcılar daha

uzak gelecekte yaşanmasını bekledikleri olayları daha az olumsuz ve kimlikleriyle daha ilişkili buldu. Olayların ne kadar yakın ya da uzak gelecekte yaşanacağı olumlu ve olumsuz olayların değerlendirilme biçimini de etkiledi. Bulduğumuz sonuçları grup dinamikleri ve toplumsal geleceğe dair olayların zamansal özellikleri çerçevesinde tartıştık.

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# CHAPTER 1

## INTRODUCTION

Humans frequently think about the future in their daily lives (D'Argembeau, Renaud & Van Der Linden, 2011; Demiray, Luo & Martin, 2020) and future thinking has various forms and it serves various functions such as planning (Szpunar, Spreng & Schacter, 2014) and emotion-regulation (Jing, Madore & Schacter, 2016; Llera & Newman, 2014). Although most of the studies on future thinking address individuals' own future, one can think about the future of other individuals (Pauly-Takacs & Cole, 2019), one's family (Shrikanth, Szpunar & Szpunar, 2018), nation (Topcu & Hirst, 2020), or even that of the earth (Pihkala, 2018). Collective future thinking (Szpunar & Szpunar, 2016) involves projections regarding one's social group (Merck, Topcu & Hirst, 2016; Shrikanth et al., 2018; Topcu & Hirst, 2020; Yamashiro & Roediger, 2019). The social groups that are subjects of future thinking can have different levels of dominance in the society. From a psychological perspective, it is not known whether collective future thoughts' emotional valence is affected by perceived dominance of one's social identities. There have been very limited empirical research on collective future thinking and almost all have shown that collective future thinking is characterized by greater availability of negative future thoughts (Shrikanth et al., 2018; Yamashiro & Roediger, 2019) even though availability of positive and neutral thoughts can be increased by using other tasks (Topcu & Hirst, 2020). However, none of these studies have directly considered how one's perception of his/her group's status impacts collective future thoughts. We argue that the negativity of collective future projections may be moderated by the perceived status of one's group. In other words, we argue that people who perceive

their group as disadvantaged can be more pessimistic towards their group's future compared to people who perceive their group to be in a more socially advantaged position. The present thesis aims to explore this idea.

### 1.1 Collective memory and social identity

Our interactions with social actors (such as listening to others or having conversations in dyads or groups) can distort or repress what we remember. Cognitive mechanisms behind these social factors have been widely studied by psychologists (e.g., Coman & Hirst, 2012; Cuc, Koppel & Hirst, 2007; Hirst & Echterhoff, 2012; Meade & Roediger, 2002). Some scholars have proposed that susceptibility of memory to social factors might be an advantage rather than a weakness. They suggested that reshaping one's memory based on other social actors can lead to shared memories which might bring group members closer and facilitate social bonds between group members (Brown, Kouri & Hirst, 2012; Hirst, 2010; Hirst & Stone, 2015). This idea is in line with definitions of collective memory that put particular emphasis on its relationship to social identities. That is to say, shared memories are called collective memories if they are related to social identities (Brown, Kouri & Hirst, 2012; Coman, Brown, Koppel & Hirst, 2009; Hirst & Manier, 2008). Collective memories can define various social identities such as one's nation (Roediger & Wertsch, 2008), sociopolitical identity (Mutlutürk, Boduroglu & Tekcan, in press) and generation (Schuman & Scott, 1989).

Many scholars assert that belonging to a social group requires having collective memories of that group (Bellah, Madsen, Sullivan, Swidler & Tipton, 1985; Olick & Robins, 1998; Zerubavel, 1996). Collective memories can also help to create and maintain a positive representation (Paez & Liu, 2011) and a sense of

continuity (Szpunar & Szpunar, 2016) for one's social groups. Moreover, people's social identity can determine the availability of important past public events in memory (Boduroglu et al., 2017; Cyr & Hirst, 2019; Gaskell & Wright, 1997; Mutlutürk et al., in press; Schuman, Vinitzky-Seroussi & Vinokur, 2003). Social identity is an important factor in the formation of shared memories as well. For instance, speakers are more likely to affect listeners' memories if they share a social identity. Therefore, we can expect higher levels of mnemonic convergence between people from the same social group compared to people from different social groups (Barber & Mather, 2012; Coman & Hirst, 2015).

## 1.2 Negativity bias in collective memory and future thinking

Humans contemplate their group's future as well as its past. These representations of future might influence humans' well-being (Sani, Bowe & Herrera, 2008), current intentions (Bain, Hornsey, Bongiorno, Kashima & Crimston, 2013) as well as their relationship with in-group and out-group members (Wohl, Squires & Caouette, 2012). These representations are called collective future thoughts (Szpunar & Szpunar, 2016). Several scholars have attempted to establish links between collective memory and future thinking (e.g., De Saint-Laurent, 2018; Merck, Topcu & Hirst, 2016). This effort was partially driven by the links found between episodic memory and episodic future thinking systems. Specifically, these two systems were found to rely on shared cognitive and neural mechanisms and deficits in both systems were found to be correlated (Mullally & Maguire, 2013; Schacter & Addis, 2007). Schacter and colleagues (Schacter, Addis & Buckner, 2007) proposed that one function of episodic memory system was to provide information to create simulations regarding the future and this underlay the similar constructive mechanism employed

by both systems. Similarly, scholars proposed that collective memory might inform collective future thinking in several ways and the latter can also influence the former (Szpunar & Szpunar, 2016). Moreover, De Saint-Laurent (2018) argued that representations of collective past and future were bound together via individuals' generalized theories about the world, i.e., personal world philosophies. Therefore, we can expect collective future thinking to be functional in formation and maintenance of social identities just like collective memories. Moreover, social identities might in turn shape how the collective future is envisioned.

Collective memories have been shown to be predominantly negative. In other words, people typically list negative events when asked to provide either the most important or any public events from the past (e.g., Liu et al., 2009; Schuman & Scott, 1989; Tekcan, Boduroglu, Mutlutürk & Aktan Erciyas, 2017; Topcu & Hirst, 2020; but see Yamashiro & Roediger, 2019). This led researchers to test whether representations of collective futures share this negativity bias (Topcu & Hirst, 2020; Shrikanth et al., 2018; Yamashiro & Roediger, 2019). Shrikanth et al. (2018) and Yamashiro and Roediger (2019) used the future fluency task (e.g., MacLeod, Rose & Williams, 1993) in which they asked participants to provide as many as possible events that they were either excited (positive events probe) or worried (negative events probe) about in their country's future, during a 1-minute period. They found that like collective memories, rapidly retrieved collective future thoughts were mostly negative. Shrikanth et al. (2018) suggested that this may have been due to wider media coverage of negative public events and consequently impacting future projections. Yamashiro and Roediger (2019) instead argued that this negativity bias was observed because people relied on a "national narrative" of decline (Wertsch & Roediger, 2008) while conceptualizing their nation's history and future.

Interestingly, Topcu and Hirst (2020) found that collective future thoughts were more positive than collective memories and this difference was driven by participants perceiving themselves and their nation as more in control in their country's future. But, unlike the two other studies, Topcu and Hirst did not manipulate the emotional valence of elicited events but asked participants to provide 15 events that might happen in their country's future and responses were not generated under time restriction. These methodological differences between the earlier mentioned studies and Topcu and Hirst (2020) may be partly responsible for the contradictory findings. For instance, people might list negative collective future events with greater ease in a short time interval due to higher accessibility, but they might try to balance positive and negative events when they are required to list a given number of events without any valence and time restriction. Therefore, negative collective future events might be more accessible in general but people can come up with positive events as well when given enough time to think. Altogether, the limited number of studies on collective future thinking and their inconclusive findings, highlight the need for more studies on this topic.

### 1.3 Collective future thinking and social identity

One critical area of research that has not received much attention yet is the relationship between social identity and the negativity of collective future thoughts. This is surprising given that social identity has been discussed as a key factor shaping collective memory (e.g. Griffin & Thompson, 2002; Mutlutürk et al., in press; Schuman, Rieger & Gaidys, 1994). The only few studies that have indirectly explored this issue involved comparisons of Republicans and Democrats in American samples and none of those studies reported any difference between the

emotional valence of reported future events between Republicans and Democrats (Topcu & Hirst, 2020; Shrikanth et al., 2018; Yamashiro & Roediger, 2019). These null findings may be driven by a number of factors. To begin with, almost all studies recruited participants through the Amazon Mechanical Turk platform. This might have limited the range of ideologies that were represented in the sample since Mechanical Turk workers were shown to be more liberal and to hold more liberal views on many social issues compared to the American population (e.g., Berinsky, Huber & Lenz, 2012; Huff & Tingley, 2015; Levay, Freese & Druckman, 2016). In line with these findings, number of Democrats were at least 50% higher than Republicans in all of the studies mentioned above. It is also possible that the political landscape in the US may not have been historically characterized by deep divides among groups. However, in the last few decades, several scholars have argued that Democrats and Republicans have become socially and culturally more dissimilar (Himmelfarb, 2001; Mason, 2018) and people's negative attitudes towards the opposing party voters have increased (Bougher, 2017; Iyengar, Sood & Lelkes, 2012; Iyengar & Westwood, 2015). Yet, there is strong evidence that except for people who are more politically active, American public has not divided into two camps in terms of moral views, ideologies and attitudes but remained moderate (Baker, 2005; DiMaggio, Evans & Bryson, 1996; Fiorina, 2014; Fiorina & Abrams, 2008; Hill & Tausanovitch, 2015; Lelkes, 2016). It may be possible that collective future thoughts may differ between groups in non-US contexts where conflict between groups are more widespread and pronounced in every aspect of political and social divide.

