

BELIEF IN THE EVIL EYE

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## **Abstract**

Belief in the Evil Eye, a supernatural force thought to cause harm through a mere glance, is prevalent across many cultures worldwide. This research examines the psychological underpinnings of Evil Eye belief and its associations with attitudes, emotions, and interpersonal envy within a religiously diverse sample from Canada and the United States (total  $N=1357$ ). The studies further investigate how demographic factors and individual differences are correlated with this belief. Correlation analyses further link Evil Eye beliefs with religiosity, positivity, and zero-sum thinking. Believers also tend to dislike compliments, jealousy, and showing off compared to non-believers. In free list descriptions, believers frequently attribute the negative outcomes of the Evil Eye to factors such as health, bad luck, harm and personal loss. These findings underscore the complex interplay between cultural context, individual differences, and supernatural beliefs, contributing to a deeper understanding of the psychology behind Evil Eye beliefs.

*Keywords:* Evil Eye; Envy; Believers; Non-believers

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## **Belief in the Evil Eye**

Supernatural beliefs are prevalent worldwide and are significant to many individuals or communities. The importance of these supernatural beliefs can vary widely among different cultures and belief systems. Similarly, these beliefs' operating rules and rituals may differ across cultures and religions (Norenzayan, 2016). For example, various cultures believe in supernatural forces that can cause individuals to experience harm, such as punishment from gods, witchcraft and the Evil Eye. This paper will focus on the Evil Eye, a widespread and ancient supernatural belief. The Evil Eye is the power of casting a curse by a simple eye glance that causes harm to the person or object upon which the eye is focused (Berger, 2013; Bohigian, 1997; Maloney, 1976; Ulmer, 1994). The Evil Eye belief is described in many religious scriptures (Berger, 2013) and widely reported in India, Ireland, Iran, and other ethnic groups, such as Italians, Greeks, Arabs, and Spanish (Berger, 2013; Dundes, 1992).

Anthropological surveys indicate that the Evil Eye continues to be an influential factor affecting the behaviour of believers because it is a phenomenon that causes real fear and perceived harm. Everyone is thought to be vulnerable to the Evil Eye, but some are considered more vulnerable than others, such as children. A common victim of the Evil Eye is someone who elicits envy by possessing wealth, status, health, or family that observers admire and might covet for themselves. Believers may be cautious about praising anything because they fear this will call upon the Evil Eye to strike them with misfortunes (Dein et al., 2008; Dundes, 1992; Lindholm, 2008). Thus, believers see compliments as a sign of the Evil Eye because compliments imply that someone admires and potentially envies something you possess. Believers feel that the Evil Eye can be cast unintentionally or intentionally. However, when it is intentional, they see it as more dangerous (Stein, 1974). The method of protection varies across cultures. Protection against the

Evil Eye includes special prayers, incantations, and amulets (Berger, 2013). In some cultures, individuals invest resources to protect themselves from the Evil Eye by performing a ritual, participating in a religious celebration, or engaging in regular acts of faith (Calestani, 2009).

### **Evil Eye Versus Envy**

Envy is common in human societies around the world. Envy can contain either resentful or admiring thoughts about the envied person. Benign envy is the desire to become the person they admire, whereas malicious envy is the desire to harm the person by bringing them down (Lange & Crusius, 2015). Cultural evolutionary theories suggest that belief in the Evil Eye is most common in societies where people are most likely to feel malicious envy at others' success, such as those with greater competitiveness, inequality and zero-sum beliefs about personal success (Gershman, 2015; Lindholm, 2008; Schimmelpfennig & Muthukrishna, 2023). Evil Eye believers feel that being envied can harm them or their possessions because malicious envy gives power to the Evil Eye merely through people's negative intentions and emotions transmitted through gaze without direct human action (Dein et al., 2008). Thus, I expect believers to display malicious envy, while non-believers will be more likely to endorse benign envy.

In addition, the Evil Eye can also influence the emotional experience of a perceiver. The emotions we experience help us form and maintain social interactions. For example, distancing oneself from others can be seen in negative emotions such as anger, fear, and embarrassment (Lewis et al., 2008). These negative emotions can be expressed in reaction to violating individual rights or community, and their function is to alter an undesired outcome by forcing a change in the target's behaviour (Fischer & Roseman, 2007). Because the Evil Eye reflects these interpersonal hostilities, I expect believers to feel anger when receiving the Evil Eye or shame for casting it, much as they feel anger and shame for more direct forms of social conflict (Fischer & Roseman,

2007; Lewis et al., 2008; Sato et al., 2004). For example, individuals in Bolivia expressed fear about being envied because they believe envy can trigger the Evil Eye, which causes misfortune, conflict, illness, and lack of resources (Calestani, 2009).

Other researchers argued that fearing malicious envy and eliciting Evil Eye leads to prosocial behaviour and cooperation among group members (Lindholm, 2008; Van de Ven et al., 2010). The believer may engage in envy avoidance behaviour, such as helping the less fortunate because of fear of attracting an envious look (Gershman, 2015; Pocock, 1981). I predict that belief in Evil Eye will be associated with a greater fear of eliciting envy when people violate social norms. However, this violation refers to a more specific form of the norm, such as inappropriately displaying success and wealth (Giacomantonio et al., 2018; Van de Van et al., 2009).

Further, the Evil Eye is believed to be a cultural defence mechanism operating through envy, particularly in cultures with inequality in the distribution of resources (Galt, 1982; Gershman, 2015). This implies that the Evil Eye operates as a mechanism to discourage people from engaging in behaviours such as showing off, achieving inappropriate levels of status/wealth, and giving compliments likely to elicit envy or signal that you feel envious. Hence, I expect that the Evil Eye believers will have a lower desire to show off, receive compliments and elicit envy compared to non-believers.

Furthermore, other researchers have stated that malicious envy is generated by zero-sum belief. Zero-sum belief, which indicates that one person benefits at the expense of another, can lead to discouraging success due to fear of envy, which can give rise to the Evil Eye (Carvalho et al., 2023; Pocock, 1981). Thus, I expect Evil Eye belief to correlate positively with zero-sum beliefs.

## **Evil Eye in Religious Cultures**

The Evil Eye goes beyond expectations about interpersonal envy, where harm comes at the hands of other people, to also include harm through supernatural means, such as accidents and illnesses not directly caused by human actions. Therefore, I investigated whether Evil Eye believers have other beliefs and cultural backgrounds predisposing them to believe in supernatural forces. Porosity is one key element of believing in religion and magical powers, and measures the general belief that supernatural forces can act through a person's intention, thoughts, and feelings and inflict harm on others without physical action. Evil Eye belief is also socially transmitted through specific religious traditions' teachings, rituals, and cultural norms. Thus, I expect participants who believe in the Evil Eye to score high on porosity and religiosity, especially those from religious backgrounds such as Muslims, Hindus, and Christians, and among people in Italy, Greece, Scotland, Spain, Portugal, Latin America, India, Africa, and Arab countries (Calestani, 2009; Bonomi, 2010; Hossain, 2021; Machovec, 1976; Mullick et al., 2013; Ulmer, 1994; Weller et al., 2015). Also, Evil Eye beliefs will be stronger among Hispanics than non-Hispanic ethnic groups. I expect that the belief in the Evil Eye will have many similarities among different cultures and religions in terms of the consequences of the Evil Eye, especially that health-related experiences will be more common for the outcome of the Evil Eye than an outcome of envy (Bohigian, 1997; Burleigh et al., 1990; Dallas et al., 2020; Sprio, 2005).

## **Evil Eye Relation to Karma and Belief in a Just World**

Humans often seek fairness and control in their lives, leading to beliefs like karma, the belief in a just world and the Evil Eye (White & Norenzayan, 2019). These belief systems help individuals explain uncertainties in their lives, enhance the feeling of control, and reinforce social and moral norms. For instance, both karma and the Evil Eye promote cooperation, but while karma

and belief in a just world promise both rewards and punishments, the Evil Eye emphasizes punishment only. Supernatural beliefs like the Evil Eye are more prevalent in collectivist societies, where communal values like social harmony are prioritized, unlike individualistic cultures, which emphasize personal achievement and independence (Abele & Wojciszke, 2014). The Evil Eye reflects this communal orientation because it serves as a mechanism to maintain social balance and prevent negative emotions like envy, which could disrupt the harmony of the group. On the other hand, karma and the belief in a just world tend to be more adaptable across both collectivist and individualistic cultures.

### **Overview of Research**

Most existing evidence of Evil Eye beliefs is focused on anthropological case studies of specific communities. The present study will offer novel contributions to the psychological research on the belief in the Evil Eye. Understanding how Evil Eye belief shapes our motivation, perceptions and behaviour in social settings is essential for understanding group dynamics (e.g., in workplaces) and for health practitioners to gain insight into how their patients perceive the source of their illnesses.

### **Research Questions**

To understand the psychology of Evil Eye belief, I conducted two studies to investigate (a) who is more likely to believe in the Evil Eye, (b) what believers think the Evil Eye is and how it is relevant in their daily lives, and (c) how the Evil Eye is similar or different from beliefs about interpersonal envy. I conducted an exploratory study (Study 1) in February of 2023 to examine the prevalence and correlates of Evil Eye belief in a large sample of Canadian students ( $N = 757$ ). I asked non-believers questions about envy since the literature review indicated that the Evil Eye is associated with envy. I wanted to see if envy among believers and non-believers is similar or

different. Finally, after analyzing data from Study 1, I conducted Study 2, a preregistered replication of the key findings in a new sample of American adults.

The first set of analyses investigates which religious or ethnic groups are highest in Evil Eye belief and how belief is correlated with other demographics and variables known to predict supernatural beliefs, including religiosity, porosity, norm tightness, and analytic thinking. The second set of analyses investigates beliefs about the sources and outcomes of the Evil Eye, what emotions people feel about receiving/casting the Evil Eye, and how they see it influencing their lives. The final set of analyses compared beliefs about the Evil Eye to beliefs about envy and whether Evil Eye belief is associated with greater feelings of malicious envy and less desire to engage in behaviours that might attract envy.

### **Study 1**

Study 1 was an exploratory study that examines the prevalence and correlates of Evil Eye belief in a large sample of Canadian students.

### **Methods**

#### **Participants**

I examined the prevalence and correlates of Evil Eye belief in a large culturally and religiously diverse sample of Canadian students (target  $N = 800$ ) at York University in Toronto. The survey was available to all students in introductory psychology classes. The participants were given a link to the online Qualtrics survey that took approximately 30 minutes to complete. Participants were given course credit for participating. One-month deadline was given to participants to take part in the survey. However, the final participant number was less ( $N = 757$ ) than expected for the following reasons. Participants who failed to complete the survey and those

who failed the attention checks included in the questionnaire were removed from the final analysis. In addition, some of the participants signed up but forgot to complete the survey.

The gender distribution of Study 1 was 76% female and 22% male. The mean age of the participants was 20 years ( $SD = 3.69$ , range = 34). Regarding ethnicity, 24% identified as South Asian, 23% Caucasian/White, 14% Middle Eastern, 10% Southeast Asian, 10% Black, 7% East Asian, 3% Hispanic, and 9% other ethnicities. In terms of religious affiliation, the distribution was 33% Christian, 21% Muslim, 8% Hindu, 6% Sikh, 3% Jewish, 2% Buddhist, 8% other religions and 20% Non-religious/Atheist/Agnostic.

## **Procedure**

Participants signed the consent form and were directed to the main question about Evil Eye belief: “Do you believe in the Evil Eye?” using a 7-point Likert scale. Participants who reported 5 or higher (5 = *Slightly Agree*, 6 = *Agree*, 7 = *Strongly Agree*) on the primary question were identified as “Believers.” Then, the believers answered subsequent questions about the Evil Eye belief. Believers were asked to list the characteristics and behaviours associated with receiving, casting, and outcomes of the Evil Eye. Then, they answered items about other beliefs and behaviours related to the Evil Eye, and perspectives about harms, intention, emotions, and attributions related to the Evil Eye, followed by other attitudes towards showing off, jealousy, and compliments concerning the Evil Eye.

The participants who reported a four or less (1 = *Strongly Disagree*, 2 = *Disagree*, 3 = *Somewhat Disagree*, and 4 = *Neither Agree nor Disagree*) on the main question “Do you believe in the Evil Eye?” were termed as “non-believers.” They were asked to list the characteristics and behaviour of receiving, casting, and outcomes of envy. Then, they answered questionnaires

(analogous to those given to believers) about attitudes toward showing off, jealousy, and compliments regarding envy.

All participants answered questionnaires regarding several individual differences in other attitudes and thinking styles, including analytical thinking, porosity, attitude toward inequality, tightness and looseness of social norms, perceiving the world as zero-sum vs. positive-sum, interpersonal envy, religiosity, subjective well-being, and demographics (age, gender, income, religion, ethnicity, economic insecurity) in a randomized order.

## **Measures**

### ***Views of the Evil Eye***

The overall Evil Eye scale had multiple subscales. This is a new scale that we are currently developing through these studies. The subscales were about general beliefs, behaviour, harm, intention, emotions, attributions, showing off, jealousy, and compliments regarding the Evil Eye.

**General Evil Eye Belief.** The general Evil Eye belief had four items, such as “The Evil Eye can bring me bad luck” (1 = *Strongly Disagree* to 7 = *strongly agree*).

**Free List Description of Evil Eye.** Participants were asked to list five characteristics and behaviours related to each of three themes: (a) receiving, (b) casting, and (c) the outcome of the Evil Eye. The open-ended prompt encouraged participants to provide detailed responses based on their personal beliefs, describing situations or factors that led to receiving, casting, and the outcomes of the Evil Eye. For instance, the item for receiving the Evil Eye was phrased as, “Write first whatever comes to mind when you think about who receives the Evil Eye and list up to five different characteristics or behaviours that would make someone a victim of the Evil Eye.” We did not provide a definition of the Evil Eye to participants, so responses reflect whatever ideas participants spontaneously associate with the concept. Limiting the responses to five per list

highlighted the most salient characteristics and behaviours identified by participants. Although all participants were asked to list five items, the number of items provided varied. For example, some participants' responses did not directly address the question, or the authors were not able to clearly identify the appropriate coding category.

