LINGUISTIC GENDER BIAS AS A RESULT OF UNCERTAINTY: THE

MODERATING ROLES OF GROUP IDENTIFICATION AND

SOCIOSTRUCTURAL VARIABLES

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Linguistic Gender Bias as a Result of Uncertainty:

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Sociostructural Variables

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Thesis Abstract

Ceren Günsoy, "Linguistic Gender Bias as a Result of Uncertainty: The Moderating

Roles of Group Identification and System Justification"

The aim of the present study was to examine whether low status groups (females) use more language abstractions for gender stereotypical information about their ingroup and outgroup when primed with uncertainty compared to certainty. It also tested whether gender identification, gender related system justification and legitimacy and stability perceptions of the gender hierarchy moderated this relationship. Previous studies showed that uncertainty feeling led to increased group identification and ingroup bias. Moreover, people with high need for cognitive closure, i.e., who were less tolerant to uncertainty, were found to infer traits from behaviors that were stereotypical more than those with low need for cognitive closure. Inferring traits from behaviors, i.e., inductions are a way of language abstraction and occur more frequently and automatically than inferring behaviors from traits, i.e., deductions. This study also tested this asymmetry in Turkish language for the first time. In line with expectations, participants made more and faster inductions than deductions. Uncertainty priming led to increased gender identification when participants were exposed to an outgroup member, i.e., male student. As expected, when they read statements about the female student, uncertainty led those who were high in gender identification and legitimacy but who were low in stability make more stereotype-congruent rather than incongruent inductions, which was not observed among low identifiers, low legitimacy participants or those who found the system stable. Moreover, participants who read statements about the male student and who were exposed to uncertainty made more stereotype-incongruent rather than congruent inductions when they were low in system justification and legitimacy, which was also in line with predictions. Finally, the study also investigated the effect of manipulations on hit and correct rejection performance and response times.

Tez Özeti

Ceren Günsoy, "Belirsizlik Hissi Sonucu Dildeki Cinsiyet Yanlılığı: Grupla

Özdeşleşme ve Sosyo-yapısal Değişkenlerin Düzenleyici Rolü"

Bu çalışmanın amacı, toplumda düşük statüde olan grupların (kadınların), belirsizlik hissine maruz kaldıklarında toplumsal cinsiyetle ilgili kalıp yargılar için daha soyut dil kullanıp kullanmadığını incelemektir. Ayrıca bu çalışma, cinsiyetle özdeşleşme, sistemi meşrulaştırma ve cinsiyet hiyerarşisini meşru ve istikrarlı görmenin bu ilişkide düzenleyici olup olmadığını da test etmektedir. Daha önce yapılan çalışmalar belirsizlik hissinin grupla özdeşleşme seviyesini ve grup yanlılığını arttırdığını bulmuştur. Ayrıca belirsizliğe toleransı düşük olan kişilerin toleransı yüksek olanlara göre kalıp yargılara uygun davranışlardan kişilik sıfatları çıkarsama eğiliminin daha yüksek olduğu gösterilmiştir. Davranışlardan kişilik sıfatları çıkarsamak (induction) dildeki bir soyutlama yöntemidir ve kişilik sıfatlarından davranış çıkarsama (deduction) eğilimine göre daha sık yapılır ve daha otomatiktir. Bu çalışma ayrıca bu asimetriyi Türkçe'de test eden ilk çalışmadır. Beklendiği üzere, katılımcıların davranışlardan kişilik sıfatları çıkarsama eğiliminin kişilik sıfatlarından davranış çıkarsama eğilimine göre daha fazla ve hızlı olduğu bulunmuştur. Ayrıca, bir karşıt grup üyesiyle, yani bir erkek öğrenciyle ilgili bilgi alan katılımcılar belirsizlik hissine maruz kaldıklarında daha yüksek cinsiyetle özdeşleşme seviyesi göstermiştir. Beklentilere uygun olarak, bir kadın öğrenciyle ilgili bilgi alan, daha yüksek cinsiyet özdeşleşmesi gösteren ve sistemi meşru ama istikrarsız bulan katılımcıların belirsizliğe maruz kaldıklarında kalıp yargılara uygun davranışlardan kişilik sıfatı çıkarsama eğilimleri kalıp yargılara karşıt davranışlardan çıkarsama yapma eğilimlerine göre daha yüksek çıkmıştır. Fakat bu fark düşük cinsiyet özdeşleşmesi gösteren ve sistemin istikrarlı olduğunu ama meşru olmadığını düşünen katılımcılarda gözlenmemiştir. Ayrıca bir erkek öğrenciyle ilgili bilgi alan ve sistemi meşrulaştırma eğilimi düşük olan katılımcıların belirsizliğe maruz kaldıklarında kalıp yargılara karşıt olan davranışlardan kişilik sıfatı çıkarsama eğiliminin, kalıp yargılara uygun olan davranışlara göre daha yüksek olduğu bulunmuştur. Son olarak bu çalışmadaki değişkenlerin katılımcıların hafıza testindeki genel performanslarına ve cevap verme sürelerine etkisi de incelenmiştir.

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CHAPTER 1

INTRODUCTION

The present study focused on the relationship between uncertainty and implicit gender stereotyping. More specifically, it investigated the circumstances under which low status groups conform or reject stereotypical biases regarding their ingroup and the outgroup. It was argued that individuals from a low status group, i.e., females, who were exposed to uncertainty, would show higher levels of implicit gender stereotyping compared to those who were exposed to certainty. Based on the Induction-Deduction Asymmetry phenomenon (Maass, Colombo, Colombo & Sherman, 2001), the level of gender stereotyping was evaluated by the amount and timing of linguistic abstractions participants made when remembering stereotype-congruent versus incongruent information about a person. Studies showed that when people have a lower tolerance to uncertainty (e.g., Webster, Kruglanski, & Pattison, 1997) or when they are situationally exposed to it (e.g., McGregor, Zanna, Holmes, & Spencer, 2001); they have a tendency to show more ingroup bias. Therefore in the present study, those in the uncertainty condition were expected to show higher number of abstractions and shorter response time for stereotype-congruent information compared to those in the certainty condition.

Previous research also showed that uncertainty led to higher group identification (e.g., Mullin & Hogg, 1999) and uncertainty reduction is one of the reasons why individuals engage in system justification (i.e. acceptance of status inequalities between groups in society, (Jost & Hunyady, 2005). Moreover, studies

revealed that low status groups showed more ingroup identification when exposed to uncertainty than certainty (Reid & Hogg, 2005) and in general, they showed higher levels of system justification (e.g., Jost & Burgess, 2000) compared to high status groups. Therefore, the possible moderating effects of gender identification and gender related system justification levels were also investigated. Additionally, the study examined which of these moderators had stronger effects on ingroup and outgroup stereotyping. Finally, perceptions of stability and legitimacy of gender relations were also assessed, and their effects on linguistic gender bias were explored, since Social Identity Theory demonstrated that these sociostructural variables have a critical function in predicting how members of low status groups react to stereotyping (Tajfel & Turner, 1979).

The relationship between uncertainty and language use was investigated by several studies (Maass, Cadinu, Boni, & Borini, 2005; Rubini & Kruglanski, 1997; Webster et al., 1997). However, these studies either treated uncertainty as a personality feature (e.g., Maass et al., 2005) rather than a situational factor, or used groups that have equal status (e.g., Webster et al., 1997) instead of real groups that differ in their status in society, such as gender groups. One of the major contributions of this study to the literature is that it was the first attempt to employ uncertainty manipulation as a contextual factor together with a focus on its effects for gender groups which have different status. Secondly, the relationship of linguistic abstraction tendency with system justification, group identification and sociostructural variables was investigated for the first time. Moreover, it was the first test of linguistic biases based on abstraction, i.e., trait inferences, in Turkish language.

Uncertainty

"The world is an uncertain place, it always has been, and these uncertainties can make it very difficult to predict or plan our lives and to feel sure about the type of people we are." (Hogg, 2007, p. 69). However, this does not necessarily mean that uncertainty always has a negative connotation. While losing a job and not knowing what to do in a situation are examples of negative uncertainty, winning lottery and being unsure about how to spend the money is definitely an uncertainty that induces more positive feelings rather than negative. One thing that is common to both types of uncertainty is that people try to reduce it when they feel it, especially if it is about an issue that is important and self-relevant (Hogg, 2007). In other words, uncertainty reduction is claimed to be one of the most important epistemic motives determining our impressions and attitudes (Hogg, 2007).

Another distinction about uncertainty is whether it is a personality characteristic, e.g., being tolerant to uncertainty or not (e.g., Cacioppo & Petty, 1982; Kruglanski, 1989, as cited in Webster et al., 1997), or a situational factor (e.g., Berger & Calabrese, 1975, as cited in Hogg, 2007). However, whatever the type, there is again a common need to avoid or reduce uncertainty, because people have the motivation to understand themselves and know they have correct opinions (Festinger, 1954, as cited in Hogg, 2007). Because of this strong epistemic need to reduce uncertainty, it was considered as a type of threat (Fritsche & Kessler, 2011) or as one of the feelings that is accompanied by other types of threats in the literature, (e.g., Branscombe, Ellemers Spears, & Doosje, 1999; Stephan & Stephan, 2000).

Effects of Uncertainty

Fritsche and Kessler (2010) defined threat as "the perception or feeling that something aversive may or is going to happen that either affects the personal or the collective level of identity" (p. 60). They suggested that threat can be classified according to the needs people try to fulfill, because another definition of threat is an expectation to fail goal attainment or need satisfaction (e.g., Paterson & Neufeld, 1987, as cited in Fritsche & Kessler, 2010). According to their classification, one type of threat is threat to epistemic certainty, which can be a collective or personal threat. For instance, distinctiveness threat (Branscombe et al., 1999) is a collective epistemic threat. It is related to being uncertain about one's ingroup, that is not distinct enough from other groups. Threat to personal uncertainty on the other hand, e.g., facing an important personal dilemma that is difficult to solve (McGregor et al., 2001), is a personal epistemic threat. Studies on collective and personal epistemic threats showed that individuals engage in various group oriented (Jetten, Spears, & Manstead, 1998) or self-oriented (e.g., McGregor et al., 2001) strategies to remove threat, i.e., to reduce uncertainty.

Basing its main idea on Self-Affirmation Theory (Steele, 1988), one of the models focusing on strategies to reduce uncertainty was developed by McGregor et al. (2001). Self-affirmation theory suggests that individuals compensate their personal inconsistencies by emphasizing an unrelated positive aspect of their lives. McGregor et al.'s (2001) Compensatory Conviction Model bases its logic on that theory, but it focuses on personal uncertainty. Their study revealed that when individuals were

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asked to think about their personal dilemmas or about physical and emotional consequences of an uncertainty experience (e.g., mortality or temporal discontinuity), they became more rigid in their attitudes about social issues (e.g., they showed higher willingness to defend their position and lower ambivalence about their view, which they thought that many people would agree with), they tried to be more consistent in their personal values and projects, and they showed more identity seeking compared to control groups. Moreover, in terms of intergroup relations, individuals exposed to uncertainty showed more intergroup bias than those in the control group. According to McGregor et al. (2001), those strategies are ways of compensating and thus reducing the uncertainty of the situation, because thereby individuals focus on their certainties in other, unrelated areas of life.

Similar to McGregor et al.'s (2001) studies, another line of research also found that exposure to uncertainty has group related consequences. However, different from the Compensatory Conviction Model, relying on Social Identity Theory (Tajfel & Turner, 1979) and Self-Categorization Theory (Turner, Hogg, Oakes, Reicher, & Wetherell, 1987, as cited in Hogg, 2007), Hogg's Uncertainty-Identity Theory (2007) focuses on group identification as a result of uncertainty rather than other forms of compensatory conviction. According to Uncertainty-Identity Theory, one of the ways to reduce uncertainty is identifying with the ingroup, because through this process individuals obtain a clear knowledge of who they are and how to behave. Studies on higher group identification after uncertainty exposure also revealed that entitativity of the group (Hogg, Sherman, Dierselhuis, Maitner, & Moffitt, 2007), i.e., having properties such as clear boundaries and homogeneity

(Hamilton & Sherman, 1996), and the importance of the uncertain issue (Mullin & Hogg, 1999), have significant influence on the relationship between uncertainty and group identification, such that uncertainty increases the degree of identification more, when one's ingroup is high in entitativity and the issue is important for the individual.

In addition to increased group identification, intergroup discrimination was also found to be a consequence of uncertainty, mainly in studies using the minimal group paradigm (Tajfel, 1970). Mullin and Hogg (1998) found that individuals who were categorized as a group based on merely artificial methods and exposed to high uncertainty, showed significantly more ingroup bias in a point allocation task than the other groups, and this effect was more pronounced for those who showed high group identification. Similarly, Grieve and Hogg (1999) revealed that participants who were categorized and exposed to high uncertainty, identified significantly more with their ingroup and showed more ingroup bias than the remaining groups. Overall these results suggest that individuals reacted to uncertainty in a close-minded fashion, i.e., being biased against the outgroup.

Ingroup bias as an effect of uncertainty was also examined in another line of studies, in which uncertainty was considered as an individual difference factor. For instance, Webster et al. (1997) focused on the need for cognitive closure, which was defined as a tendency to be intolerant to ambiguity and to seek for definite solutions to problems (Kruglanski, 1989, as cited in Webster et al., 1997). Webster et al. (1997) found that those who scored high on the need for closure scale showed higher levels of linguistic abstraction for positive behaviors of their ingroup and negative behaviors of the outgroup, compared to those who scored low on the same scale. This was an

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indication of ingroup bias because by using abstract words, they rendered the behaviors more enduring and more informative about the actors, thus restoring their certainty with stereotypical judgments. Similar to the above study, linguistic abstractions were the measure of intergroup bias in the present study, however instead of treating uncertainty as a personality difference, it was manipulated as a situational factor.

Linguistic Memory Biases

Semin (1996) stated that "it is primarily in the form of words that information about human interactions and other events is communicated and stored" (p. 294). Stereotypes, as one of the important parts of human interaction, are embedded in language and not based on direct experience (Fiedler & Schmid, 2001); therefore they are passed on to other generations without questioning and without change. They are mostly learned during childhood, within the same process of language acquisition (Mackie & Hamilton, 1993 as cited in Fiedler & Schmid, 2001). Because of this deeply rooted nature of language, in this study it was selected as an implicit tool to measure gender stereotyping. The aim was to overcome the possible social desirability problem of explicit measurements in the area of stereotyping, such as directly asking about emotions or opinions about the outgroup (e.g., Bizman & Yinon, 2001; Branscombe & Wann, 1994), and instead to use a more sensitive measure.

Theories and Models of Biased Language Use

The basis of studies examining stereotypes reflected in language is the *Linguistic Category Model* developed by Semin and Fiedler (1998). According to this model, people can use four different linguistic categories to describe the same behavior. The categories belong to different abstraction levels. At the most concrete level is the *descriptive action verbs* (e.g., talk, stare), which objectively describe an activity that has a beginning and an end. Words in the second level of concreteness are *interpretive action verbs* (e.g., help, inhibit), which have positive or negative valence and are more general. The next category is *state verbs* (e.g., like, hate), which reflect emotions and cannot be used in imperatives. Finally, the most abstract category is *adjectives* (e.g., aggressive, honest) which do not have an object or situation reference, but are found to be most informative about the subject and most enduring.

Related to the Linguistic Category Model, *Linguistic Intergroup Bias* (Maass, Salvi, Arcuri & Semin, 1989; 2000) suggests that people describe the desirable behavior of their ingroup and the undesirable behavior of the outgroup at a more abstract level, compared to the undesirable behavior of their ingroup and desirable behavior of the outgroup. Further studies revealed that the reason for abstraction did not necessarily rely on ingroup favorability, but expectancy was found to have a stronger effect (Maass, Milesi, Zabbini, & Stahlberg, 1995). In other words, although a behavior of the ingroup is undesirable, it may be described in abstract terms, if it is an expected behavior. Thus, *Linguistic Expectancy Bias* (Wigboldus, Semin, & Spears, 2006; Wigboldus, Spears, & Semin, 2005) argues that people describe

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expectancy consistent behaviors at a higher level of linguistic abstraction than expectancy inconsistent behaviors.

Another line of research about linguistic abstraction relies specifically on memory. Studies found that people have a tendency to recall information described by action words in the form of traits (Winter & Uleman, 1984; Winter, Uleman, & Cunniff, 1985), which was called *induction*. Studies showed that induction was quite automatic because response time for indicating that one has seen an implied trait was equal to the recognition time of an actually presented trait (Maass et al., 2001). The opposite pattern, i.e. inferring behaviors from traits, or *deduction*, was found to be significantly less likely, and therefore the phenomenon was called *Induction-Deduction Asymmetry*. It is a very robust phenomenon, because the effect remained significant after a series of changes in experimental conditions, such as in word stems, tense of the verbs, or in the type of measurement (Maass, Cadinu, Taroni & Masserini, 2006). One of the aims of this study is also to test whether induction-deduction asymmetry is observed in a non-western culture, because studies found that people's tendency to spontaneously infer traits from behaviors was less common among people from collectivistic cultures such as Asia or Latin America compared to individualistic cultures such as Europe and America (e.g., Newman, 1991; Rhee, Uleman, Lee, & Roman, 1995; Zarate, Uleman, & Voils, 2001). The main explanation of this difference was that whereas people from collectivistic cultures put more emphasis on contextual factors in explaining causes of behaviors (e.g., Markus & Kitayama, 1991, Newman, 1993), people from individualistic cultures prefer trait explanations (e.g., Dweck, Hong, & Chiu, 1993).

By examining linguistic abstractions, in other words by using an implicit measure, it is also possible to understand whether someone is stereotypical against the outgroup or not. More importantly, results from implicit and explicit measures can be unrelated to each other, as it was found by Von Hippel, Sekaquaptewa and Vargas, (1997). In their study, participants read texts which depicted stereotypically female behaviors conducted either by a male (incongruent condition) or by a female (congruent condition). After that, they engaged in the classical Linguistic Intergroup Bias task, in which they rated the degree of description power of four statements that have different abstraction levels. In addition to a second implicit prejudice measure, participants completed the Attitude toward Women Scale, which was an explicit measure of sexism. Results showed that whereas the two implicit measures significantly correlated with each other, they were not found to be correlated with the explicit measure. Therefore in the present study, instead of explicit measures, linguistic bias was selected to examine the effect of uncertainty on stereotyping, and the effects of moderators on this relationship.

Threat and Linguistic Biases

Maass, Cecarelli and Rudin (1996) investigated the effect of social identity threat on Linguistic Intergroup Bias. In their first experiment, hunters and environmentalists were used as the two real and conflicting groups, but a status difference between them was not mentioned. They found that individuals who received threatening messages from the outgroup showed more Linguistic Intergroup Bias when choosing

the sentence that described a cartoon about the ingroup and outgroup best, compared to those who received friendly messages. For example, hunters tended to choose the sentence "picks up paper" (descriptive action verb sentence, i.e. most concrete option) over the sentences "cleans up the wood" (interpretive action verb sentence), "respects nature" (state verb sentence), and "is conscientious" (adjective sentence, i.e. most abstract option) as the best sentence that described the cartoon about environmentalists, as it was a positive behavior conducted by the outgroup. And more importantly, this tendency was higher for the groups who were threatened than for the groups who were unthreatened. They based their findings on the identity-enhancing motivation of individuals as in the *Social Identity Theory* (Tajfel & Turner, 1979), which suggests that when individuals' social identities are threatened, they try to restore it by various strategies such as favoring their ingroup.

In their second study, northern and southern Italians were the focus of interest, which are again real groups but this time with different status, i.e., the former group has a higher social status. They tested whether low status groups engaged in a higher Linguistic Intergroup Bias because they needed to enhance their identity more than northern Italians. In addition to the cartoons showing the northern and southern Italian contrast, cartoons about Italian and Swiss contrast were also included. They expected that the latter condition would decrease intergroup hostility and bias, because a superordinate ingroup (Italy) and a superordinate outgroup (Swiss) was made salient instead of target groups. Finally, they included the expectancy dimension in addition to valence of ingroup and outgroup behaviors. As expected, results showed that southern Italians, i.e., the low status group, showed more

Linguistic Intergroup Bias than northern Italians. Moreover, Linguistic Intergroup Bias was only observed for north-south contrast but not for Italian-Swiss contrast. Regarding the expectancy dimension, the study found that in general, individuals used more abstract language for typical rather than atypical behaviors. This effect was slightly more pronounced for north-south comparison than for Italian-Swiss comparison, and the low status group showed higher levels of abstraction for typical behaviors than the high status group. These results showed that both dimensions, i.e., Linguistic Intergroup Bias and abstract language use for expected behaviors, were effective. Maass et al. (1996) concluded that whereas expectancies mainly determine the level of abstract language use when there is no hostile threat between groups (i.e., Swiss-Italian case), expectancies and identity enhancement motives are observed when there is explicit threat or competition (i.e., northern-southern case). Similar to this study, in the present study, gender groups, i.e., real groups with different social status were used. However, Linguistic Expectancy Bias was investigated in the context of situational uncertainty rather than explicit competition between groups.