In this regard, we believe the sociopolitical context of Turkey may provide a unique testing ground for further testing this relationship between perceived status of one's social group and collective future thoughts. Turkey was established as a secular

republic in 1923, on the societal remains of the Ottoman Empire. However, following the end of the single-party regime in 1946, Turkey has been ruled solely by right-wing parties since 1950, with the exception of intermittent 13 years in which the center-left Republican People's (CHP) and Democratic Left (DSP) parties formed coalition governments with right-wing parties. This is in stark contrast to the frequent switch of the US presidency between Democrats and Republicans since the early 1900s. Moreover, the power dynamics between the ruling Justice and Development Party (AKP) and the main-opponent Republican People's Party (CHP) have been characterized as much less balanced compared to the power dynamics between Republicans and Democrats in the US (e.g., Özbudun, 2015; Yilmaz & Bashirov, 2018). The imbalance in the political domain reflects on the public opinion and attitudes as well. For instance, CHP voters reported worrying about being imprisoned because of their opinions and not being treated justly more than AKP voters (KONDA, 2017). Furthermore, their levels of trust in Turkish parliament and government were significantly lower than that of AKP voters (Ertan, Aytaç & Çarkoğlu, 2019). We propose that the imbalanced nature of the power dynamics between the major political parties in Turkey might constitute a different context in which people who vote for the ruling party (i.e., AKP) might anticipate a less pessimistic collective future. Indeed, preliminary survey data from our group has shown that ruling party voters anticipated a less negative future for Turkey than CHP voters.<sup>1</sup>

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<sup>1</sup> In March, 2019, we asked undergraduate students from Boğaziçi and Şehir universities to provide two most important events from Turkey's 70-year future as part of a bigger survey on collective memories and collective future thinking in Turkey (Boduroglu, Bilge, Hacibektasoglu & Tekcan, 2019). Later, participants rated the emotional valence for these two events. Finally, we collected demographic information regarding their socioeconomic status, political party affiliation, and ideology. As expected, we found that AKP voters rated emotional valence of future events significantly less negatively than CHP voters.

These findings are also in line with studies focusing on the relationship between people's perception of their groups' social status and expectations about the future (Aubin, Amiot & Fontaine-Boyte, 2016; Moore, 2003). For instance, Moore (2003) asked young Israeli Palestinians and Jews to rate the likelihood of experiencing five positive future events including getting married and owning a house. She found that Palestinian adolescents believed they were less likely to experience these positive events in the future compared to Jews. The study focused on the likelihood of experiencing personal future events that were provided by the researcher. However, participants' positive anticipations were attributed to their social groups' societal position; controlling for income, gender and religiosity did not eliminate the group differences. In a similar vein Aubin et al. (2016) manipulated students' perception of their university's level of control over its decisions and future. When students were in the lower perceived control condition, their scores were higher on the hopelessness scale than those in the higher perceived control condition.

These few studies argue that people's positive and negative anticipations about their own and groups' future may be moderated by social identity and a group's societal status. However, none of these studies directly investigated the link between perceived status and collective future thoughts. This is surprising given the extensive work highlighting the significance of group identity on collective memory which we reviewed on this thesis as well. Even though in our earlier survey (Boduroglu, Bilge, et al., 2019), collective future thoughts were associated with group identity, it is possible that the results which we attributed to dominance were in fact driven by factors other than perceived status of the ruling party. For instance, AKP voters in our sample rated themselves as more nationalist than CHP voters

which might have made positive anticipations regarding their nation more relevant and accessible. To rule out such alternative explanations, we chose to empirically manipulate perceived status to determine its impact on collective future thoughts. To do this we focused on a less political yet salient group identity, following the studies that used university student identity to explore the effect of group membership on several phenomena (e.g., Aubin et al., 2016; Coman & Hirst, 2015; Yopyk & Prentice, 2005). Specifically, in our experiment, we asked Boğaziçi University students to either read a passage on how Boğaziçi University ranked higher on a well-known international index of academic merit than other Turkish universities (advantaged condition) or a passage on how other Turkish universities scored better than Boğaziçi University (disadvantaged condition).<sup>2</sup> Such indices are frequently mentioned in social media and therefore we thought that this manipulation would have high believability. Then, participants identified the most important events that might happen in Boğaziçi University's future and rated their valence. We expected that in the disadvantaged condition, participants would rate future events more negatively than in the advantaged condition. The same participants also completed a set of questions asking them to report how advantaged they considered themselves as voters of their political party (i.e., political party-related advantageousness) as well as their general sense of deprivation. Deprivation is typically conceptualized as having limited or no access to circumstances and resources that are deemed important in the society (e.g., Geoff, Judy & Mark, 1996; Townsend, 1987). These circumstances can range from having adequate housing to being integrated into the community. We asked participants to rate their subjective sense of deprivation instead of using objective indicators to measure their perceptions of their status.

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<sup>2</sup>Boğaziçi University is a highly competitive state university founded in 1863 as an American college in İstanbul. It is one of the highest-ranking universities in Turkey.

Furthermore, they identified the most important events that would happen in Turkey and rated their valence. We expected that participants who considered themselves in a less advantaged position to rate the future events more negatively. For each future event, participants also rated the degree of expected life transition that the event would implicate, expected relevance for their identity, rehearsal, and overall importance. Using these measures, we aimed at assessing characteristics of participants' future thoughts in relation to perceived status of their groups and reported events' emotional valence. We expected all these characteristics to be rated higher in the disadvantaged condition since a disadvantaged identity is more likely to be central to one's self than an advantaged identity (e.g., Maalouf, 2001). We also measured how much participants identified with Boğaziçi University and argued that the more they identified with it, the more they would be influenced by our manipulation. Finally, since we found that people expected more negative events to occur in near compared to distant future in our previous studies (Boduroglu, Bilge, et al., 2019; Boduroglu, Hacibektasoglu & Sorgun, 2019), we also expected to replicate this finding.

## CHAPTER 2

### METHODOLOGY

#### 2.1 Participants

In our earlier survey work, the effect size for the difference between emotional valence ratings of AKP and CHP voters' future events was small to moderate (Cohen's  $d = .29$ ). We conducted a priori power analysis using G\*Power (Faul, Erdfelder, Lang & Buchner, 2007) and found that 296 participants (148 participants for each group) are required to detect the effect with 80% power. Considering participants who might be excluded from analyses for various reasons, we collected data from 373 Boğaziçi University undergraduate students (208 women) in exchange for course credit. Majority of participants considered themselves as either middle (46.1%) or upper-middle class (36.5%). Majority of participants (57.4%) voted for CHP in the last general election (i.e., 2018 presidential elections).

#### 2.2 Materials

Participants were randomly assigned to either the advantaged or the disadvantaged condition and read the corresponding text. In the advantaged condition, the passage was about Boğaziçi University being the only Turkish university in the top 200 of an international university ranking index. In the disadvantaged condition, participants read that 4 other Turkish universities (i.e., Middle Eastern Technical, İstanbul Technical, Bilkent and Koç Universities) were in the top 200 of the index whereas Boğaziçi University was not (see Appendix A). Two texts were exactly the same except for the name of the universities that were mentioned as the only Turkish universities that made to the top 200 of the list.

We asked participants to generate possible events that can happen in the near (5 years) and distant (5 to 20 years) future of Boğaziçi University and Turkey with the following questions: “In the next 5 years (until 2025) / In the next 5 to 20 years from now (from 2025 to 2040) there will be many events and changes in Boğaziçi University/Turkey. Please write down the event that you find the most important from Boğaziçi University’s/Turkey’s future.” Participants rated each future event’s emotional valence on a seven-point Likert-type scale ranging from -3 (very negative) to +3 (very positive).

We adapted two items from Centrality of Event Scale (CES) (Berntsen & Rubin, 2006) to assess each event’s expected relevance for participants’ identity (“I feel that this event will become a part of my identity”, “This event will become a reference point for the way I understand myself and the world”). We used the sum of two ratings as an index of expected relevance for identity. Similarly, we adapted Transitional Impact Scale (TIS) (Svob, Brown, Reddon, Uzer & Lee, 2014) for future projections; originally the scale consisted of 12 questions that assessed how past events impacted one’s material and psychological circumstances. Internal consistency for the original version of this scale was high (all Cronbach’s  $\alpha$ ’s > .79) (Svob et al., 2014). We changed the scale’s items from past to future tense to assess expectations of transition rather than actual experiences (e.g., “This event will change my sense of self”). As in the original scale, half the items were about the material impact, the other half was about the psychological impact; for each subscale, we used the sum of ratings for the corresponding set of questions. Participants also rated how much they expected to think of and talk about each identified event in the future, and how important they expected each event to be. Participants used five-point Likert-type scales to indicate their expectations regarding

all items listed above. Finally, for each event, participants also reported in how many months or years they expected these the events to take place. (see Appendix B)

All participants responded to four attention check items placed randomly among the Transitional Impact Scale questions. Two of the four items were congruent with the time probes (i.e., “This event will take place in 5/20 years”) whereas the other two were incongruent (i.e., “This event will take place 30 years later”). Participants indicated their agreement level with each item on a five-point scale.