**Coding Strategy.** To summarize the data for quantitative analysis, I coded the responses into predefined categories (see Table 1 for a list of categories). These categories were developed based on a pilot study conducted by the author, who initially coded the pilot data and then applied the coding scheme to the main data set with the help of research assistants. The coding process enabled me to determine the frequency of responses within theoretically meaningful categories. The principal investigator trained the research assistants and two independent coders, who, blind to the hypothesis, coded the data for the three themes (receiving, casting, or outcome) to minimize errors. Coders examined the participants' language and assigned codes based on the themes. For example, if a response stated, "When someone is naturally good at something that you're working hard for," it was categorized under "personal success". If a response included two different aspects that could be coded differently, such as "ill health/bad luck," coders were instructed to code only the first aspect mentioned—in this case, "physical health/beauty" rather than "luck". Any discrepancies between coders were resolved through discussion and flagged for review by the author to ensure consistency and construct validity. Responses that did not answer the intended question were coded as not applicable and excluded from the analysis. The number of responses that fell into this category was 637, which represents 17% of the total possible responses.

**Table 1***List of Coding Scheme Categories for Outcome, Source and Receive for Evil Eye and Envy*

Free List Question Types	Coding Scheme Categories
Outcome	Loss of Personal Success, Loss of Relationship Success, Health/Illness/Loss of Beauty, Personality Traits, Emotions, Judged/Criticized, Spiritual Weakness, Bad Luck, Harm, Other/Not Applicable
Source	Lack of Personal Success, Lack of Relationship Success, Physical Health/Beauty, Personality Traits, Emotions, Bad Situation, Spiritual Weakness, Luck, Other/Not Applicable
Receive	Personal Success, Relationship Success, Physical Health/Beauty, Personality Traits, Emotions, Bad Situation, Spiritual Weakness, Luck, Other/Not Applicable

**Evil Eye Behavioural.** The behavioural manifestation of Evil Eye had ten items that we generated for this study, such as “I have special objects in my home to help ward off the Evil Eye” (1 = *Never* to 5 = *All the Time*). The Evil Eye harm had three items regarding perceived harm. For example, “The Evil Eye can cause physical/mental illness in humans” (1 = *Strongly Disagree* to 7 = *Strongly Agree*). The Evil Eye intention had four items regarding the intention behind causing or casting the Evil Eye, such as “I have intentionally cast the Evil Eye upon someone or something” (1 = *Strongly Disagree* to 7 = *Strongly Agree*).

The emotions contained two sets of questions related to how people are expected to feel when casting or receiving the Evil Eye. For each casting and receiving, participants reported how strongly they would feel afraid, worried, angry, sad, disgusted, ashamed, guilty, embarrassed, or other emotions (1 = *Not at All*, 2 = *Slightly*, 3 = *A Little*, 4 = *Somewhat*, 5 = *A Lot*, 6 = *Quite a Lot*, 7 = *Very Much*). Attribution had two items regarding attributions of their own and others, such as “If you were affected by the Evil Eye, how responsible would you feel for having caused this experience?” (1 = *Not at All* to 4 = *A lot*).

**Showing Off, Jealousy and Compliments Regarding Evil Eye.** We generated novel items to directly measure attitudes toward showing off, compliments, and jealousy. Showing off had five items, such as, “People deserve to be harmed by the Evil Eye when they show off their successes” (1 = *Strongly Disagree* to 7 = *Strongly Agree*). Jealousy had four items regarding the Evil Eye, such as, “I have felt afraid that other people’s jealousy will bring the Evil Eye upon me” (1 = *Strongly Disagree* to 7 = *Strongly Agree*). Compliments had seven items regarding Evil Eye. For example, “When I receive a compliment, I feel worried because it might bring the Evil Eye upon me” (1 = *Strongly Disagree* to 7 = *Strongly Agree*).

### ***Views of Envy for Non-Believers***

If participants reported that they did not believe in the Evil Eye in the direct question at the beginning of the survey, they answered an analogous set of questionnaires that referred to envy rather than the Evil Eye.

**Free List Description of Envy.** Non-believers completed a parallel set of questionnaires addressing three themes: (a) receiving, (b) casting, and (c) the outcome of envy instead of the Evil Eye. Participants were asked to list five characteristics and behaviours associated with receiving, casting, and the outcomes of envy. For example, the item for receiving envy was, “Write first whatever comes to mind when you think about people who cause envious feelings in others and list up to five different characteristics or behaviours that would make someone a victim of envy.” The same coding strategy used for the Evil Eye was applied to the envy responses.

**Showing Off, Jealousy and Compliments Regarding Envy.** We also adapted the novel items to measure attitudes toward showing off, compliments, and jealousy when thinking about envy. Showing off for envy contained five items. For example, “People deserve to be harmed by the negative energy when they show off their successes” (1 = *Strongly Disagree* to 7 = *Strongly*

*Agree*). Jealousy had four items, such as “I have felt afraid that other people’s jealousy will bring negative energy upon me” (1 = *Strongly Disagree* to 7 = *Strongly Agree*). Compliments for envy had seven items, such as “If you admire someone or something, you can cast negative energy upon them” (1 = *Strongly Disagree* to 7 = *Strongly Agree*).

### ***Other Measures***

**Analytical Thinking Scale.** Seven items (drawn from Frederick, 2005; Thomson & Oppenheimer, 2016) were used to measure the ability to use analytic thinking to override intuitions, such as, “A farmer had 15 sheep, and all but 8 died. How many are left?” The answers were coded 1 = correct and 0 = incorrect ( $\alpha = 0.51$ ).

**Porosity Scale.** Eleven items (drawn from Luhrmann et al., 2022) were used to measure the belief that minds are porous and susceptible to influence from outside supernatural forces, such as, “Spirits can use human thoughts and feelings to hurt people” (1 = *Strongly Disagree* to 7 = *Strongly Agree*) ( $\alpha = 0.94$ ).

**Attitude Toward Inequality.** Eight items (drawn from Schmalor & Heine, 2019) were used to measure attitudes toward inequalities, such as, “Almost all of the money that is earned goes to only a few people” (1 = *Strongly Disagree* to 7 = *Strongly Agree*) ( $\alpha = 0.85$ ).

**Tightness and Looseness of Social Norms.** Six items (drawn from Gelfand et al., 2011) were used to measure the extent to which norms are enforced, such as, “There are many social norms that people are supposed to abide by in this community” (1 = *Strongly Disagree* to 7 = *Strongly Agree*) ( $\alpha = 0.81$ ).

**Zero-sum vs. Positive-sum.** Six items (drawn from Różycka-Tran et al., 2019) measured the embraces mindset that one’s gain is another’s loss, such as “Successes of some people are usually failures of others” (1 = *Strongly Disagree* to 7 = *Strongly Agree*) ( $\alpha = 0.90$ ).

**Interpersonal Envy.** Ten items (drawn from Lange & Crusius, 2015) were used to measure envy, such as, “When I envy others, I focus on how I can become equally successful in the future” (1 = *Strongly disagree* to 7 = *Strongly Agree*) ( $\alpha = 0.87$ ).

**Religiosity.** 14 items (adapted from Jong et al., 2013) were used to measure attitude toward religious beliefs and practices, including religious affiliation, level of religiosity, spirituality, frequency of religious service attendance and ritual participation. Such as, “There exists an all-powerful, all-knowing, loving God” (1 = *Strongly Disagree* to 7 = *Strongly Agree*) and “Other than weddings and funerals, approximately how often do you attend religious services” (1 = *More Than Once a Week* to 5 = *Once a Year*) ( $\alpha = 0.94$ ). This item was reverse-coded (R).

**Economic Insecurity.** Three items were used to assess individuals’ subjective perceptions of social status. The items included family status relative to others and insecurity about providing food and paying for events. An item such as “Which rung on the ladder do you think you are born? Select rung where you think your family status at this time relative to other people in your country people” (1 to 10) ( $\alpha = 0.61$ ).

**Subjective Well-being.** Three items (drawn from Diener, 1984) assessed individuals’ subjective well-being. The items included life satisfaction, happiness and health, such as “In general, how satisfied are you with your life” (1 = *Very Dissatisfied* to 4 = *Very Satisfied*) ( $\alpha = 0.75$ ).

**Demographics.** This section includes eleven questions about family status, number of children, education, income, religion, gender, age, ethnicity, where they live and birthplace.

## **Data Analysis**

RStudio Version 2023.12.1.402 and R version 4.3.3 were used to analyze the data from all studies. Descriptive analyses were first conducted to examine the mean, standard deviation (*SD*),

and range for the multi-item Evil Eye belief questionnaire among believers. Pairwise t-tests were used to compare the level of Evil Eye belief across religious and ethnic groups for both believers and non-believers. Correlations between Evil Eye belief and various variables such as analytical thinking, attribution, porosity, attitudes toward inequality, tightness and looseness of social norms, perceptions of the world as zero-sum versus positive-sum, interpersonal envy, religiosity, socioeconomic status (SES) insecurity, and subjective well-being were examined for both groups. The frequency of responses to open-ended questions regarding the characteristics and behaviours associated with receiving, casting, and outcomes of the Evil Eye/envy were analyzed using Chi-squared tests for each category in both believers and non-believers. Finally, t-tests were conducted to determine whether emotions (e.g., anger, fear) differed for casting and receiving the Evil Eye among believers.

## **Results and Discussion**

### **Descriptive Analysis of Evil Eye Questionnaire**

Descriptive analyses were first conducted to measure the reliability of a multi-item Evil Eye belief questionnaire. A preliminary analysis evaluated the internal consistency of the four “General Belief” items. All items demonstrated positive correlations with each other ( $r_s > .51$ ,  $p_s < .001$ ). The reliability analysis revealed a high level of internal consistency ( $\alpha = 0.86$ ), indicating that the “General Belief” items are a robust measure of beliefs about the Evil Eye. Going forward, I will use this composite score to measure Evil Eye belief.

Additionally, I assessed how much people endorsed items related to behaviours and harm associated with the Evil Eye. For the behaviour items, items 4 ( $M = 3.84$ ), 10 ( $M = 3.76$ ), and 3 ( $M = 3.57$ ) exhibited the highest means (see Table 2), suggesting that respondents are more likely to endorse behaviours such as prayer or religious rituals, the use of objects or talismans, and

specific words or gestures as protective measures against the Evil Eye. Conversely, items 7 ( $M = 1.39$ ) and 5 ( $M = 1.59$ ) had lower means, indicating less agreement among believers regarding seeing a doctor or using plants for prevention.

Regarding harm, item 1 ( $M = 5.06$ ) had the highest mean, reflecting a strong belief that the Evil Eye causes physical or mental illness. In contrast, item 2 ( $M = 3.81$ ) had the lowest mean, indicating that believers are less likely to agree that they have suffered from the Evil Eye than knowing someone affected by it (item 3).

**Table 2**

*Result of Preliminary Descriptive Analysis for the Evil Eye Variables*

Evil Eye Variables	<i>M</i>	<i>SD</i>	<i>Range</i>
<b>General Belief</b>			
1. I believe in the Evil Eye.	5.69	1.13	6
2. The Evil Eye curse can cause harm to people and objects.	5.15	1.48	6
3. The Evil Eye can bring me bad luck.	5.07	1.57	6
4. The Evil Eye is a negative force that influences my life.	4.44	1.66	6
<b>Behaviour</b>			
1. I have special objects in my home to help ward off the Evil Eye.	3.20	2.24	6
2. I have worn talismans or precious stones to protect myself against the Evil Eye.	2.72	2.13	6
3. I have used protective words, gestures, or rituals to prevent the Evil Eye.	3.57	2.15	6
4. I use prayers or religious rituals to protect myself from the Evil Eye.	3.84	2.24	6
5. I have used plants to prevent the Evil Eye.	1.59	1.33	6
6. I have a religious or spiritual leader to help treat a case of the Evil Eye.	2.41	1.98	6
7. I have asked a doctor to help with treat an illness that I believed was caused by the Evil Eye.	1.39	1.06	6
8. I have used books or the internet to learn more about the Evil Eye.	2.66	1.79	6
9. I speak with people in my social network about possible cases of the Evil Eye.	2.72	1.86	6
10. People in my family use special objects, talismans, words, gestures, or rituals to protect themselves against the Evil Eye.	3.76	2.27	6
<b>Evil Eye Harm</b>			
1. The Evil Eye can cause physical/mental illness in humans.	5.06	1.66	6
2. I have suffered or become sick because of the Evil Eye.	3.81	2.02	6
3. Someone I love has suffered or become sick because of the Evil Eye.	4.13	2.05	6

In addition, I measured whether causing harm through the Evil Eye and casting the Evil Eye can be done intentionally or unintentionally. The summary statistics for the intention items

reveal notable differences in respondents' perceptions. Item 2 has the highest mean ( $M = 5.33$ ), indicating that most participants highly agree that it is possible to intentionally cause harm to another person through the Evil Eye (Table 3). Similarly, Item 1 has a high mean ( $M = 4.93$ ), suggesting that participants agree that it is possible to cause harm unintentionally through the Evil Eye. In contrast, items 3 ( $M = 1.34$ ) and 4 ( $M = 1.80$ ) have a much lower means, indicating that believers rarely report casting an Evil Eye upon someone or something, intentionally or unintentionally. Furthermore, two-sample t-tests were used to compare the means for items related to casting the Evil Eye unintentionally (items 1 and 4) and intentionally (items 2 and 3). The results revealed that the possibility of casting the Evil Eye unintentionally was higher ( $M = 4.93$ ,  $SD = 1.69$ ) than for admitting that they unintentionally cast the Evil Eye upon someone or something ( $M = 1.80$ ,  $SD = 1.25$ ;  $d = 2.11$  [1.94, 2.28],  $t(739.18) = 29.85$ ,  $p < .001$ ). For intentionally casting the Evil Eye, the analysis showed that the possibility of casting the Evil Eye intentionally was higher ( $M = 5.33$ ,  $SD = 1.54$ ) than admitting they intentionally cast the Evil Eye ( $M = 1.34$ ,  $SD = 0.93$ ;  $d = 3.16$  [2.95, 3.37],  $t(659.79) = 44.40$ ,  $p < .001$ ). These results demonstrate that participants are less likely to admit to casting the Evil Eye, whether unintentionally or intentionally.