Uncertainty and Linguistic Biases

As mentioned above, a study investigating the relationship between uncertainty and Linguistic Intergroup Bias was conducted by Webster et al. (1997). In both experiments of this study, groups were formed around the idea of being "pro-life" or "pro-choice" about abortion. Thus, they were real groups but did not have a clear status difference. In their first experiment, researchers focused on the dispositional

uncertainty, namely the need for closure (Kruglanski, 1989, as cited in Webster et al., 1997). Kruglanski and Webster (1996) stated that "people under a heightened need for closure may seize on information appearing early in a sequence and freeze on it, becoming impervious to subsequent data." (p. 265). Thus, those who were high in need for closure wanted to quickly end an uncertain situation (*urgency tendency*) and prevent its occurrence in the future (*permanence tendency*). Webster et al. (1997) expected that the permanence tendency would lead to higher usage of abstract words because they are more enduring (Semin & Fiedler, 1988). The study revealed that those who had a high level of need for closure showed significantly higher levels of Linguistic Intergroup Bias, i.e., abstraction of positive ingroup and negative outgroup behaviors. In their second study, they manipulated uncertainty by using environmental noise[1]. Noise was chosen as a method to increase uncertainty, because previous studies found that it increased the cost of information processing and made individuals prefer cognitive closure (e.g., Kruglanski & Webster, 1991; Kruglanski, Webster, & Klem, 1993). Again, those who were exposed to noise, i.e., uncertainty, showed significantly more Linguistic Intergroup Bias than the control group. Moreover, two studies revealed that abstraction tendency of uncertainty groups were higher than the control groups, irrespective of positivity or negativity of behaviors.

A more recent study was conducted by Maass, Cadinu, Boni & Borini (2005) who focused on the relationship of Induction-Deduction Asymmetry with stereotypes and need for cognitive closure. They found that trait inferences from behaviors were more likely when the information was gender stereotype-congruent rather than when it was

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[1] The source of the noise was a printer. In order to reduce the stress evoked by the noise, participants were allowed to shut the printer down when they wished.

gender stereotype-incongruent. For example, after reading information about males, participants were more likely to remember the sentence "gets angry easily" as "aggressive" than they were to remember the sentence "is able to understand a fact before reasoning about it" as "intuitive". The reason of this tendency lied in the definition of stereotypes as "group-trait associations" (p. 273), i.e., people's preference to define groups in traits. Deductive inferences (i.e. from trait to behavior) on the other hand were not affected by stereotype-congruency because of their more controlled nature compared to inductive inferences. Previous experiments showed that deductions were less common and required a more conscious process than inductions, as it was found that response times for indicating that one has seen an implied behavior was longer than the response time for an actually presented behavior (Maass et al., 2001).

In sum, although to remember action words or behaviors in the form of traits is a general and robust tendency, this does not mean that its degree cannot be affected by any kind of manipulation. On the contrary, the nature of information, i.e., whether it is congruent to endorsed stereotypes or not, significantly affects its strength. Most importantly, it was found that those who were high in need for cognitive closure made significantly more trait inferences for stereotype-congruent information compared to those who were low on this scale. On the other hand, they made significantly less trait inferences for the stereotype-incongruent information compared to the participants who were low in need for cognitive closure. The results suggest that need for cognitive closure makes people more inclined to think in stereotypical ways.

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In light of the previous research on language, threat and uncertainty, in the present study the amount and speed of language abstraction were the main dependent variables to examine the level of implicit stereotyping. Since there was not any hostile intergroup threat manipulation that will generate Linguistic Intergroup Bias (Maass et al., 1996), linguistic bias based on expectancies, i.e., stereotype-congruency, was the focus of interest. As in previous studies, words selected in a recognition task were evaluated on the basis of their abstraction category, i.e., whether they were behaviors or traits, and on the basis of the time to choose the words that were actually presented or inferred. Different from Maass et al.'s (2005) study, uncertainty feeling was manipulated as a context variable when examining its effect on Induction-Deduction Asymmetry. Moreover, unlike Webster et al.'s (1997) study, gender groups, which differ in terms of status, were used to examine intergroup bias. When it came to groups with different status, it was possible to look at moderators in the relationship between uncertainty and linguistic gender bias. Therefore the study investigated not only how much individuals engaged in linguistic biases about their own and the opposite gender when they were faced with uncertainty, but also to what degree this tendency was moderated by their levels of identification and/or system justification. The focus of interest was the low status group, i.e., females, because previous literature already showed that their ingroup identification increased after uncertainty exposure (Reid & Hogg, 2005), and their system justification tendency was found to be higher than high status groups' tendency (e.g., Jost & Burgess, 2000). Moreover, Social Identity Theory demonstrated that perceptions of stability and legitimacy predicted social competition

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especially for low status groups (Tajfel & Turner, 1979). As group identification,

system justification and sociostructural variables are already found to be stronger

factors for low status as opposed to high status groups, in this study only females

were recruited.

Possible Moderating Variables between Uncertainty and Linguistic Gender Bias

Previous literature showed that individuals' level of ingroup identification (e.g.,

Branscombe & Wann, 1994) as well as their tendency to justify the existing system

(e.g., Lau, Kay & Spencer, 2008) affect the strength of their ingroup bias and

outgroup prejudice. According to the Social Identity Theory (Tajfel & Turner, 1979)

negative or positive characteristics of the group one belongs to (i.e., ingroup)

compared to other groups (i.e., outgroups) determine whether one's social identity is

negative or positive. When the positive social identity is threatened, people engage in

strategies to restore it, such as allocating more resources to the ingroup, i.e., ingroup

favoritism (Turner, Brown & Tajfel, 1979), or simply leaving the ingroup to join a

superior outgroup (Tajfel & Turner 1979). Several studies showed that when

individuals are exposed to intergroup threat, they engage in strategies to reduce it,

such as activation of stereotypes about the outgroup, derogation, prejudice or even

harassment (e.g., Branscombe & Wann, 1994; Lau, Kay & Spencer, 2008; Maass,

Cadinu, Guarneri & Grasselli, 2003).

Effect of Group Identification on Responses to Uncertainty

Threat and Group Identification

One of the factors affecting the choice among different identity enhancement strategies after a social identity threat is the identification level with one's ingroup (Doosje, Ellemers, & Spears, 1999). Doosje and colleagues (1999) defined group identification as "the extent to which group members feel strong ties with their groups" (p. 85).

In their well-known study, Branscombe and Wann (1994) manipulated the threat by making American participants watch either a version of the movie Rocky IV with the final scene in which the Soviet fighter defeated the American fighter (identity threat condition), or with the final scene that had the opposite ending (no threat condition). Results revealed that threat manipulation increased the level of outgroup derogation only among high-identifiers but not among low-identifiers. Moreover, it was found that those who derogated Russians more, experienced a significant collective self-esteem increase compared to those who derogated them less. Thus, outgroup derogation was used as a protective mechanism after feeling threat to one's identity.

Similarly, Bizman and Yinon (2001) tested whether group identification was a mediator between the influence of intergroup threat on prejudice. Their argument was that because group membership was a more important aspect for high identifiers' self-concept, an intergroup threat would disturb them more. Results confirmed this

prediction such that, only high identifiers showed higher level of prejudice with increased realistic threat perception, but no difference in prejudice was found among low identifiers across different threat levels.

Gender relations were also used to examine the relationship between social identity threat, group identification and prejudice. Maass and colleagues (2003) focused on the effect of different types of threat on gender harassment, i.e., "verbal and nonverbal behaviors that convey insulting, hostile, or degrading attitudes toward women without aiming at sexual cooperation" (p.853-854). They used legitimacy threat as the experimental manipulation, which was induced by a feminist female character who supposedly protested the unequal gender system in which men have more advantages in employment compared to women. Results of the study showed that men who were exposed to legitimacy threat towards their higher status showed a significantly higher intention to harass their female partner, especially when they were highly identified with their gender group. Moreover, the gender identification level of men who chose to harass significantly increased compared to their identification level before the threat manipulation, but this increase was not observed for men who did not engage in harassment behavior. In sum, these studies confirm the mediating role of group identification between threat and intergroup bias.

Uncertainty and Group Identification

As mentioned above, Uncertainty-Identity Theory (Hogg, 2007) has its roots in Social Identity Theory and Self-Categorization Theory. According to this theory,

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individuals' identification with their group increases with uncertainty exposure (e.g., Hogg et al., 2007; Mullin & Hogg, 1999), because this reduces the epistemic uncertainty they feel (Hogg, 2007). The reason is the process of self-categorization, which is about assigning oneself prototypical attributes of the ingroup, and "one's prototype of a group can describe members' perceptions, beliefs, attitudes, values, feelings, and behaviors" (Hogg, 2007, p. 79), in other words help them attain clarity and certainty about themselves.

Similar to the social identity threat research, group identification was also found to increase the level of intergroup discrimination after uncertainty exposure in various ways. For instance, Mullin and Hogg (1998) manipulated uncertainty by enabling or not enabling participants to practice the experimental task. Another manipulation in their study was being categorized as a group or not. Results revealed that among individuals who were categorized and exposed to high uncertainty, only those who strongly identified themselves with their group showed significantly more ingroup bias in the point allocation task. Similarly, Grieve and Hogg (1999) manipulated uncertainty by asking participants to describe ambiguous pictures, whereas the control group described unambiguous ones. Again, it was found that categorized and uncertainty induced individuals showed the highest intergroup discrimination in the point allocation task and also had the highest level of group identification.

A study by Reid and Hogg (2005) also investigated the effect of uncertainty on group identification, but unlike previous studies they used groups with different status. They generated two minimal groups, i.e., deductive and inductive thinkers.

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According to the status condition of the participant, they stated that one group outperformed the other in a quantity estimation task, which was also used as the task for uncertainty exposure by manipulating its difficulty level. Results showed that whereas group identification was higher for high status than low status group members in low uncertainty condition, the identification levels of the two groups were the same in the high uncertainty condition. Moreover, members of the low status group had significantly higher identification levels in high uncertainty compared to low uncertainty condition. On the other hand, uncertainty did not affect the identification level of high status group members. It was concluded that in a high uncertainty condition, individuals' main motive is to reduce uncertainty rather than engage in self-enhancement and they do it by identifying with their ingroup regardless of its status. However when uncertainty is low, self-enhancement motives prevail and individuals tend to identify with high status groups to reach a positive self-image.

In line with the previous research, this study suggests that gender group identification would increase the strength of the relationship between uncertainty and gender stereotyping, which would be observed as increased induction level for stereotype-congruent information. Similar to the findings of Reid and Hogg (2005) it was expected that group identification of females (i.e., low status group) would be higher in the uncertainty condition compared to the certainty condition, because when uncertainty was induced, not self-enhancement but uncertainty reduction motivation would become important.

Effect of System Justification on Responses to Uncertainty

The other major line of research that investigates intergroup threat and uncertainty revealed results that can be explained by System Justification Theory. System justification was defined as the tendency to legitimize or act in favor of the existing system, even though it may be disadvantageous to oneself or one's ingroup (Jost & Banaji, 1994). The reason of engaging in system justification is the aim to escape the feeling of uncertainty or threat, and continue living in a more familiar, i.e., certain system (Jost & Hunyady, 2005).

As mentioned before, Maass et al.'s (2003) study showed that men who were exposed to legitimacy threat harassed females significantly more than those who were not exposed to that threat. Legitimacy threat can be considered as a threat to the status quo, in which for instance women have fewer opportunities to make a professional career. When faced with this threat, the advantaged group, i.e., men, tried to preserve the existing system by engaging in outgroup derogative attitudes such as harassment. Another study focusing on gender relations and system justification was conducted by Lau, Kay and Spencer (2008). They investigated the relationship between system threat and benevolent gender stereotypes. Men who were asked to read a newspaper excerpt indicating that the federal system was illegitimate, i.e. who were exposed to system threat, showed significantly more romantic interest in women with characteristics in line with benevolent sexist stereotypes (such as vulnerable and pure) than those with non-benevolent characteristics. Moreover, threat-exposed men's interest in women with benevolent sexist characteristics was higher than men's

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interest in the no-threat condition. The results were interpreted in relation to system justification, because preference of women with benevolent sexist characteristics, i.e., a way of supporting gender inequality, was considered as an outcome of the motive to preserve the existing system which was supposedly under threat.

System Justification by Disadvantaged Groups

In addition to the emphasis of ingroup favoritism or outgroup derogation, System Justification Theory suggests that outgroup favoritism or outgroup bias are responses that should also be closely investigated when studying intergroup relations (Jost & Banaji, 1994). Jost and Banaji (1994) suggested that while for advantaged groups, ego (the need for a positive self-image), group (the need for a positive image of the ingroup) and system justification (the need to see the status quo as fair) motives are in harmony with one another, for disadvantaged groups, these three motives contradict with each other. In other words, when low status group members justify the status quo, they are automatically justifying their groups' disadvantaged position as well, which is against their ego and group justification motives. One of the methods of system justification, which disadvantaged group members use and which contradicts with ego and group justification motivations, is outgroup favoritism. As Jost and Hunyady (2005) suggested, whereas justification of the system results in ingroup favoritism on the side of high-status groups, it may lead to outgroup favoritism for low-status groups. Thereby, low-status group members support and internalize the

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existing inequality of the system (Jost et al., 2004), mainly to reduce the feelings of uncertainty and threat to the legitimacy of the system (Jost & Hunyady, 2005).

In their study, Jost and Burgess (2000) found that when real groups' (e.g., gender groups or university students) status was manipulated, low status group members showed more ambivalence towards their ingroup compared to high status group members. Ambivalence was calculated from the scores one gives to evaluate his/her ingroup in terms of opposite traits like intelligent and unintelligent or friendly and unfriendly etc. One of the ambivalence formulas used the score given for negative traits, e.g., unintelligent, and the higher this score, the more ambivalent is the individual about his/her ingroup. Moreover, those low status group members who showed more ingroup ambivalence found the system more legitimate (an indicator of system justification) than those with low ingroup ambivalence. But the opposite pattern was observed for high status group members. More importantly, whereas higher legitimacy perception led to higher ingroup favoritism for high status group members, it led to higher outgroup favoritism for low status group members, in line with the system justification argument. No difference in ingroup favoritism was found between high and low status group members when the system was perceived illegitimate. This last finding is against the idea of Social Identity Theory, which suggests that disadvantaged groups show more ingroup bias when the system is illegitimate (Tajfel & Turner, 1979).

In another study, Jost and Kay (2005) used complementary gender stereotypes, e.g. adjectives of warm and considerate for women (communal stereotypes), intelligent and ambitious for men (agentic stereotypes), as the tool for

experimental manipulation. Results showed that being exposed to complementary stereotypes significantly increased the level of gender related system justification only for women, but not for men. In other words, women who read statements emphasizing women's sensitivity or warmth were more likely to think that the status differences between groups were just.

Finally, in an indirect study of system justification, Jost, Pelham and Carvallo (2002) examined names given to new born babies. They found that regardless of their gender, babies were given their father's name, a name starting with the letter of the father's name or any male name, significantly more than their mother's name, a name starting with the letter of the mother's name or a female name. The preference was found to be much more common in nontraditional families (married but having different surnames or unmarried partners) than traditional families (married partners with the same surname). It would not be realistic to assume that male names are selected only by fathers, but mothers must have preferred them too. Thus, in line with the system justification theory, the disadvantaged group, i.e., females, was found to be acting contrary to its benefit, but favoring the advantaged outgroup.

Related to these findings, in the present study it was expected that system justification tendency might be an important predictor of increased linguistic stereotyping after the exposure of uncertainty, since uncertainty reduction was suggested to be the underlying reason of the motive to engage in system justification (Jost & Hunyady, 2005). More importantly, following the above findings, the effect of system justification on linguistic gender bias was expected to be especially strong for females. As they are the disadvantaged group, females would be motivated to

reduce their uncertainty through justifying the system of gender inequality. Finally, it was also examined whether system justification and group identification differently affected ingroup and outgroup stereotyping.

Effects of Stability and Legitimacy Perceptions on Responses to Uncertainty

In the present study, the effect of stability and legitimacy variables on implicit gender stereotyping was also investigated separately, because research suggests that they can have different effects on ingroup bias for low status groups. Moreover, the nature of their effects was also challenged in the recent literature.

Social Identity Theory states that low status groups show social competition, i.e., action to change the existing system, and ingroup bias when the social system is *unstable, illegitimate* and group boundaries are *impermeable* (Tajfel & Turner, 1979). Stability of the social system means whether the relative position of groups remain the same (stable) or whether it can change in time (unstable). Tajfel and Turner (1979) proposed that instability increases the possibility of social competition on the side of low status groups because in an unstable system, they will have the expectation to change their group's disadvantaged position. Because of the same reason, illegitimacy of the system also has a positive relationship with social competition. Hornsey, Spears, Cremers and Hogg (2003) defined illegitimacy as "the degree to which groups perceive their status relations to conflict with values of justice or equity" (p. 217). Therefore, in an illegitimate system, groups will think that an alternative system is possible and try to change the status quo (Hornsey et al., 2003).

Finally, impermeability means that it is difficult to change one's group, in other words that social mobility is low (e.g. caste system in India). Tajfel and Turner (1979) stated that if group boundaries are permeable, individuals' identification with their ingroup will decrease and group interests will be less emphasized. Therefore, impermeability would increase social competition through its emphasis on group interests (Tajfel & Turner, 1979).

Supporting this view, Ellemers, Van Kippenberg and Wilke (1990) found that when status differences were presented as being unstable, low status groups identified more with their ingroup compared to stable status difference condition. Researchers suggested that this might be because in an unstable structure, low status group members think that a status change is possible that will bring their group to a better position. Similarly in another study, Ellemers, Wilke and Van Kippenberg (1993) showed that when the system was unstable and illegitimate, low status group showed more social competition towards the outgroup.

On the other hand, recent research suggests a different picture for the effect of stability on intergroup relations. In their study Scheepers, Spears, Doosje and Manstead (2006) used the minimal group paradigm to investigate the relationship between stability, status, presence of others and ingroup bias. They found that unlike the previous results, low status groups showed harsher forms of ingroup bias (i.e., maximum differentiation of resources between ingroup and outgroup) when the structure was stable rather than unstable. They interpreted this result as low status groups having a "nothing-to-lose strategy" (p. 957), because they are more desperate in a stable system. When individuals do not have the hope that the existing system

will change (i.e., it is stable), they may use desperate and violent measures (Scheepers et al., 2006). A real world example for that approach is that during World War II, whereas the Jews in the Lodz ghetto did not rebel against Nazis, Warsaw ghetto did. The reason of this difference was found to be that unlike the Lodz ghetto, Jews in the Warsaw ghetto did not hope at all that they would survive (Tiedens, 1997, as cited in Sheepers et al., 2006).

In terms of legitimacy, Sytem Justification Theory suggests that low status groups try to see the system as legitimate and stable (Jost, Pelham, Sheldon, & Sullivan, 2003), and therefore they engage in system justification, e.g., outgroup favorability. However, Hornsey and colleagues' (2003) study showed that individuals in the low power condition who were made to believe that their status was illegitimate showed more ingroup favorability and a tendency for outgroup derogation rather than outgroup favorability. Spears, Greenwood, Lemus and Sweetman (2009) explained those contradictory results by proposing a distinction between external and internal legitimacy. The former means acceptance of legitimacy on the surface and the latter means its actual acceptance by the low status group. Thus, low status groups do not necessarily have a motive to favor the outgroup but they are rather constrained by the social reality. Outgroup favorability resulting from the perception of the system being legitimate, as suggested by System Justification Theory, could be more specifically related to internal rather than external legitimacy. In order to compare the different approaches about the effect of sociostructural variables on the relationship between uncertainty, status and intergroup behaviors, in

the present study not only system justification and group identification, but also

stability and legitimacy perceptions of gender structure were investigated separately.