We assessed participants’ tendency to focus on their nation’s past, present and future using Collective Temporal Orientation Scale (Peetz & Wohl, 2019). The scale consisted of four items to assess each temporal direction (i.e., past, present, and future) (see Appendix C). Participants rated their agreement with each item on a five-point scale. The temporal orientations indexed by the scale were related to group level emotions (i.e., collective guilt and angst) suggesting high construct validity (Peetz & Wohl, 2019). In addition, we adapted the entitativity scale developed by Castano, Yzerbyt and Bourguignon (1999) to measure how much participants believed that members of their group share essential characteristics, a shared history and future as well as strong connections (see Appendix D). The scale consisted of seven statements and participants rated their agreement level with each statement on a five-point scale. Topcu and Hirst (2020) reported internal consistency for this scale to be high (Cronbach’s  $\alpha = .91$ ). We included these two scales (i.e., collective temporal orientation and entitativity) for exploratory purposes without any specific predictions related to our hypotheses. Participants evaluated their identification level with Boğaziçi University by responding to five questions (e.g., “I identify myself with Boğaziçi University”, “It is important for me to be a part of Boğaziçi

University”) on a five-point scale (see Appendix E). They provided demographic information such as gender, age, birthplace, socioeconomic status, and the political party that they voted in the last general election (see Appendix F). We assessed our manipulation’s effectiveness by asking participants to evaluate the degree to which they found the news passage in the beginning of the experiment believable on a five-point scale. Participants evaluated their subjective sense of advantageousness as a voter of their party on a five-point scale. Finally, we assessed their subjective sense of deprivation using three questions from Moore (2003) (see Appendix G).

### 2.3 Procedure

We conducted the experiment online using Google Forms. Participants accessed to the experiment links through Boğaziçi University’s online research participation system. All participants provided consent. They were randomly assigned to either advantaged or disadvantaged conditions and read the corresponding passages. Later, to make sure that they read and thought about the manipulation material, we asked them to report possible reasons for why Boğaziçi University or the other four Turkish universities made the list.

After reading and reflecting on the materials, participants identified the most important events that could happen in Turkey’s and Boğaziçi University’s near (within 5 years) and distant (from 5 to 20 years) future. All participants reported four future events in total (i.e., next 5 years in Turkey, from 5 to 20 years in Turkey, next 5 years in Boğaziçi University, from 5 to 20 years in Boğaziçi University). We counterbalanced the order of four events across participants. Two events (i.e., near and distant) from each group’s future (i.e., Boğaziçi University and Turkey) were always reported in consecutive order. They first reported two events from Boğaziçi

University's or Turkey's future and then proceeded to the next pair of future events. Within each pair, the order of near and distant future probes was also counterbalanced. For each event, participants rated its emotional valence, relevance to their identity (Berntsen & Rubin, 2006), transitional impact (Svob et al, 2014), and expected rehearsal and importance, in that order. Then, they indicated the expected date (i.e., temporal distance). Afterwards, they completed identification, entitativity (Castano et al., 1999), and collective temporal orientation (Peetz & Wohl, 2019) scales. Finally, they completed the demographic form, rated the believability of the passage they read (i.e., manipulation check) and their subjective sense of advantageousness and deprivation (Moore, 2003).

After collecting all the data, we debriefed all participants via e-mail. We informed them that the news passages were fictitious and briefly described the goals of the study.

#### 2.4 Coding

We coded the content of all reported events. For the events expected in Turkey's future, we adapted the categories used by Topcu and Hirst (2020) (see Appendix H). We combined their political/legislative and political/parties categories into a single category which we called national politics since we believed that the distinction would not be salient in the Turkish context. To make sure that we included relevant themes for Turkey, we added several categories such as disasters and refugee crisis (Boduroglu, Bilge, et al., 2019). Moreover, we included COVID19 as a category since the COVID19 pandemic had started to impact daily life in Turkey (e.g., school

closures, curfews) while online data collection was going on.<sup>3</sup> You can see the contents of the reported future events before and after the COVID19 outbreak in Appendix I. For the events regarding Boğaziçi University's future, we developed a coding scheme based on the common themes reported by the participants (see Appendix J). We tried to make the categories distinctive enough so that each event could only be coded in one category.

Prior to coding, we provided detailed instructions about the coding scheme to all coders. Then, we adopted a three-step coding procedure. In the first step, we distributed all events to 10 coders in a way that ensured that each event was coded separately by two independent coders. Interrater agreement was substantial (For Boğaziçi-related events:  $\kappa = .72, p < .001$ , for Turkey-related events:  $\kappa = .81, p < .001$ ). In the second step, we identified any pairs of coders whose agreements were below 85%. For these pairs of coders, a third coder recoded all the disagreements. In 85% of Boğaziçi-related and 94% of Turkey-related events, two of three coders agreed on the content categories (Boğaziçi-related events: Fleiss'  $\kappa = .20, p < .001$ , Turkey-related events: Fleiss'  $\kappa = .18, p < .001$ ). We resolved the remaining conflicts (i.e., events that were not uniformly coded by at least two of three coders) by discussion in the third step.

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<sup>3</sup>More than half of the subjects participated in the study after March 10 on which the first COVID19 case was detected in Turkey. The data collection continued until April 24 when the patient count was 104912 and the death count was 2600 in Turkey (Republic of Turkey Ministry of Health, 2020).

## CHAPTER 3

### RESULTS

We analyzed our data in four phases. We first cleaned our data based on attention check responses and eliminated participants that reported high suspicion regarding the manipulation. Then, we checked whether the order of reporting likely future events for Turkey or Boğaziçi University had any impact on the nature of responses. Because this impacted only one of the ratings, we did not further analyze order effects. In the following two sections, we separately analyzed the events expected to happen in Boğaziçi's and Turkey's future. For these two sections, we first provided a brief description of the content of the events, then we analyzed how perceived social status impacted the reported events' valence, expected transitional impact, relevance to identity, and importance. There were minimal effects of either variable. Finally, given that there were minimal effects of perceived social status difference on the events expected to occur in Boğaziçi's and Turkey's future, we collapsed across the two groups and instead focused on the characteristics of positive and negative collective future events.

#### 3.1 Attention checks and believability

We included four attention check items in which participants had to verify the temporal distance of the future events. If a participant was asked to report an event in the next 5/20 years but rated their agreement with the sentence "The event will take place in 5/20 years" (i.e., congruent item) as 1 (i.e., definitely not), we considered the response as wrong. If they rated their agreement with the sentence "The event will take place 30 years later" (i.e., incongruent item) as 5 (i.e., definitely yes), we also

considered the response as wrong. You can see the distribution of participants' number of wrong responses to attention check items in Table 1. We excluded data of

Table 1. Number of Wrong Responses to Attention Check Items and Time Mismatches

	Wrong responses	Time mismatches
0	301	256
1	60	80
2	11	16
3	1	3
4	0	1

12 participants who provided wrong responses to at least two of the attention check items. To make sure that responses of participants with zero and one wrong responses to attention check items were not qualitatively different, we compared ratings of participants with zero and one wrong responses. Since the number of participants with no wrong responses was 5 times higher than the number of participants with one wrong response, we randomly selected 60 participants from the former. Independent samples t-tests showed that there were no significant differences in any of the ratings (All  $p$ 's > .001).

Subsequently, we checked participants' responses to temporal distance questions (i.e., "How many months/years later this event will take place?") against the time probes. If a participant's temporal distance response was outside the limits defined by the time probes (i.e., further than 5 years in near future events and nearer than 5 or further than 20 years in distant future events), we defined the events as mismatches. Even though a reported event did not have to take place exclusively in the given time interval (i.e., an event can repeatedly occur), responding with events that were consistently out of the given time intervals might have signaled lack of attention to the task. Though we did not include the temporal distance questions as

attention check items, we thought that consistent responses to them might have reflected participants' engagement to the task. For this reason, we excluded data of four participants who had time mismatches in at least 75% of the trials (i.e., at least three out of four questions).<sup>4</sup> You can see the distribution of participants' number of mismatches in Table 1.

Participants generally believed the passage they read in the beginning of the experiment ( $M = 3.32$ ,  $SD = 1.11$ ). However, participants in the advantaged condition ( $M = 3.56$ ,  $SD = 1.09$ ) found the text more believable than participants in the disadvantaged condition ( $M = 3.05$ ,  $SD = 1.07$ ),  $t(370) = 4.53$ ,  $p < .001$ ,  $d = .47$ . Since we had to conduct nonparametric tests to compare emotional valence scores of participants in advantaged and disadvantaged conditions (see sections 3.3.2 and 3.4.2), controlling for believability was not possible. Therefore, we excluded 83 participants (22.3%) who rated the passages' believability as 1 or 2 (on a five-point scale) from the analyses in which we compared advantaged and disadvantaged groups' scores. For the analyses where we did not directly test the impact of the manipulation (see sections 3.3.3, 3.3.5, 3.4.2, 3.4.3, 3.4.4, and 3.4.5), we included those participants.

After excluding participants with more than one wrong response to attention check questions, with more than two time mismatches and those who did not believe in the passage, we were left with data from 272 participants.

### 3.2 Order effect

We compared all scores of participants who received Turkey or Boğaziçi-related probes first. Since we conducted a total of 24 tests, we used Bonferroni correction to

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<sup>4</sup> The results did not change when we included participants with at least three time mismatches.

adjust the critical p value. Participants who first reported Boğaziçi-related future events rated events from Turkey's distant, but not near future as more important,  $F(1, 262) = 13.77, p < .001, \eta_p^2 = .050$ . All other comparisons resulted in non-significant results (all  $p$ 's  $> .002$ ).

### 3.3 Expectations for Boğaziçi University's future

#### 3.3.1 Content

Changes in student demographics was the most frequently mentioned category for both near and distant future. Predictions about changes in staff (i.e., Administration, personnel, and academicians) were more common for near future whereas predictions about school prestige and system change were more common for distant future (see Table 2). All categories with examples can be seen in Appendix J.