**Table 3**

*Descriptive Analysis of the Intention for Causing and Casting Evil Eye*

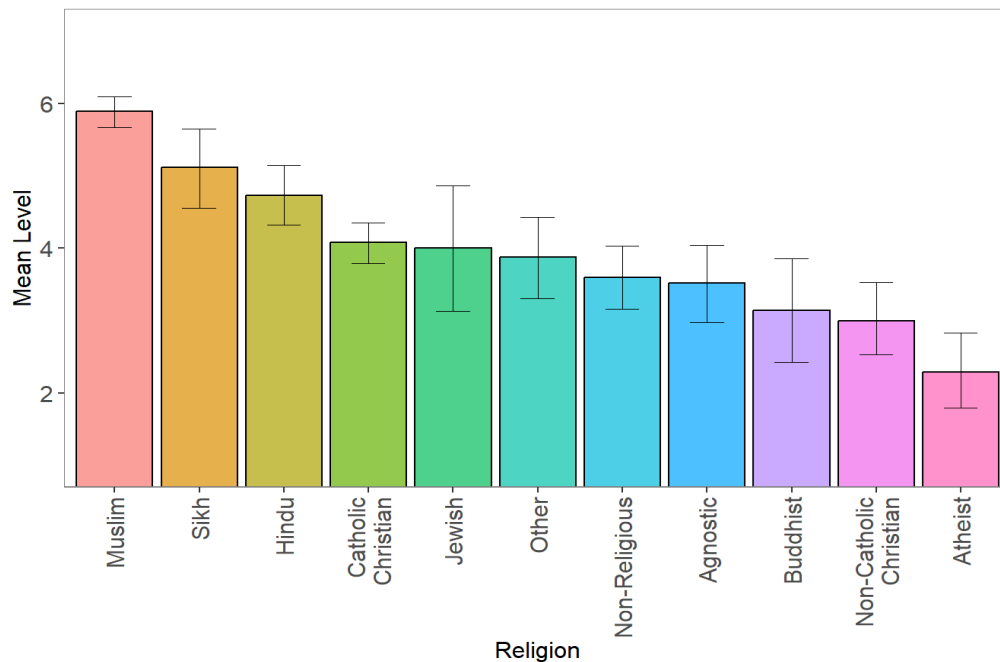
Intention of Evil Eye	<i>M</i>	<i>SD</i>	<i>Range</i>
1. It is possible to unintentionally cause unintended harm to other people through the Evil Eye.	4.93	1.69	6
2. It is possible to intentionally cause harm to another person through the Evil Eye.	5.33	1.54	6
3. I have intentionally cast the Evil Eye upon someone or something.	1.34	0.93	6
4. I have unintentionally, accidentally cast the Evil Eye upon someone or something.	1.80	1.25	6

## Distribution of Evil Eye Among Religions and Ethnic Groups

I examined the variation in Evil Eye belief across different religions and ethnic groups using the single-item, direct Evil Eye question. Pairwise t-tests were conducted to compare the Evil Eye belief among different religious groups. The analysis revealed that Muslims, Sikhs, and Hindus scored significantly higher in Evil Eye belief than Catholic Christians, Jewish, and Buddhists (all  $ps < .001$ , see Figure 1). Pairwise comparison t-tests were conducted to analyze Evil Eye beliefs across various ethnic groups. The results indicated that South Asian and Middle Eastern ethnic groups had significantly higher average scores compared to Caucasian/White and Southeast Asian ethnic groups, which exhibited significantly firmer beliefs in the Evil Eye compared to the other ethnic groups (all  $ps < .05$ , see Figure 2).

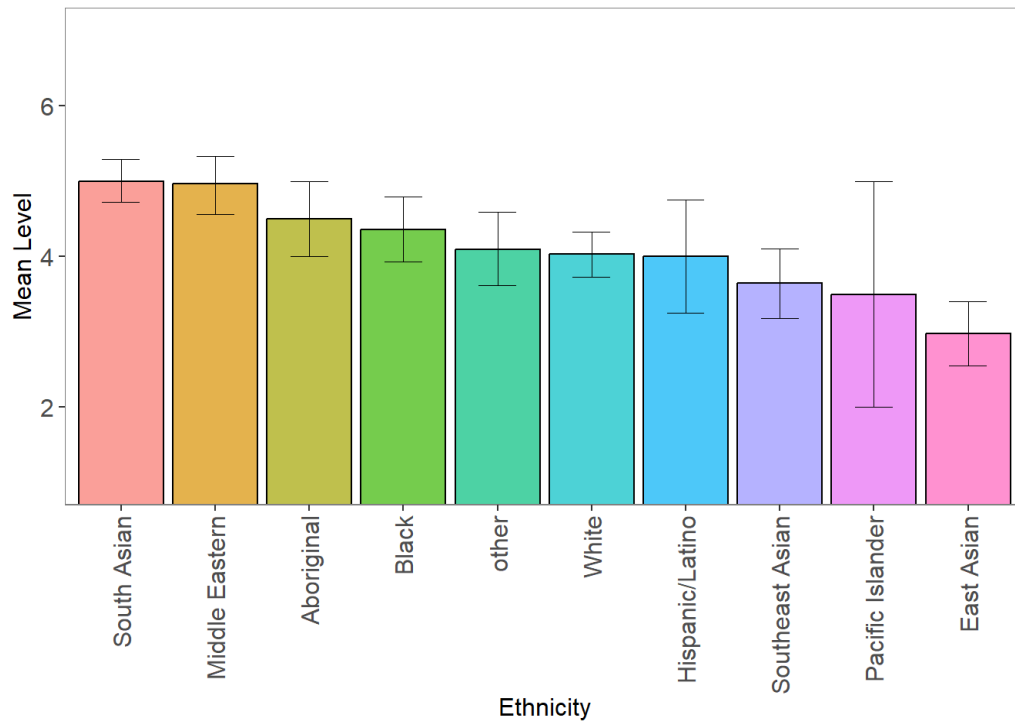
**Figure 1**

*The Mean Level of Evil Eye Beliefs Across Religious Groups With Error Bars Representing a 95% Confidence Interval Around the Mean*



**Figure 2**

*The Mean Level of Evil Eye Beliefs Across Ethnic Groups With Error Bars Representing a 95% Confidence Interval Around the Mean*



**Correlation Between Evil Eye Belief and Individual Differences**

I investigated the correlation between the general Evil Eye experience (using average scores from four general belief items) and several individual difference variables. These variables included analytical thinking, attribution, porosity, attitudes toward inequality, tightness and looseness of social norms, perceptions of the world as zero-sum versus positive-sum, interpersonal envy, religiosity, socioeconomic status (SES) insecurity, and subjective well-being. The analysis revealed significant positive correlations between the general Evil Eye experience and religiosity, porosity, attributions to others, social norms, and attitudes toward inequality. Other variables did not show significant correlations (see Table 4).

**Table 4***Correlation of General Evil Eye Experience With Variables*

Variables	Correlation with General Evil Eye Experience	<i>p</i>
Analytical thinking	-0.01	.88
Attributions: own responsibility	0.02	.69
Attributions: other responsibility	0.27	< .001
Attitude toward inequality	0.14	< .01
Interpersonal envy	0.02	.66
Porosity	0.30	< .001
Religiosity	0.20	< .001
Tightness and looseness of social norms	0.11	.02
Economic insecurity	0.01	.30
Subject well-being	-0.02	.84
Zero-sum vs positive-sum	0.06	.25

**Attitude Toward Compliments, Jealousy and Showing Off**

Further, the perceptions of believers and non-believers regarding compliments, jealousy, and showing off were examined. Sample t-tests were conducted to compare the means of compliments, jealousy, and showing off between believers and non-believers. T-tests were performed to compare whether there is a difference between believers and non-believers in liking compliments, showing off, and making others jealous (e.g., “I like showing off my success and achievements”). The analysis shows that the mean for liking compliments, showing off and making others jealous for believers was lower than for non-believers for all three categories (see Table 5). These results indicate that believers do not like showing off to others, receiving compliments, or making others jealous (see Figure 3).

In addition, I examined whether there is a difference between believers and non-believers in their belief that showing off, jealousy, and compliments cause harm (e.g., “If other people give you compliments, it can cause you harm”). The t-test results showed that in regard to jealousy, showing off, and compliments causing harm, the mean for believers was higher than for non-

believers (see Table 5). Thus, believers consistently rated the potential for harm in compliments, jealousy, and showing off higher than non-believers, indicating that believers perceive a greater risk of harm in these behaviours. However, the mean of believers was significantly lower than that of non-believers regarding showing off deserving harm. This result shows that non-believers strongly believed that individuals who show off deserve to experience harm compared to believers (see Figure 4).

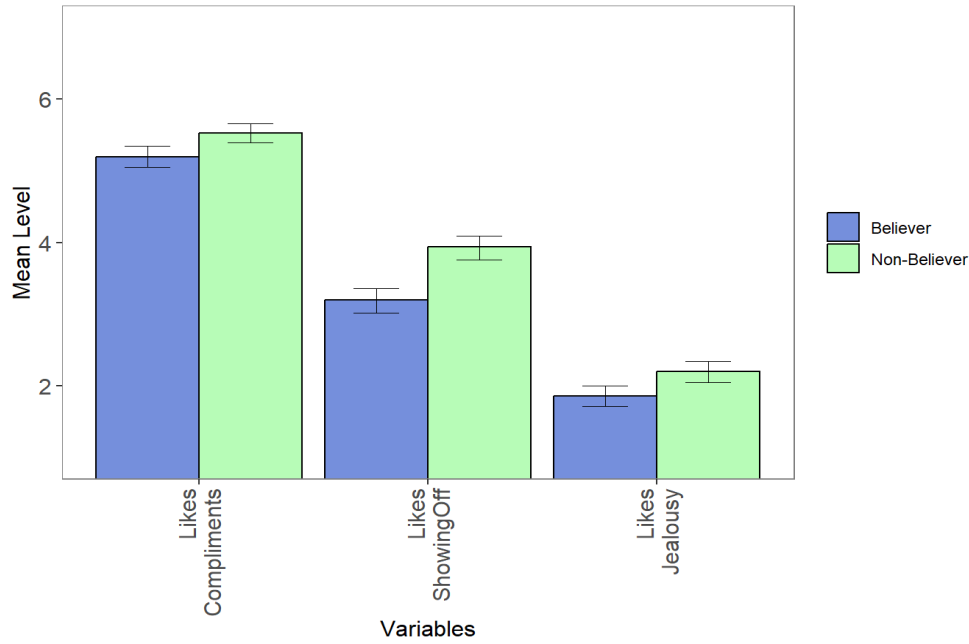
**Table 5**

*Result of t-test for Showing Off, Jealousy and Compliment for Believers and Non-believers*

Variables	Believers		Non-Believers		<i>t(df)</i>	<i>p</i>	95% CI
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
Like Compliments	5.21	1.42	5.53	1.26	-3.24 (753.86)	.001	[-0.51, -0.12]
Like Jealousy	1.86	1.37	2.20	1.43	-3.33 (731)	.001	[-0.54, -0.14]
Like Showing Off	3.21	1.64	4.06	1.56	-7.32 (748.67)	< .001	[-1.08, -0.62]
Compliments Cause Harm	3.44	1.47	2.39	1.21	10.69 (751.12)	< .001	[0.85, 1.24]
Jealousy Causes Harm	4.04	1.58	2.64	1.34	13.20 (754.16)	< .001	[1.19, 1.61]
Showing Off Causes Harm	4.81	1.59	4.23	1.49	5.15 (750.57)	< .001	[0.36, 0.80]
Showing Off Deserve Harm	2.04	1.42	2.35	1.35	-3.12 (749.07)	.002	[-0.51, -0.12]

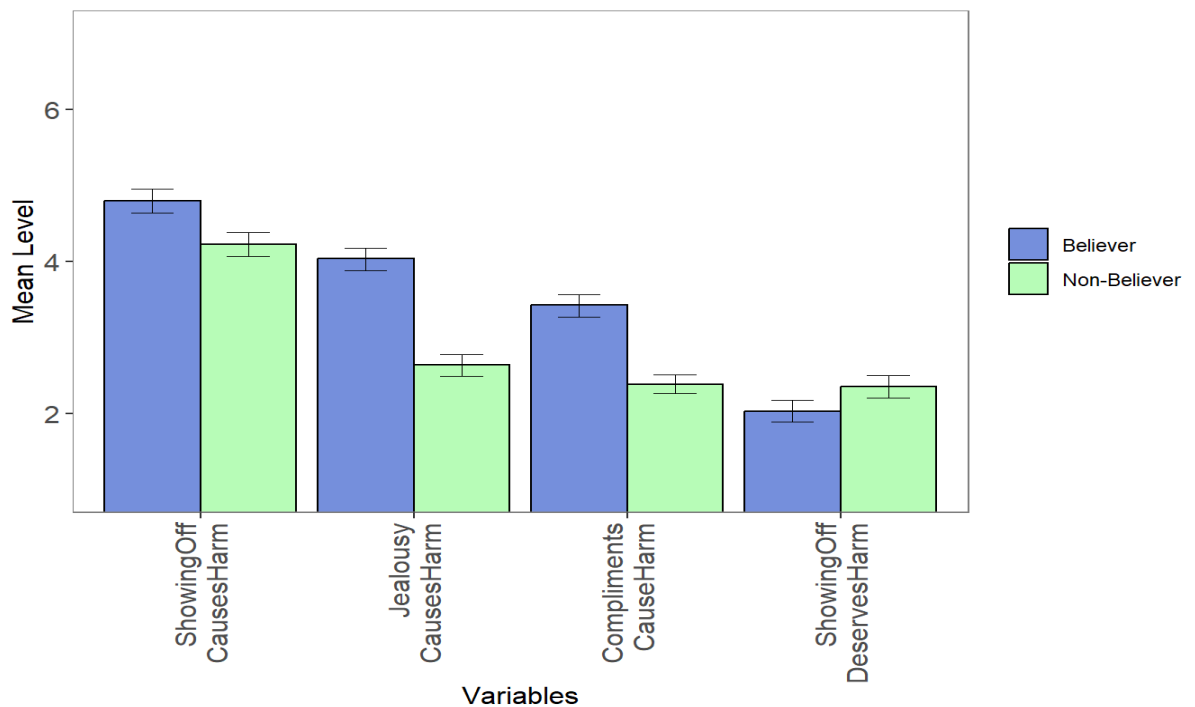
**Figure 3**

*The Mean Level of Liking Compliments, Jealousy and Showing Off for Believers and Non-Believers, With Error Bars Representing a 95% Confidence Interval Around the Mean*



**Figure 4**

*The Mean Level of Harm Caused by Compliments, Jealousy and Showing Off for Believers and Non-Believers, With Error Bars Representing a 95% Confidence Interval Around the Mean*