CHAPTER 2

PURPOSE AND HYPOTHESES OF THE STUDY

In light of the previous literature, the present study aimed to investigate the relationship between uncertainty feeling and implicit gender stereotyping engaged by women, and specifically focused on four possible moderators, i.e., gender identification, gender related system justification, stability and legitimacy perceptions of the gender system. The amount and timing of linguistic abstractions, i.e., inductions, were the main measures of implicit gender stereotyping, which were expected to differ between uncertainty and certainty primed participants. The main expectation was that when forming an impression about a person, participants would make more and faster trait inferences, i.e., generalizations, rather than behavior inferences, especially if the information was consistent with gender stereotypes and if they were primed with uncertainty. Moreover, the more they identified themselves with their gender and the more they found the gender inequalities legitimate, just and unstable, their likelihood to accept those gender stereotypes would increase, which would lead to higher levels of abstraction, i.e., inductions. Hypotheses are presented below in more detail.

Hypothesis 1: Induction-Deduction Asymmetry

a) There would be more inductions (trait inferences from behaviors) than deductions (behavior inferences from traits) in the recognition part.

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b) There would not be any difference between the number of falsely recognized traits and behaviors for entirely new items.

c) Participants would make more inductions for gender stereotype congruent compared to incongruent information. However, the number of deductions would not differ across stereotype-congruency conditions.

d) More importantly, the difference between the number of inductions for stereotype-congruent and incongruent information would be higher for the uncertainty condition than the certainty condition. However, the number of deductions would not differ across uncertainty conditions.

Hypothesis 2: Response Times

a) Participants would make inductions (trait inferences) more rapidly than deductions.

b) Inductions would be made as fast as hits for traits, but deductions would be slower than hits for behaviors.

c) There would not be a response time difference between falsely recognized traits and behaviors for entirely new items.

d) Participants would make inductions more rapidly for gender stereotype congruent compared to incongruent information. However, response time of deductions would not differ across stereotype-congruency conditions.

e) More importantly, response time difference of inductions between stereotype-congruent and incongruent information would be larger for uncertainty than certainty

exposed participants. However, response time of deductions would not differ across uncertainty conditions.

Hypothesis 3: Moderations

a) Uncertainty primed participants would show stronger gender identification than certainty primed participants.

b) Gender identification and gender related system justification would moderate the effect of uncertainty exposure on Induction-Deduction Asymmetry, such that individuals who scored high on group identification and/or system justification would be more likely to engage in stereotype-consistent rather than inconsistent linguistic abstractions after being exposed to uncertainty, and this difference would be larger for them compared to those, who scored low on these scales.

c) Individuals who perceived the system to be unstable and legitimate would be more likely to engage in stereotype-consistent rather than inconsistent linguistic abstractions after being exposed to uncertainty, and this difference would be larger for them compared to those, who perceive the system to be stable and illegitimate.

CHAPTER 3

METHOD

Pretests

In order to determine which traits and behaviors to use as the stimulus material, a series of pretests were conducted. Thirty five traits and their explanations as behaviors were selected, out of which 18 were used in the actual study. The 35 traits were taken from the study on Induction-Deduction Asymmetry of Maass et al. (2005), from the cross-cultural study of Williams and Best (1994) about gender stereotypes and from the Bem Sex Role Inventory conducted in Turkey (Özkan & Lajunen, 2005). First two pages of each pretest can be found in Appendix A.

Pretest 1 – Independence

The first pretest was conducted to measure whether traits to be used as the stimulus material were independent from each other. Forty six participants evaluated the degree of dependence of 35 traits with all other traits on a scale of -2 (negatively and strongly correlated) and +2 (positively and strongly correlated). For instance, participants were asked to indicate if a person is *warm* to what degree s/he could also be *independent, analytical* etc. The order of traits was counterbalanced to prevent that the same traits were evaluated lastly and to reduce fatigue effect. Traits having a

relatedness score between -.70 and .70 would be included in the stimulus material, as it was done in Maass et al.'s (2001) study.

<center>Pretest 2 – Diagnosticity</center>

In the second group of pretests, i.e., the diagnosticity tests, the degree of inference of traits from behaviors (*n*=28) and the degree of inference of behaviors from traits (*n*=31) was measured. Different participants evaluated diagnosticity of 35 traits or behaviors on a scale between -2 (negatively and strongly diagnostic) and +2 (positively and strongly diagnostic). They were asked to indicate to what degree it was possible that an individual described with trait X would show the behavior A, B, etc. (The opposite wording was used for the behavior-trait inference test). Each trait was matched with each behavior, in order to understand whether the traits and behaviors that should be diagnostic of each other were strongly related, i.e., having an average score close to +2, and those should not be diagnostic, were not related, i.e., having an average score close to 0 (Maass et al, 2001; 2005).

<center>Pretest 3 – Stereotype-Congruency and Valence</center>

At the end of the diagnosticity tests, the masculinity-femininity and negativity-positivity levels of traits were also measured with the same participants. For the masculinity-femininity evaluation (*n*=30) which helped to determine stereotype-congruency, participants were asked to give a score between 1 and 7 for each trait, 1

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meaning that the trait was used more frequently for females and 7 meaning that it was used more frequently for males. As in the study of Williams and Best (1982), it was emphasized that their own opinion about the usage of the trait did not matter, but they should state the general male-female assignment of that trait in their society. Negativity-positivity evaluation (*n*=29) was also made on a 7-point scale, in which 1 meant that the trait had a negative meaning and 7 meant that it had a positive meaning.

Pretest 4 – Memory

Finally, a possible difference in the ease of memorizing traits and behaviors was also tested with 20 participants (Maass et al, 2001; 2005). Half of the participants learned 37 traits and the other half 37 behaviors for five minutes. First and last items were filler items to reduce primacy and recency effects. After 40 minutes, participants were asked to recognize the items they learned from a list of 64 items, which consisted of old and new items.

Main Study

Participants

For the main study, 131 female Boğaziçi University students, who did not participate in pretests, were recruited. Age range was between 19 and 28 ($M = 20.9$, $SD = 1.41$).

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Students gained extra course credits for participation. Three participants were excluded from the analyses, because one of them did not understand the uncertainty/certainty priming task and the others pressed opposite keys in the recognition task to indicate old and new items.

Design

The study was a 2 (uncertainty or certainty exposure) x 2 (male or female scenario) x 2 (information as a trait or behavior) x 2 (stereotype congruent or incongruent information) x 2 (positive or negative information) mixed design. The first two independent variables were between-subjects variables. Certainty and uncertainty conditions consisted of 62 and 66 participants respectively, half of which read statements about a female and the other half about a male student. Information that was shown as traits and behaviors in the statements was counterbalanced in the learning list, e.g., half of the participants saw the trait *timid*, whereas the other half saw the behavior *social relations are embarrassing her*. Stereotype congruency, valence and format of the statements (trait or behavior), were within-subject variables.

Materials

Uncertainty Manipulation

To manipulate uncertainty, participants were asked to complete the same task that was used in Hogg et al.'s (2007) study. This method was preferred because it measures self-uncertainty directly (Hogg, 2007) and similar manipulations did not yield any effect on self-esteem (McGregor et al., 2001). Moreover, studies showed no difference between the level of positive and negative effects that were generated by similar uncertainty manipulation tasks (e.g., McGregor et al., 2001; van den Bos, Poortvliet, Maas, Miedema,& van den Ham, 2005).

Participants read the following instruction: "Please spend a few moments thinking about those aspects of your life that made you feel uncertain (certain) about yourself, your life and your future, and then write in the spaces provided a few sentences about the three aspects that made you feel most uncertain (certain). Please make sure that you fill all the space".

Experimental Stimulus

For the implicit gender stereotyping assessment, a list of statements supposedly collected from friends of a female (named Gamze) or a male student (named Emre) was used, similar to the study of Maass et al. (2001). The list was presented on a computer running the E-prime program 1.2 and it consisted of 18 pieces of

information, 12 of which as the critical information for the study and 6 as filler information presented in the beginning, in the middle and in the end of the list. Of the 12 pieces of critical information, six was gender stereotype congruent and six gender stereotype incongruent. Unlike the study of Maass et al. (2005), gender-neutral information was not included for the sake of simplicity, because in that study, the largest induction difference (i.e., the number of behavior-trait inferences) was found between gender stereotype congruent and incongruent information. Finally, gender stereotype congruent and incongruent information sets consisted of three traits and three behaviors, two of which had positive and one had negative meaning. Number of negative statements was smaller than positive statements to make the information look more realistic (Maass et al., 2001). All statements used in the stimulus list and their category are presented in Appendix B.

Filler Task

After reading the statement list, participants engaged in a filler task in order to prevent a ceiling effect in the recognition task. They rated 48 colored geometric shapes on a 5-point scale in terms of pleasantness.

Recognition Task

For this task, participants were presented with 36 pieces of information, i.e., 12 old, 12 implied and 12 entirely new. Implied information consisted of behaviors that were

presented as traits in the statement list, and traits that were presented as behaviors. For instance, if a participant saw *analytical* in the list, the behavior *relies on logic when evaluating situations* was among the implied 12 sentences during the recognition phase. New information on the other hand, similarly consisted of six traits and their implied six behaviors, which were not present in the previous statement list (Appendix B). Gender stereotype congruency and valence distribution of the new 12 pieces of information was the same as the old ones. Traits and behaviors were presented one by one on the computer screen and participants made old-new judgments by pressing the appropriate keys on the keyboard. No time constraint was put on participants. They were reminded to indicate those statements as old when they thought that the same words were used in the previous list.

Dependent Variables

Dependent variables of the recognition task were the number of correctly recognized traits and behaviors (hits), the number of traits and behaviors correctly identified as new (correct rejections), the number of traits that were inferred from behaviors (induction), the number of behaviors that were inferred from traits (deduction) and the number of cases in which entirely new traits and behaviors were falsely recognized (false alarm for new items). The time for pressing the key for each type of response was also measured.

Group Identification Scale

In the final part of the study, participants filled two subscales (Private and Identity) of Collective Self-Esteem Scale (Luhtanen & Crocker, 1992). This scale is traditionally used to measure group identification level of individuals (e.g., Bizman & Yinon, 2001; Maass et al., 2003). It was adapted to Turkish by Amanvermez (2007) and the original 7-point scale was preserved. As a second gender identification measure I used the 7 circle pairs (one representing the self, the other representing the ingroup) of the Inclusion of Ingroup in the Self measure (Tropp & Wright, 2001), which differed in their intersection areas. For instance, least identified participants were expected to select the circle pair which were independent from each other, whereas most identified people would select the pair with the largest intersection area.

Gender Related System Justification Scale

After the Group Identification measures, participants filled the Turkish version of Gender Related System Justification Scale (Jost & Kay, 2005). Translation of this scale was done by Işık and Sakallı-Uğurlu for the thesis of Ercan (2009). However in the present study, the original 9-point scale was used instead of the 7-point scale in the Turkish version.

Legitimacy and Stability of Gender Hierarchy Scales

Lastly, participants filled the Legitimacy and Stability of Gender Hierarchy Scales
(Glick & Whitehead, 2010). They were translated by the author of this thesis and the
original 6-point scales were preserved.

Demography Form

After the scales, participants filled in their demographic information. Finally, they
were asked to indicate their thoughts about the aim of the study, whether they were
suspicious that the study had an aim other than what was stated, and whether there
was anything they found difficult or confusing in the test. Scales and demography
form can be found in Appendix C.

Procedure

Participants were tested on individual computers together with two other participants
in the laboratory. The study was presented as part of a thesis about the effectiveness
and relationship of written and visual communication. After filling the consent forms,
participants read the list of statements about the male or female student on the
computer screen one by one, and were asked to form an impression about the student.
They had three minutes to read the statements. The filler task followed, in which
shapes were shown one by one on the screen. Participants pressed a key between one

and five in order to indicate their degree of liking. The task took approximately four

minutes. They then completed the uncertainty or certainty manipulation tasks, which

were followed by the recognition test. Before the actual recognition test, participants

had four practice tasks with the filler statements in order to get used to the keys they

needed to press to indicate that they have seen or not seen the information in the

previous list. After the recognition task, participants filled the scales and

demographic information form, and were debriefed. The experimental session took

approximately 40 minutes.

CHAPTER 4

RESULTS

All analyses were conducted at an alpha level of .05.

Pretests

Independence

For the experimental stimulus material, 12 traits were selected which had an average relatedness score between -1.18 and +1.35 with other traits, on a scale between -2 (strongly and negatively correlated) and +2 (strongly and positively correlated). Six new traits selected for the recognition list on the other hand had a relatedness score between -1.10 and +1.16.[2]

Diagnosticity

The diagnosticity scores (+2 strongly and positively diagnostic, 0 not diagnostic at all, -2 strongly and negatively diagnostic) of selected *target* traits and behaviors ($M = 1.81$, $SD = .20$) were significantly higher than *non-target* traits and behaviors ($M = .15$, $SD = .74$), $F(1, 1250) = 183.14$, $p < .001$. Moreover, the diagnosticity of target traits ($M = 1.78$, $SD = .25$) and behaviors ($M = 1.85$, $SD = .14$) did not significantly

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[2] It was not possible to reach 18 traits when the range was between -.70 and +.70 as in Maass et al.'s (2001) study. This was the best combination which ensured for the lowest trait dependence.

differ from each other, $F(1, 34) = 1.15$, $p = .292$. Finally, there was not a significant

interaction of target/non-target and trait/behavior variables, $F(1, 1250) = .02$, $p = .896$.

.896.

Stereotype-congruency

For the selected 18 traits, an independent samples t-test showed that participants'

masculinity and femininity ratings (1 feminine, 7 masculine) were significantly

different for the traits that were categorized as stereotypically-male ($M = 5.2$, $SD = .31$) and female ($M = 2.68$, $SD = .43$), $t(16) = 14.31$, $p < .001$.

.31) and female ($M = 2.68$, $SD = .43$), $t(16) = 14.31$, $p < .001$.

Valence

For the same 18 traits, an independent samples t-test showed that participants'

positivity and negativity ratings (1 negative, 7 positive) were significantly different

for the traits that were categorized as positive ($M = 5.6$, $SD = .66$) and negative ($M = 2.37$, $SD = .84$), $t(16) = 8.94$, $p < .001$.

2.37, $SD = .84$), $t(16) = 8.94$, $p < .001$.

Memory

An independent samples t-test showed that 12 traits ($M = 7.25$, $SD = 1.48$) and their

corresponding behaviors ($M = 6.25$, $SD = 1.81$) that were selected as the stimulus

material did not differ from each other in terms of hit (correct recognition) scores, t (22) = 1.48, p =.15.

Manipulation Check

Following the method of Hogg et al. (2007), two independent raters who were blind to uncertainty and certainty conditions rated the level of uncertainty of answers given in the manipulation task. They gave scores between 1 (certain) and 9 (uncertain) for each of the three answers participants wrote. Uncertainty scores were then averaged so that each participant had a single uncertainty score. Bivariate correlations showed that interrater reliability was .89 at a significant level, p < .001. To compare the uncertainty level of the two priming conditions, an independent samples t-test was conducted. Results showed that raters gave significantly higher uncertainty scores for answers in the uncertainty priming condition (M = 7.04, SD = .62) compared to answers in the certainty priming condition (M = 2.76, SD = .86), t (126) = 32.30, p < .001. It can be concluded that the uncertainty manipulation generated more uncertain answers than the certainty manipulation.

Induction-Deduction Asymmetry

In order to investigate the level of induction and deduction, recognition results were analyzed by a procedure similar to Maass et al.'s (2005) study. If participants falsely recognized a trait from a corresponding behavior, it was coded as induction; if they

falsely recognized a behavior from the corresponding trait, it was coded as deduction. Another dependent variable was the response time of inductions and deductions. In other words, the time between the presentation of traits/behaviors and pressing the key to make an old-new judgment was recorded and analyzed separately for induction and deduction responses. Six outliers from induction response time data and one outlier from deduction response time data whose scores were three standard deviations above respective means were excluded from the response time analyses. A one-way repeated ANOVA showed that participants made significantly more inductions ($M = 1.54$, $SD = 1.30$) than deductions ($M = .89$, $SD = 1.13$), $F (1, 127) = 28.11$, $p < .001$, $\eta^2 = .18$. Moreover, they made inductions ($M = 2701.76$ msec, $SD = 987.64$ msec) significantly faster than deductions ($M = 3934.29$ msec, $SD = 1769.04$ msec), $F (1, 51) = 25.83$, $p < .001$, $\eta^2 = .34$[3].

Response time of hits for traits was also compared with response time of inductions. A one-way repeated measures ANOVA revealed that inductions ($M = 2776.18$ msec, $SD = 1077.64$ msec) were made significantly slower than hits for traits ($M = 2239.31$ msec, $SD = 916.51$ msec), $F (1, 92) = 13.63$, $p < .001$, $\eta^2 = .13$. Similarly, response time of hits for behaviors ($M = 2828.72$ msec, $SD = 770.81$ msec) was significantly shorter than response time of deductions ($M = 4004.23$ msec, $SD = 1899.55$ msec), $F (1, 63) = 27.92$, $p < .001$, $\eta^2 = .31$, but the effect was stronger than the one found in induction versus hits for traits comparison.

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[3] Number and response time of inductions, deductions, hits and correct rejections did not significantly differ in two counterbalance conditions; therefore they were collapsed in all analyses.

False Alarms for Entirely New Items

In order to check whether there was a general tendency to prefer traits over behaviors, participants' false alarms for entirely new items in the recognition list were analyzed separately. A one-way repeated measures ANOVA revealed that participants made significantly more false alarms for new traits ($M = 1.13$, $SD = 1.02$) compared to new behaviors ($M = .28$, $SD = .56$), $F (1, 127) = 93.42$, $p < .001$, $\eta^2 = .42$. However, their number was significantly lower than the number of inductions ($M = 1.54$, $SD = 1.30$), $F (1, 127) = 11.52$, $p < .01$, $\eta^2 = .08$.

Response time of false alarms for new traits and behaviors were also compared. Similar to inductions and deductions, participants made false alarms for traits ($M = 3057.52$ msec, $SD = 1362.34$ msec) significantly faster than false alarms for behaviors ($M = 4585.85$ msec, $SD = 2777.15$ msec), $F (1, 26) = 7.46$, $p < .01$, $\eta^2 = .22$. However, inductions ($M = 2698.96$ msec, $SD = 1046.49$ msec) were made significantly faster than false alarms for new traits ($M = 3329.46$ msec, $SD = 1829.95$ msec), $F (1, 67) = 6.19$, $p < .05$, $\eta^2 = .09$[4].

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[4] The reason that deductions were made slower than inductions could be related to the length of behavior information. Because behaviors were longer than traits, participants might have spent more time to read them and to make an old-new judgment. However, since the response time difference between inductions and deductions was larger ($p < .001$) than the response time difference between false alarms of new traits and behaviors ($p < .01$), length could not be the only explanation for the response time difference between inductions and deductions.

The Effect of Uncertainty, Scenario Gender, Stereotype-Congruency and Valence on Inductions and Deductions

To examine the effect of uncertainty/certainty priming, scenario gender, stereotype-congruency and valence on inductions and deductions, separate ANOVAs were conducted for their occurrence and response time.

Induction Occurrence

The 2 (uncertainty vs. certainty) x 2 (female vs. male scenario) x 2 (stereotype-congruent vs. incongruent) x 2 (positive vs. negative) mixed ANOVA showed a significant main effect of valence on the number of inductions, $F(1, 124) = 117.39$, $p < .001$, $\eta^2 = .49$. Participants made significantly more inductions for positive ($M = 1.26$, $SD = 1.07$), compared to negative information ($M = .28$, $SD = .45$). Moreover, there was a significant two-way interaction of stereotype-congruency and scenario gender, $F(1, 124) = 22.39$, $p < .001$, $\eta^2 = .15$. When participants read statements about the female student, congruency had a significant main effect on the number of inductions, $F(1, 62) = 10.54$, $p < .01$, $\eta^2 = .15$. Participants in this condition made significantly more inductions if the statements were stereotype-congruent ($M = .92$, $SD = .78$) rather than incongruent ($M = .55$, $SD = .78$). Although the effect remained significant for the male scenario, $F(1, 62) = 12.09$, $p < .01$, $\eta^2 = .16$, its direction was reversed. For the male student, participants made significantly

more inductions if the statements were stereotype-incongruent ($M = .98$, $SD = .77$) rather than congruent ($M = .63$, $SD = .81$).