Table 2. Most Frequently Mentioned Categories for Boğaziçi's Near and Distant Future

Categories	Boğaziçi's near future			Boğaziçi's distant future		
	Overall percentage	Adv.	Disadv.	Overall percentage	Adv.	Disadv.
Student demographics	17.0	15	19.3	12.9	13.9	11.8
Administration/Personnel/Academicians	14.7	12.8	16.8	6.7	8.9	4.3
Infrastructure	14.4	13.3	15.5	11.4	9.4	13.7
Political external influences	10.3	12.8	7.5	9.7	10.6	8.7
Student life	10.0	11.1	8.7	9.4	7.2	11.8
Education/Research	8.5	7.8	9.3	11.1	10.0	12.4
School prestige	7.0	7.2	6.8	16.1	13.9	18.6
System change	5.3	6.1	4.3	9.7	8.9	10.6
General facilities	5.0	3.9	6.2	2.6	2.2	3.1

Note: Table shows the overall percentage of mention as well as the percentages in the advantaged (Adv.) and disadvantaged (Disadv.) conditions. Only the categories that were mentioned by at least 5% of participants for either near or distant future were included in the table.

### 3.3.2 Perceived status and emotional valence

Distributions of emotional valence ratings were bimodal for both near and distant future events (see Figure 1). Therefore, we conducted nonparametric tests to compare advantaged and disadvantaged groups' emotional valence ratings.

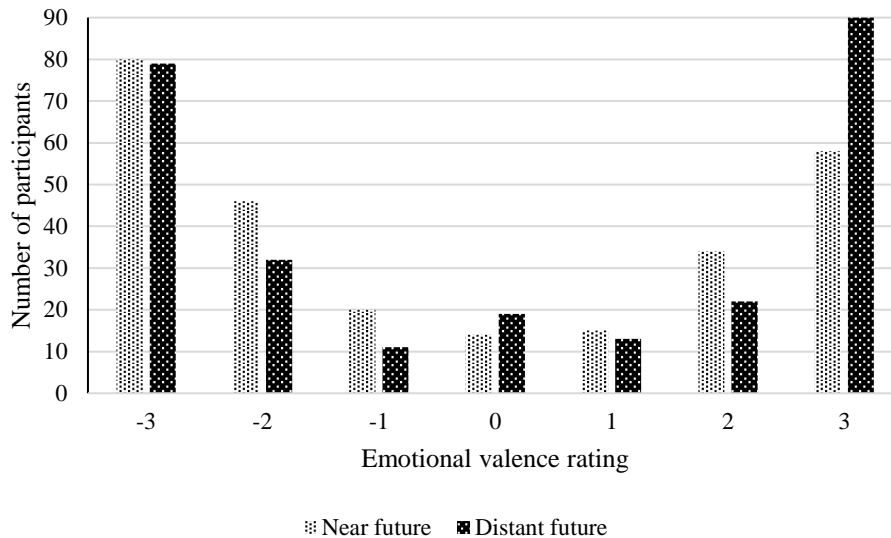


Figure 1. Distribution of emotional valence ratings for near and distant Boğaziçi-related future events

There was no significant difference in valence ratings for events reported across the advantaged and disadvantaged conditions, for neither time point (near:  $U = 7589.50, z = -1.79, p = .07, r = -.110$ , distant:  $U = 7740, z = -1.51, p = .13, r = -.093$ ). To determine whether the effect of perceived social status was moderated by the content of future thoughts, we also separately compared valence ratings across the two conditions, for each category of future events that were mentioned by at least 10% of participants. We adjusted the alpha level to be .006 to correct for multiple (nine) comparisons. There was a marginally significant effect for temporally distant future events related to school prestige,  $U = 121, z = -2.23, p = .03, r = -.353$ . School prestige-related distant future events' emotional valence ratings were more positive

for participants in the advantaged condition ( $M = 1.30$ ,  $SD = 2.64$ ) compared to the disadvantaged condition ( $M = -.24$ ,  $SD = 2.82$ ). For the remaining categories, there were no significant differences (All  $p$ 's  $> .006$ ).

### 3.3.3 Temporal distance and emotional valence

We compared temporally near and distant events' emotional valence ratings using the Wilcoxon signed rank test. Results showed that participants rated distant events ( $M = .12$ ,  $SD = 2.60$ ) significantly more positively than near events ( $M = -.44$ ,  $SD = 2.44$ ),  $T = 16034.50$ ,  $z = 3.42$ ,  $p = .001$ ,  $r = .131$ .

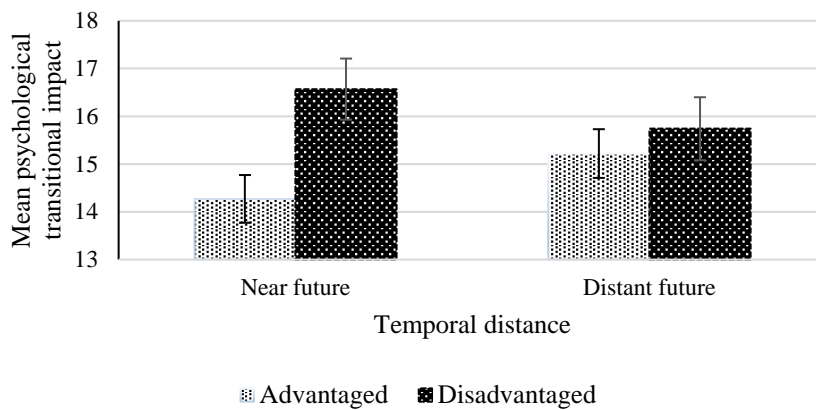
### 3.3.4 Boğaziçi-related future events' characteristics

We conducted separate 2 (condition: advantaged and disadvantaged) X 2 (temporal distance: near and far) mixed design analyses of variance to compare material and psychological transitional impact, relevance to identity, expected rehearsal and importance scores. Expected frequency of thinking and talking about the events were highly correlated for both near ( $r(259) = .74$ ,  $p < .001$ ) and distant ( $r(263) = .77$ ,  $p < .001$ ) future events. Hence, we took the average of these ratings as an index for expected rehearsal.

There was a main effect of time on rehearsal ( $F(1, 254) = 7.05$ ,  $p = .008$ ,  $\eta_p^2 = .027$ ) and relevance to identity ( $F(1, 261) = 13.90$ ,  $p < .001$ ,  $\eta_p^2 = .051$ ).

Participants expected to rehearse distant events ( $M = 3.47$ ,  $SD = 1.11$ ) more than near events ( $M = 3.26$ ,  $SD = 1.14$ ). In addition, they anticipated temporally distant events ( $M = 5.23$ ,  $SD = 2.48$ ) to be more relevant to their identity than near ones ( $M = 4.63$ ,  $SD = 2.28$ ). No other main effects were significant (all  $p$ 's  $> .01$ ). Finally, there was a significant interaction between condition and temporal distance for psychological

transitional impact,  $F(1, 251) = 6.92, p = .009, \eta_p^2 = .027$ . Participants in the disadvantaged group ( $M = 16.57, SD = 6.59$ ) expected temporally nearer events to have greater psychological transitional impact than participants in the advantaged group ( $M = 14.27, SD = 6.11$ ) whereas there was no difference between the groups with regard to further events (see Figure 2). Other interactions were not significant (all  $p$ 's  $> .01$ ). Results of all other comparisons can be seen in Table 3.



Note: Error bars represent standard errors.

Figure 2. Mean psychological transitional impact scores

Table 3. Results of 2 (Condition: Advantaged and Disadvantaged) X 2 (Temporal Distance: Near and Far) Analyses of Variance for Boğaziçi-Related Future Events

	Condition			Time			Interaction		
	<i>F</i>	<i>p</i>	$\eta_p^2$	<i>F</i>	<i>p</i>	$\eta_p^2$	<i>F</i>	<i>p</i>	$\eta_p^2$
Relevance to identity	.26	.608	.001	13.90	<.001*	.051	.63	.428	.002
Material impact	2.72	.100	.010	4.86	.028	.019	.17	.685	.001
Psychological impact	3.62	.060	.014	.04	.850	<.001	6.92	.009*	.027
Rehearsal	.99	.321	.004	7.05	.008*	.027	2.67	.103	0.010
Importance	.001	.972	<.001	.002	.967	<.001	1.27	.261	.005

Note: Significant effects ( $p < .01$ ) were denoted with an asterisk.

Finally, we tested whether participants' level of identification with Boğaziçi University and their perceptions of Boğaziçi University students as a real entity (i.e., entitativity) were associated with future events' characteristics. We found that

participants expected future events to be more relevant to their identity and to be rehearsed more as they perceived their group as more entitative. Moreover, the degree to which participants identified themselves with Boğaziçi University students was associated with temporally distant, but not near events' characteristics. All Pearson's correlation coefficients between the ratings and identification and entitativity scores are presented in Appendix K.

### 3.3.5 Boğaziçi-related future events' characteristics in relation to emotional valence

Because our main manipulation did not have a strong impact on most dimensions, we categorized all future events based on their emotional valence to compare characteristics of positive and negative collective future thoughts. We conducted one-way independent samples analyses of variance separately for all variables for temporally near and distant events.