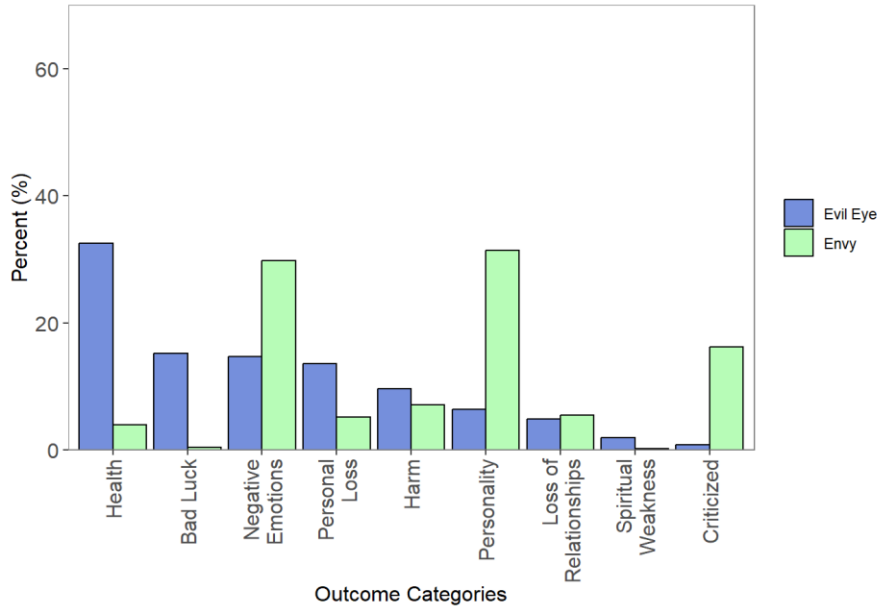
### **Free List Descriptions of the Evil Eye Versus Envy**

Furthermore, I explored the consequences of receiving, casting, and outcomes of the Evil Eye for believers compared to envy for non-believers. The frequency of responses to these open-ended questions regarding the characteristics and behaviours associated with receiving, casting, and the outcomes of the Evil Eye/envy were analyzed comprehensively using Chi-squared tests for each category (personal success, relationship success, physical health/beauty, personality traits, emotions, bad luck, spiritual weakness, harm, and criticism). The Chi-squared test for the outcome revealed a significant difference in the distribution of categories between Evil Eye for believers and envy for non-believers,  $\chi^2 (9, N = 3035) = 1129.8, p < .001$ . Additionally, the Chi-squared test for source indicates differences in frequencies across the distribution of categories among believers and non-believers,  $\chi^2 (8, N = 3400) = 169.61, p < .001$ . The Chi-squared test for the receive categories also shows differences in the frequency distribution of categories between believers and non-believers,  $\chi^2 (10, N = 4288) = 785.43, p < .001$ . The findings revealed distinct attribution patterns between believers and non-believers concerning the outcome category. Believers attributed the outcomes of the Evil Eye most often to factors such as health, bad luck, negative emotions, personal loss, and harm. Conversely, non-believers associated outcomes primarily with personality, negative emotions, and criticism (see Figure 5). Despite these differences in the outcome category, believers and non-believers identified similar categories for the characteristics and behaviours of receiving and casting the Evil Eye/envy. However, for both source and receive, the overall pattern of most common responses was the same (i.e., the rank order of frequent categories), but the exact frequencies are significantly different between the Evil Eye and envy, indicating more consistency than the outcome. For receiving, believers and non-believers listed personality, personal success and health as key factors (see Figure 6). Similarly, in terms of the

source, both believers and non-believers identified personality, emotions, and personal loss as primary sources (see Figure 7).

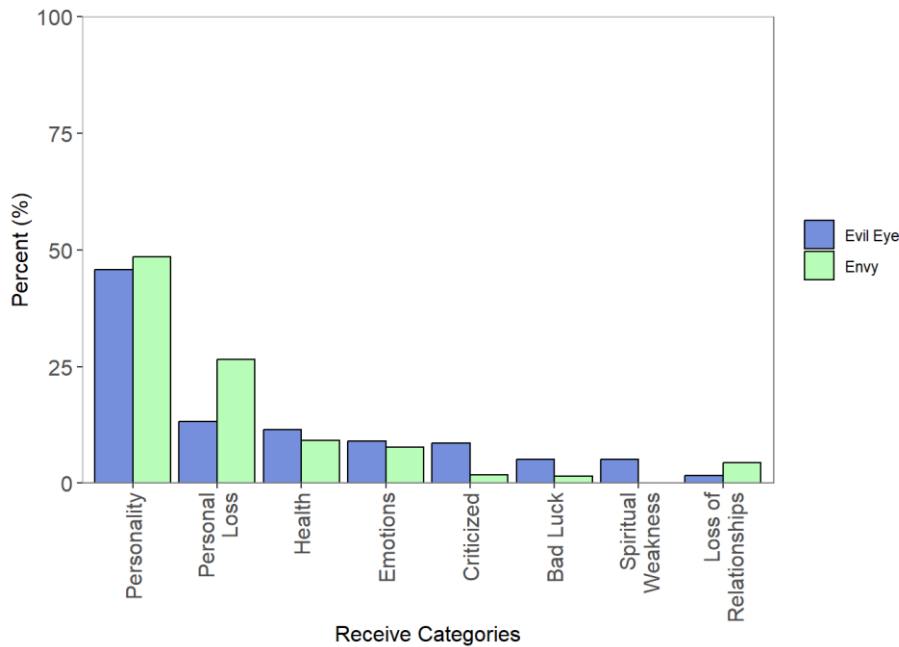
**Figure 5**

*Percentage of Categories Listed for the Outcome of Evil Eye or Envy*



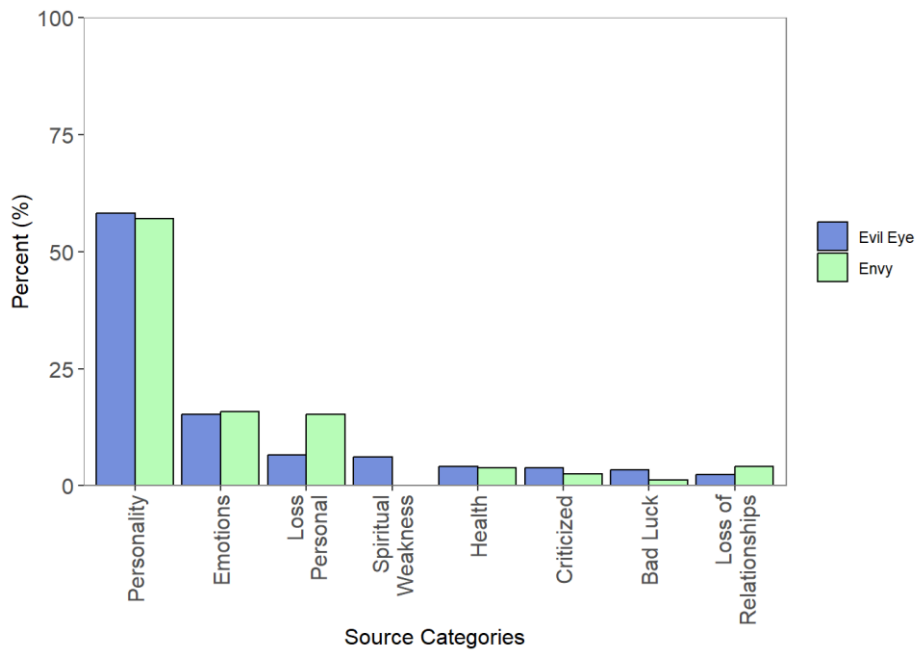
**Figure 6**

*Percentage of Categories Listed Reasons for Receiving Evil Eye or Envy*



**Figure 7**

*Percentage of categories listed for the Reasons for Source of Evil Eye or Envy*



Further t-test analysis examined how emotions differ when casting and receiving the Evil Eye. The results showed that emotions such as anger, sadness, and fear/worry were expected to be higher for those who received the Evil Eye than those who were the source (see Table 6).

However, the mean score for shame was higher when participants were the source of the Evil Eye compared to when they received it. No significant difference was found for the emotion of disgust.

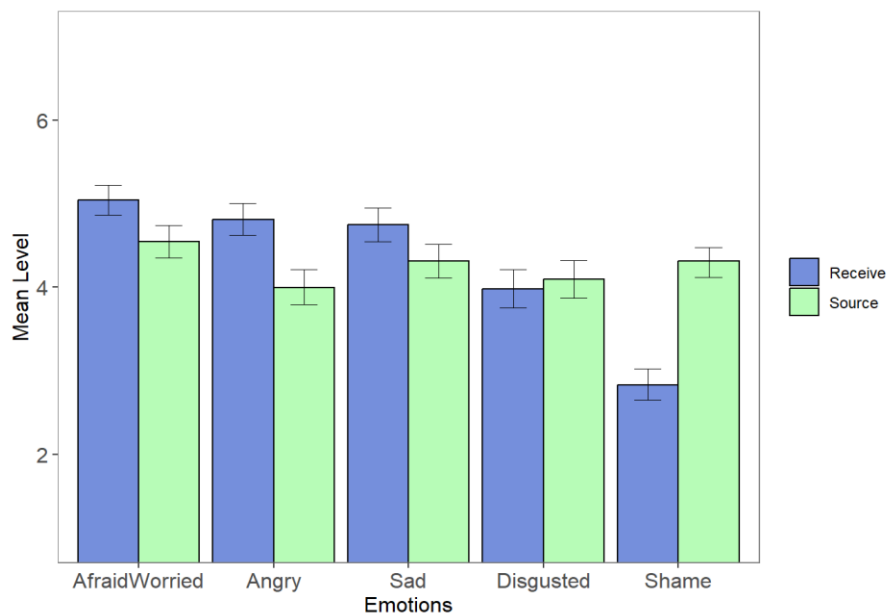
The results indicated that participants reported feeling afraid/worried, angry, and sad when they received the Evil Eye. Conversely, participants reported shame when they were the source/cast the Evil Eye (see Figure 8).

**Table 6***T-Test Result Comparing Emotions for Source and Receiving Evil Eye*

Emotions	Receive		Source		<i>t</i> ( <i>df</i> )	<i>p</i>	95% CI
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
Afraid/Worried	5.05	1.92	4.55	1.97	3.61 (791.99)	< .001	[0.23, 0.77]
Angry	4.81	2.07	4.00	2.10	5.47 (789.94)	< .001	[0.52, 1.10]
Disgusted	3.98	2.28	4.09	2.22	-0.69 (788.53)	.489	[-0.42, 0.20]
Sad	4.75	2.06	4.32	2.12	2.93 (791.86)	.003	[0.14, 0.72]
Shame	2.83	1.95	4.31	2.02	-10.45 (783.71)	< .001	[-1.76, -1.20]

**Figure 8**

*Emotion Responses of Participants for Casting and Receiving Evil Eye, With Error Bars Representing a 95% Confidence Interval Around the Mean*

**Study 2**

Study 2 was a replication of Study 1. Since Study 1 was exploratory, in the second Study, I want to confirm the main findings of Study 1 in a USA adult sample population. Most of the methods are similar and will be adapted from the survey materials of Study 1. I investigated what this belief looks like for believers and how it is tied to human behaviour, such as cognitive biases,

attitudes, emotions, and interpersonal envy. Further, I examined how demographic factors, religiosity, zero-sum belief and porosity predict Evil Eye belief. All confirmatory hypotheses, the recruitment plan, methods, and the plan for the analyses reported below were preregistered on the Open Science Framework at <https://osf.io/vc7wy/>.

## Methods

### Participants

In Study 2, I investigated the prevalence and correlation of Evil Eye belief in a demographically representative sample of adults from the United States. Participants were recruited via Prolific and provided an overview of our research aims, including details about the monetary compensation offered. Those who agreed to participate were given a link to an online Qualtrics survey, which took approximately 30 minutes to complete. Since I was interested in the responses of believers and non-believers, the study was available to all participants who agreed to participate. Participants were excluded from the final sample if they failed to complete the survey, failed to pass one of the English-language comprehension and failed to answer the attention checks correctly. The minimum target for this study was  $N = 600$ . The total number of participants who started the survey was 600, and I continued recruiting people to replace those who failed attention checks or failed to complete the survey until I reached at least the target of  $N = 600$ . Consequently, the final participant number was  $N = 601$ .

The gender distribution of Study 2 was 49% female, 48% male and 2% non-binary. The mean age of the participants was 46 years ( $SD = 16.2$ , range = 76). Regarding race, 77% identified White/European American, 12% Black/African American, 6% Asian/Asian American, 3% Multiracial and 3% other races. Regarding ethnicity, 94 % identified as non-Hispanic/Latino and

6 % as Hispanic/Latino. The distribution of religious affiliation was 43% Christian, 1% Muslim, 1% Jewish, 1% Buddhist, 6% other religions, and 48% Non-religious/Atheist/Agnostic/Spiritual.

## **Procedure**

Participants first signed a consent form, followed by an English comprehension question. Only participants who passed this comprehension question proceeded to the main question that directly asked participants if they believed in the Evil Eye.

If the participants believed in the Evil Eye, they were asked to describe this belief in their own words. They then listed characteristics and behaviours associated with receiving, casting, and achieving the outcome of the Evil Eye. Additionally, they answered questions about emotions related to being a victim of the Evil Eye.

Participants who did not believe in the Evil Eye were asked to list the characteristics and behaviours associated with receiving, casting, and the outcome of envy. Furthermore, they answered questions about emotions related to being a victim of envy.

All participants completed the Evil Eye Scale, questions about showing off/jealousy/compliments and zero-sum thinking. Then, they answered questions about porosity, religiosity, and demographics, presented in a randomized order.

## **Measures**

### ***Views of Evil Eye Believers***

**Description of Evil Eye.** In one open-ended question, I asked participants to describe Evil Eye in their own words.

**Free List Description of Evil Eye.** Using a similar set of questions to Study 1, participants were asked to list five characteristics and behaviours related to each of three themes: (a) receiving, (b) casting, and (c) the outcomes of the Evil Eye. The open-ended prompt invited participants to

share in-depth responses based on their personal beliefs, detailing the instances and factors that resulted in receiving, casting, and the consequences of the Evil Eye. For example, the item for receiving the Evil Eye was phrased as, “Write first whatever comes to mind when you think about people who receive the Evil Eye. Please list up to five different characteristics or behaviours that would make someone a victim of the Evil Eye.” Participants were asked to list five items, but the responses varied due to unclear answers or difficulty in categorizing them.

**Coding Strategy.** I systematically coded the free list responses into predefined categories for quantitative analysis. These categories were initially developed during a pilot study, reviewed following Study 1, and refined by the author for Study 2 to establish a more consistent coding framework across the three themes of receiving, casting, and outcome. The main categories encompassed “personal success”, “relationship success”, “health/illness”, “harm/loss of beauty”, “benign envy”, “malicious envy”, “showing off”, “emotions”, “personality traits”, “spiritual weakness”, “bad luck”, and “not applicable”, and this same set of categories was used for all three different question types. Following the data analysis from Study 1, I introduced three additional categories—“benign envy,” “malicious envy,” and “showing off”—due to their frequent recurrence in participants’ responses.