Finally, a significant three-way interaction of scenario gender, valence and stereotype-congruency was found, $F(1, 124) = 4.16$, $p < .05$, $\eta^2 = .03$. A 2 (stereotype-congruent vs. incongruent) x 2 (positive vs. negative) repeated ANOVA for the female condition revealed a significant interaction effect of valence and stereotype-congruency on the number of inductions, $F(1, 63) = 7.61$, $p < .01$, $\eta^2 = .11$. Analyses showed that for positive information about the female student, participants made significantly more inductions if it was stereotype-congruent ($M = .77$, $SD = .68$) rather than incongruent ($M = .42$, $SD = .56$), $F(1, 63) = 13.84$, $p < .001$, $\eta^2 = .18$. For negative information on the other hand, the difference between congruent and incongruent inductions disappeared, $F(1, 63) = .22$, $p = .64$. For the male scenario, the interaction of valence and stereotype-congruency was not significant, $F(1, 62) = .15$, $p = .703$.

Uncertainty/certainty priming was not found to have a significant main or interaction effect on the number of inductions participants made. Similar to uncertainty research, research on Terror Management Theory suggests that when their mortality is made salient people engage in worldview defense, but this only happens after a certain delay because death thoughts need to be removed from consciousness to affect behavior (e.g., Greenberg, Pyszczynski, Solomon, Simon & Breus, 1994). To investigate whether uncertainty manipulation in the present study became effective after a delay, the same 2 (uncertainty vs. certainty) x 2 (female vs. male scenario) x 2 (stereotype-congruent vs. incongruent) x 2 (positive vs. negative) mixed

ANOVA was conducted for the second half of the implied traits that participants saw in the recognition list. However, results did not show any significant main effects or interactions of uncertainty/certainty priming with any other variable.

<u>Induction Response Time</u>

Due to the small number of inductions, response time data was insufficient for a mixed ANOVA which included all independent variables[5]. Therefore separate one-way ANOVAs for stereotype-congruency and valence, and a two-way ANOVA for uncertainty and scenario gender was conducted.

One-way repeated ANOVA for the effect of valence on the response time of inductions showed that participants made significantly faster inductions for positive ($M = 2767.32$ msec, $SD = 953.21$ msec), compared to negative information ($M = 4561.17$ msec, $SD = 2867.59$ msec), $F(1, 23) = 9.54$, $p < .01$, $\eta^2 = .29$. Uncertainty priming, scenario gender or stereotype-congruency did not have a significant effect on induction response times. The second half of implied traits was tested for an effect of uncertainty manipulation. Due to the low number of inductions and available response time data, 2 (uncertainty vs. certainty) x 2 (female vs. male scenario) x 2 (stereotype-congruent vs. incongruent) mixed ANOVA was conducted. Results did not show any significant main effects or interactions of uncertainty/certainty priming with any other variable.

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[5] If the participant did not make any inductions in a condition, her response time data was recorded as a missing value. Therefore, the number of usable data points for induction response times was smaller than the number of data points for induction occurence.

Deduction Occurrence

The 2 (uncertainty vs. certainty) x 2 (female vs. male scenario) x 2 (stereotype-congruent vs. incongruent) x 2 (positive vs. negative) mixed ANOVA revealed a significant main effect of valence on the number of deductions, $F(1, 124) = 50.00$, $p < .001$, $\eta^2 = .29$. Participants made significantly more deductions for positive ($M = .75$, $SD = .96$) rather than negative information ($M = .14$, $SD = .43$). Uncertainty, scenario gender or stereotype-congruency did not have a significant main or interaction effect on the number of deductions.

Deduction Response Time

Similar to induction response time analyses, separate ANOVAs for each independent variable were conducted. But no significant effect of uncertainty priming, scenario gender, stereotype-congruency or valence was found.

Gender Identification and Sociostructural Scales

Scale Reliabilities

Before examining the role of Gender Identification and sociostructural variables on the relationship between uncertainty and linguistic abstractions, reliability analyses were conducted for each scale. One item from the Stability scale (*20-30 years from*

now, there is likely to have been at least one female President of Turkey) and one item from the Legitimacy scale (*In my opinion, it is legitimate that women have lower status than men*) were excluded due to their low corrected item-total correlation levels (below .28). Reliability analyses showed that Gender Identification, System Justification, Legitimacy and Stability scales had Cronbach's Alphas that were above .70 (.73, .72, .75 and .76 respectively).

<u>Effect of Uncertainty and Gender Manipulation on Scales</u>

The first analysis was to examine whether uncertainty priming and scenario gender had any effect on the level of Gender Identification, System Justification, Stability and Legitimacy perceptions of the gender hierarchy. Average scores of these scales were entered as dependent variables into separate 2 (uncertainty vs. certainty) x 2 (female vs. male scenario) ANOVAs.

Results revealed a significant main effect of scenario gender on Gender Identification scale, $F(1, 124) = 4.17$, $p < .05$, $\eta^2 = .03$. Participants who read statements about the female student ($M = 5.42$, $SD = .76$) identified themselves more with women, compared to those who read statements about the male student ($M = 5.12$, $SD = 1.03$). Moreover, there was a significant interaction effect of uncertainty priming and scenario gender on Gender Identification level, $F(1, 124) = 5.04$, $p < .05$, $\eta^2 = .04$. Separate analyses for female and male scenario conditions revealed that uncertainty priming had a marginally significant effect on Gender Identification level for participants who read statements about the male student, $F(1, 62) = 3.94$, $p =$

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.052, $\eta^2 = .06$. In that condition, uncertainty primed participants ($M = 5.35$, $SD = .91$) identified themselves more with their gender compared to certainty primed participants ($M = 4.85$, $SD = 1.11$) at a marginally significant level. For the female scenario on the other hand, uncertainty priming did not have any significant effect on the level of Gender Identification, $F(1, 62) = 1.19$, $p = .28$.

Circle measure of gender identification, system justification, legitimacy or stability perception levels were not found to be affected by uncertainty/certainty priming or scenario gender.

Moderation

To examine whether gender identification and sociostructural variables moderated the relationship between uncertainty, stereotype-congruency and inferences, median scores of each scale were calculated and participants were categorized as having a low or high score in each of the four scales. These new variables were entered into separate 2 (high vs. low score) x 2 (uncertainty vs. certainty) x 2 (female vs. male scenario) x 2 (stereotype-congruent vs. incongruent information) x 2 (positive vs. negative information) mixed ANOVAs in which induction and deduction levels were the dependent variables[6]. If an interaction effect of the scales and the independent variables was significant, it was concluded that moderation existed (Baron & Kenny, 1986). Since gender identification[7] and sociostructural variables might have different

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[6] Because of the low number of inductions and deductions, their response times could not be entered as dependent variables into the moderation analyses.

[7] Circle measure of gender identification was not used in the moderation analyses. After dividing the scores from the median, data of those whose scores were equal to the median score were excluded

effects on behaviors towards an ingroup and outgroup member, the analyses were conducted separately for female and male scenario conditions.

Gender Identification – Female Scenario

A 2 (high vs. low identification) x 2 (uncertain vs. certain) x 2 (stereotype-congruent vs. incongruent) mixed ANOVA revealed a nearly marginally significant interaction of gender identification, uncertainty manipulation and stereotype-congruency of information on the number of inductions for the female scenario, $F (1, 53) = 2.66$, $p = .109$, $\eta^2 = .05$. Participants who were primed with uncertainty and who showed high levels of gender identification made significantly more congruent ($M = 1.15$, $SD = .90$) rather than incongruent inductions ($M = .62$, $SD = .77$), $F (1, 12) = 4.90$, $p < .05$, $\eta^2 = .29$. However, the difference between congruent and incongruent inductions was not significant for low identifiers, $F (1, 14) = 1.00$, $p = .33$. In the uncertainty condition, the highest number of inductions was made by high identifiers for congruent information, but it was not significantly different than the number of congruent inductions made by low identifiers, $F (1, 26) = 1.25$, $p = .273$.

A different picture was found in the certainty condition. This time, low identifiers made significantly more congruent ($M = 1.25$, $SD = 1.04$) rather than incongruent inductions ($M = .38$, $SD = .52$), $F (1, 7) = 6.24$, $p < .05$, $\eta^2 = .47$. The same difference between congruent ($M = .86$, $SD = .65$) and incongruent inductions ($M = .52$, $SD = .75$) was also found for high identifiers, $F (1, 20) = 4.38$, $p < .05$, $\eta^2 = .18$. Although

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from each scale. In the case of the circle measure of identification, the number of participants who had to be excluded was much higher than the scale measure of gender identification.

high identifiers made more congruent inductions when they were primed with uncertainty ($M = 1.15$, $SD = .90$) rather than certainty ($M = .86$, $SD = .65$), this difference was not significant, $F(1, 32) = 1.24$, $p = .274$ (see Figure 1).

A possible interaction effect of valence with uncertainty and identification level on the number of inductions was also examined, but no significant results were found, $F(1, 53) = .34$, $p = .564$. Participants made significantly more inductions for positive information in all conditions, $p < .001$, except certainty-low identification condition, in which the difference became marginally significant, $F(1, 7) = 3.94$, $p = .087$.

Gender Identification – Male Scenario

A 2 (high vs. low identification) x 2 (uncertain vs. certain) x 2 (stereotype-congruent vs. incongruent) mixed ANOVA did not reveal a significant interaction of gender identification, uncertainty manipulation and stereotype-congruency of information for the female scenario, $F(1, 55) = 1.87$, $p = .177$.

Regardless of their identification level, participants primed with uncertainty made more incongruent ($M_{High} = 1.14$, $SD_{High} = .77$, $M_{Low} = 1.25$, $SD_{Low} = .62$) rather than congruent inductions ($M_{High} = .77$, $SD_{High} = .81$, $M_{Low} = .67$, $SD_{Low} = .78$). This difference was marginally significant for high identifiers ($F(1, 21) = 3.20$, $p = .088$), but significant for low identifiers ($F(1, 11) = 9.14$, $p < .05$, $\eta^2 = .45$). In the certainty condition on the other hand, high identifiers made significantly more incongruent rather than congruent inductions, $F(1, 7) = 11.67$, $p < .05$, $\eta^2 = .63$, but this difference disappeared for low identifiers, $F(1, 16) = 1.66$, $p = .216$ (see Figure 2).

When the interaction effect of valence with uncertainty and identification level on the number of inductions was examined, no significant results could be found, $F_{(1, 55)} = 2.56$, $p = .116$. Participants made significantly more inductions for positive information in all conditions, $p < .05$.

System Justification – Female Scenario

A 2 (high vs. low system justification) x 2 (uncertain vs. certain) x 2 (stereotype-congruent vs. incongruent) mixed ANOVA did not reveal a significant interaction effect of system justification, uncertainty and stereotype congruency on the number of inductions, $F_{(1, 59)} = .02$, $p = .889$. Participants made equal numbers of congruent and incongruent inductions in all conditions, $p > .05$.

Similarly, 2 (high vs. low system justification) x 2 (uncertain vs. certain) x 2 (positive vs. negative) mixed ANOVA did not reveal a significant interaction either, $F_{(1, 59)} = .01$, $p = .907$. Participants made significantly more positive inductions in all conditions, $p < .01$.

System Justification – Male Scenario

A 2 (high vs. low system justification) x 2 (uncertain vs. certain) x 2 (stereotype-congruent vs. incongruent) mixed ANOVA did not reveal a significant interaction effect in the male scenario condition either, $F(1, 54) = .01$, $p = .923$. Participants made equal numbers of congruent and incongruent inductions in all conditions, $p > .05$, except in the uncertainty-low system justification condition. Participants who were primed with uncertainty and who were low system justifiers made significantly more inductions for incongruent ($M = 1.22$, $SD = .55$) rather than congruent information ($M = .67$, $SD = .77$), $F(1, 17) = 11.18$, $p < .01$, $\eta^2 = .40$. The same pattern was also found in certainty-low identification condition, but the difference was marginally significant, $F(1, 9) = 5.00$, $p = .052$ (see Figure 3).

A 2 (high vs. low system justification) x 2 (uncertain vs. certain) x 2 (positive vs. negative) mixed ANOVA revealed a nearly marginally significant interaction effect of these variables on the number of inductions, $F(1, 54) = 2.80$, $p = .100$, $\eta^2 = .05$. Participants made significantly more positive rather than negative inductions in all conditions, but the differences were larger among uncertainty primed, $p < .01$, compared to certainty primed participants, $p < .05$ (see Figure 4).

Legitimacy – Female Scenario

A 2 (high vs. low legitimacy) x 2 (uncertain vs. certain) x 2 (stereotype-congruent vs. incongruent) mixed ANOVA did not reveal a significant three-way interaction, $F(1,$

55) = 2.33, p = .133. Participants made more inductions for congruent rather than incongruent information in all conditions, but the difference was only significant for uncertainty-high legitimacy (F (1, 17) = 4.64, $p < .05$, η^2 = .21) and certainty-low legitimacy conditions (F (1, 16) = 9.58, $p < .01$, η^2 = .38) (see Figure 5).

A 2 (high vs. low legitimacy) x 2 (uncertain vs. certain) x 2 (positive vs. negative) mixed ANOVA did not reveal a significant three-way interaction, F (1, 55) = .18, p = .677. Participants made significantly more positive rather than negative inductions in all conditions, $p < .05$.

Legitimacy – Male Scenario

A 2 (high vs. low legitimacy) x 2 (uncertain vs. certain) x 2 (stereotype-congruent vs. incongruent) mixed ANOVA did not reveal a significant three-way interaction, F (1, 56) =.08, p = .785. In all conditions, participants made more incongruent rather than congruent inductions, but the difference was significant in uncertainty-low legitimacy condition, F (1, 18) = 8.82, $p < .01$, η^2 = .33, and marginally significant in certainty-low legitimacy cognition, F (1, 13) = 3.22, p = .096, η^2 = .20 (see Figure 6).

A 2 (high vs. low legitimacy) x 2 (uncertain vs. certain) x 2 (positive vs. negative) mixed ANOVA yielded a marginally significant three-way interaction of valence, uncertainty priming and legitimacy perception, F (1, 56) = 3.54, p = .065, η^2 = .06. If participants were primed with uncertainty, they made significantly more inductions for positive compared to negative information, both if they found the system highly legitimate, F (1, 11) = 29.71, $p < .001$, η^2 = .73, or illegitimate, F (1,

18) = 11.39, $p < .01$, $\eta^2 = .39$. However, whereas the significant difference remained in the certainty condition for low legitimacy participants, $F(1, 13) = 21.72$, $p < .001$, $\eta^2 = .63$, it became marginally significant for high legitimacy participants, $F(1, 14) = 3.86$, $p = .07$, $\eta^2 = .22$ (see Figure 7).

Stability – Female Scenario

A 2 (high vs. low stability) x 2 (uncertain vs. certain) x 2 (stereotype-congruent vs. incongruent) mixed ANOVA did not reveal a significant three-way interaction, $F(1, 53) = .46$, $p = .503$. In all conditions, participants made more congruent rather than incongruent inductions, but this difference was only significant in uncertainty-low stability ($F(1, 14) = 6.52$, $p < .05$, $\eta^2 = .32$) and certainty-high stability conditions ($F(1, 13) = 9.75$, $p < .01$, $\eta^2 = .43$) (see Figure 8).

A 2 (high vs. low stability) x 2 (uncertain vs. certain) x 2 (positive vs. negative) mixed ANOVA did not reveal a significant three-way interaction, $F(1, 53) = .66$, $p = .421$. Participants made significantly more positive rather than negative inductions in all conditions, $p < .05$.

Stability – Male Scenario

A 2 (high vs. low stability) x 2 (uncertain vs. certain) x 2 (stereotype-congruent vs. incongruent) mixed ANOVA did not reveal a significant three-way interaction, $F(1, 55) = .08$, $p = .779$. Participants made more incongruent than congruent inductions in

all conditions at a marginally significant level ($.05 < p < .1$) except those who were primed with certainty and who perceived the system highly stable. They made equal numbers of congruent and incongruent inductions, $F (1, 12) = 1.00$, $p = .337$ (see Figure 9).

A 2 (high vs. low stability) x 2 (uncertain vs. certain) x 2 (positive vs. negative) mixed ANOVA did not reveal a significant three-way interaction, $F (1, 55) = .69$, $p = .410$. In all conditions, participants made significantly more positive rather than negative inductions, $p < .01$. Only in the certainty-low stability condition, this difference was marginally significant, $F (1, 12) = 4.03$, $p = .068$, $\eta^2 = .25$ (see Figure 10).

Hits and Correct Rejections

Another set of analyses investigated how hit and correct rejection performance differed across uncertainty/certainty, scenario gender, stereotype-congruency, valence and information format, i.e., trait vs. behavior conditions. Moreover, possible moderating roles of Gender Identification and sociostructural variables were examined. Two outliers from hit performance, one outlier from hit response time and three outliers from correct rejection response time data, whose scores were three standard deviations above or below respective means, were excluded from the analyses.

<u>Hit Performance</u>

Answers were coded as *hit*, if the participant correctly indicated that an item was an old item, i.e., present in the list which was shown at the very beginning of the experiment.

The 2 (uncertainty vs. certainty) x 2 (female vs. male scenario) x 2 (stereotype-congruent vs. incongruent) x 2 (positive vs. negative) x 2 (trait vs. behavior) mixed ANOVA revealed that participants made significantly more hits for positive ($M = 6.90$, $SD = 1.11$) compared to negative information ($M = 3.63$, $SD = .63$), $F(1, 122) = 904.52$, $p < .001$, $\eta^2 = .88$. Moreover, they made significantly more hits for traits ($M = 5.56$, $SD = .72$) compared to behaviors ($M = 4.97$, $SD = 1.04$), $F(1, 122) = 29.67$, $p < .001$, $\eta^2 = .20$.

The analysis also revealed a significant two-way interaction effect of valence and trait/behavior variables, $F(1, 122) = 5.67$, $p < .05$, $\eta^2 = .04$. For positive information, participants made significantly more trait hits ($M = 3.67$, $SD = .67$) compared to behaviors hits ($M = 3.25$, $SD = .84$), $F(1, 122) = 22.28$, $p < .001$, $\eta^2 = .15$. For negative information the same result was found ($M_{NegativeTrait} = 1.92$, $SD_{NegativeTrait} = .43$, $M_{NegativeBehavior} = 1.75$, $SD_{NegativeBehavior} = .62$), but the effect was weaker, $F(1, 122) = 8.24$, $p < .01$, $\eta^2 = .06$.

Regarding the uncertainty manipulation, a significant three-way interaction of uncertainty, scenario gender and trait/behavior variables on the number of hits was found, $F(1, 122) = 5.22$, $p < .05$, $\eta^2 = .04$. In the male condition, uncertainty and trait/behavior variables did not have a significant interaction effect on the number of

hits, $F(1, 62) = 1.27$, $p = .265$. In the female condition on the other hand, the 2 (uncertainty vs. certainty) x 2 (trait vs. behavior) mixed ANOVA showed a significant interaction of these two variables, $F(1, 60) = 4.76$, $p < .05$, $\eta^2 = .07$. When participants in this condition were primed with uncertainty, the number of trait and behavior hits did not significantly differ, $F(1, 30) = 1.35$, $p = .255$. However, those who were primed with certainty made significantly more hits for traits ($M = 5.71$, $SD = .53$) compared to behaviors ($M = 4.84$, $SD = .93$), $F(1, 30) = 25.67$, $p < .001$, $\eta^2 = .46$.

Finally, a four-way interaction of uncertainty, scenario gender, valence and trait/behavior was found, $F(1, 122) = 5.67$, $p < .05$, $\eta^2 = .04$. In the male condition, uncertainty, valence and trait/behavior variables did not have a significant interaction effect on the number of hits, $F(1, 62) = 1.78$, $p = .187$. However, in the female scenario condition, there was a marginally significant interaction effect of these three variables, $F(1, 60) = 4.00$, $p = .05$, $\eta^2 = .06$. Only those who were primed with certainty showed a significant interaction of valence and trait/behavior on the number of hits, $F(1, 30) = 6.80$, $p < .01$, $\eta^2 = .19$. In that condition, when the information was positive, they made significantly more trait hits ($M = 3.84$, $SD = .37$) than behavior hits ($M = 3.10$, $SD = .83$), $F(1, 30) = 18.33$, $p < .001$, $\eta^2 = .38$. When the information was negative on the other hand, no significant difference was found between the number of hits for traits and behaviors, $F(1, 30) = 1.35$, $p = .255$.