In near future, participants expected negative events ( $M = 16.39$ ,  $SD = 6.03$ ) to have higher psychological impact compared to positive events ( $M = 13.85$ ,  $SD = 6.11$ ),  $F(1, 321) = 13.77$ ,  $p < .001$ ,  $\eta_p^2 = .041$ . Similarly, they expected to rehearse negative events ( $M = 3.46$ ,  $SD = 1.11$ ) more than positive events ( $M = 2.97$ ,  $SD = 1.30$ ), Welch's  $F(1, 251.79) = 12.27$ ,  $p = .001$ , est.  $\omega^2 = .033$ .

Considering temporally distant events, participants expected positive events ( $M = 5.75$ ,  $SD = 2.52$ ) to be more relevant to their identity than negative events ( $M = 4.78$ ,  $SD = 2.36$ ),  $F(1, 318) = 12.57$ ,  $p < .001$ ,  $\eta_p^2 = .038$ . In a similar vein, they expected positive events ( $M = 3.71$ ,  $SD = 1.25$ ) to be more important than negative events ( $M = 3.18$ ,  $SD = 1.42$ ), Welch's  $F(1, 302.16) = 12.59$ ,  $p < .001$ , est.  $\omega^2 = .035$ . Remaining comparisons turned out to be non-significant (all  $p$ 's  $> .005$ ). Results of all comparisons can be seen in Table 4.

Table 4. Comparison of Positive and Negative Boğaziçi-Related Future Events' Characteristics

	Near future			Distant future		
	<i>F</i>	<i>p</i>	$\eta_p^2$	<i>F</i>	<i>p</i>	$\eta_p^2$
Relevance to identity	4.47	.036	.018	14.87	<.001*	.057
Material impact	1.12	.291	.004	3.11	.079	.013
Psychological impact	10.19	.002*	.040	.04	.842	<.001
Rehearsal	12.27	.001*	.033	.22	.637	.001
Importance	.27	.605	.001	12.59	<.001*	.035

Note: Results of Welch's *F* test were reported where positive and negative events' variances were significantly different. Significant effects ( $p < .005$ ) were denoted with an asterisk.

In sum, temporal distance did not only affect participants' general expectations about the events, but also the characteristics of positive and negative events differed according to their temporal distance. Regardless of their emotional valence, distant events were expected to be more relevant to participants' identity and to be rehearsed more. Moreover, participants expected negative events from Boğaziçi University's near future to have greater psychological impact and be more frequently rehearsed than positive events. In contrast, they expected that positive events that might happen in Boğaziçi's distant future to be more important and relevant to their identity.

### 3.4 Expectations for Turkey's future

#### 3.4.1 Content

The most frequently mentioned topics can be seen in Table 5. The majority of near and distant events for Turkey's future were about national politics, but more so in the near (35.1%) than in the distant future (24.5%). Moreover, COVID19 and refugee crisis categories were at least 5 times more likely to be mentioned for near than for distant future.

Table 5. Most Frequently Mentioned Categories for Turkey’s Near and Distant Future

Categories	Turkey's near future			Turkey's distant future		
	Overall percentage	Low	High	Overall percentage	Low	High
National politics	35.1	38.4	31.4	24.5	25.6	23.5
Economic	23.7	23.8	23.7	13.4	11.6	15.3
Social	7.9	6.4	9.5	18.1	18	18.2
COVID19	6.4	4.7	8.3	1.7	.6	2.9
Disasters	5.3	6.4	4.1	5	5.8	4.1
Refugee Crisis	5	4.1	5.9	.9	0	1.8
Science/Technology/Space	4.4	5.2	3.6	11.1	11.6	11.2
War/Military	2.9	3.5	2.4	9	11.6	6.5
Environment	2	1.2	3	7.6	9.3	5.9
International politics	2.6	1.7	3.6	5.5	4.1	7.1

Note: Table shows the overall percentage of mention as well as the percentages of the low and high advantage groups. Only the categories that were mentioned by at least 5% of participants for either near or distant future were included in the table.

### 3.4.2 Perceived status and emotional valence

In our study, we did not directly manipulate perceived status with regards to one’s sociopolitical identity. However, each participant rated how deprived they generally felt and whether they felt their sociopolitical identity was linked to a socially advantageous position. With these questions, we measured perceived status from two different angles, in general and in relation to sociopolitical identity. Even though there was a small but significant correlation between subjective sense of political party-related advantageousness and general deprivation scores,  $r = -.11, p = .010$ , the two variables theoretically corresponded to distinct constructs and we wanted to take both of them into consideration.<sup>5</sup> Therefore, we decided to combine these two measures to create a subjective sense of social advantage index. We reversed general

<sup>5</sup> When we conducted Principal Component Analysis (PCA) with the four items measuring general deprivation and political party-related advantageousness, it produced a one-factor solution explaining 51% of variance in the variables. However, adding a second factor explained an additional 24.5% variance. These results suggested that the two variables were related to a certain extent but also had considerable amount of variance independent from each other.

deprivation scores and took the average of reversed general deprivation and political party-related advantageousness ratings to create this index ( $M = 2.47$ ,  $Mdn = 2.50$ ,  $SD = .75$ ). Then, we performed a median split on the calculated advantage scores to categorize participants in terms of their subjective sense of advantage. This allowed us to compare the future thoughts of these two groups.

Similar with Boğaziçi-related events, Turkey-related events' emotional valence ratings were bimodally distributed (see Figure 3). Therefore, we conducted

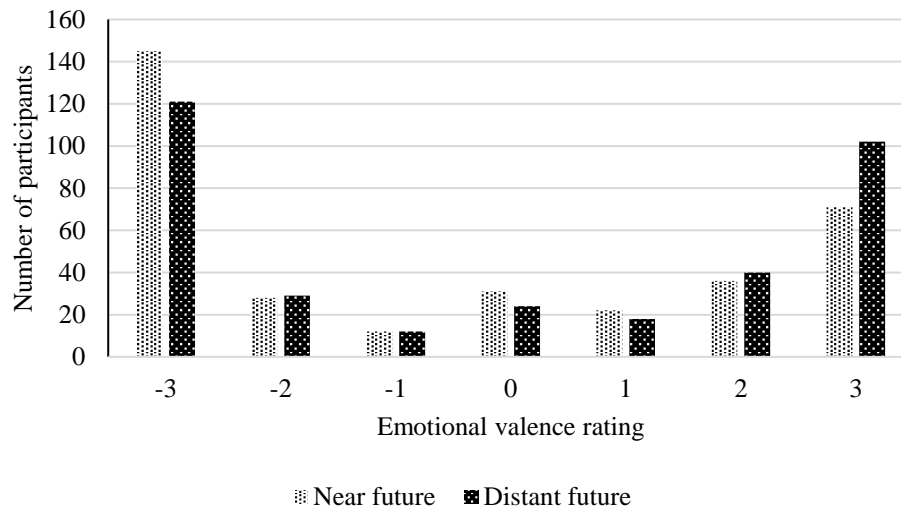


Figure 3. Distribution of emotional valence ratings for near and distant Turkey-related future events

nonparametric Mann Whitney U tests to compare low and high advantage groups' emotional valence ratings for both near and distant future events. For neither near ( $U = 15572$ ,  $z = .89$ ,  $p = .38$ ,  $r = .048$ ) nor distant events ( $U = 15908$ ,  $z = 1.16$ ,  $p = .25$ ,  $r = .062$ ), emotional valence ratings did not significantly differ between low and high advantage groups.

Parallel with the analyses we conducted for Boğaziçi-related future events, we compared emotional valence ratings of low and high advantage groups separately

for categories mentioned by more than 10% of participants. However, none of the comparisons yielded significant results (all  $p$ 's > .01).

#### 3.4.3 Temporal distance and emotional valence

Results of Wilcoxon Signed Rank test revealed that participants rated temporally near events ( $M = -.57, SD = 2.48$ ) significantly more negatively than further events ( $M = -.08, SD = 2.59$ ),  $T = 15015, z = 3.18, p = .001, r = .122$ .

#### 3.4.4 Turkey-related future events' characteristics

We conducted 2 (group: low and high advantage ) x 2 (temporal distance: near and far) mixed design analyses of variance separately on the relevance to identity, material and psychological transitional impact, rehearsal, and personal importance scores. Expected frequency of thinking and talking were highly correlated for both near ( $r(343) = .75, p < .001$ ) and distant events ( $r(343) = .75, p < .001$ ). Therefore, we took the average of two ratings to have a combined index of rehearsal. There was not enough variance in collective importance ratings to analyze. More than half of both temporally near (61.3%) and distant (67.9%) future events were rated as 5 on a five-point scale. Therefore, we did not include collective importance scores in our analyses.

For material transitional impact scores, there was a main effect of group,  $F(1, 329) = 8.31, p = .004, \eta_p^2 = .025$ . Participants in the low advantage group ( $M = 21.44, SE = .38$ ) expected future events to have higher material impact than participants in the high advantage group ( $M = 19.90, SE = .38$ ). There was a main effect of time for ratings on relevance to identity ( $F(1, 337) = 23.25, p < .001, \eta_p^2 = .065$ ), psychological transitional impact ( $F(1, 333) = 6.97, p = .009, \eta_p^2 = .020$ ) and

importance ( $F(1, 335) = 10.27, p = .001, \eta_p^2 = .030$ ). Events expected to happen further out in the future were rated as more relevant to identity (near:  $M = 5.89, SD = 2.35$ , far:  $M = 6.55, SD = 2.44$ ), psychologically impactful (near:  $M = 18.20, SD = 6.23$ , far:  $M = 19.08, SD = 6.49$ ) and important (near:  $M = 3.72, SD = 1.27$ , far:  $M = 3.97, SD = 1.17$ ). Results of all comparisons can be seen in Table 6.