Furthermore, I reclassified the “beauty” category (e.g., blemished skin or hair loss) under “harm” as the “health” category included more severe outcomes (e.g., illness, car accidents, and death), thereby providing a more precise distinction in terms of severity. Study 2 used the same coding rules as Study 1. Research assistants trained by the principal investigators helped code the data. Two independent coders, blinded to the study hypothesis, coded for one of three themes: receiving, casting, or outcome. If a response included two categories, coders only coded the first aspect mentioned. Discrepancies were resolved through discussion and flagged for review.

Responses that didn't address the intended question were coded as "not applicable" and excluded, representing 399 responses or 13% of the total possible responses.

**Emotional Responses to the Evil Eye.** The emotions section included two items related to how individuals are expected to feel when they are victims of the Evil Eye. Based on the analysis from Study 1, I focused on anger and shame, as there was a notable difference between receiving and casting the Evil Eye concerning these two emotions. Participants were instructed to “imagine that someone cast the Evil Eye upon you.” They were then asked, “How strongly would you feel angry in a situation where you believe you were the victim of the Evil Eye?” (1 = *Not at All*, 2 = *Slightly*, 3 = *A Little*, 4 = *Somewhat*, 5 = *A Lot*, 6 = *Quite a Lot*, 7 = *Very Much*).

#### ***Views of Envy for Non-Believers***

If participants indicated at the start of the survey that they did not believe in the Evil Eye, they were given a similar set of questionnaires that referred to envy instead of the Evil Eye.

**Free List Description of Envy.** Non-believers completed parallel questionnaires on receiving, casting, and the outcomes of envy instead of the Evil Eye. They listed five characteristics and behaviours associated with each theme, such as “Write first whatever comes to mind when you think about who feels envy.” The same coding strategy used for the Evil Eye was applied to these envy responses.

Similarly, I asked non-believers two closed-ended questions about emotions related to being the victim of envy, such as “How strongly would you feel angry in a situation where you believed others envied you?” (1= *Not at All* to 7= *Very Much*).

### ***Both believers and Non-believers***

Participants answered questions about the Evil Eye scale and their attitudes toward showing off, jealousy, and compliments.

**Evil Eye Scale.** All the participants reported their belief in the Evil Eye. The overall Evil Eye scale had a total of 13 items. These variables include general beliefs about the Evil Eye, behaviour associated with the Evil Eye belief, risk of potential harm, and whether the Evil Eye can be cast intentionally or unintentionally. The general Evil Eye belief had four items, such as “The Evil Eye can bring me bad luck” (1 = *Strongly Disagree* to 7 = *Strongly Agree*). The behavioural manifestation of Evil Eye had three items: “I have special objects (plants, talismans, or jewellery) to protect myself from the Evil Eye” (1 = *Strongly Disagree* to 7 = *Strongly Agree*). The Evil Eye harm had three items regarding perceived harm, such as “The Evil Eye can cause physical/mental illness in humans” (1 = *Strongly Disagree* to 7 = *Strongly Agree*). The Evil Eye intention had two items regarding the intention behind causing or casting it, such as “Is it possible to intentionally cast the Evil Eye upon someone or something” (1 = *Strongly Disagree* to 7 = *Strongly Agree*). I also assessed who is most likely affected by the Evil Eye (anything or anyone, any person, adults, children and babies, not sure, other: please specify).

**Showing Off, Jealousy and Compliments.** I included six items about like and dislike jealousy, compliments and showing off. Showing off included items such as, “I have hidden achievement possession, or personal quality because I was worried about attracting negative attention” (1 = *Strongly Disagree* to 7 = *Strongly Agree*). Jealousy was assessed with two items, such as, “If someone is jealous of me, bad things will happen to me, even if they never tell anyone about their jealous feeling” (1 = *Strongly Disagree* to 7 = *Strongly Agree*). Compliments had two items, such as, “When I receive a compliment, I feel worried because it might bring the Evil Eye

upon me” (1 = *Strongly Disagree* to 7 = *Strongly Agree*). I also include two items about benign and malicious envy, such as, “If other people have something that I want for myself, I wish to take it away from them” (1 = *Strongly Disagree* to 7 = *Strongly Agree*).

### ***Other Measures***

**Porosity Scale.** Five items (drawn from Luhrmann et al., 2022) were used to measure the belief that minds are porous and susceptible to influence from outside supernatural forces, such as, “Spirits can use human thoughts and feelings to hurt people” (1 = *Strongly Disagree* to 7 = *Strongly Agree*) ( $\alpha = 0.94$ ).

**Zero-sum vs. Positive-sum.** Six items (drawn from Różycka-Tran et al., 2019) measured the mindset that one’s gain is another’s loss, such as “Successes of some people are usually failures of others” (1 = *Strongly Disagree* to 7 = *Strongly Agree*) ( $\alpha = 0.91$ ).

**Religiosity.** Nine items (adapted from Jong et al., 2013) were used to measure attitudes toward religious beliefs and practices. These items include religious affiliation, level of religiosity, spirituality, frequency of religious service attendance and ritual participation, such as, “How much would you say you believe in the existence of God or god?” (1 = *Strongly Disagree* to 7 = *Strongly Agree*) and “Other than weddings and funerals, approximately how often do you attend religious services” (R) (1 = *More Than Once a Week* to 5 = *Once a Year*) ( $\alpha = 0.94$ ).

**Economic Insecurity.** Three items were used to assess individuals’ subjective perceptions of social status. The items included family status relative to others and insecurity about providing food and paying for events. An item such as “Which rung on the ladder do you think you are born? Select rung where you think your family status at this time relative to other people in your country people” (1 to 10) ( $\alpha = 0.65$ ).

## **Demographics.**

This section includes questions about nationality, gender, age, family status, number of children, education, where they were born and grew up, years outside the USA, ethnicity, race, income, and political orientation.

## **Data Analysis**

Pairwise t-tests were conducted to compare the level of Evil Eye belief across religious and ethnic groups for both believers and non-believers. An exploratory factor analysis was performed to assess the internal structure of the Evil Eye Scale for all participants. Descriptive statistics were used to examine the mean, *SD*, and range of the Evil Eye items for all participants. Bivariate correlations were employed to determine whether Evil Eye belief correlated with religiosity, zero-sum beliefs, and porosity. Two-sample t-tests compared the attitudes of believers and non-believers toward receiving compliments, experiencing jealousy, and displaying envy. The frequency of responses to open-ended questions about the characteristics and behaviours associated with receiving, casting, and the outcomes of the Evil Eye was calculated for both groups. Logistic regression was used to assess differences between believers and non-believers in casting, receiving, and outcomes of envy and the Evil Eye. Finally, t-tests examined whether emotions (e.g., anger and shame) differed for both believers and non-believers.

## **Results and Discussion**

### **Distribution of Evil Eye Among Religions and Ethnic Groups**

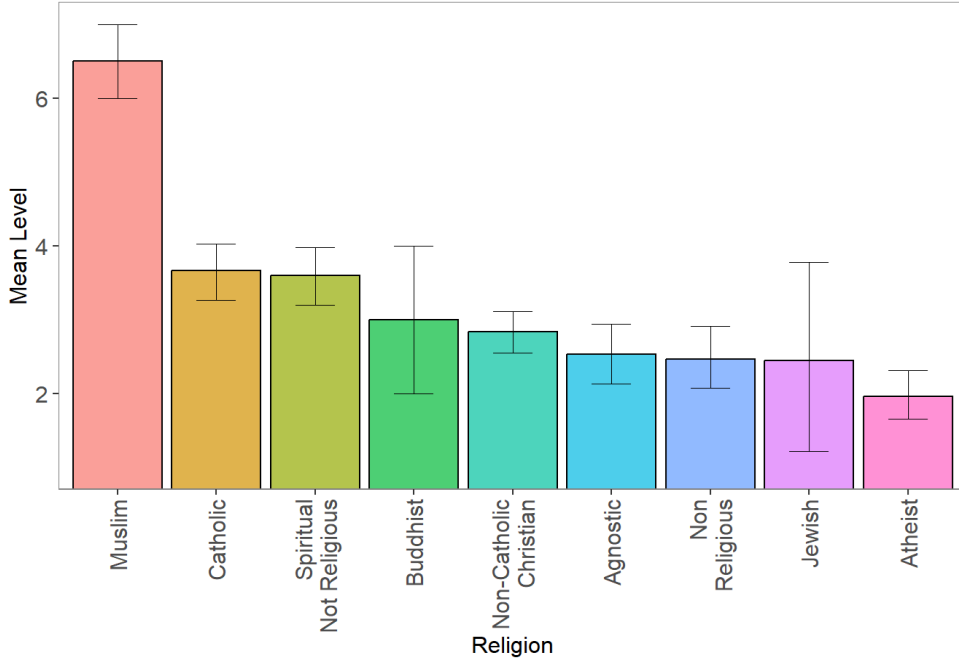
To compare the level of belief in the Evil Eye among different religious and ethnic groups, I used pairwise t-tests for the single-item, direct Evil Eye questions across various religious groups. The analysis revealed that religious groups such as Catholics, Muslims and Spiritual but not Religious (SBNR) individuals scored significantly higher in Evil Eye belief compared to non-

religious groups such as Agnostics, Atheists and Non-religious,  $ps < .001$ . However, these religious groups did not show significant differences in the Evil Eye belief compared to Buddhists,  $ps > .05$ . Additionally, Muslims and Catholic Christians scored significantly higher in Evil Eye belief than Non-Catholic Christians,  $ps < .05$  (see Figure 9).

In the analysis of ethnic groups, pairwise t-tests showed that the Evil Eye belief was higher for White or European Americans compared to Black or African Americans,  $p < .001$ . However, White or European American individuals were not different in terms of Evil Eye beliefs compared to other ethnic groups such as Asian or Asian American, Multiracial, Native American or Pacific Islander,  $ps > .05$ . Additionally, a two-sample t-test was performed to compare direct Evil Eye beliefs between Hispanic/Latino and non-Hispanic/Latino participants. Hispanic/Latino individuals had a significantly higher mean response to the direct Evil Eye question ( $M = 3.84$ ,  $SD = 1.99$ ) compared to those who were not Hispanic/Latino ( $M = 2.82$ ,  $SD = 1.84$ ;  $d = 0.55$  [0.22, 0.88],  $t(41.39) = 3.07$ ,  $p < .01$ ; see Figure 10). The result supports the prediction in the preregistrations that Evil Eye belief is stronger among religious groups such as Muslims and Christians and stronger among Hispanic/Latino individuals than among members of other religious and ethnic groups.

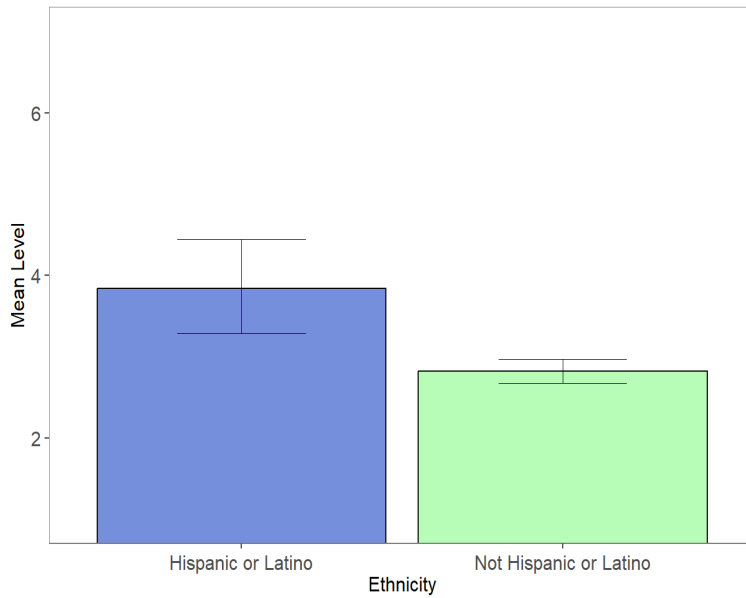
**Figure 9**

*The Mean Level of Evil Eye Beliefs Across Religious Groups With Error Bars Representing a 95% Confidence Interval Around the Mean*



**Figure 10**

*The Mean Level of Evil Eye Beliefs Across Hispanic/Latino vs Non-Hispanic/Latino Groups With Error Bars Representing a 95% Confidence Interval Around the Mean*



## **Factor Analysis and Descriptive Statistic of the Evil Eye Questionnaire**

First, I explored the factor structure and internal reliability of the ten items that measured belief in the Evil Eye to assess the appropriateness of averaging across items to form a multi-item scale. The multi-item Evil Eye scale was created to include the subscales about general beliefs, behaviours, and harm. A three-factor model was a reasonably good fit to the data, with a Tucker-Lewis Index (TLI) of 0.95 and Root Mean Square Error of Approximation (RMSEA) of 0.113 of 90% CI [0.097, 0.13] (see Table 7). The cumulative variance explained by all three factors together accounted for 82% of the total variance. All the general belief items and item 1 for harm strongly loaded on the first factor, capturing general beliefs about the Evil Eye. Meanwhile, behaviour items 1, 2, and 3, which primarily involved using objects and talismans or prayers for protection, load highly on the second factor. Items 2 and 3 for harm load highly on the third factor. All of these items were positively correlated with one another ( $r_s > .31$ ), and reliability analysis of the entire set of items shows a high level of internal consistency ( $\alpha = 0.96$ ), indicating that items are highly correlated. The Evil Eye belief can be measured through a composite score that includes items about general beliefs, behaviours and harm.

**Table 7***Results of Three-Factor Analysis for the Evil Eye Scale, 10 Items*

Variables	Factor 1	Factor 2	Factor 3
<b>General Belief</b>			
1. I believe in the Evil Eye.	.81		
2. The evil eye curse can cause harm to people and objects.	.96		
3. The Evil Eye can bring me bad luck.	.99		
4. The Evil Eye is a negative force that influences my life.	.87		
<b>Behaviour</b>			
1. I have used protective words or gestures to prevent the Evil Eye.		1.02	
2. I use prayers or religious/spiritual rituals to protect myself from the Evil Eye.		.69	
3. I have used objects (plants, talismans, or jewellery) to protect myself from the Evil Eye.		.55	
<b>Evil Eye Harm</b>			
1. The Evil Eye can cause physical/mental illness in humans.	.52		.31
2. I have suffered or become sick because of the Evil Eye.			.90
3. Someone I love has suffered or become sick because of the Evil Eye.			.93

*Note.* Any factor loadings < .3 are not shown.