Gender Identification and Stability

2 (high vs. low score) x 2 (uncertainty vs. certainty) x 2 (female vs. male scenario) x 2 (stereotype-congruent vs. incongruent) x 2 (positive vs. negative) x 2 (trait vs. behavior) mixed ANOVAs did not reveal a significant main effect or interaction on the number of hits.

System Justification

2 (high vs. low system justification) x 2 (uncertainty vs. certainty) x 2 (female vs. male scenario) x 2 (stereotype-congruent vs. incongruent) x 2 (positive vs. negative) x 2 (trait vs. behavior) revealed a significant main effect of System Justification level on the number of hits, $F(1, 111) = 3.97, p < .05, \eta^2 = .04$. Those who justified the system less ($M = 10.71, SD = 1.17$) made significantly more hits than those who justified the system more ($M = 10.31, SD = 1.48$).

Legitimacy

2 (high vs. low legitimacy) x 2 (uncertainty vs. certainty) x 2 (female vs. male scenario) x 2 (stereotype-congruent vs. incongruent) x 2 (positive vs. negative) x 2 (trait vs. behavior) revealed a significant main effect of Legitimacy perception on the number of hits, $F(1, 109) = 5.82, p < .05, \eta^2 = .05$. Those who found the gender

system less legitimate ($M = 10.73$, $SD = 1.23$) made significantly more hits than those who justified the system more ($M = 10.31$, $SD = 1.44$).

There was also a significant interaction of Legitimacy perception and valence, $F(1, 109) = 7.66$, $p < .01$, $\eta^2 = .07$. In both high and low legitimacy conditions, participants made significantly more hits for positive ($M_{HighLeg} = 6.66$, $SD_{HighLeg} = 1.26$, $M_{LowLeg} = 7.15$, $SD_{LowLeg} = .93$) compared to negative information ($M_{HighLeg} = 3.66$, $SD_{HighLeg} = .64$, $M_{LowLeg} = 3.58$, $SD_{LowLeg} = .65$). But the effect was stronger for low ($F(1, 58) = 724.53$, $p < .001$, $\eta^2 = .93$) compared to high legitimacy participants ($F(1, 57) = 270.49$, $p < .001$, $\eta^2 = .83$).

<u>Hit Response Time</u>

The 2 (uncertainty vs. certainty) x 2 (female vs. male scenario) x 2 (stereotype-congruent vs. incongruent) x 2 (positive vs. negative) x 2 (trait vs. behavior) mixed ANOVA revealed that participants made significantly faster hits for traits ($M = 2215.00$ msec, $SD = 848.84$ msec) compared to behaviors ($M = 2833.26$ msec, $SD = 893.43$ msec), $F(1, 77) = 24.34$, $p < .001$, $\eta^2 = .24$.

Moreover, there was a significant three-way interaction of uncertainty priming, congruency and valence, $F(1, 77) = 6.03$, $p < .05$, $\eta^2 = .07$. A 2 (female vs. male scenario) x 2 (congruent vs. incongruent) x 2 (positive vs. negative) x 2 (trait vs. behavior) mixed ANOVA revealed that in the uncertainty priming condition, congruency and valence did not have a significant interaction effect on hit response time, $F(1, 41) = 2.05$, $p = .16$. However, in the certainty priming condition, these two

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variables had a significant interaction, $F(1, 36) = 4.38$, $p < .05$, $\eta^2 = .11$. If the information was positive or negative, there was not a significant difference between stereotype-congruent and incongruent hits ($F(1, 59) = 1.70$, $p = .197$ and $F(1, 58) = 2.57$, $p = .114$ respectively). But the tendency was to make incongruent negative ($M = 2332.41$ msec, $SD = 827.99$ msec) and congruent positive hits ($M = 2338.10$ msec, $SD = 866.12$ msec), at a faster rate than congruent negative ($M = 2596.50$ msec, $SD = 1203.15$ msec), and incongruent positive hits ($M = 2541.27$ msec, $SD = 1207.97$ msec).

Finally, there was a significant three-way interaction effect of uncertainty, congruency and trait/behavior variables on response times of hits, $F(1, 77) = 8.91$, $p < .01$, $\eta^2 = .10$. In the certainty condition, congruency and trait/behavior significantly interacted with each other, $F(1, 36) = 5.57$, $p < .05$, $\eta^2 = .11$. When the information was stereotype-congruent, participants made significantly faster trait hits ($M = 2253.40$ msec, $SD = 1020.49$ msec) compared to behavior hits ($M = 2677.22$ msec, $SD = 884.34$ msec), $F(1, 58) = 7.79$, $p < .01$, $\eta^2 = .12$. When the information was stereotype-incongruent, the same result was found ($M_{Trait} = 2130.74$ msec, $SD_{Trait} = 1031.79$ msec, $M_{Behavior} = 2863.16$ msec, $SD_{Behavior} = 1150.98$ msec) but the effect was even stronger, $F(1, 58) = 21.21$, $p < .001$, $\eta^2 = .27$.

In the uncertainty condition, the interaction of congruency and trait/behavior was marginally significant, $F(1, 41) = 3.61$, $p = .064$, $\eta^2 = .08$. When the information was stereotype-congruent, participants made significantly faster hits for traits ($M = 2197.93$ msec, $SD = 1413.99$ msec) than behaviors ($M = 2924.59$ msec, $SD = 1444.09$ msec), $F(1, 63) = 8.54$, $p < .01$, $\eta^2 = .12$. When the information was stereotype-

incongruent, the same result was found (M_{Trait} = 2321.46 msec, SD_{Trait}= 1028.96 msec, $M_{Behavior}$= 2837.69 msec, $SD_{Behavior}$ = 1108.90 msec), F (1, 64) = 7.49, $p < .01$, $\eta^2 = .11$.

Gender Identification and Sociostructural Variables

2 (high vs. low score) x 2 (uncertainty vs. certainty) x 2 (female vs. male scenario) x 2 (stereotype-congruent vs. incongruent) x 2 (positive vs. negative) x 2 (trait vs. behavior) mixed ANOVAs did not reveal a significant main effect or interaction on the response time of hits.

Correct Rejection Performance

Answers were coded as *correct rejection*, if the participant correctly indicated that an item was a new item, i.e., not present in the list which was shown at the very beginning of the experiment.

The 2 (uncertainty vs. certainty) x 2 (female vs. male scenario) x 2 (stereotype-congruent vs. incongruent) x 2 (positive vs. negative) x 2 (trait vs. behavior) mixed ANOVA revealed that participants made significantly more correct rejections for positive (M = 13.02, SD = 2.38) compared to negative information (M = 7.13, SD = 1.01), F (1, 124) = 811.92, $p < .001$, $\eta^2 = .87$. Moreover, correct rejections were significantly higher for behaviors (M = 10.84, SD = 1.45), compared to traits (M = 9.32, SD = 1.91), F (1, 124) = 92.58, $p < .001$, $\eta^2 = .43$.

There was a significant two-way interaction of trait/behavior and scenario gender variables on the number of correct rejections, $F(1, 124) = 6.05$, $p < .01$, $\eta^2 = .05$. When the statements were about the female student, the 2 (uncertainty vs. certainty) x 2 (stereotype-congruent vs. incongruent) x 2 (positive vs. negative) x 2 (trait vs. behavior) mixed ANOVA revealed that participants were better at correctly rejecting new behaviors ($M = 10.69$, $SD = 1.59$) compared to new traits ($M = 9.53$, $SD = 1.87$), $F(1, 62) = 25.78$, $p < .001$, $\eta^2 = .29$. When the statements were about the male student, a stronger trait/behavior main effect was found ($F(1, 62) = 72.63$, $p < .001$, $\eta^2 = .54$) which had the same direction ($M_{Trait} = 9.11$, $SD_{Trait} = 1.94$, $M_{Behavior} = 10.98$, $SD_{Behavior} = 1.28$).

There was also a significant two-way interaction of trait/behavior and valence variables on the number of correct rejections, $F(1, 124) = 13.55$, $p < .001$, $\eta^2 = .10$. When the information was in form of a trait or behavior, participants made significantly more correct rejections for positive ($M_{PositiveTrait} = 6.00$, $SD_{PositiveTrait} = 1.73$, $M_{PositiveBehavior} = 7.08$, $SD_{PositiveBehavior} = 1.25$,) than negative information ($M_{NegativeTrait} = 3.39$, $SD_{NegativeTrait} = .84$, $M_{NegativeBehavior} = 3.85$, $SD_{NegativeBehavior} = .90$), but the effect of valence on behaviors ($F(1, 126) = 1009.19$, $p < .001$, $\eta^2 = .89$) was stronger than the effect on traits ($F(1, 126) = 275.06$, $p < .001$, $\eta^2 = .67$).

A significant three-way interaction effect of congruency, valence and gender was also found, $F(1, 124) = 24.76$, $p < .001$, $\eta^2 = .17$. When the statements were about the female student, there was a significant interaction of congruency and valence, $F(1, 62) = 15.55$, $p < .001$, $\eta^2 = .20$. For positive and stereotype-incongruent information ($M = 6.91$, $SD = 1.53$), participants made significantly more correct

rejections than positive and stereotype-congruent information ($M = 6.42$, $SD = 1.82$), $F (1, 62) = 8.68$, $p < .01$, $\eta^2 = .12$. For negative information, main effect of congruency was significant ($F (1, 62) = 5.91$, $p < .05$, $\eta^2 = .09$) but its direction was reversed. Participants made significantly more correct rejections for negative and stereotype-congruent ($M = 3.73$, $SD = .62$) rather than incongruent information ($M = 3.48$, $SD = .91$). When the statements were about the male student, the interaction of congruency and valence was also significant, $F (1, 62) = 9.56$, $p < .01$, $\eta^2 = .13$. Different from the female scenario condition, for positive information congruency did not have a significant main effect on the number of correct rejections, $F (1, 62) = 3.84$, $p = .54$, $\eta^2 = .06$. And the direction of this marginal effect was also different than the female scenario condition. Participants made more correct rejections for positive and stereotype-congruent ($M = 6.63$, $SD = 1.34$) rather than incongruent information ($M = 6.31$, $SD = 1.30$). Participants made significantly more correct rejections for negative and stereotype-incongruent information ($M = 3.72$, $SD = .55$) compared to negative and stereotype-congruent information ($M = 3.44$, $SD = .69$), $F (1, 62) = 10.18$, $p < .01$, $\eta^2 = .14$, which is also different from the female scenario condition.

Gender Identification, System Justification and Legitimacy

2 (high vs. low score) x 2 (uncertainty vs. certainty) x 2 (female vs. male scenario) x 2 (stereotype-congruent vs. incongruent) x 2 (positive vs. negative) x 2 (trait vs.

behavior) mixed ANOVAs did not reveal a significant main effect or interaction on the number of correct rejections.

Stability

2 (high vs. low stability) x 2 (uncertainty vs. certainty) x 2 (female vs. male scenario) x 2 (stereotype-congruent vs. incongruent) x 2 (positive vs. negative) x 2 (trait vs. behavior) revealed a significant interaction effect of Stability perception, gender and trait/behavior variables on the number of correct rejections, F (1, 108) = 4.46, $p < .05$, $\eta^2 = .04$. When female and male scenario results were analyzed by separate 2 (high vs. low stability) x 2 (trait vs. behavior), no significant interaction was found in the female scenario condition, F (1, 55) = 1.24, $p = .27$. But in the male scenario condition, the interaction was marginally significant, F (1, 57) = 3.18, $p = .08$, $\eta^2 = .05$. Participants with high and low stability perception made made significantly more correct rejections for information that was in the form of behavior ($M_{LowStab} = 11.12$, $SD_{LowStab} = 1.31$, $M_{HighStab} = 10.85$, $SD_{HighStab} = 1.33$) compared to traits ($M = 9.77_{LowStab}$, $SD_{LowStab} = 1.39$, $M_{HighStab} = 8.76$, $SD_{HighStab} = 2.03$). But the effect was stronger for those who found the system less stable (F (1, 25) = 49.32, $p < .001$, $\eta^2 = .66$) compared to those who found the system more stable (F (1, 32) = 38.24, $p < .001$, $\eta^2 = .54$).

Correct Rejection Response Time

The 2 (uncertainty vs. certainty) x 2 (female vs. male scenario) x 2 (stereotype-congruent vs. incongruent) x 2 (positive vs. negative) x 2 (trait vs. behavior) mixed ANOVA revealed that participants made significantly faster correct rejections for positive (M = 2895.10 msec, SD = 963.14 msec) compared to negative (M = 3070.24 msec, SD = 1052.65 msec) information, F (1, 111) = 4.25, $p < .05$, η^2 = .04. Moreover, correct rejections for traits (M = 2686.20 msec, SD = 1002.07 msec) were significantly faster than correct rejections for behaviors (M = 3191.39 msec, SD = 895.12 msec), F (1, 111) = 11.52, $p < .01$, η^2 = .09.

Congruency and gender had a significant interaction effect on the response time of correct rejections, F (1, 111) = 5.55, $p < .05$, η^2 = .05. Participants who read statements about the male student made significantly faster correct rejections for stereotype-incongruent (M = 2917.59 msec, SD = 810.55 msec) rather than congruent information (M = 3108.99 msec, SD = 890.56 msec), F (1, 60) = 4.79, $p < .05$, η^2 = .07. For participants who read statements about the female student, stereotype-congruency did not yield a significant main effect, F (1, 51) = 1.97, $p = .167$. Finally, there was a significant three-way interaction of uncertainty manipulation, gender and trait/behavior, F (1, 111) = 5.21, $p < .05$, η^2 = .05. In the male scenario, uncertainty and trait/behavior variables yielded a significant interaction effect on correct rejection response time, F (1, 60) = 5.97, $p < .05$, η^2 = .09. Participants in this condition who were exposed to uncertainty made significantly faster correct rejections for traits (M = 2637.89 msec, SD = 780.70 msec), than for behaviors (M =

3468.39 msec, $SD = 921.91$ msec), $F(1, 34) = 26.07$, $p < .001$, $\eta^2 = .43$. Those who were primed with certainty on the other hand, did not have a significant difference in their correct rejection response times for traits and behaviors, $F(1, 26) = 2.94$, $p = .099$. In the female scenario condition the interaction of uncertainty priming and trait/behavior variable was insignificant, $F(1, 51) = 1.73$, $p = .194$.

Gender Identification and Sociostructural Variables

2 (high vs. low score) x 2 (uncertainty vs. certainty) x 2 (female vs. male scenario) x 2 (stereotype-congruent vs. incongruent) x 2 (positive vs. negative) x 2 (trait vs. behavior) mixed ANOVAs did not reveal a significant main effect or interaction on the response time of correct rejections.

CHAPTER 5

DISCUSSION

In this study, the major aim was to find out whether members of low status groups use more abstract language for positive and negative stereotypical information about their ingroup and outgroup when they were primed with uncertainty. Moreover, people's gender identification and sociostructural variables were also measured in order to examine their effect on the relationship between uncertainty and language abstraction. In this section, the main findings of the study will be discussed in relation to the hypotheses. Moreover, contributions and limitations of the study will be presented.

General Evaluations

Induction-Deduction Asymmetry

The first hypothesis about Induction-Deduction Asymmetry was supported. Participants made significantly more inductions compared to deductions. However, contrary to the expectations, the same trait preference tendency was also found among false alarms for entirely new items presented in the recognition list. Participants made significantly more false alarms for new traits compared to behaviors. Although this was the case, the number of inductions was significantly higher than the number of false alarms for new traits, which partially supports the

idea that the tendency to infer traits from behaviors is more than a general bias for traits (Maass et al., 2005).

Another hypothesis which was supported was that inductions would be made significantly faster than deductions. It was also expected that there would not be any response time difference between falsely recognized traits and behaviors for entirely new items. This was not supported and participants made false alarms for traits significantly faster than false alarms for behaviors. However, inductions were made significantly faster than false alarms for new traits which is in line with the view that people's tendency to infer traits from behaviors is more automatic than their tendency to choose traits over behaviors in general.

Finally, it was predicted that response time of inductions would be the same as hits for existing traits, whereas deductions would be made slower than hits for behaviors. The reason was that inductions are made on-line, during encoding, whereas deductions are made more consciously during retrieval (Maass et al., 2001). In line with the hypotheses in this study, deductions were made significantly slower than hits for behaviors. However, contrary to expectations, people showed the same tendency for inductions, too. They were made significantly slower than hits for traits. However, the response time difference between inductions and hits for existing traits was smaller than the response time difference between deductions and hits for existing behaviors. Thus, it can still be said that inductions occur more automatically than deductions.

The Effect of Stereotype-Congruency and Scenario Gender on Inductions and

Deductions

Hypotheses about the effect of stereotype-congruency on inferences were partially supported. It was predicted that participants would make more and faster inductions for stereotype-congruent information, but the reverse tendency, i.e., deductions, would not be affected by stereotype-congruency. As expected, number and response time of deductions were not affected by stereotype-congruency, but the number of inductions was significantly higher if the information was gender stereotypical and if it was about a same sex person, i.e., female student. Participants showed the opposite tendency when they remembered information about the male student, i.e., they made more inductions for unexpected information. As stereotype-incongruent information for the male student was stereotype-congruent for the female (e.g., patient), it can be concluded that there was a tendency to make trait inferences for stereotypically female characteristics regardless of the gender of the person who possesses them. The reason could be that since participants of this study were all females, they were more familiar about their own gender and about its characteristics; therefore they might be more inclined to generalize this knowledge. Another reason could be about the asymmetry of female and male stereotypes. Rudman and Glick (1999) suggested that for men, even stereotype-incongruent behaviors were acceptable, but this was not the case for women. So, counter-stereotypical information about the male student in this study could be generalized because it was still acceptable for the male student. A final possible reason, which will also be presented in the limitations section of this

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chapter was that, stereotype-congruency manipulation in this study might not be as strong as we expected because scenario gender was a between-subjects variable. If participants saw information about both genders, gender would be more salient in their minds and stereotype-congruency would have a stronger effect on language abstractions.

It was also expected that stereotype-congruency would have an effect on induction response times but not on deduction response times. There was support for the second part of this expectation, i.e., response time of deductions did not differ across stereotype-congruency conditions. However, this was also the case for inductions response times. This finding could again be caused by the above mentioned nature of the congruency manipulation.

The Effect of Uncertainty on Inductions and Deductions

The main expectation in this study was that participants who were exposed to uncertainty would make more and faster stereotypical inductions compared to those who were primed with certainty, but this hypothesis was not supported. The analysis of implied traits in the second half of the recognition list did not reveal meaningful results either, thus the possibility that uncertainty priming would be effective after a delay could not be supported. However, as expected, number and response time of stereotype-congruent and incongruent deductions were not different between uncertainty and certainty primed participants.

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A reason of the insignificant finding about the effect of uncertainty on inductions might be the timing of uncertainty priming. Maass et al. (2001) suggested that inductions occurred during encoding, whereas deductions occurred during recall. In this study, participants were primed with uncertainty/certainty after they encoded the information and after they completed the filler task, in order to make sure that the effect of priming lasted as long as possible during the experiment. However, this might have caused the inductions not to be affected by the uncertainty manipulation because they were already made before the manipulation. Future studies investigating the effect of situational manipulations of uncertainty on inductions could test this possibility.

<center>The Effect of Valence on Inductions and Deductions</center>

No predictions were made about the effect of valence on inductions because studies investigating spontaneous trait inferences did not find any difference between negative and positive information (e.g., Maass et al, 2001, 2005; Semin & Smith, 1999). However in this study, participants showed a strong positivity bias for both trait and behavior inferences. They made significantly more positive rather than negative inductions and deductions. Inductions for positive information were also made significantly faster than inductions for negative information. Thus, positive information was more automatically generalized than negative information. Cue-diagnosticity model of impression formation (Skowronski & Carlston, 1987) suggests that people make trait inferences from behaviors more for positive compared to

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negative information, when the information is about competence, e.g., about intelligence or courage. However, when the information is about morality, e.g., about loyalty or honesty, the opposite tendency, i.e., a negativity bias, is observed. The number of competence-related statements that were used in the present study (e.g., analytical, independent etc.) might be higher than the number of morality- related statements (e.g., loyal, patient etc.), which could have led to a positivity bias in trait inferences. An independent study is needed to determine the level of competence and morality relatedness of the stimulus material and to be sure this was the reason of the positivity bias.