Table 6. Results of 2 (Group: Low and High Advantage) x 2 (Temporal Distance: Near and Far) Analysis of Variance for Turkey-Related Future Events

	Advantage			Time			Interaction		
	<i>F</i>	<i>p</i>	$\eta_p^2$	<i>F</i>	<i>p</i>	$\eta_p^2$	<i>F</i>	<i>p</i>	$\eta_p^2$
Relevance to identity	.61	.436	.002	23.25	<.001	.065	.91	.341	.003
Material impact	8.31	.004	.025	5.83	.016	.017	3.44	.065	.010
Psychological impact	1.48	.224	.004	6.97	.009	.020	3.08	.080	.009
Rehearsal	.11	.739	<.001	.05	.825	<.001	3.32	.069	.010
Importance	.36	.547	.001	10.27	.001	.030	2.11	.148	.006

Note: Significant effects ( $p < .01$ ) were denoted with an asterisk.

### 3.4.5 Turkey-related future events' characteristics in relation to emotional valence

We categorized all events as positive or negative based on their emotional valence ratings. Then, we conducted separate one-way analyses of variance to compare negative and positive events' relevance to identity, material and psychological transitional impact, rehearsal, and importance scores.

Participants expected negative future events to have higher material (near:  $F(1, 307) = 27.55, p < .001, \eta_p^2 = .082$ , distant:  $F(1, 315) = 27.32, p < .001, \eta_p^2 = .080$ ) and psychological impact (near:  $F(1, 309) = 10.27, p = .001, \eta_p^2 = .032$ , distant:  $F(1, 319) = 29.43, p < .001, \eta_p^2 = .084$ ) than positive future events, for near and distant events, respectively. Also, they expected distant, but not near negative events to be rehearsed more frequently than positive events. All other comparisons yielded nonsignificant results (all  $p$ 's  $> .005$ ). All remaining statistics can be seen in Table 7.

Table 7. Comparison of Positive and Negative Turkey-Related Future Events' Characteristics

	Turkey's near future						Turkey's distant future					
	Negative events		Positive events		<i>F</i>	$\eta_p^2$	Negative events		Positive events		<i>F</i>	$\eta_p^2$
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Relevance to identity	5.91	2.29	6.08	2.35	.41	.001	6.59	2.38	6.64	2.47	.03	<.001
Material impact	21.93	5.09	18.67	5.75	27.55*	.082	22.75	5.25	19.53	5.72	27.32*	.080
Psychological impact	19.51	5.82	17.32	6.07	10.27*	.032	21.08	6.01	17.36	6.29	29.43*	.084
Rehearsal	4.05	.97	3.81	1.02	4.39	.014	4.18	.94	3.75	1.11	13.53*	.041
Importance	3.70	1.29	3.94	1.09	3.03	.009	3.96	1.16	4.21	.98	4.36	.014

Note: Results of Welch's *F* test were reported where positive and negative events' variances were significantly different. Significant effects ( $p < .005$ ) were denoted with an asterisk.

In sum, participants expected distant events from both Boğaziçi's and Turkey's future to be more relevant to their identity. Regarding Turkey's future, they also expected these events to have more psychological impact and be more important. In addition, temporal distance did not seem to influence how participants evaluated positive and negative events from Turkey's future as much as it did for Boğaziçi's future. Both temporally near and distant negative events were expected to have more material and psychological impact compared to positive events. Additionally, they expected to rehearse negative events from Turkey's distant, but not near, future more than positive events.

## CHAPTER 4

### DISCUSSION

Previous research showed that people's expectations about their groups' future are characterized by predominantly negative events or changes (Boduroglu, Bilge, et al., 2019; Shrikanth et al., 2018; Yamashiro & Roediger, 2019). We tested whether people who identify themselves with more advantaged social groups are less pessimistic about their groups' future. In this thesis, we took a two-pronged approach to test the possible relationship between perceived status of one's social group and characteristics of collective future thoughts. As part of our study, we focused on college identity and we tried to experimentally manipulate Boğaziçi University's perceived prestige by making Boğaziçi undergraduate students read fictitious news passages. Subsequently, they reported events likely to happen in Boğaziçi's future. We found that only when participants reported events from near future or related to Boğaziçi's prestige, event valence was marginally different across groups, yet with a moderate effect size. Participants in the condition emphasizing Boğaziçi's prestige reported slightly more positive events. Moreover, we found that events from distant future were expected to be less negative, more relevant to participants' identity, and rehearsed more. Perceived social status was associated with expected psychological impact of future events, but only in near future. Participants in the disadvantaged condition rated psychological impact of near future events more highly than those in the advantaged condition. However, the difference diminished as participants thought about distant events. We observed a similar pattern when we compared positive and negative future events' characteristics. When participants thought about Boğaziçi's near future, they expected negative events to have higher psychological impact but

there was no difference in the distant events. Distant positive events, on the other hand, were expected to be more relevant to participants' identity and more important than negative events.

In the second part of our study, we obtained self-reports on one's broader sociopolitical identity and classified our participants based on whether they felt they belonged to a more socially privileged group. They reported possible events from Turkey's near and distant future, then rated their emotional valence along with several other characteristics. The collective future projections did not substantially differ in terms of valence across groups. Yet, participants who felt less privileged expected both near and distant future events to have higher material impact. In a similar vein, negative events from both near and distant future were expected to have more material and psychological impact. Finally, participants anticipated that temporally distant events will be less negative, more important, and relevant to their identity, and will have higher psychological impact. Critically, these results regarding Boğaziçi University's and Turkey's future altogether might suggest that perceived social status may not be directly related to emotional tone of collective future thoughts. However, social status might interact with temporal distance and the social group identity (e.g., one's university or nation) to predict future events' expected impact. Finally, temporal distance might be critical to understand how we represent collective future events as well as how positive and negative events are represented differently.

Our main prediction was that perceived social status would moderate the negativity bias typically found in collective future thinking. More specifically, we expected people who identified with more privileged groups to anticipate fewer negative events in their groups' future. This prediction was not supported by the

results. This may have been because social status is a very complex phenomenon which can be characterized by a variety of parameters. The way we manipulated it might have restricted the range of topics or time intervals that a difference could be observed. For instance, we found a marginally significant difference when we compared two groups' expectations for Boğaziçi University's near future. Similarly, when we compared only school prestige-related future events, the difference was also marginally significant. These may suggest that when people think of future events that are directly related to the ways they perceive their group to be more prestigious than others, they might be more likely to be optimistic. Similarly, some differences in perceived social status might be more consequential for the near future so they may impact the anticipations only when one contemplates temporally closer events or changes. Academic advantages of one's school can be one of these short-term factors. Another factor that can create differences in perceived social status is power. A group can be more powerful than others to the extent that it can control its own or others' fate as well as the critical resources (Brauer & Bourhis, 2006; Jones, 1997; Turner, 2005). Aubin et al. (2016) found that students felt more hopeless about their university's future (i.e., University of Québec at Montréal) if they believed that the university did not have enough control over its decisions and future. Topcu and Hirst (2020) also found that when people expected their nation (i.e., the USA) to have more control over future events, they tended to be more optimistic about their nation's future. These studies suggest that sense of control is strongly related to more optimistic views of collective futures. However, it remains an open question whether perceiving one's group as more in control compared to other groups can decrease the negativity bias observed in collective future thinking.

Perceived social status was not associated with future thoughts' emotional valence in either of the identities we investigated (i.e., Boğaziçi and Turkey). In the second part of our study, participants who felt more advantaged did not expect Turkey's future to be less negative. It is possible that the difference we found in our earlier survey (Boduroglu, Bilge, et al., 2019) between AKP and CHP voters was due to factors other than social status. However, we were not able to test for this directly in this study due to uneven sample sizes. The number of CHP voters ( $n = 179$ ) were greatly higher than of AKP voters ( $n = 24$ ). Nevertheless, AKP voters in our study considered themselves significantly more nationalist (Hedge's  $g = 1.17$ ), religious ( $g = 2.08$ ), conservative ( $g = 2.15$ ), and closer to the right ( $g = 2.39$ ) on the political spectrum compared to CHP voters. Even though none of these variables were significantly correlated with reported future events' valence (All  $p$ 's  $> .05$ ), further studies that target these and possible other variables to parse out their effects on future expectations can enable more precise interpretations on this matter. Moreover, CHP voters did not consider themselves less advantaged than AKP voters as members of their political party ( $t(201) = -1.59, p = .11$ ) but they reported feeling more deprived in general ( $t(37.92) = 3.45, p = .001, g = .56$ ). The contradictory findings might have resulted from response bias that made participants use the lower end of the scale when they were asked to compare themselves with other groups. Indeed, more than half of participants (55.2%) reported no sense of feeling in an advantageous position as voters of their party compared to other parties. One of the possible differences between AKP and CHP voters could be that they employed different national narratives (Wertsch, 2002; Wertsch & Roediger, 2008) as they constructed collective future events. National narratives are assumed to tie and organize collective experiences around certain themes such as heroism and

victimhood (Wertsch & Roediger, 2008). They are likely to be shared across groups of people to serve current needs or motivations. For instance, Yamashiro and Roediger (2019) argued that Americans employed a national narrative of decline while envisioning their nation's future which resulted in collective future thoughts being more negative than memories. It is possible that CHP voters employed a similar narrative in which Turkey moves from a secular, westernized republic to an authoritative nation in which Islamic values gain importance while conceptualizing their nation's past and future. AKP voters, on the other hand, might have employed a narrative of progress considering that Islamist tradition that AKP emerged from has been in power only in the last few decades in Turkey. Even though CHP voters rated both past and future events more negatively than AKP voters in our previous survey (Boduroglu, Bilge, et al., 2019), it should be noted that we asked participants to think of events from Turkey's last 70 years. This temporal distance may not have included CHP voters' idea of golden age (Yamashiro & Roediger, 2019) considering that CHP was overthrown by right-wing Democratic Party in 1950. Therefore, it is possible that rather than current differences in perceived status, the historical trajectories might be driving the collective future thoughts' emotional valence. Indeed, future experimental studies that manipulate perceived trajectories of group status to test their effect on collective future thoughts might enhance our understanding on this matter.