I examined the descriptive statistics for the Evil Eye scale (see Table 8). For general belief items, item 1 had the highest mean score ( $M = 2.80$ ), but the means were relatively close, indicating moderate levels of belief across all items. For behaviour items, item 2 had the highest mean ( $M = 2.25$ ), suggesting participants agree more on using prayers or spiritual rituals for protection. Item 3 ( $M = 1.91$ ) had a lower mean, indicating less agreement on using objects for personal protection from the Evil Eye. For harm items, item 1 had the highest mean ( $M = 2.38$ ), indicating a higher perception that the Evil Eye can cause physical or mental illness in humans than the more specific belief that the participant or someone they love has become ill themselves because of the Evil Eye.

**Table 8***Result of Descriptive Statistic for the Evil Eye Scale*

Variables	<i>M</i>	<i>SD</i>	<i>Range</i>
<b>General Belief</b>			
1. I believe in the Evil Eye.	2.80	1.88	6
2. The evil eye curse can cause harm to people and objects.	2.63	1.88	6
3. The Evil Eye can bring me bad luck.	2.56	1.84	6
4. The Evil Eye is a negative force that influences my life.	2.31	1.71	6
<b>Behaviour</b>			
1. I have used protective words or gestures to prevent the Evil Eye.	2.01	1.68	6
2. I use prayers or religious/spiritual rituals to protect myself from the Evil Eye.	2.25	1.91	6
3. I have used objects (plants, talismans, or jewellery) to protect myself from the Evil Eye.	1.91	1.63	6
<b>Evil Eye Harm</b>			
1. The Evil Eye can cause physical/mental illness in humans.	2.38	1.82	6
2. I have suffered or become sick because of the Evil Eye.	1.81	1.35	6
3. Someone I love has suffered or become sick because of the Evil Eye.	1.91	1.46	6

I also conducted a descriptive analysis of the two intention items (see Table 9). Item 1 had a higher mean ( $M = 3.09$ ) than item 2, suggesting that respondents agree more on the possibility of casting Evil Eye intentionally rather than unintentionally or accidentally.

**Table 9***Result of Descriptive Statistic for Intention of Evil Eye*

Intention of Evil Eye	<i>M</i>	<i>SD</i>	<i>Range</i>
1. It is possible to intentionally cast the Evil Eye upon someone or something.	3.09	2.16	6
2. It is possible to unintentionally or accidentally cast the Evil Eye upon someone or something.	2.54	1.80	6

I conducted an exploratory analysis to explore the differences between believers and non-believers in their responses to the question of who is most affected by the Evil Eye, utilizing Pearson's Chi-squared test. Among believers, the predominant responses were "any person" (adult or child) (38.73%) and "anything or anyone" (i.e., humans, plants, objects) (28.87%). In contrast, non-believers most frequently selected "no one" (54.68%), followed by "not sure" (22.88%).

Notably, only 2% of believers chose “no one.” The results revealed a significant difference between the two groups,  $\chi^2 (6, N = 601) = 231.21, p < .001$ . While believers perceive that Evil Eye can target humans or objects, non-believers feel it has no effects.

**Correlation Between Evil Eye Belief and Individual Differences**

I investigated the correlation between the Evil Eye experience (using average scores from 10 items of general belief, harm and behaviour) and porosity, religiosity and perceptions of the world as zero-sum versus positive-sum. The analysis revealed significant positive correlations between the general Evil Eye experience and all variables, with the largest correlation between Evil Eye experiences and porosity (see Table 10). I also performed an exploratory analysis on the two items regarding economic insecurity, and I found it correlated with small magnitude with the Evil Eye experience ( $r = .16, p < .001$ ). As I predicted, Evil Eye belief was positively correlated with porosity, religiosity and zero-sum versus positive-sum beliefs.

**Table 10**

*Correlation of Evil Eye Experience with Variables*

Variables	Correlation with Evil Eye Experience	<i>p</i>
Porosity	.72	< .001
Religiosity	.37	< .001
Zero-sum vs positive-sum	.25	< .001

**Attitude Toward Compliments, Jealousy and Showing Off**

I used two-sample t-tests to examine the attitudes of believers and non-believers towards receiving compliments, experiencing jealousy, and displaying envy. The analysis revealed that non-believers had higher mean scores for enjoying compliments, showing off, and making others

jealous compared to believers (see Table 11, Figure 11), whereas believers more often disliked showing off, receiving compliments, or making others jealous.

Furthermore, I examined the perceived harm associated with showing off, jealousy, and compliments between believers and non-believers (e.g., “If someone is jealous of me, bad things will happen to me, even if they never express their jealousy”). Believers reported a higher mean for the perceived harm caused by showing off, compliments and jealousy, although the difference was only significant for showing off and compliments (see Table 11, Figure 12).

Regarding envy, believers reported a greater likelihood of feeling malicious envy towards successful others. In contrast, believers and non-believers did not significantly differ in reported feelings of benign envy (see Table 11, Figure 13). This pattern indicates that non-believers tend to hold more positive attitudes toward showing off, receiving compliments, and making others jealous. In contrast, believers perceive these experiences as riskier and undesirable.

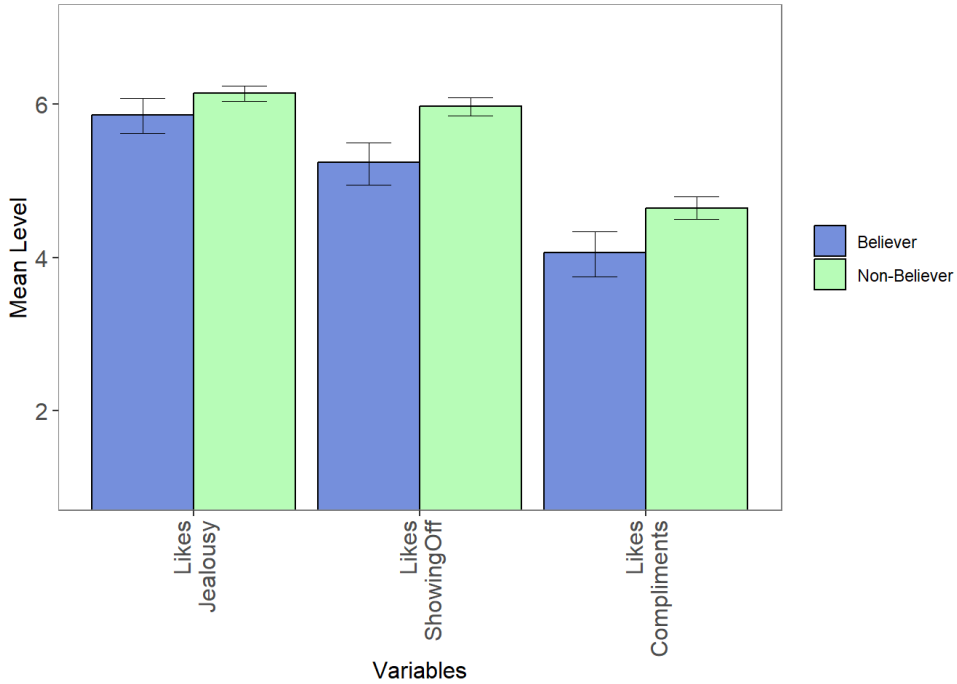
**Table 11**

*Result of t-test for Showing Off, Jealousy, Compliment and Envy for Believers, Non-believers*

Variables	Believers		Non-Believers		<i>t(df)</i>	<i>p</i>	95% CI
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
Like Showing Off	5.24	1.68	5.97	1.29	-4.80 (195.25)	< .001	[-1.04, -0.43]
Like Compliments	4.06	1.76	4.64	1.63	-3.48 (220.54)	< .001	[-0.90, -0.25]
Like Jealousy	5.86	1.38	6.15	1.15	-2.24 (205.40)	.026	[-0.54, -0.03]
Showing Off Causes Harm	3.80	1.90	3.30	1.88	2.78 (233.17)	.006	[0.15, 0.87]
Compliments Cause Harm	2.81	1.63	1.75	1.12	7.26 (184.05)	< .001	[0.78, 1.35]
Jealousy Causes Harm	5.15	1.32	4.90	1.51	1.91 (265.83)	.057	[-0.01, 0.51]
Benign Envy	3.23	1.72	3.33	1.64	-0.65 (226.31)	.517	[-0.43, 0.22]
Malicious Envy	1.96	1.33	1.71	1.10	1.99 (204.07)	.048	[0.002, 0.48]

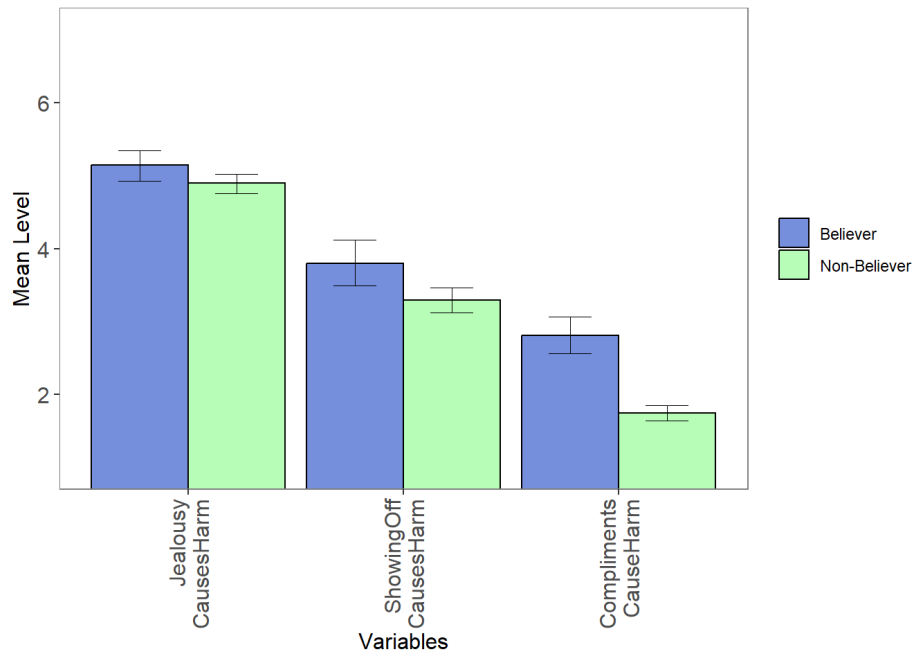
**Figure 11**

*The Mean Level of Liking Compliments, Jealousy and Showing Off for Believers and Non-Believers, With Error Bars Representing a 95% Confidence Interval Around the Mean*



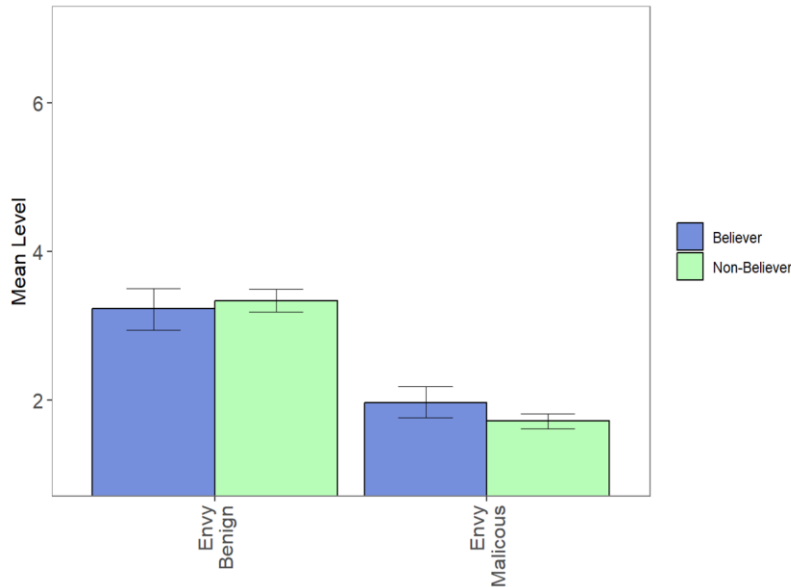
**Figure 12**

*The Mean Level of Harm Caused by Compliments, Jealousy and Showing Off for Believers and Non-Believers, With Error Bars Representing a 95% Confidence Interval Around the Mean*



**Figure 13**

*The Mean Level of Benign and Malicious Envy for Believers and Non-Believers, With Error Bars Representing a 95% Confidence Interval Around the Mean*



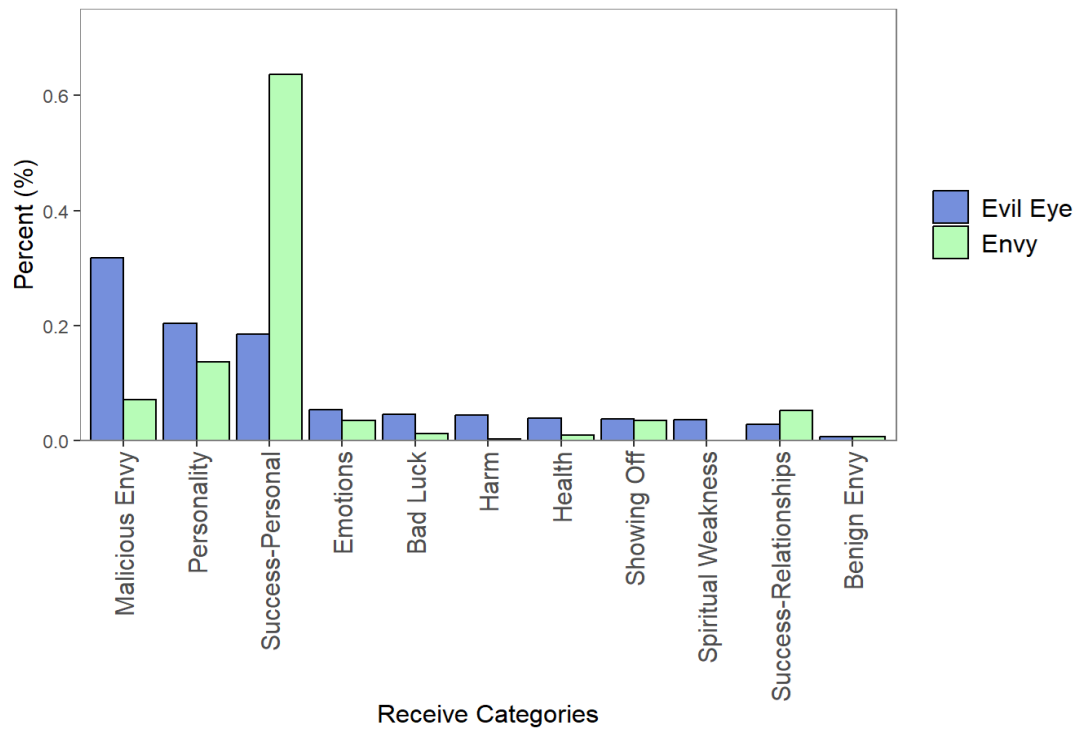
### **Free List Descriptions of the Evil Eye Versus Envy**

The analysis of categories for the outcome of the Evil Eye and envy revealed that believers were more likely to report categories such as malicious envy, personality, personal success, emotions, bad luck, harm, health, showing off, and spiritual weakness as reasons why a person receives the Evil Eye (see Figure 14). In contrast, non-believers more frequently reported personal success and success in relationships as categories for receiving envy compared to believers. Both groups reported malicious envy, personality, and personal success more frequently than other categories. The personality category is one of the categories significantly more common for envy than the Evil Eye. However, it is still one of the most common responses to the Evil Eye and envy. No significant differences were found between believers and non-believers for emotions, showing off, and benign envy as reasons for receiving the Evil Eye and envy. Contrary to what I predicted, showing off was not a common response among believers for

receiving Evil Eye. A logistic regression analysis examined the differences between believers and non-believers concerning the source, receiving, and outcome of Evil Eye and envy (see Table 12). The results indicated significant differences between the two groups for things that cause receiving the Evil Eye versus envy. The analysis showed that the odds of reporting categories like malicious envy, spiritual weakness, and harm as reasons for receiving the Evil Eye are much higher compared to Envy.