Moreover, valence also interacted with stereotype-congruency when participants were exposed to information about the female student. They made more inductions for stereotype-congruent (e.g., patient) rather than incongruent information (e.g., athletic) when it was positive. But congruency did not have an effect on the number of inductions when information was negative. This result can be interpreted as an interaction of Linguistic Intergroup Bias and Linguistic Expectancy Bias. Whereas the former explains the preference for trait inferences from positive rather than negative behaviors as an indicator of ingroup bias, the latter explains the preference for stereotype-congruent rather than incongruent trait inferences from those positive behaviors.

Gender Identification and Sociostructural Scales

The first expectation about the uncertainty/certainty manipulation was partially supported. Although marginally significant, uncertainty priming led to increased group identification for those who were exposed to a male person, but no effect was found for those who read statements about the female student. Since participants in this study were only females, gender might be more salient in the male scenario condition but not in the female scenario condition. This could be the reason that gender identification was affected by the uncertainty manipulation only in the male scenario condition.

Gender Identification

It was expected that individuals who scored high on group identification would be more likely to engage in stereotype-consistent rather than inconsistent linguistic abstractions after being exposed to uncertainty, and this difference would be larger for them compared to those, who scored low on this scale. For participants who were exposed to the female character, partial support was found for this hypothesis. As expected, when these participants were primed with uncertainty, they made significantly more inductions for stereotype-congruent rather than incongruent inductions only if they highly identified themselves with their gender. But low identifiers made equal numbers of congruent and incongruent inductions. Thus, uncertainty priming affected these two groups differently in terms of abstraction

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tendency. Although the difference between stereotype-congruent inductions made by high and low identifiers was not significant, the trend was in line with predictions. When participants were primed with certainty on the other hand, high and low identifiers behaved in the same way. They both made significantly more congruent rather than incongruent inductions. Thus, certainty priming did not affect low and high identifiers differently.

Participants who read statements about the male character showed a completely opposite behavior pattern. This time, when exposed to uncertainty, low identifiers made significantly more incongruent rather than congruent inductions, but this difference was marginally significant for high identifiers. Thus, uncertainty more strongly affected low identifiers and made them generalize behaviors that were contrary to male stereotypes. In the certainty condition on the other hand, the difference between congruent and incongruent inductions disappeared for low identifiers and it became significant for high identifiers. These results also support the hypothesis. It is reasonable to expect that females who identify themselves less with their gender think that males can also possess characteristics that are against the existing stereotypical gender roles. In the present study, this tendency was observed in the uncertainty but not in the certainty condition, because previous literature found that uncertainty leads people to be more consistent and to defend their values and beliefs more strongly (e.g., McGregor et al., 2001).

Similar to the effect of gender identification it was also predicted that individuals who score high on system justification would be more likely to engage in stereotype-consistent rather than inconsistent linguistic abstractions after being exposed to uncertainty, and this difference would be larger for them compared to those, who scored low on this scale. No support was found for this hypothesis in the female scenario condition. But results showed that participants who were exposed to the male character and who scored low in system justification scale showed a different tendency compared to other participants, especially if they were primed with uncertainty. Whereas all other participants made equal numbers of generalizations for stereotype-congruent and incongruent behaviors, participants who were primed with uncertainty and who justified the existing gender system less made significantly more incongruent rather than congruent behavior generalizations. Certainty priming led to the same effect but the difference between congruent and incongruent generalizations was marginally significant. In other words, uncertainty made females who did not want to justify the existing gender inequalities defend their ideas more strongly when they were exposed to uncertainty and they reflected those ideas by generalizing those characteristics of the male student that were against the existing gender stereotypes.

<u>Legitimacy</u>

It was expected that individuals who perceived the system as legitimate would be more likely to engage in stereotype-consistent rather than inconsistent linguistic abstractions after being exposed to uncertainty, and this difference would be larger for them compared to those, who perceived the system to be illegitimate. Partial support was found for this hypothesis in both female and male scenario conditions. Participants who were exposed to a female character and who found the existing gender hierarchies highly legitimate made significantly more generalizations for stereotype-consistent rather than inconsistent female characteristics only if they were primed with uncertainty. This difference was not significant among high legitimacy participants who were primed with certainty. Thus, uncertainty made females who found their low status legitimate to accept existing gender stereotypes. Participants who found the system less legitimate on the other hand did not show a difference between their abstraction levels of congruent and incongruent information when they were primed with uncertainty. But they made more stereotype-congruent inductions when they were primed with certainty. Apparently, certainty led to a different mindset, about which no predictions were made.

In the male scenario condition, the difference between stereotype-congruent and incongruent inductions was significant among those who were primed with uncertainty and who did not find the gender system legitimate. These participants made significantly more generalizations for stereotype-inconsistent rather than consistent behaviors of the male student. This is in line with the predictions.

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Uncertainty again led participants to defend their ideas more strongly, which was in this case to show that gender roles that are against the existing stereotypes can also be possessed by males. Certainty led to a similar pattern but the effect was not as strong as observed among uncertainty primed participants.

Stability

The last prediction was that individuals who perceive the system to be unstable would be more likely to engage in stereotype-consistent rather than inconsistent linguistic abstractions after being exposed to uncertainty, and this difference would be larger for them compared to those, who perceive the system to be stable. This prediction was based on the "nothing-to-lose strategy" (Scheepers et al., 2006), which suggests that when low status people perceive the system as stable they take more drastic measures to change it, in other words they act contrary to the existing system, because they feel more desperate. Partial support was found for this expectation. In the female scenario condition, there was a significant difference between stereotype-congruent and incongruent inductions among participants who were primed with uncertainty and who found the system unstable. As expected, these participants made significantly more inductions for stereotype-congruent rather than incongruent information. In the male scenario on the other hand, certainty priming led to a significant difference between congruent and incongruent inductions among low stability participants, but the direction was contrary to expectations. Thus, when it

comes to evaluating the opposite gender, different mechanisms might be at work, which were affected not by uncertainty but certainty priming.

<u>Hits and Correct Rejections</u>

Although no predictions were made about how hits and correct rejections were affected by our manipulations, participants' performance in those two memory measures and the respective response times were also analyzed.

<u>Hits</u>

Participants made significantly more hits for traits than behaviors, especially if they were positive and if they were exposed to certainty in the female scenario condition. Making more hits for traits was also found in Maass et al.'s research (2005), but certainty priming, positivity and gender of the character were not found to affect hit performance in previous memory literature. Better memory for positive information in the form of hits and correct rejections is actually contrary to this literature. Studies found that memory for negative traits was better than for positive traits among young adults when material contained both positive and negative information (e.g., Dewhurst & Parry, 2000, Skowronski & Carlston, 1987). The only line of research that found a positivity bias in memory suggests that old adults have better memory for positive information compared to negative information (e.g., Leigland, Schulz, & Janowsky, 2004). Since participants in this study were young people, this finding still

cannot be explained by previous literature. The reason could be that positive person characteristics in the current study differed from the negative ones in attributes which was not foreseen, but which apparently affected memory. For instance, they might be more competence- rather than morality-related, and this led to better recognition performance especially when they were in trait form, as suggested in Cue-diagnosticity model of impression formation (Skowronski & Carlston, 1987). About the effect of certainty feeling, Tiedens and Linton (2001) showed that when people were primed with certainty-related emotions they engaged in more heuristic processing compared to uncertainty priming condition, which rather led to a more systematic processing. The idea is that feeling certain could suggest that the person is already correct and thorough processing is not necessary. This could be the reason that participants made more trait hits in the certainty condition, because traits rather than behaviors could represent a heuristic way to evaluate a person. Certainty primed participants might have felt more certain about the information they read and therefore they easily said "yes" to traits more frequently than to behaviors.

Moreover, participants were better at recognizing negative stereotype-incongruent and positive stereotype-congruent information compared to the other types of information. Maass et al. (2005) also found that stereotype-incongruent information was better recognized than stereotype-incongruent information, but they did not find any effect of valence. This could again be explained by the Cue-diagnosticity model of impression formation. Better hit performance for positive and stereotype congruent information was caused by the possibility that this information was perceived as competence-related rather than morality-related.

Results about response times for hits showed that trait hits were also made faster than behavior hits. This was not found in Maass et al.'s study (2001). A possible interpretation of this result could be that since participants made more hits for traits at a faster rate, they were in general more inclined to say "yes" to traits compared to behaviors. This was actually shown in this study by induction-deduction asymmetry and false alarm findings. Participants made more inductions, i.e., trait inferences, compared to deductions, and they made more false alarms for entirely new traits than behaviors. Making more and faster hits for traits supports these findings, i.e., there was a stronger tendency to say "yes" to traits compared to behaviors.

Another finding about hit response times was a tendency to make incongruent-negative and congruent-positive hits faster than congruent-negative and incongruent-positive hits when primed with certainty. However, since gender did not have an interaction effect in these findings it is not possible to interpret the results meaningfully, such as by Linguistic Intergroup Bias or Linguistic Expectancy Bias. A possible effect of gender identification and sociostructural variables on hit performance was also examined. It was found that participants with lower levels of system justification and legitimacy perception were significantly better at recognizing information in general. Thus, trying to justify and legitimize the system deteriorated memory. No study showed that these two concepts affected general memory performance.

<u>Correct Rejections</u>

Participants were better at rejecting new information if it was in the form of a behavior, which was in line with Maass et al.'s (2001) findings. Positive information was also rejected more correctly than negative information, similar to hit performance results. Female and male-scenario conditions revealed opposite interaction effects of valence and stereotype-congruency of the information on the number of correct rejections. Participants were better at correctly rejecting positive stereotype-incongruent and negative stereotype-congruent information about the female student, whereas they were better at rejecting positive-stereotype-congruent and negative stereotype-incongruent information about the male student. This finding can be explained by a combination of Linguistic Intergroup Bias and Linguistic Expectancy Bias. When the new information about the ingroup member (i.e., female student) was positive but stereotype-incongruent (e.g., independent), participants were more likely to reject it compared to positive and congruent information (e.g., patient) because of LEB. They preferred and were more ready to accept positive and expected information about their ingroup, and therefore they were worse at rejecting it. However, because of LIB, they did not want to accept that their ingroup member possessed a characteristic that was stereotypically negative (e.g., ingenuous). Thus, they were better at rejecting that type of information compared to negative and stereotype-incongruent information (e.g., indifferent), which could be regarded as an exception. When the other person was an outgroup member on the other hand, i.e., male student, they were better at rejecting positive and stereotype congruent

information (e.g., independent) compared to positive and stereotype-incongruent information (e.g., patient). The latter type of information could be more acceptable because it could have been perceived as an exception for that outgroup person. For negative information on the other hand, they were better at correctly rejecting new incongruent (e.g., ingenuous) rather than congruent information (e.g., indifferent), because they wished that the outgroup member possessed the latter.

Response time analysis showed a different result about the effect of information form on correct rejections. Although participants made more correct rejections for behaviors, they made faster correct rejections for traits. Thus, they might have done more correct rejections for behaviors because they spent more time for their old-new judgment. Moreover, this pattern was especially salient in the male scenario and uncertainty priming condition. Participants who read statements about the male student and who were exposed to uncertainty made significantly faster correct rejections for traits than for behaviors, but no meaningful explanation could be found for this result.

Analyses of the effect of gender identification and sociostructural variables on correct rejections did not yield any significant and meaningful results.

Contributions to the Literature

One of the major contributions of this study was that it tested Induction-Deduction Asymmetry in a non-western culture and language. Individual's tendency and automaticity to infer traits from behaviors was replicated in the Turkish language for the first time. As mentioned above, studies revealed that people from collectivistic cultures make spontaneous trait inferences less frequently than individualistic cultures. Although Turkey was found to be more collectivistic than Italy, where induction-deduction asymmetry studies were mainly conducted (Hofstede, 2001), in this study, Turkish participants showed the same asymmetry, i.e., preference for making trait rather than behavior inferences in impression formation. Unlike previous studies that focused on cultural differences, this study did not measure spontaneous trait inferences but participants were asked to form an impression about a person. However, the results could still support the idea that induction-deduction asymmetry is a very robust phenomenon that is not affected by cultural differences.

Secondly, it was the first study that manipulated uncertainty as a contextual factor and at the same time focused on its effects for a low status group, i.e., females. Thirdly, it partially revealed a moderation effect of gender identification, system justification and sociostructural variables on the relationship between uncertainty feeling and trait inferences for the first time. Even though the expected interactions were not found to be significant, when asked to form an impression about an ingroup member, uncertainty tend to make females, who were high in gender identification and who found the gender system legitimate and unstable, support the existing

stereotypes, by making more stereotypical rather than counter-stereotypical inferences about their ingroup members. However, when the other person was an outgroup member, uncertainty made those, who were low identifiers, who did not justify the gender system and who found it illegitimate, make more counter-stereotypical inferences, as a way of challenging the existing system.

Limitations and Suggestions for Future Research

Due to the low number of inductions, response time analyses could not be done for moderation effects. One solution could be to give participants a longer list of statements and a longer filler task in order to make the memory task more difficult and false alarms, such as inductions, more frequent.

As mentioned above, inductions were not affected by the uncertainty manipulation as strong as predicted, because they were found to be made during encoding and therefore they might be already made before the uncertainty manipulation. Future studies could test this possibility by manipulating uncertainty before encoding. Regarding the procedure, another change might be needed in the order of uncertainty/certainty manipulation and scales. Uncertainty/certainty manipulation task was given before participants filled gender identification and sociostructural scales, in order to see the effect of the manipulation on those scales. The aim was to find out whether uncertainty and certainty feelings had different effects on participants' level of gender identification, system justification, legitimacy and stability perception. However, for examining the moderating roles of those

scales, it could be more appropriate to make participants fill them before uncertainty/certainty manipulation task for the same reason. Participants might be influenced by the manipulation and this influence might be reflected in those scales. For future studies, a solution to look at both the effect of uncertainty on those variables and their moderating roles could be dividing the scales into two and giving the first part before and the second part after the uncertainty/certainty manipulation. Scores in the first part could be used for moderation analyses, whereas the difference between two parts could be examined to see the effect of uncertainty manipulation. Another caveat of this study might be using certainty priming instead of a neutral control condition for uncertainty priming. Certainty could have generated different effects on participants and on their memory performance which were not foreseen. However, it was also difficult to find a truly neutral control task. When designing the experiment, the complete opposite of uncertainty seemed to be the best control condition. Future studies might compare the effect of neutral and uncertainty priming tasks on the level of language abstractions.

As mentioned above, stereotype-congruency manipulation might have not worked as strongly as expected, because participants were either exposed to a male or a female character. If gender was manipulated as a within-subjects variable, it could be more salient and stereotype-congruency could have a stronger effect on language abstractions.

Finally, due to the large number of significance tests, the possibility of Type 1 error is acknowledged. Repetition of the study with a different sample might be necessary to see whether the same results can be found.

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APPENDICES

APPENDIX A: PRETESTS

PRETEST 1 (ÖN ÇALIŞMA 1)

Lütfen aşağıdaki sıfatların birbirleriyle ne kadar ilişkili olduğunu değerlendirin. Bu değerlendirmeyi yaparken soruda geçen sıfatın tanımladığı bir kişinin, verilen diğer özelliklere de sahip olma ihtimalinin ne olduğunu belirtmeniz istenmektedir. Lütfen -2 ile 2 arasında bir puan vererek değerlendirme yapın. "-2" puan, soruda geçen özelliğe sahip bir kişinin, seçenekte belirtilen özelliklere de sahip olma ihtimalinin çok düşük, "2" puan ise bu ihtimalin çok yüksek olduğu anlamına gelmektedir. "0" puan ise iki özelliğin birbiriyle ilgisi olmadığını göstermektedir.

1- Saldırgan: "Saldırgan" olan bir kişinin, aynı zamanda aşağıdaki tabloda yer alan her bir özelliğe sahip olma ihtimali sizce nedir?

-2	-1	0	1	2
Çok düşük ihtimal		Ne düşük ne yüksek ihtimal		Çok yüksek ihtimal

Özellik:	Neşeli	Analitik	Diplomatik	Atletik	Saf	Cesur	Sezgisel
Puan:	....	....	....	....	....	....	....
Özellik:	Otoriter	Sadık	Dominant	Utangaç	Bağımsız	Nazik	Lider ruhlu
Puan:	....	....	....	....	....	....	....
Özellik:	Sıcakkanlı	İddialı	Kararlı	Merhametli	Yaratıcı	Değişken	Alaycı
Puan:	....	....	....	....	....	....	....
Özellik:	Kayıtsız	Şikayetçi	Sabırlı	Kendini beğenmiş	Konuşkan	Aç gözlü	Hoşgörülü
Puan:	....	....	....	....	....	....	....
Özellik:	Şakacı	Alçakgönüllü	Girişken	Yapmacık	Çok yönlü	Endişeli	
Puan:	....	....	....	....	....	....	

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PRETEST 2A (ÖN ÇALIŞMA 2A)

Aşağıda, kişileri tanımlamakta kullanılan bazı sıfatlar ve davranışlar göreceksiniz. Sorularda yer alan her davranış farklı bir kişiyi tanımlamaktadır. Lütfen söz konusu davranışı gösteren bir kişinin, tablonun sol tarafında yer alan özelliklerin her birine sahip olma ihtimalinin ne olduğunu değerlendirin. Değerlendirmeyi -2 ile 2 arasında bir puan vererek yapmanız gerekmektedir. "-2" puan, söz konusu davranışı gösteren bir kişinin, belirtilen özelliğe sahip olma ihtimalinin çok düşük, "2" puan ise bu ihtimalin çok yüksek olduğu anlamına gelmektedir. "0" puan ise o davranışla özellik arasında bir ilişki olmadığını göstermektedir.

1. Lütfen, "bazı şeyleri fazla muhakeme yapmadan anlayan" bir kişinin, tablonun sol tarafında yer alan her bir özelliğe sahip olma ihtimalinin ne olduğunu belirtin. Örneğin, bazı şeyleri fazla muhakeme yapmadan anlayan bir kişinin saldırgan olma ihtimali nedir? 35 özellik için de puanlamayı tamamladığınızda bir sonraki soruya geçin.

PRETEST 2A (ÖN ÇALIŞMA 2A)

-2	-1	0	1	2
Çok düşük ihtimal		Ne düşük ne yüksek ihtimal		Çok yüksek ihtimal

		1.Bazı şeyleri fazla muhakeme yapmadan anlar
1	Saldırgan	
2	Neşeli	
3	Analitik	
4	Diplomatik	
5	Atletik	
6	Saf	
7	Cesur	
8	Sezgisel	
9	Otoriter	
10	Sadık	
11	Dominant	
12	Utangaç	
13	Bağımsız	
14	Nazik	
15	Lider ruhlu	
16	Sıcakkanlı	
17	İddialı	
18	Kararlı	
19	Merhametli	
20	Yaratıcı	
21	Değişken	
22	Alaycı	
23	Kayıtsız	
24	Şikayetçi	
25	Sabırlı	
26	Kendini beğenmiş	
27	Konuşkan	
28	Aç gözlü	
29	Hoşgörülü	
30	Şakacı	
31	Alçakgönüllü	
32	Girişken	
33	Yapmacık	
34	Çok yönlü	
35	Endişeli	

PRETEST 2B (ÖN ÇALIŞMA 2B)

Aşağıda, kişileri tanımlamakta kullanılan bazı sıfatlar ve davranışlar göreceksiniz. Tablonun üst bölümünde yer alan her sıfat farklı bir kişiyi tanımlamaktadır. Lütfen söz konusu sıfatla tanımlanan bir kişinin, tablonun sol tarafında yer alan her bir davranışı gösterme ihtimalinin ne olduğunu değerlendirin. Değerlendirmeyi -2 ile 2 arasında bir puan vererek yapmanız gerekmektedir. "-2" puan, söz konusu sıfatla tanımlanan bir kişinin, belirtilen davranışı gösterme ihtimalinin çok düşük, "2" puan ise bu ihtimalin çok yüksek olduğu anlamına gelmektedir. "0" puan ise o davranış ve özellik arasında bir ilişki olmadığını göstermektedir.

1. Tablonun üst satırında yer alan sıfatlar farklı kişileri tanımlamaktadır. Lütfen bu sıfatlarla tanımlanan her bir kişinin, tablonun sol tarafında yer alan davranışları gösterme ihtimalinin ne olduğunu belirtin. Örneğin, "saldırgan" olan bir kişinin, "bazı şeyleri muhakeme yapmadan anlama" ihtimali sizce nedir? Lütfen ilgili boşluğa verdiğiniz puanı yazın. "Saldırgan" sıfatı için 35 davranışa da puan verdikten sonra bir sonraki sıfata geçin. Tablodaki 5 sıfatı da tamamladıktan sonra bir sonraki sayfaya geçin.