We found that participants' expectations about the distant future were less negative than near future which was a replication of our earlier findings (Boduroglu, Bilge, et al., 2019; Boduroglu, Hacibektasoglu, et al., 2019) and we were able to replicate this effect in two different domains (i.e., Boğaziçi and Turkey). However, these results were in contrast with Shrikanth et al.'s (2018) findings. They found no

decrease in negativity bias as they compared collective future events from the next week, year and 10 years. There might have been several reasons for these inconsistent findings. First, they employed the future fluency task to compare relative availability of positive and negative expectations which we explained in detail in the section 1.2. This task measures the number of positive and negative events that can be generated in 1 minute. Therefore, it is possible that even when one projects into distant future, the first collective events that come to mind may still be the negative ones. Second, they asked participants to project up to the next 10 years which is a shorter temporal distance than the one we employed in our experiment (i.e., 20 years). Perhaps, 10 years into the future may not have been far enough to increase positive events' availability. Therefore, it is possible that even rapidly generated positive future events' availability can increase as people project further into the future (e.g., 20 years).

The relationship between collective future thoughts' temporal distance and emotional valence were somehow parallel to the findings in episodic future thinking (Schacter et al., 2007) and self-enhancement motivation (Alicke & Sedikides, 2009). For instance, several researchers used temporal cueing to assess future cognitions. More specifically, they asked participants to think of personal future events or predict future circumstances in near or distant future and found that participants tended to be more optimistic about the distant compared to near future (Gryzman, Prabhakar, Anglin & Hudson, 2013; Heller, Stephan, Kifer & Sedikides, 2011; Kanten & Teigen, 2008). Researchers argued that these findings reflected self-enhancement motivation in the sense that people wanted to see themselves improving over time and were motivated to predict that the upward trend will continue. On the other hand, several other researchers found that people expected positive personal

events to occur in nearer future compared to negative ones (Rasmussen & Berntsen, 2013; Salgado & Berntsen, 2019; Sharot, Riccardi, Raio & Phelps, 2007). In these studies, the researchers either asked participants to generate personal future events freely (i.e., no cueing) (Salgado & Berntsen, 2019; Sharot et al., 2007) or in response to emotional cues (i.e., either positive or negative events) (Rasmussen & Berntsen, 2013) before participants reported when they expected the events to occur. They interpreted the results with reference to temporal self-appraisal theory (Ross & Wilson, 2002), which argues that people tend to represent positive self-images temporally closer to their current selves to view themselves more favorably. It is possible that different cueing techniques and task demands emphasized certain motivations over others. For instance, temporal cueing might have emphasized participants' motivation to view themselves improving whereas they might have been more likely to represent favorable self-images temporally closer when cued with emotions or not cued at all. Our findings were in line with the former possibility (e.g., Gryzman et al., 2013; Heller et al., 2011) since we used temporal cueing and found an upward trajectory in participants' future expectations. Therefore, self-enhancement motivations that drive people's episodic future thoughts might also be in play as they think about their groups' future. People might be motivated to view their group as improving over time which might lead them to be more optimistic about their groups' distant future. However, this interpretation is speculative at best. Thus, further research on the relationship between future expectations' temporal distance and emotional valence that take cueing techniques and methodological differences into account are needed.

Our results suggested that disadvantaged identities were associated with expectations of greater transitional impact. Regarding Boğaziçi University's near

future, participants in the disadvantaged condition expected the future events' psychological transitional impact to be higher than those in the advantaged condition. However, the difference between the groups diminished for temporally distant events. Since the participants will no longer be Boğaziçi University students 20 years later, the effect of perceived disadvantageousness might have disappeared for distant future projections. Similarly, feeling disadvantaged was associated with expected material transitional impact for Turkey's future. Participants in the low advantage group evaluated material impact of both near and distant future events to be higher than those in the high advantage group. Lack of an interaction between perceived advantage and temporal distance was meaningful in this case since participants will most likely be citizens of Turkey 20 years from now. Therefore, the disadvantaged identity will possibly maintain its relevance for them in the distant future. However, these differences might have been partly driven by the events' emotional valence since participants expected negative events to have greater material and psychological impact. More specifically, negative events from Boğaziçi University's near but not distant future were expected to have higher psychological transitional impact. This finding was parallel to the interactive effect of perceived advantage and temporal distance on psychological transitional impact in Boğaziçi-related future events. In contrast, expected transitional impact of both near and distant negative events from Turkey's future were rated higher than positive events. This result was in line with the lack of interactive effects on Turkey-related future events' expected material impact.

We found that temporally distant events were evaluated as more relevant to participants' identities than nearer events. The same pattern was also observed in people's episodic future thoughts (Özbek, Bohn & Berntsen, 2016). Özbek et al.

(2016) argued that this was because representations of distant future were more idealized and abstract. This interpretation was based on temporal construal theory which claim that people form high-level representations of distant future events. These representations contain the gist of the events instead of specific details (Trope & Liberman, 2003). Similarly, people's representations of their groups' distant future can be more abstract and even idyllic. Indeed, we found that positive events from Boğaziçi University's distant future were more relevant to participants' identity and important compared to negative events. However, when participants thought about Turkey's distant future, they expected negative events to be more impactful and rehearsed more than positive events. The contrast between the representations of Boğaziçi and Turkey' future might have resulted from participants envisioning longer periods of times while contemplating their nation's, compared to their university's future. Therefore, a 20-year distance into the future may not have been far enough for participants to form idealized and idyllic national representations.

Finally, we found that negative events from Boğaziçi University' near, but not distant future were expected to have higher psychological impact compared to positive events. This finding was consistent with Miller's (1944) hypotheses. He argued that people tend to discount both positive and negative future outcomes as the outcomes' temporal distance from now increases. However, the decrease in the amount of discount is more rapid for negative outcomes (Losco & Epstein, 1974; Trope & Liberman, 2003). Therefore, it is possible that our participants exaggerated the psychological impact of temporally nearer negative events due to heightened sensitivity to negative compared to positive stimuli (Baumeister, Bratslavsky, Finkenauer & Vohs, 2001). However, while considering distant future, their sensitivity to the consequences of negative events decreased. This trend was absent

for the events expected to occur in Turkey's future. This might have been because our participants considered a wider time period as they thought about the consequences of the events expected to occur in their nation's compared to university's future. Consequently, the decrease in their sensitivity to the consequences of national negative events might have been slower than the possible decrease in their sensitivity to Boğaziçi-related events. It is possible that as group size gets smaller, people tend to employ a shorter timeframe to think about the consequences of future events related to those groups. Consequently, thinking about one's personal future can be more similar to thinking about the future of one's university compared to one's nation. Given that we have very limited knowledge about the effect of group size on collective future thinking, we can benefit from future studies that vary the size of groups to compare people's representations of their future.

We had several limitations in our study. For instance, our participants were undergraduate students from Boğaziçi University which limited the range of interpretations we could make based on them in several ways. First, given that Boğaziçi University is a prestigious institution, participants may have found it hard to believe that they were disadvantaged. Indeed, advantaged condition yielded greater believability in our experimental manipulation than disadvantaged condition. Even though we eliminated the participants who were suspicious about our manipulation, we might have restricted our comparison to participants who felt highly and moderately advantaged. It is possible that larger differences in perceived social status might have resulted in significant differences in expected future events' emotional valence. Second, since our participant pool was mainly comprised of students who took introductory courses, thus freshmen and sophomores, academic

advantages that we emphasized to manipulate perceptions of social status may not have felt consequential for their lives. If this was the case, the academic advantages may not have made the participants feel privileged as Boğaziçi University students. This might have diminished the effectiveness of our manipulation. Third, they were mainly CHP voters which limited the range of sociopolitical identities in our sample. Therefore, one must be cautious when generalizing our findings to the general population.

In conclusion, perceived social status did not produce significant differences in reported future events' emotional valence. We listed possible explanations for the null findings and pointed some directions for future research. In addition, the events expected to occur in distant future were less negative than nearer events. We discussed this result with reference to findings from collective and episodic future thinking literatures. We reviewed somehow mixed results and provided possible conceptual and methodological explanations for them. Subsequently, we turned to the possible relationship between perceived group status and expectations of transitional impact. We argued that this relationship can be partly driven by the reported future events' emotional valence. Finally, we discussed how emotional valence, temporal distance, and group size can interact to influence collective future thoughts. This thesis was the first attempt to delineate characteristics of collective future thoughts in relation to group dynamics and temporal distance. Our results can potentially provoke novel ideas and research questions on this matter.

## APPENDIX A

### PASSAGES USED IN THE EXPERIMENT

British Times Higher Education institution announced their annual list of best universities of the year 2019. Boğaziçi University was the only university (Koç, Bilkent, Middle East and İstanbul Technical Universities were the only universities) that made to the list from Turkey.