**Figure 14**

*Percentage of Categories Listed for Reasons for Receiving Evil Eye or Envy*



**Table 12**

*Result of Logistic Regression Predicting Likelihood of Each Category as a Reason for Receiving Evil Eye versus Envy.*

Receive Categories	Odds Ratios	95% CI	<i>p</i>
Emotions	1.49	0.61 – 3.62	0.38
Health	3.58	1.29 – 9.98	0.015
Harm	13.91	2.40 – 80.47	0.003
Success Personal	0.05	0.03 – 0.07	<0.001
Bad Luck	3.77	1.29 – 11.04	0.015
Malicious Envy	37.98	14.89 – 96.86	<0.001
Success Relationships	0.52	0.29 – 0.91	0.022
Personality	1.81	1.22 – 2.68	0.003
Spiritual Weakness	28.58	1.26 – 648.74	0.035
Showing Off	1.17	0.37 – 3.75	0.79
Benign Envy	1.25	0.10 – 15.54	0.86

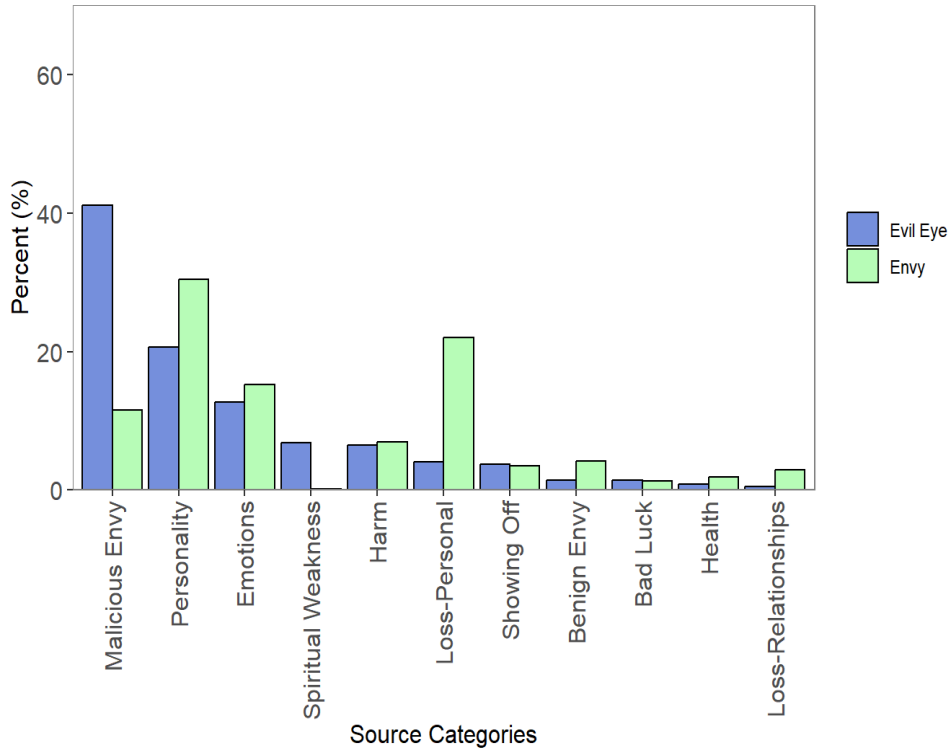
*Note.* Odds ratio > 1 indicates responses were more common in descriptions of the Evil Eye.

The analysis of categories for the source of the Evil Eye and envy revealed that believers were more likely to report malicious envy and spiritual weakness as the source of the Evil Eye than non-believers about the source of envy. On the other hand, non-believers associated the source of envy more often with personal loss and personality than did believers, although personality traits were also frequently listed as sources of the Evil Eye (see Figure 15).

The logistic regression analysis revealed that the odds of reporting categories such as malicious envy and spiritual weakness are significantly higher when the source is Evil Eye compared to Envy. There were no significant differences between the two groups in terms of emotions, health, harm, bad luck, loss in relationships, and showing off, which were relatively rare in both descriptions of the Evil Eye and envy (see Table 13). As I predicted, believers reported malicious envy for casting the Evil Eye more often than non-believers.

**Figure 15**

*Percentage of Categories Listed for the Reasons for the Source of the Evil Eye or Envy*



**Table 13**

*Result of Logistic Regression Predicting Likelihood of Each Category as a Reason for the Source of the Evil Eye or Envy*

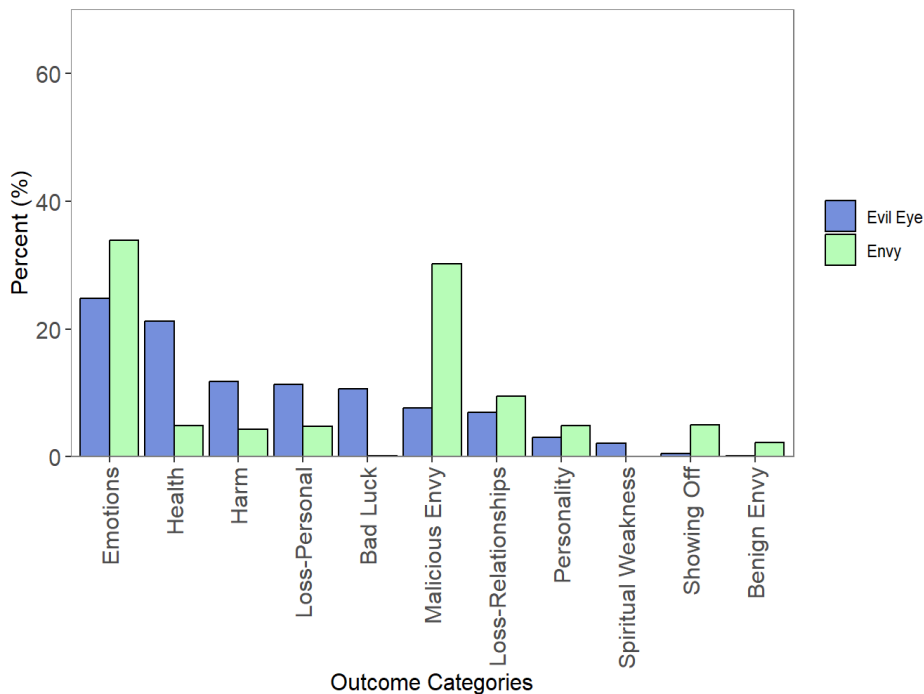
Source Categories	Odds Ratios	95% CI	<i>p</i>
Emotions	0.81	0.57 – 1.15	0.24
Health	0.58	0.08 – 4.13	0.58
Harm	0.90	0.55 – 1.46	0.67
Loss Personal	0.12	0.08 – 0.21	<0.001
Bad Luck	1.09	0.49 – 2.40	0.84
Malicious Envy	7.47	5.28 – 10.57	<0.001
Loss Relationships	0.20	0.03 – 1.44	0.11
Personality	0.54	0.40 – 0.73	<0.001
Spiritual Weakness	31.62	1.94 – 515.79	0.015
Showing Off	1.04	0.44 – 2.47	0.92
Benign Envy	0.32	0.12 – 0.81	0.016

*Note.* Odds ratio > 1 indicates responses were more common in descriptions of the Evil Eye.

Regarding outcomes, believers reported health, bad luck, harm, and personal loss more frequently as outcomes of the Evil Eye than as outcomes of envy. On the contrary, non-believers were more likely to report emotions, malicious envy, and benign envy as outcomes of envy compared to believers. However, emotion was the most common response for both the Evil Eye and envy (see Figure 16). The logistic regression analysis revealed that the odds of reporting categories like health, harm, personal loss, and bad luck as outcomes of the Evil Eye are much higher compared to envy. There were no significant differences between believers and non-believers for outcomes related to loss in relationships, personality, and spiritual weakness. As I predicted, health-related responses such as harm and illnesses were more common for the outcome of the Evil Eye than the outcome of envy (see Table 14). The spiritual weakness category was never mentioned in descriptions of envy, so it is absent in the result of logistic regression analysis.

**Figure 16**

*Percentage of Categories Listed for the Outcomes of Evil Eye or Envy*



**Table 14**

*Result of Logistic Regression Predicting Likelihood of Each Category for the Outcome of the Evil Eye or Envy*

Outcome Categories	Odds Ratios	95% <i>CI</i>	<i>p</i>
Emotions	0.52	0.34 – 0.80	0.003
Health	5.72	4.08 – 8.02	<0.001
Harm	3.53	2.20 – 5.68	<0.001
Loss Personal	2.90	1.85 – 4.55	<0.001
Bad Luck	57.51	20.88 – 158.37	<0.001
Malicious Envy	0.12	0.08 – 0.20	<0.001
Loss Relationships	0.72	0.48 – 1.06	0.094
Personality	0.57	0.30 – 1.07	0.082
Showing Off	0.12	0.02 – 0.90	0.039
Benign Envy	0.09	0.00 – 3.46	0.196

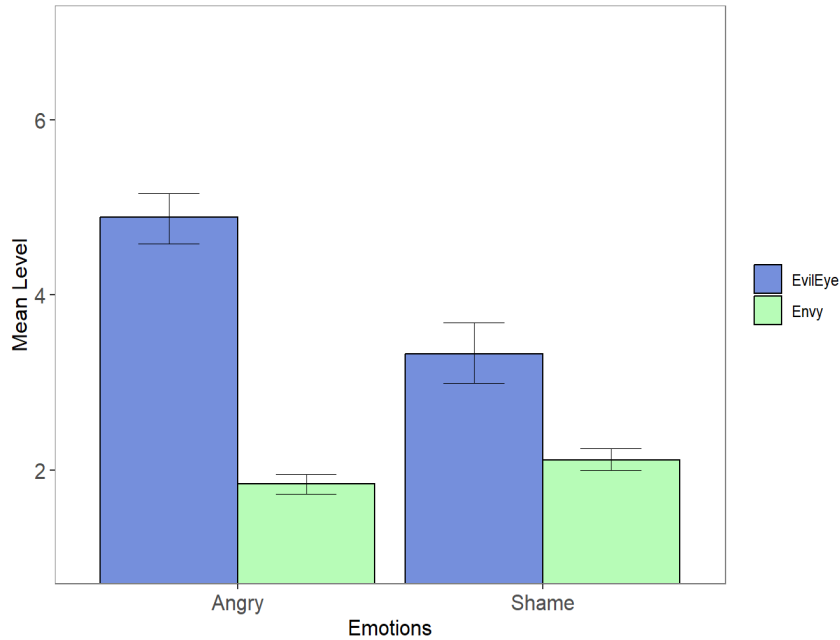
*Note.* Odds ratio > 1 indicates responses were more common in descriptions of the Evil Eye.

### ***Emotional Responses***

Finally, I examined whether participants expected to feel different emotions when receiving the Evil Eye compared to envy. The results of the t-tests indicated significant differences in the mean levels of emotions between the two groups. Predicted feelings of anger were higher for the Evil Eye ( $M = 4.88, SD = 1.75$ ) than for envy ( $M = 1.84, SD = 1.22; d = 2.24 [2.01, 2.48], t(166.42) = 18.61, p < .001$ ). Similarly, participants expected to feel more ashamed for receiving the Evil Eye ( $M = 3.33, SD = 2.09$ ) than envy ( $M = 2.12, SD = 1.40; d = 0.77 [0.57, 0.97], t(152.44) = 6.05, p < .001$ ). These results suggest that participants reported significantly higher levels of anger and shame when experiencing Evil Eye than when attracting others' envy (see Figure 17). As I predicted, the victim of Evil Eye scored high on both anger and shame compared to the victim of Envy.

**Figure 17**

*The Mean Level of Emotions for Cause of Evil Eye for Believers and Envy for Non-Believers, With Error Bars Representing a 95% Confidence Interval Around the Mean*



### **General Discussion**

These two studies investigated the belief in the Evil Eye and its association with several psychological variables, including attitudes, emotions, and interpersonal envy, within a religiously diverse sample from Canada and the United States. Additionally, I analyzed how demographic factors, cognitive biases, religiosity, zero-sum beliefs, and perceived porosity are associated with the belief in the Evil Eye. The findings align with the existing anthropological literature, indicating that belief in the Evil Eye is prevalent across many cultures and religions and is associated with various social attitudes and motivations.

### **Factor Analysis and Descriptive Summary of the Evil Eye Scale**

Overall, the factor analysis showed that general beliefs about the Evil Eye, protective behaviours, and perceptions of harm are distinct yet interconnected dimensions of Evil Eye belief, and together, these items provide a reliable multi-item scale for measuring Evil Eye belief in

diverse populations. The descriptive analysis from Canadian (Study 1) and American (Study 2) samples reveals several key findings about beliefs and behaviours related to the Evil Eye. Participants strongly believe in the protective power of behaviours such as prayer and religious rituals, but there is less agreement on using talismans against the Evil Eye among American participants. Furthermore, Canadian participants indicated that harm from the Evil Eye can be intentional and unintentional, whereas the American participants more often stated that the Evil Eye can be caused intentionally. Using objects and talismans for protection and the intention behind Evil Eye may vary based on culture and religion (Berger, 2013; Calestani, 2009). However, there is a consistent consensus that the Evil Eye can cause physical or mental illness in both studies, which is consistent with previous literature (Dundes, 1992; Lindholm, 2008).