PRETEST 2B (ÖN ÇALIŞMA 2B)

	Saldırgan	Neşeli	Analitik	Diplomatik	Atletik
Bazı şeyleri fazla muhakeme yapmadan anlar					
Çabuk kızar					
Sosyal ilişkilerden çekinir					
Kafasına koyduğu bir işten kolay vazgeçmez					
Etrafında olup bitenlerle ilgilenmez					
Affetmeyi bilir					
Spor yapar					
Hassas konularda tedbirli davranır					
Yeni fikirler üretir					
Başkalarına sevecen davranır					
Tecrübesizlikten herkesin dediğine inanır					
Karar vermekte güçlük çeker					
Bulunduğu durumdan sık sık yakınır					
Durumları değerlendirirken mantığını kullanır					
Beklemesini bilir					
Kendisine itaat edilmesini bekler					
Riskli işlerden çekinmez					
Her zaman gülümser					
Başkalarına güç uygular					
İnsanlarla dalga geçer					
Kendine fazla güvenir					
Başkalarını aldatmaz					
Kararlarını kendi başına alır					
Başkalarına saygı gösterir					
Grup çalışmalarını çoğunlukla o yönetir					
Kendini başkalarından üstün görür					
Sohbet etmekten hoşlanır					
Elindekiyle hiç bir zaman yetinmez					
Farklı görüş ve düşünceleri de kabul eder					
İnsanları eğlendirmeyi sever					
Kendini övmekten hoşlanmaz					
İlk adımı atmaktan çekinmez					
Kendisi gibi davranmaz					
Farklı konularla ilgilenmeyi sever					
Başına kötü şeyler gelmesinden korkar					

PRETEST 3A (ÖN ÇALIŞMA 3A)

Aşağıda, kişileri tanımlamakta kullanılan çeşitli sıfatlar göreceksiniz. Söz konusu sıfatlar sizce toplum tarafından daha çok kadınlar için mi, erkekler için mi, yoksa her iki cins için de mi kullanılır? Sizin bu kullanıma katılıp katılmamanız önemli değil, sadece toplumda yaygın olan kullanımı belirtmeniz yeterli. Lütfen 1 ile 7 arasında bir puan vererek değerlendirin. 1 "bu sıfat daha çok kadınlar için kullanılır", 7 ise "bu sıfat daha çok erkekler için kullanılır" anlamına gelmektedir.

1- Saldırgan

1	2	3	4	5	6	7
Daha çok kadınlar için kullanılır			Her iki cins için de kullanılır			Daha çok erkekler için kullanılır

2-Neşeli

1	2	3	4	5	6	7
Daha çok kadınlar için kullanılır			Her iki cins için de kullanılır			Daha çok erkekler için kullanılır

3-Analitik

1	2	3	4	5	6	7
Daha çok kadınlar için kullanılır			Her iki cins için de kullanılır			Daha çok erkekler için kullanılır

4-Diplomatik

1	2	3	4	5	6	7
Daha çok kadınlar için kullanılır			Her iki cins için de kullanılır			Daha çok erkekler için kullanılır

5-Atletik

1	2	3	4	5	6	7
Daha çok kadınlar için kullanılır			Her iki cins için de kullanılır			Daha çok erkekler için kullanılır

PRETEST 3B (ÖN ÇALIŞMA 3B)

Aşağıda, kişileri tanımlamakta kullanılan çeşitli sıfatlar göreceksiniz. Sizce bu sıfat negatif mi, nötr mü yoksa pozitif bir anlam mı içeriyor? Lütfen 1 ile 7 arasında bir puan vererek değerlendirin. 1 "negatif", 7 ise "pozitif" anlamına gelmektedir.

1- Saldırgan
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Negatif | | | Nötr | | | Pozitif |

2-Neşeli
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Negatif | | | Nötr | | | Pozitif |

3-Analitik
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Negatif | | | Nötr | | | Pozitif |

4-Diplomatik
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Negatif | | | Nötr | | | Pozitif |

5-Atletik
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Negatif | | | Nötr | | | Pozitif |

6-Saf
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Negatif | | | Nötr | | | Pozitif |

7-Cesur
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Negatif | | | Nötr | | | Pozitif |

PRETEST 4A (ÖN ÇALIŞMA 4A)

Lütfen bu listeyi dikkatlice okuyun ve öğrenmeye çalışın. 1 saat sonra listedeki kelimelerle ilgili bir hatırlama çalışması yapılacaktır. Kelimelerin sırası önemli olmayacaktır. Listeyi öğrenmek için 5 dakika süreniz var.

1	Dikkatli
2	Saldırgan
3	Neşeli
4	Analitik
5	Diplomatik
6	Atletik
7	Saf
8	Cesur
9	Sezgisel
10	Otoriter
11	Sadık
12	Dominant
13	Utangaç
14	Bağımsız
15	Nazik
16	Lider ruhlu
17	Sıcakkanlı
18	İddialı
19	Kararlı
20	Merhametli
21	Yaratıcı
22	Değişken
23	Alaycı
24	Kayıtsız
25	Şikayetçi
26	Sabırlı
27	Kendini beğenmiş
28	Konuşkan
29	Aç gözlü
30	Hoşgörülü
31	Şakacı
32	Alçakgönüllü
33	Girişken
34	Yapmacık
35	Çok yönlü
36	Endişeli
37	Yetenekli

PRETEST 4A (ÖN ÇALIŞMA 4A)

Aşağıdaki listede daha önce öğrenmis olduğunuz 37 kelimenin yanı sıra yeni kelimeler de bulunmaktadır. Lütfen önceki listede görmüş olduğunuz kelimeleri işaretleyin.

	Önceki listede yer alanlar		Önceki listede yer alanlar
Güvenilir		Utangaç	
Olgun		Kararlı	
Hevesli		Yaratıcı	
Kötümser		Azimli	
Şakacı		Alçakgönüllü	
Dikkatli		Analitik	
Neşeli		İddialı	
Yardımsever		Dinamik	
Şikayetçi		Esprili	
Yetenekli		Otoriter	
Endişeli		Kendini beğenmiş	
Çalışkan		Tembel	
Bağımsız		Merhametli	
Sevecen		Sezgisel	
Sıcakkanlı		İsteksiz	
Alaycı		Saldırgan	
Konuşkan		Hoşgörülü	
Düzenli		Hırslı	
Diplomatik		Sinirli	
Değişken		Nazik	
İkiyüzlü		İyimser	
Dominant		Koruyucu	
Mutsuz		Düşünceli	
Çok yönlü		Yapmacık	
Akıllı		Atletik	
Sabırlı		Kayıtsız	
Cimri		Soğuk	
Bakımlı		Zalim	
Lider ruhlu		Cesur	
Girişken		Aç gözlü	
Saygılı		Sadık	
Gerçekçi		Saf	

PRETEST 4B (ÖN ÇALIŞMA 4B)

Lütfen bu listeyi dikkatlice okuyun ve öğrenmeye çalışın. 1 saat sonra listedeki ifadelerle ilgili bir hatırlama çalışması yapılacaktır. İfadelerin sırası önemli olmayacaktır. Listeyi öğrenmek için 5 dakika süreniz var.

1	Sevdiklerine yardım eder
2	Bazı şeyleri fazla muhakeme yapmadan anlar
3	Çabuk kızar
4	Sosyal ilişkilerden çekinir
5	Kafasına koyduğu bir işten kolay vazgeçmez
6	Etrafında olup bitenlerle ilgilenmez
7	Affetmeyi bilir
8	Spor yapar
9	Hassas konularda tedbirli davranır
10	Yeni fikirler üretir
11	Başkalarına sevecen davranır
12	Tecrübesizlikten herkesin dediğine inanır
13	Karar vermekte güçlük çeker
14	Bulunduğu durumdan sık sık yakınır
15	Durumları değerlendirirken mantığını kullanır
16	Beklemesini bilir
17	Kendisine itaat edilmesini bekler
18	Riskli işlerden çekinmez
19	Her zaman gülümser
20	Başkalarına güç uygular
21	İnsanlarla dalga geçer
22	Kendine fazla güvenir
23	Başkalarını aldatmaz
24	Kararlarını kendi başına alır
25	Başkalarına saygı gösterir
26	Grup çalışmalarını çoğunlukla o yönetir
27	Kendini başkalarından üstün görür
28	Sohbet etmekten hoşlanır
29	Elindekiyle hiç bir zaman yetinmez
30	Farklı görüş ve düşünceleri de kabul eder
31	İnsanları eğlendirmeyi sever
32	Kendini övmekten hoşlanmaz
33	İlk adımı atmaktan çekinmez
34	Kendisi gibi davranmaz
35	Farklı konularla ilgilenmeyi sever
36	Başına kötü şeyler gelmesinden korkar
37	Sanatı yakından takip eder

PRETEST 4B (ÖN ÇALIŞMA 4B)

Aşağıdaki listede daha önce öğrenmis olduğunuz 37 ifadenin yanı sıra yeni ifadeler de bulunmaktadır. Lütfen önceki listede görmüş olduğunuz ifadeleri işaretleyin.

	Eski		Eski
Çalışırken enerjisini yüksek tutar		Hedeflerine ulaşmak için çalışmaktan yorulmaz	
Bazı şeyleri fazla muhakeme yapmadan anlar		Hızlı öğrenir	
Sosyal ilişkilerden çekinir		Başkalarını aldatmaz	
Karar vermekte güçlük çeker		Yeni tanıştığı kişilerle kolay yakınlaşamaz	
Başına kötü şeyler gelmesinden korkar		İlk adımı atmaktan çekinmez	
Sosyal ortamlarda sohbeti o yürütür		Başkalarına güç uygular	
Ailesini ihmal eder		Yeni fikirler üretir	
Her zaman gülümser		Grup çalışmalarını çoğunlukla o yönetir	
Başkalarına sevecen davranır		Hassas konularda tedbirli davranır	
Duygularını açıkça ifade eder		Kafasına koyduğu bir işten kolay vazgeçmez	
Kendinden zayıf olanları korur		Durumları değerlendirirken mantığını kullanır	
Kendini övmekten hoşlanmaz		Farklı konularla ilgilenmeyi sever	
Toplantılara/buluşmalara geç kalır		Gerektiğinde yalan söyleyebilir	
İnsanları tanımadan yargılamaz		Olayların olumsuz yanlarını görür	
Kendisi gibi davranmaz		İnsanları eğlendirmeyi sever	
Sır tutar		Borç vermekten hoşlanmaz	
Sanatı yakından takip eder		İnsanlarla dalga geçer	
Gösterişten hoşlanmaz		Bir bilgiyi kabul etmeden önce derinlemesine araştırır	
Çabuk kızar		Söylediği sözlerin arkasında durur	
Tatil planlarını çok önceden yapar		Spor yapar	
Kararlarını kendi başına alır		Kendine fazla güvenir	
Farklı görüş ve düşünceleri de kabul eder		Elindekiyle hiç bir zaman yetinmez	
Tecrübesizlikten herkesin dediğine inanır		İşlerini düzenli yapar	
Olaylara gerçekçi yaklaşır		Başkalarının fikrini almaktan hoşlanmaz	
Sağlığına önem verir		Bulunduğu durumdan sık sık yakınır	
Başkalarına saygı gösterir		Arkadaşlarını sık sık arar	
İşlere çoğunlukla isteksiz yaklaşır		Sevdiklerine sürpriz yapmaktan hoşlanır	
Yaşına göre olgun davranır		Kendisine itaat edilmesini bekler	
Sohbet etmekten hoşlanır		Kendini başkalarından üstün görür	
Etrafında olup bitenlerle ilgilenmez		Beklemesini bilir	
Riskli işlerden çekinmez		Affetmeyi bilir	
Kin tutar		Sevdiklerine yardım eder	

APPENDIX B: TRAITS AND BEHAVIORS USED IN THE STIMULUS AND RECOGNITION LIST

STIMULUS LIST	
Masculine-Positive	
Analitik	Durumları değerlendirirken mantığını kullanır.
Atletik	Spor yapar.
Bağımsız	Kararlarını kendi başına alır.
Şakacı	İnsanları eğlendirmeyi sever.
Masculine-Negative	
Otoriter	Başkalarına güç uygular.
Kayıtsız	Etrafında olup bitenlerle ilgilenmez.
Feminine-Positive	
Sabırlı	Beklemesini bilir.
Sadık	Başkalarını aldatmaz.
Konuşkan	Sohbet etmekten hoşlanır.
Merhametli	Affetmeyi bilir.
Feminine-Negative	
Yapmacık	Olduğundan farklı davranır.
Saf	Tecrübesizlikten herkesin dediğine inanır.

NEW ITEMS	
Masculine-Positive	
Diplomatik	Tartışmalarda iki tarafı da hoş tutmaya çalışır.
Girişken	İlk adımı atmaktan çekinmez.
Masculine-Negative	
Alaycı	İnsanlarla dalga geçer.
Feminine-Positive	
Sıcakkanlı	Her zaman gülümser.
Alçakgönüllü	Kendini övmekten hoşlanmaz.
Feminine-Negative	
Endişeli	Başına kötü şeyler gelmesinden korkar.

APPENDIX C: SCALES AND DEMOGRAPHY FORM

FORM 1 (GENDER IDENTIFICATION)

1. Genelde, kadın olmaktan memnunum.

1	2	3	4	5	6	7
Hiç katılmıyorum			Ne katılıyorum, ne katılmıyorum			Tamamen katılıyorum

2. Kadın olmaya ilişkin duygularım olumludur.

1	2	3	4	5	6	7
Hiç katılmıyorum			Ne katılıyorum, ne katılmıyorum			Tamamen katılıyorum

3. Genelde kadın olmak, imajımın önemli bir parçasıdır.

1	2	3	4	5	6	7
Hiç katılmıyorum			Ne katılıyorum, ne katılmıyorum			Tamamen katılıyorum

4. Kadın olduğum için çoğu zaman pişmanlık duyarım.

1	2	3	4	5	6	7
Hiç katılmıyorum			Ne katılıyorum, ne katılmıyorum			Tamamen katılıyorum

5. Genellikle, kadın olmaya değmediğini düşünürüm.

1	2	3	4	5	6	7
Hiç katılmıyorum			Ne katılıyorum, ne katılmıyorum			Tamamen katılıyorum

6. Kendimi nasıl hissettiğimin kadin olmamla pek ilgisi yoktur.

1	2	3	4	5	6	7
Hiç katılmıyorum			Ne katılıyorum, ne katılmıyorum			Tamamen katılıyorum

7. Kadın olmam, kendimi nasıl bir insan olarak gördüğümü belirlemede önemli bir rol oynamaz.

1	2	3	4	5	6	7
Hiç katılmıyorum			Ne katılıyorum, ne katılmıyorum			Tamamen katılıyorum

8. Kadın olmak, kimliğimin önemli bir göstergesidir.

1	2	3	4	5	6	7
Hiç katılmıyorum			Ne katılıyorum, ne katılmıyorum			Tamamen katılıyorum

9. Aşağıdaki daireler kişinin kendini grubuyla özdeşleştirme seviyesini göstermektedir. Lütfen bu 7 secenek arasından sizin için en uygun olanını seçin.
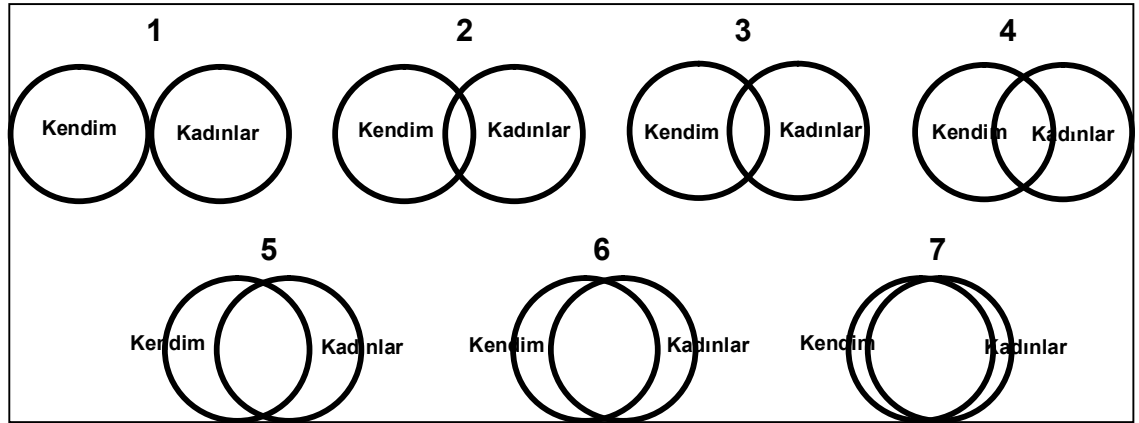
FORM 2 (GENDER RELATED SYSTEM JUSTIFICATION)

1. Genellikle kadınlarla erkekler arasındaki ilişkiler adildir.

1	2	3	4	5	6	7	8	9
Hiç katılmıyorum				Ne katılıyorum, ne katılmıyorum				Tamamen katılıyorum

2. Ailelerdeki iş bölümü genellikle olması gerektiği gibidir.

1	2	3	4	5	6	7	8	9
Hiç katılmıyorum				Ne katılıyorum, ne katılmıyorum				Tamamen katılıyorum

3. Geleneksel kadın-erkek rollerinin tümüyle yeniden yapılandırılması gerekir.

1	2	3	4	5	6	7	8	9
Hiç katılmıyorum				Ne katılıyorum, ne katılmıyorum				Tamamen katılıyorum

4. Türkiye, dünyada kadınların yaşayabileceği en iyi ülkelerdendir.

1	2	3	4	5	6	7	8	9
Hiç katılmıyorum				Ne katılıyorum, ne katılmıyorum				Tamamen katılıyorum

5. Cinsiyet ve cinsiyete dayalı iş bölümüyle ilgili politikalar toplumun yararınadır.

1	2	3	4	5	6	7	8	9
Hiç katılmıyorum				Ne katılıyorum, ne katılmıyorum				Tamamen katılıyorum

6. Kadın veya erkek herkes zengin ve mutlu olmak için adil bir fırsata sahiptir.

1	2	3	4	5	6	7	8	9
Hiç katılmıyorum				Ne katılıyorum, ne katılmıyorum				Tamamen katılıyorum

7. Toplumdaki cinsiyetçilik her yıl daha da kötüye gidiyor.

1	2	3	4	5	6	7	8	9
Hiç katılmıyorum				Ne katılıyorum, ne katılmıyorum				Tamamen katılıyorum

8. Toplum, kadın ve erkeklerin hak ettiklerini genellikle elde ettikleri şekilde düzenlenmiştir.

1	2	3	4	5	6	7	8	9
Hiç katılmıyorum				Ne katılıyorum, ne katılmıyorum				Tamamen katılıyorum

FORM 3 (LEGITIMACY)

1. Erkeklerin kadınlara göre daha fazla para kazanmasının en önemli nedeni, erkeklerle kadınların farklı kariyerler seçmesidir.

0	1	2	3	4	5
Hiç katılmıyorum					Tamamen katılıyorum

2. Gerçekçi olmak gerekirse, çiftlerin küçük çocukları olduğunda, annelerin (babalara nazaran) kariyerlerinden zaman ayırıp çocuk bakması muhtemelen daha iyi işler.

0	1	2	3	4	5
Hiç katılmıyorum					Tamamen katılıyorum

3. Eğer daha fazla kadın bu pozisyonla ilgilenseydi, şu an TBMM'de erkek ve kadın milletvekili sayısı neredeyse aynı olurdu.

0	1	2	3	4	5
Hiç katılmıyorum					Tamamen katılıyorum

4. Toplumumuz kadınlara erkeklerden daha az adil davranıyor.

0	1	2	3	4	5
Hiç katılmıyorum					Tamamen katılıyorum

5. Büyük şirketlerde az sayıda kadın genel müdür bulunmasının temel sebebi, kadınların yönetimde olmasına karşı haksız bir tutumun olmasıdır.