Times Higher Education takes various factors into consideration while preparing the list such as academic achievement, proportion of alumni who continue their professional lives in prestigious institutions, students' satisfaction with the university, academic works that were published and cited in major journals, research facilities such as libraries and laboratories as well as the degree to which the students can benefit from these facilities. Boğaziçi University was (Koç, Bilkent, Middle East and İstanbul Technical Universities were) in the list's top 200. No other Turkish universities were on the list.

## APPENDIX B

### RATINGS FOR FUTURE EVENTS

1. I feel that this event will become a part of my identity.
2. This event will become a reference point for the way I understand myself and the world.
3. This event will change the places where I will spend time.
4. This event will change the things I will own.
5. This event will change my material circumstances.
6. This event will change the activities I will engage in.
7. This event will change the people I will spend time with.
8. This event will change where I will live.
9. This event will change my attitudes.
10. This event will change the way I will think about things.
11. This event will impact my emotional responses.
12. This event will change my sense of self.
13. This event will impact me psychologically.
14. This event will influence my understanding of right and wrong.
15. I will frequently think about this event after the event.
16. I will frequently talk about this event after the event.
17. This event will be quite important for Turkey's goals and values.
18. This event will be quite important for my goals and values.
19. In your opinion, how many days, months, or years later this event will take place?

## APPENDIX C

### COLLECTIVE TEMPORAL ORIENTATION SCALE

1. I think about things from Turkey's past.
2. I think about Turkey in the present.
3. I think about what Turkey's future has in store.
4. I focus on what is currently happening in Turkey.
5. I focus on Turkey's future.
6. I replay events of Turkey's past in my mind.
7. I imagine what future times will bring for Turkey.
8. I reflect on what has happened in Turkey over time.
9. I think about what Turkey is like today.
10. I think back to the early days of Turkey.
11. I think about times to come.

APPENDIX D  
ENTITATIVITY SCALE

1. Boğaziçi University students have many characteristics in common.
2. Boğaziçi University students have strong ties.
3. Boğaziçi University students cooperate with each other.
4. Boğaziçi University students have many similarities.
5. Boğaziçi University students have a shared past.
6. Boğaziçi University students have a shared understanding of the future.
7. Boğaziçi University students constitute a real entity as a group.

APPENDIX E  
IDENTIFICATION SCALE

1. I identify myself with Boğaziçi University students.
2. It is important for me to be part of Boğaziçi University.
3. Being a Boğaziçi University student is not part of my identity.
4. I consider myself as a member of Boğaziçi University.
5. I think I have strong ties to Boğaziçi University students.
6. Being a member of Boğaziçi University does not mean anything to me.

APPENDIX F

DEMOGRAPHIC QUESTIONNAIRE

1. Gender
2. Birthplace
3. Year of birth
4. Level of education:
  - a. Primary school
  - b. High school
  - c. Undergraduate
  - d. Graduate
5. If you evaluate in comparison with the average of Turkey, where would you place yourself?
  - a. Lower income
  - b. Lower-middle income
  - c. Middle income
  - d. Upper-middle income
  - e. Upper income
6. Which political party did you vote for in the last general elections?
7. How affiliated do you feel with this political party?
8. Where would you place yourself in the political spectrum?

1	2	3	4	5	6	7	8	9	10
Far left					Far right				

9. Where would you place yourself in the spectrum below?

1	2	3	4	5	6	7	8	9	10
Not nationalist at all					Very nationalist				

10. Where would you place yourself in the spectrum below?

1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	----

Not religious at all

Very religious

11. Where would you place yourself in the spectrum below?

1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	----

Not conservative at all

Very conservative

12. How often do you follow the news?

1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	----

Never

Very often

APPENDIX G  
REMAINING QUESTIONS

1. How believable did you find the news passage you read in the beginning of the experiment?
2. How advantaged do you feel as a voter of your political party compared to other parties' voters?
3. When you compare yourself with others, what you receive in life,
  - a. Much more than I expect
  - b. More than I expect
  - c. About what I expect
  - d. Less than I expect
  - e. Much less than I expect
4. Do you sometimes feel that you are deprived?
5. All in all, are you happy with your life?

APPENDIX H  
CATEGORIES FOR TURKEY-RELATED FUTURE EVENTS  
WITH EXAMPLES

1. Terror

“There will be serious attempts to solve the terror problem in our eastern border.”

2. Environment

“Biological diversity will greatly diminish.”

3. Disasters

“A huge earthquake will occur in İstanbul.”

4. Economic

“Due to decreases in agricultural production, we will have to import the products that we could produce ourselves. This will greatly weaken Turkey’s economy.”

5. National politics

“We will see more women leaders in politics.”

6. International politics

“We will resolve the conflict in Syria.”

7. War/Military

“The war in Idlib will grow and there will be more casualties.”

8. Human rights

“Turkey will have to pay compensation because of its human rights violations.”

9. Social

“The polarization in the society will increase.”

10. Refugee crisis

“There will be an increase in the number of racist assaults as a result of the refugee crisis.”

11. Science/Technology/Space

“Robots will take over many people’s jobs.”

12. COVID19

“Vaccination for Coronavirus will be found.”

## APPENDIX I

### MOST FREQUENT CATEGORIES OF FUTURE EVENTS

#### BEFORE AND AFTER THE COVID19 PANDEMIC

	Turkey's near future		Turkey's distant future	
	Pre	Post	Pre	Post
National politics	40.3	31.4	22.8	25.5
Economic	21.0	25.2	16.3	11.8
Social	8.9	7.3	19.5	17.3
Refugee crisis	8.1	3.2	.8	.9
Disasters	7.3	4.1	4.1	5.5
COVID19	1.6	9.2	0	2.7
Science/Technology/Space	3.1	5.0	4.1	15.5

Note: The table shows percentages of mention both before (Pre) and after (Post) March 10 (i.e., the first COVID19 patient in Turkey). Only the categories that were mentioned by at least 5% of participants for either near or distant future were included in the table.

APPENDIX J  
CATEGORIES FOR BOĞAZİÇİ-RELATED FUTURE EVENTS  
WITH EXAMPLES

1. Administration/Personnel/Academicians

“Number of qualified academicians will decrease.”

2. Education/Research

“New departments will be opened to adapt to the changing world.”

3. Infrastructure

“Buildings will be renovated to resist earthquakes.”

4. Social/Cultural

“Public attention will be drawn to the school due to some clubs’ activities.”

5. General facilities

“Students will not be able to benefit from schools’ facilities due to increasing quotas.”

6. Student demographics

“Students’ political attitudes will be radicalized.”

7. School prestige

“Our university will be among the best 100 universities in the world.”

8. System change

“The classes will be online.”

9. Political external influences

“Number of academicians who were expelled because they criticize the politics of current government will increase.”

10. Student life

“Boğaziçi University’s liberal setting will be harmed.”

#### 11. Scientific/Technology

“Our scientists will come up with vaccination or medication to cure cancer.”

#### 12. Privatization

“Boğaziçi University will become a private university.”

APPENDIX K

CORRELATIONS BETWEEN IDENTIFICATION, ENTITATIVITY  
AND FUTURE EVENTS' CHARACTERISTICS

		Identification	Entitativity
Relevance to identity	Near future	.157	.221*
	Distant future	.222*	.185*
Material impact	Near future	.054	.111
	Distant future	.167*	.156
Psychological impact	Near future	.072	.159
	Distant future	.131	.238*
Rehearsal	Near future	.107	.162*
	Distant future	.182*	.177*
Importance	Near future	.070	.153
	Distant future	.187*	.143

Note: Significant correlations at  $p < .003$  level were denoted with an asterisk.

## APPENDIX L

### ETHICS COMMITTEE APPROVAL

Evrak Tarih ve Sayısı: 26/06/2020-48

T.C.  
BOĞAZIÇI ÜNİVERSİTESİ  
SOSYAL VE BEŞERİ BİLİMLER YÜKSEK LİSANS VE DOKTORA TEZLERİ ETİK İNCELEME  
KOMİSYONU  
TOPLANTI TUTANAĞI

Toplantı Sayısı : 2  
Toplantı Tarihi : 16/03/2020  
Toplantı Saati : 14:00  
Toplantı Yeri : Skype Sanal Toplantı  
Bulunanlar : Prof. Dr. Feyza Çorapçı, Dr. Öğr. Üyesi Yasemin Sohtorik İlkmen, Prof. Dr. Özlem Hesapçı  
Karaca, Doç. Dr. Ebru Kaya, Prof. Dr. Fatma Nevra Seggie  
Bulunmayanlar :

Doruk Deniz Hacıbektaşoğlu  
Psikoloji

Sayın Araştırmacı,  
"Sosyal Grupların Toplumdaki Konumunun Toplumsal Geleceğe Dair Öngörülere Etkisi" başlıklı projeniz ile ilgili olarak yaptığımız SBB-EAK 2020/05 sayılı başvuru komisyonumuz tarafından 16 Mart 2020 tarihli toplantıda incelenmiş ve uygun bulunmuştur.

Bu karar tüm üyelerin toplantıya çevrimiçi olarak katılımı ve oybirliği ile alınmıştır. COVID-19 önlemleri kapsamında kurul üyelerinden ıslak imza alınmadığı için bu onam mektubu üye ve raportör olarak Fatma Nevra Seggie tarafından bütün üyeler adına e-imzalanmıştır.

Prof. Dr. Fatma Nevra SEGGIE  
ÜYE

e-imzalıdır  
Prof. Dr. Fatma Nevra SEGGIE  
Raportör

SOBETİK 2 16/03/2020

Bu belge 5070 sayılı Elektronik İmza Kanununun 5. Maddesi gereğince güvenli elektronik imza ile imzalanmıştır.

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