Further, regarding who is most vulnerable to the Evil Eye, believers most often indicated that it could affect anyone or anything, while non-believers predominantly view it as having no effect. This is consistent with previous literature that stated that Evil Eye could impact humans, animals, and objects (Berger, 2013; Bohigian, 1997; Maloney, 1976; Ulmer, 1994).

### **Evil Eye Belief Across Religious and Ethnic Groups**

Our findings revealed that Evil Eye belief is endorsed at significantly different rates across different religious and ethnic groups. Specifically, Muslims, Sikhs, and Hindus exhibited significantly higher belief levels. Evil Eye belief is also moderately present among Catholic Christians, Jews, and SBNRs, but significantly lower among non-Catholic Christians, Buddhists, Agnostics, and Atheists, consistent with prior anthropological observations (Berger, 2013; Dundes, 1992). This suggests that belief in the Evil Eye is particularly prevalent in religious contexts where supernatural beliefs and practices are central to their belief, such as Islam and Christianity (Berger, 2013). However, it also depends on the specific religious cultural

background, as some highly religious groups, like non-Catholic Christians, show relatively low levels of belief in the Evil Eye. Thus, it is not just the level of religiosity that matters but also the specific religious and cultural background.

There were also ethnic group differences in Evil Eye belief. South Asian and Middle Eastern ethnic groups in the Canadian sample and White or European Americans in the American sample reported higher Evil Eye beliefs than other Ethnic groups. Ethnic groups such as Hispanic/Latino individuals reported higher belief levels compared to non-Hispanic/Latino individuals, highlighting cultural differences in the acceptance and significance of the Evil Eye. This is consistent with the literature indicating that the belief in the Evil Eye is especially among South Asians, Arabs, and Hispanics than White/European, Southeast Asians, and non-Hispanics (Berger, 2013; Dundes, 1992). Previous research has documented the belief in the Evil Eye among Latino populations, such as Puerto Ricans, Mexican Americans, and communities in Guadalajara, Mexico, and Bolivia (Calestani, 2009; Weller et al., 2015). The Evil Eye is particularly prevalent in Hispanic cultures and traditions and may reflect older cultural patterns dating back to the period of Spanish colonization (Weller et al., 2015). Given this historical and cultural background, we expected and documented that Hispanic individuals are more likely to hold beliefs in the Evil Eye compared to non-Hispanic individuals, as it has been transmitted across generations and remains a significant part of many Latino communities.

### **Correlation Between Evil Eye Belief and Other Variables**

The correlation inequality provided further insights into the psychological underpinnings of Evil Eye belief. Both studies found significant positive correlations between Evil Eye belief and religiosity and porosity. American adult's belief in the Evil Eye was also correlated with zero-sum beliefs. The Canadian study also showed a correlation between Evil Eye belief and attribution

styles, social norm tightness, and attitudes toward inequality. The higher correlations of Evil Eye with porosity and religiosity underscore the intertwined nature of supernatural beliefs and religious faith. A high porosity level suggests a greater openness to experiences and interpretations involving supernatural phenomena (Luhrmann, 2020). Further, more religious individuals are more likely to attribute the outcomes of an event in their life to external agents who hold strict social norms and are more likely to endorse supernatural beliefs (Purzycki, 2013; White et al., 2019). Zero-sum thinking can foster beliefs like the Evil Eye through fear of envy. This underscores the importance of cultural beliefs in shaping human behaviour and social structures, illustrating how deeply ingrained psychological mechanisms like envy and competition can manifest in supernatural explanations and rituals (Gershman, 2015; Carvalho et al., 2023; Pocock, 1981). This is also consistent with cultural evolutionary theories that suggest that belief in the Evil Eye is common in societies with greater zero-sum beliefs about personal success (Gershman, 2015; Lindholm, 2008; Schimmelpfennig & Muthukrishna, 2023).

### **Attitudes Toward Compliments, Jealousy, and Showing Off**

I documented similarities and differences between believers and non-believers regarding attitudes toward compliments, jealousy, and showing off. Believers reported disliking compliments, showing off, and making others jealous compared to non-believers. Also, believers were more likely to expect harm from compliments, jealousy, and showing off. Together, these results are consistent with the perspective that believers feel that violating social norms by flaunting wealth, success, or beauty will lead to supernaturally enforced consequences for those who break the norms in interpersonal relationships (Singh, 2021; White et al., 2019; White & Norenzayan, 2022). This aligns with the notion that the Evil Eye belief is associated with caution

towards these types of behaviours that attract envy, motivating protective behaviour against perceived harm by the Evil Eye (Dein et al., 2008; Dundes, 1992; Lindholm, 2008).

Interestingly, believers were less likely to think that individuals who show off deserve to experience harm, which could reflect that believers see the consequence of Evil Eye as something more fearful or harmful than non-believers. Additionally, believers had higher scores for malicious envy, suggesting they are more likely to perceive interpersonal competition and social comparison as something that will elicit harmful and malevolent behaviour (Dein et al., 2008). These findings reveal the motivation behind interpersonal prosociality and highlight distinct rules and norm adherence patterns unique to Evil Eye believers.

Cultural, social, and religious influences likely contribute to the fact that malicious envy is more common among believers in the Evil Eye than among non-believers. The belief in the Evil Eye is often transmitted through religious traditions, teachings, and cultural norms. For example, Muslims see envy as a negative force that gives power to the Evil Eye, which can harm others' health, wealth, or well-being (Kavas et al., 2020). In these contexts, envy is viewed primarily as a harmful and malicious emotion because it leads to negative outcomes. Additionally, believers may feel malicious envy when comparing their own situation to others who seem to achieve worldly success or happiness that contradicts their beliefs, such as concepts of life after death or eternal reward (heaven). This sense of dissonance between their religious ideals and real-world achievements can foster feelings of resentment and malicious envy (Festinger, 1957). Moreover, believers may feel envious because they perceive themselves as powerless or subordinate to those with more wealth, status, or power (Richards, 2000). They may interpret others' success as undeserved or immoral based on their religious or moral framework, which can trigger feelings of malicious envy (Haidt, 2001).

## **Free List Descriptions of the Evil Eye Versus Envy**

The free list descriptions highlighted significant differences in how believers and non-believers attribute sources, receiving characteristics, and outcomes of the Evil Eye and envy. In both studies, believers frequently attribute the negative outcomes of the Evil Eye to factors such as health, bad luck, harm and personal loss. In both studies, non-believers associated the outcomes differently with negative emotions and personality. These findings suggest that each group recognizes similar behaviours and characteristics related to envy and the Evil Eye for both studies. Believers perceive more severe consequences for the outcome of the Evil Eye. This was consistent with literature that believers would report health and harm as an outcome of Evil Eye, but not necessarily a consequence of mere interpersonal envy (Bohigian, 1997; Burleigh et al.,1990; Dallas et al., 2020; Sprio, 2005).

In both studies, believers and non-believers listed personality and personal success more frequently than other categories for receiving the Evil Eye. Personality traits reported by participants in this context often referred to negative personal qualities, such as being "ignorant," "assholes," and "holding onto past grievances and projecting negativity onto others." This indicates that participants perceive the Evil Eye and envy as often targeting individuals based on their personal attributes and achievements. These findings suggest that eliciting envy, whether intentional or not, due to personal qualities and accomplishments is a common trigger for the Evil Eye, highlighting this belief's social and interpersonal dimensions. This is consistent with literature that displaying wealth and status can elicit envy and lead to receiving the Evil Eye (Dein et al., 2008; Dundes, 1992; Lindholm, 2008).

Regarding the source, believers and non-believers identified personality, emotions, and personal loss as primary sources of Evil Eye and envy in the Canadian sample. In the American

sample, believers predominantly reported malicious envy and spiritual weakness, while non-believers associated it with personal loss and personality traits. Further, believers reported malicious envy for casting the Evil Eye more than non-believers. This difference suggests that believers see the Evil Eye as originating from malicious intent due to personality and spiritual vulnerabilities, whereas non-believers focus on personal loss and personality factors. This is consistent with the literature, which indicates that the source of the Evil Eye is someone with malicious envy who gives rise to the Evil Eye through a gaze (Dein et al., 2008).

People attributing life events to supernatural explanations can significantly impact their emotional responses (White et al., in press). The emotional reactions associated with casting and receiving the Evil Eye highlighted critical distinctions. Participants reported higher levels of fear, anger, and sadness when receiving the Evil Eye, whereas shame was more pronounced when they were the source of the Evil Eye. This pattern indicates that receiving the Evil Eye is associated with a sense of vulnerability and distress, while casting it elicits feelings of guilt and self-consciousness. For the American sample, emotional responses were examined for casting Evil Eye and envy. Believers experienced higher levels of anger and shame when associated with the Evil Eye than when non-believers experienced envy. This indicates that the Evil Eye is perceived as a more severe and emotionally charged phenomenon than envy. This is consistent with previous literature stating that anger and shame are expressed when people want to distance themselves from someone because of interpersonal hostility. This explains why these emotions are more pronounced in the context of the Evil Eye than envy (Lewis et al., 2008).

### **Limitations and Implications**

The open-ended descriptions used in this study highlighted the advantages of using different methods. This method disclosed the robust differences between believers and non-

believers regarding the Evil Eye belief. This allowed us to reveal the most salient representation of the Evil Eye among participants, including what may cause someone to cast, receive, and experience the outcome of the Evil Eye. Furthermore, it provides a more accurate insight into real-world supernatural beliefs and how they influence people's behaviours and decision-making. Despite its advantages, this approach has limitations, including the large amount of manpower necessary to code large datasets and potential biases based on the categories selected for data coding.

Future studies could use closed-ended questions, based on the free list categories, to further test whether there are robust differences between how believers view the causes and consequences of the Evil Eye versus how non-believers view the causes and consequences of envy. The Canadian sample was larger and more diverse in terms of religious and ethnic groups, but as a student sample, it was not representative of the general population. The American sample, on the other hand, was slightly smaller but nationally representative, providing a broader view of the population. However, this sample lacked significant diversity in ethnic and religious groups, which may limit the generalizability of the findings across different cultural contexts. Additionally, the differences in sample composition between the two countries could influence the results and should be considered when interpreting the cross-cultural comparisons. Future studies may want to test the generalizability of these findings in more targeted cross-cultural comparisons between different countries where Evil Eye beliefs are known to be common.

These studies have significant implications for understanding interpersonal hostility and how people perceive and treat each other. It sheds light on the factors influencing individuals' thoughts about the success and failure of others, highlighting the potential for both positive and negative impacts on social interactions and relationships. From these studies, there is preliminary

evidence of the associations between the Evil Eye belief and attitudes that are likely to influence behaviour and motivation. Evil Eye beliefs can lead to avoidance motivation, where individuals take actions to prevent perceived dangers. This can manifest in behaviours such as avoiding people or withholding information believed to be associated with bad luck or harm. For example, people may be less likely to share news about pregnancy, promotions, or skills, fearing the Evil Eye, which may make them seem secretive or unqualified. Belief in supernatural forces like the Evil Eye can negatively impact motivation, leading individuals to reduce their effort, thinking their outcomes are beyond their control. In some cultures, fear of the Evil Eye reinforces social norms, encouraging conformity and prosocial behaviours like sharing resources due to the fear of Evil Eye (Calestani, 2009).

This highlights the need for more in-depth research in future studies. Future research could examine the Evil Eye's effect on interpersonal envy, motivations, and emotions. One potential study could investigate how the belief in the Evil Eye influences motivation to achieve personal success. Future research could investigate how individuals reflect on a successful person in their life within the context of an online study, where researchers manipulate whether participants are reminded of the Evil Eye. Such a study might measure how believers perceive the successful person and assess whether they are motivated to achieve similar goals or, conversely, engage in behaviours that undermine that person. Based on the Evil Eye fears documented in existing research, reminders of the Evil Eye could increase perceived threats from success, discourage achievement motivation, and promote malicious envy, potentially leading believers to undermine the successful individual. Additionally, exploring whether the contemplation of the Evil Eye affects emotions related to others' success would be valuable. Given that the Evil Eye reflects interpersonal hostilities rooted in resource scarcity and inequality, it is anticipated that reminders

of the Evil Eye might decrease positive emotions and increase negative emotions when evaluating someone's success.

Moreover, the Evil Eye has broader real-world implications, particularly in healthcare and mental health treatment. For example, in some cultures, mothers may avoid feeding infants in public or breastfeed using only one breast to prevent the Evil Eye (Stein, 1974). This practice could lead to inadequate nutrition for the infant. As healthcare practitioners, understanding such cultural beliefs can help provide more effective nutritional support for the infant. Future studies could explore how beliefs in the Evil Eye influence emotions, attributions, and the willingness to use various interventions to maintain health. For instance, participants could be asked to reflect on a recent health concern or injury, with researchers manipulating whether they are prompted to think about the Evil Eye. Participants would then report their emotions and attribute the cause of their illness or injury. Believers in the Evil Eye may experience more other-directed and less self-focused negative emotions when attributing their health problems to the Evil Eye. Additionally, researchers could examine the frequency and types of interventions (spiritual, religious, medical, lifestyle) that participants use to regain health. It is anticipated that believers in the Evil Eye might more strongly endorse religious interventions due to the cultural transmission of this belief.

### **Conclusion**

In the broader context, the psychology of supernatural beliefs often centers on entities like gods or karma, which are associated with positive and negative outcomes (e.g., good or bad karma, punishment, and rewards) (White & Norenzayan, 2022). However, the belief in the Evil Eye specifically addresses interpersonal hostility, presenting unique implications for social behaviour. Supernatural beliefs are a central component of human life, shaping our actions and perceptions. This study provides a nuanced understanding of how the belief in the Evil Eye manifests in various

aspects of life, influencing behaviour and perceptions of harm. Participants consistently view the Evil Eye as a significant influence, reflecting cultural practices that involve both tangible and spiritual measures to protect against perceived harm. This research contributes to understanding the unique operating rules of the Evil Eye and how it differs from other supernatural and secular beliefs. The findings have important implications for theories in the cognitive science of religion and may eventually impact practical domains such as mental healthcare and intergroup relationships. Understanding these dynamics can lead to more effective interventions and a better appreciation of how cultural beliefs shape human behaviour and social interactions.

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