0	1	2	3	4	5
Hiç katılmıyorum					Tamamen katılıyorum

6. Kadınlarla erkeklerin toplumdaki konumlarının farklı olmasının meşru ve adil sebepleri vardır.

0	1	2	3	4	5
Hiç katılmıyorum					Tamamen katılıyorum

7. Toplumumuzda kadınlar erkeklerden daha düşük konumdadır.

0	1	2	3	4	5
Hiç katılmıyorum					Tamamen katılıyorum

8. Kadınların erkeklerden daha düşük konumda olmalarının meşru olduğunu düşünüyorum.

0	1	2	3	4	5
Hiç katılmıyorum					Tamamen katılıyorum

FORM 4 (STABILITY)

1. Bundan 20-30 yıl sonra büyük şirketlerdeki kadın ve erkek genel müdür sayısı neredeyse aynı olacak.

0	1	2	3	4	5
Hiç katılmıyorum					Tamamen katılıyorum

2. Bundan 20-30 yıl sonra da kadınların ortalama maaşı erkeklerinkinden büyük ölçüde daha düşük olacak.

0	1	2	3	4	5
Hiç katılmıyorum					Tamamen katılıyorum

3. Bundan 20-30 yıl sonra, her alanda (örneğin sosyal, politik, ekonomik) kadınlara erkeklerle eşit davranılacak.

0	1	2	3	4	5
Hiç katılmıyorum					Tamamen katılıyorum

4. Bundan 20-30 yıl sonra da kocaların (eşlerine nazaran) evde çocuk bakmak için kariyerlerine ara vermeleri az rastlanan bir durum olacak.

0	1	2	3	4	5
Hiç katılmıyorum					Tamamen katılıyorum

5. Önümüzdeki 20-30 yıl içerisinde, Türkiye'nin en az bir kadın cumhurbaşkanı olacak.

0	1	2	3	4	5
Hiç katılmıyorum					Tamamen katılıyorum

6. Önümüzdeki 20-30 yıl süresince, kadın ve erkeğin toplumdaki konumları arasında varolan farklar aynı kalacak.

0	1	2	3	4	5
Hiç katılmıyorum					Tamamen katılıyorum

DEMOGRAFİ

1.Deney tarihi:...

2.Doğum tarihiniz:...

3.Cinsiyetiniz: K...... E.......

4.Üniversitedeki bölümünüz:.......................................

5.Üniversitedeki yılınız:..

6. Sizce bu deney neyi ölçüyordu?

_____

_____

7. Deneyin herhangi bir aşamasında söylenenden farklı bir amacı olduğuna dair bir hisse kapıldınız mı?

1-Evet.........   2-Biraz...........   3-Hayır..........

8. Deneyde zorlandığınız ya da aklınızı karıştıran bir bölüm oldu mu?

_____

_____

9. İfadeleri hatırlamaya çalışırken belli bir yöntem kullandınız mı?

_____
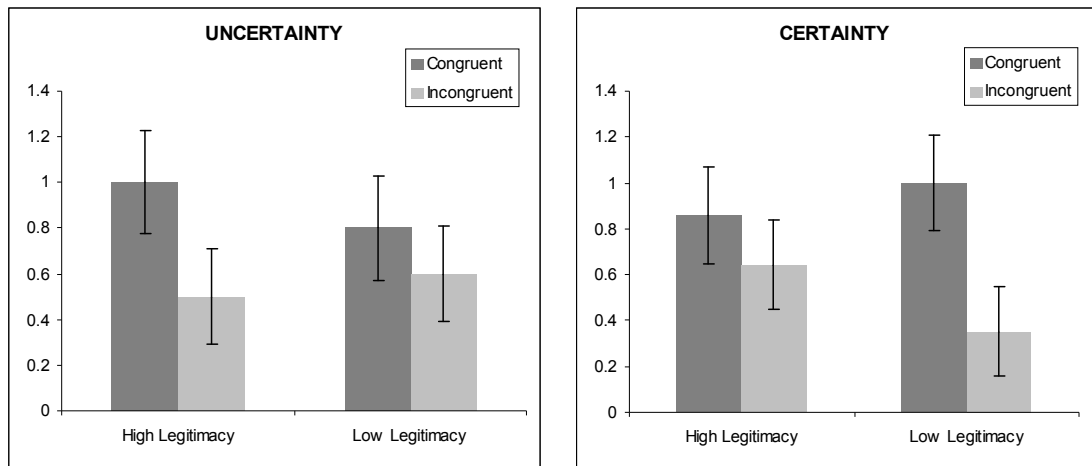
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APPENDIX D: FIGURES
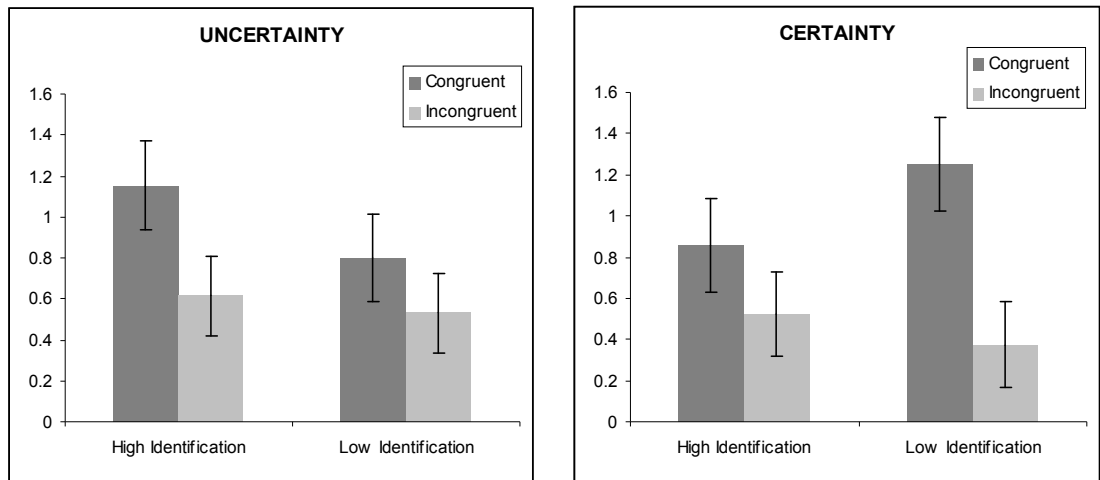
Fig. 1. Average number of stereotype-congruent and incongruent inductions across Uncertainty, certainty and gender identification conditions – Female scenario.
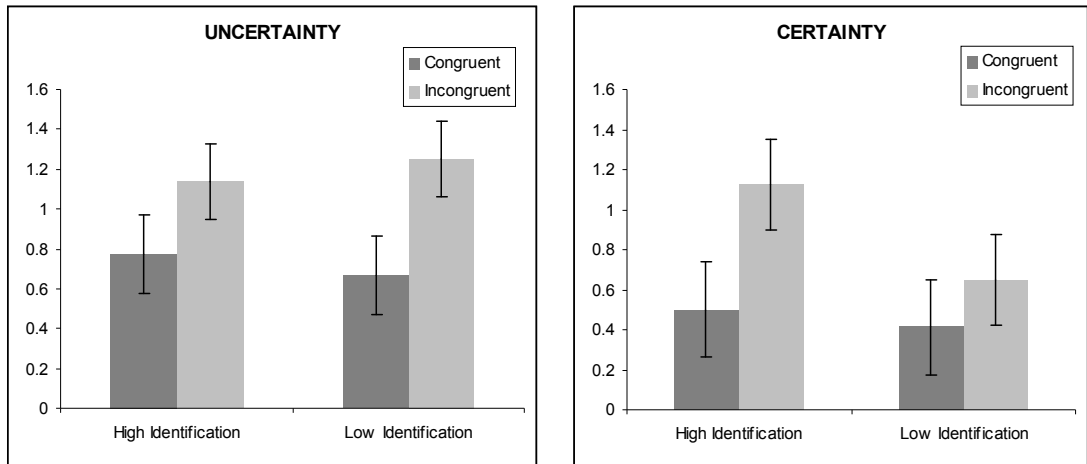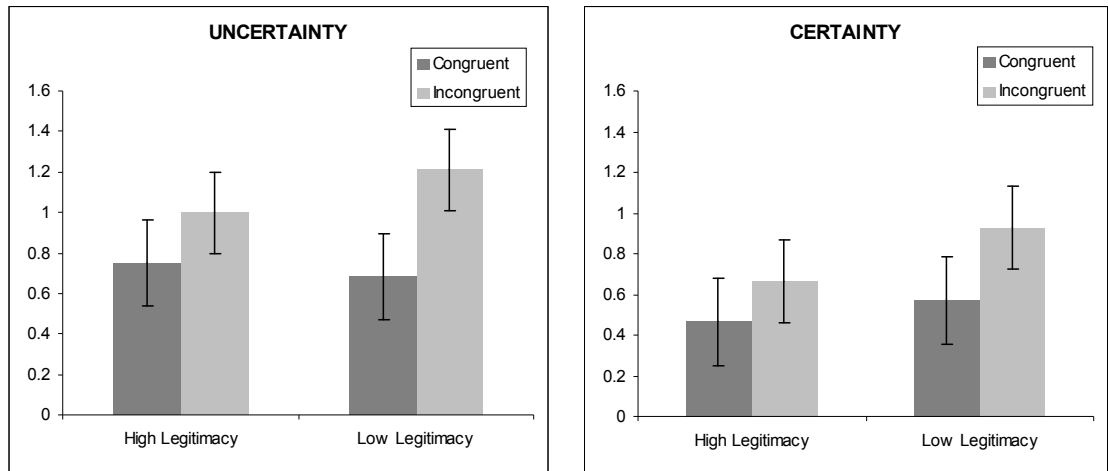
Fig. 2. Average number of stereotype-congruent and incongruent inductions across uncertainty, certainty and gender identification conditions – Male scenario.
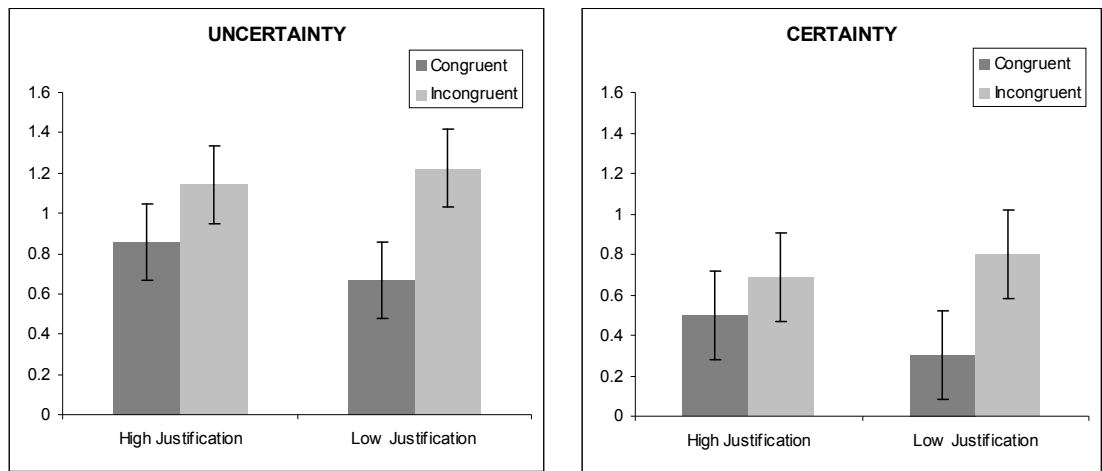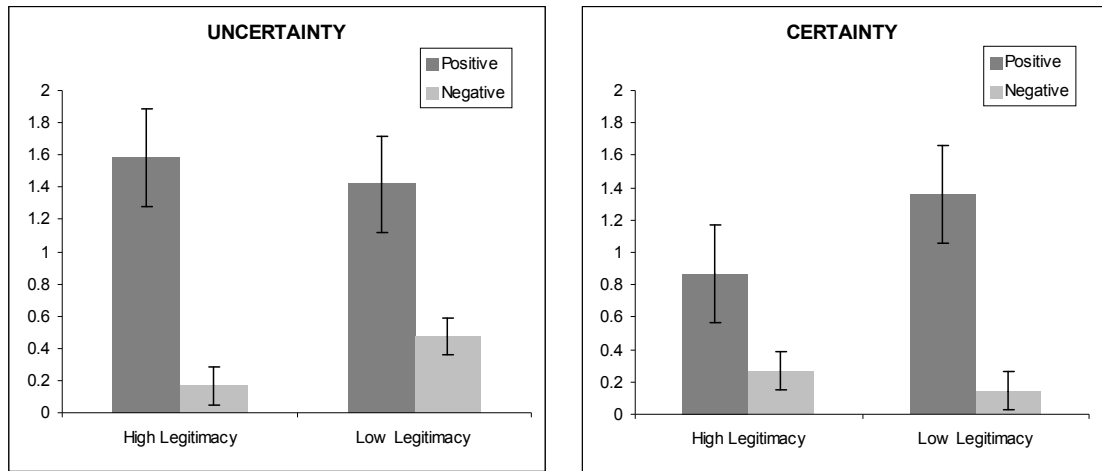
Fig. 3. Average number of stereotype-congruent and incongruent inductions across uncertainty, certainty and system justification conditions – Male scenario.
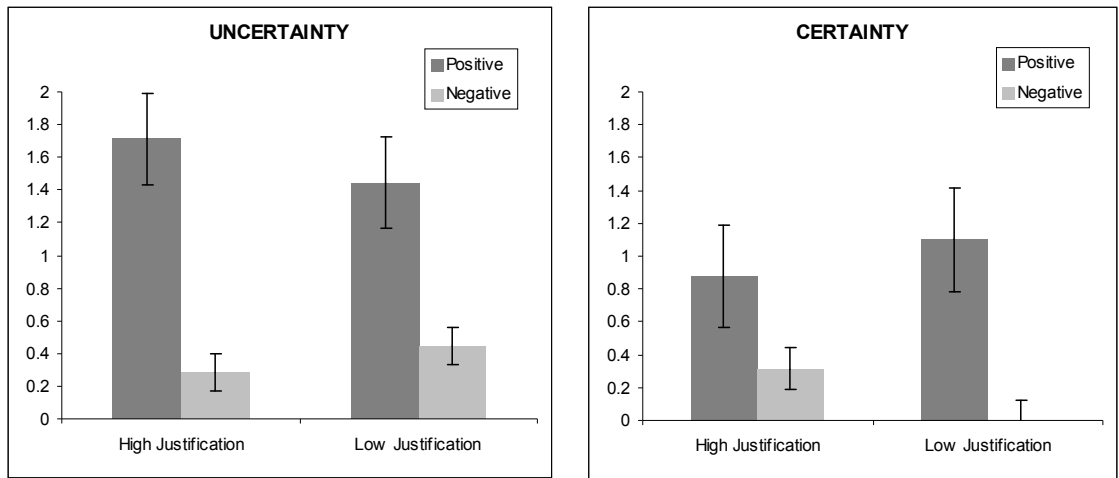
Fig. 4. Average number of positive and negative inductions across uncertainty, certainty and gender identification conditions – Male scenario.
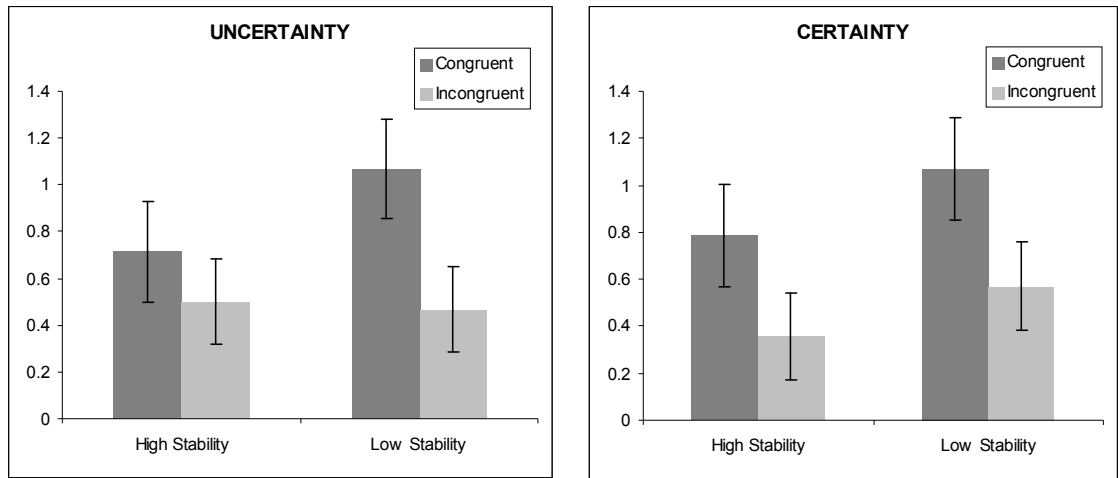
Fig. 5. Average number of stereotype-congruent and incongruent inductions across uncertainty, certainty and legitimacy conditions – Female scenario.

Fig. 6. Average number of stereotype-congruent and incongruent inductions across uncertainty, certainty and legitimacy conditions – Male scenario.

Fig. 7. Average number of positive and negative inductions across uncertainty, certainty and legitimacy conditions – Male scenario.

Fig. 8. Average number of stereotype-congruent and incongruent inductions across uncertainty, certainty and stability conditions – Female scenario.
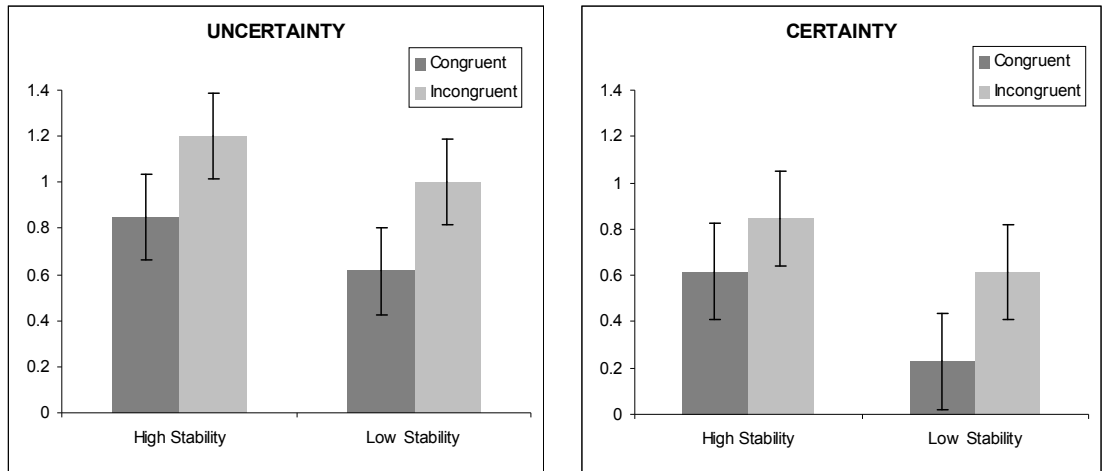
Fig. 9. Average number of stereotype-congruent and incongruent inductions across uncertainty, certainty and stability conditions – Male scenario.
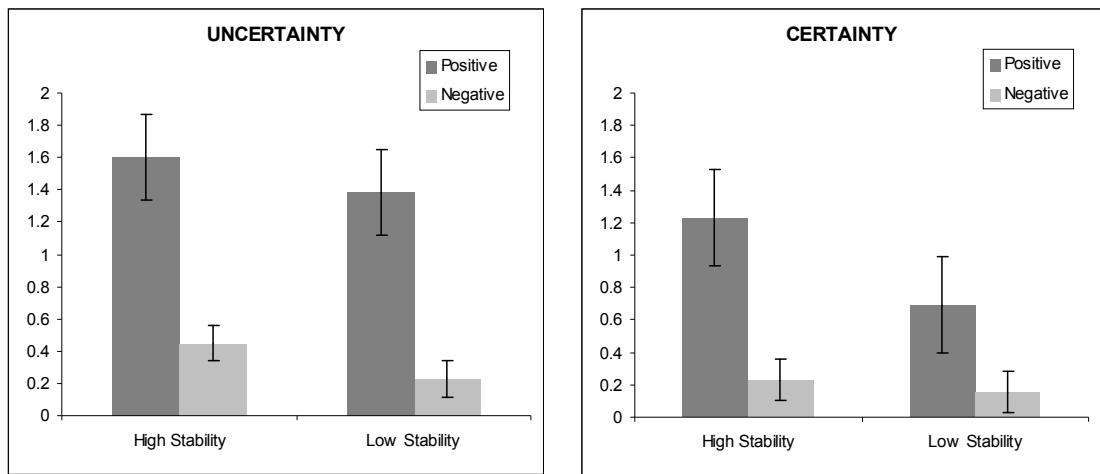
Fig. 10. Average number of positive and negative inductions across uncertainty, certainty and stability conditions – Male scenario.

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